GLOBE INTERNATIONAL

Grantham Research Institute on Climate Change and the Environment

The GLOBE Climate Legislation Study

THIRD EDITION

A Review of Climate Change Legislation in 33 Countries

Terry Townshend, Sam Fankhauser, Rafael Aybar, Murray Collins,
Tucker Landesman, Michal Nachmany and Carolina Pavese

WORLD SUMMIT OF LEGISLATORS

LSE THE LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE

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Climate & Development Knowledge Network

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Foreword by the President of GLOBE International

When the *1st GLOBE Climate Legislation Study* was launched in December 2010, it had an immediate impact. It fulfilled our two major objectives. First, it delivered a positive message about the scale and scope of national legislation on climate change in the major economies. At the time, this was a welcome contrast to the lack of progress in the international negotiations and it injected a real sense of momentum. Second, by demonstrating the extent and breadth of that national legislation, the study helped to tackle the argument, faced by many governments and legislators, that in advancing legislation they were acting alone and potentially putting their country at a competitive disadvantage. Used by ministers and legislators in Australia, Mexico, the UK and elsewhere, there is no doubt the study, in combination with the work of GLOBE's members, played a key role in supporting the advances we have since seen in 2011 and 2012. I am delighted, and proud, that the most significant improvement in 2012 – the passage of Mexico's General Law on Climate Change – was driven by GLOBE Mexico, an outstanding example of what legislators, working across party lines, can achieve.

For me as President of GLOBE International – this network of cross-party legislators – there was an important third outcome of the first study: international recognition of the role of parliamentarians in tackling climate change. While governments and the media almost exclusively focus on the international negotiations, it was important to recognise the enabling nature of national legislation. By advancing legislation, countries can experience the positive co-benefits of tackling climate change such as greater resource efficiency, increased energy security, reduced exposure to volatile fossil fuel prices and a more climate-resilient economy. This, in turn, gives governments the confidence to go further and faster in the international negotiations. It has always been clear to me that national legislation is a fundamental prerequisite to any sufficiently ambitious international deal.

As Christiana Figueres, the Executive Secretary of the UNFCCC, said at GLOBE's World Summit of Legislators in June 2012:

> It is no exaggeration to say that the clean revolution we need is being carried forward by legislation. Domestic legislation is critical because it is the linchpin between action on the ground and the international agreement. At the national level, it is clear that when countries enact clean energy policies, investment follows. At the international level, it is equally clear that domestic legislation opens the political space for international agreements and facilitates overall ambition.

That is why, with the support of Christiana Figueres, I am delighted that the launch of this 3rd study coincides with the launch of an important new policy process – the GLOBE Climate Legislation Initiative (GCLI). The GCLI will run alongside the international negotiations under the "Durban Platform" and will focus on supporting legislators in 33 countries to advance national legislation on climate change to help create the political conditions for success in 2015. The *3rd GLOBE Climate Legislation Study*, expanded to include the 33 countries in the GCLI, provides an extensive overview of national legislation and, given the newly included countries are almost all developing countries, a welcome greater focus on legislation related to adaptation.

The *3rd GLOBE Climate Legislation Study* will provide a baseline from which to measure progress between now and 2015 and, importantly, will provide those legislators seeking to advance legislation in their own countries with a wealth of information about the international legislative response to climate change to inform their deliberations.

As President of GLOBE International I will be working continuously with GLOBE's network of legislators across the world to advance the legislative response to climate change. Domestic legislation puts in place the legal frameworks to measure, report, verify and manage carbon. It helps to advance national positions and serves as a platform for greater international collaboration. No international treaty would be feasible, or credible, without commensurate legally binding action at the national level.

The Rt Hon. John Gummer, Lord Deben
President,
GLOBE International

1 Introduction

In 2009 the Global Legislators' Organisation secured agreement on a set of *"Legislative Principles on Climate Change"* that were co-authored by Chinese Congressman Wang Guangtao and US Congressman Ed Markey and endorsed by 120 legislators from 16 countries. These principles were designed to guide legislators as they advanced climate change legislation on the basis that moving together, and in a consistent fashion, would help to maximise the benefits of moving towards a low carbon economy and minimise the competitive distortions.

To facilitate the implementation of the *"Legislative Principles on Climate Change"*, it is important to develop a better understanding of existing climate change-related laws to learn lessons and benefit from the experience of others. With this in mind, in 2010 GLOBE partnered with the Grantham Research Institute on Climate Change and the Environment at the London School of Economics to survey international climate change legislation. The *1st GLOBE Climate Legislation Study* (Townshend et al. 2010) examined climate-related legislation in 16 of the major economies.[1] The *2nd GLOBE Climate Legislation Study*, published in December 2011, was expanded to include Australia, and covered progress in 2011.

The aims of the studies are twofold. First, to support legislators advancing climate-related legislation by providing a detailed summary of existing legislation across the major economies that would enable them to identify gaps best practice, and help peer-to-peer learning. And second, to document and highlight the broad progress on climate change legislation at the domestic level in both industrialised and developing countries to provide positive momentum to the international negotiations.

Parliaments considering climate-related legislation benefit from the experience of others. For example, Australia's Clean Energy Act and South Korea's emissions trading legislation draw on the experience, and lessons learned, from the EU's emissions trading system. Mexico's General Law on Climate Change, the most significant advance of 2012, draws on the experience of the UK, EU and others. Brazilian, Indonesian, Mexican and Congolese legislators have been sharing

[1] Brazil, Canada, China, EU, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, South Africa, South Korea, the UK and the US.

knowledge of forest-related legislation – via the GLOBE Legislators' Forest Initiative – to ensure maximum consistency and to learn lessons from each other's experience. And in January 2012 the team drafting China's climate change law made a study visit to London and Brussels, hosted by GLOBE International, to learn from the experience of the UK and the EU to inform the development of their national law.

This report, the *3rd GLOBE Climate Legislation Study*, has been expanded further to cover 33 countries,[2] including many developing countries. It includes 17 of the top 20 emitters of greenhouse gases (GHGs) and 24 of the top 50, representing over 85% of global emissions.

Importantly, this third study coincides with the launch of the new *GLOBE Climate Legislation Initiative (GCLI)*, a new policy process to support the advance of climate change legislation in 33 countries. The GCLI will run alongside the international negotiations under the Durban Platform with the aim of helping to build the foundations and political conditions that enable an international agreement to be reached. This study will provide a baseline from which progress can be measured.

GLOBE International and its members strongly believe that legislative action at the national level is a fundamental prerequisite to achieving the ultimate goal of the UN Framework Convention on Climate Change – the stabilisation of GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.

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[2] See footnote 1 for the original 16 countries. The *3rd GLOBE Climate Legislation Study* includes the original 16 plus Argentina, Australia, Bangladesh, Chile, Colombia, El Salvador, Ethiopia, Jamaica, Kenya, Mozambique, Nepal, Pakistan, Peru, Philippines, Poland, Rwanda and Vietnam.

2 Progress in 2012

This section summarises the major changes to the legislative picture in 2012, up to and including those in November. It includes laws, regulations, policies or decrees as per the definition of legislation used in this study (see Section 4). In addition we review major legislative or regulatory proposals that have a reasonable chance of entering into law or being approved by governments.

2.1 Overview

2012 has been another tough year for the global economy. The continuing debt crisis in the Eurozone, together with economic stagnation in many other developed countries, has created a difficult environment in which to advance legislation on climate change. Kick-starting economic growth has been a priority. The transformation of energy infrastructure is one of the key requirements to reduce GHG emissions in developed countries. However, it is capital intensive and in many cases will result in a short-term rise in energy costs. Some governments have therefore postponed or scaled back planned investment in long-term infrastructure in favour of short-term measures to keep energy costs low and stimulate growth, irrespective of the carbon impact.

This somewhat negative picture contrasts with the progress in developing countries. Many of these are enjoying healthy growth rates while simultaneously developing the legislative and regulatory frameworks to measure and manage GHG emissions. Moreover, many developing countries are working to improve their resilience to climate impacts as an integral part of ensuring long-term sustainable growth.

Overall, we report substantial legislative progress in 18 of the 33 study countries and limited developments in 14. For the first time we report negative progress in one country. Detailed chapters on each country's climate change-related legislation can be found in Section 4 – Climate Legislation Country by Country.

2.2 Summary of Progress in Developed Countries

The European debt crisis has dominated the **EU** agenda and, although many Member States have pushed the EU to increase its overall ambition by committing

to a 30% reduction in GHG emissions relative to 1990 by 2020, internal opposition from a few fossil fuel-dependent Member States has meant this has not been possible. The EU has also encountered strong international opposition to its decision to include aviation in the EU's emissions trading scheme, resulting in a decision to "stop the clock" for 12 months to allow the International Civil Aviation Authority (ICAO) to try to broker an international solution. Despite these difficulties, some progress has been made with the passage of a new Directive on Energy Efficiency.

Following the failure to pass dedicated climate change legislation in the **USA**, the Obama Administration has shifted to a regulatory approach using existing powers under the *Clean Air Act*. The "endangerment finding" from 2009, whereby carbon dioxide was ruled to be a pollutant under the *Clean Air Act*, has required the Environment Protection Agency (EPA) to proceed with developing new regulations to manage CO_2 emissions. In 2012, a permitting system was extended to existing sources of CO_2e if they emit over 100,000 tonnes annually. Additionally, in March 2012, the EPA released a draft ruling limiting carbon pollution from new power plants. After two public hearings on the proposed rule, the agency received almost 3 million comments in favour of reducing carbon pollution from both new and existing power plants – a record for an EPA rule proposal. As of December 2012 the agency is finalising the rule. Variation in approaching national legislative responses to climate change, as illustrated here, was a central theme in the study, which we describe in more detail in Section 3.1.

In **Japan**, the ramifications of the Fukushima disaster and the resulting wholesale review of energy policy has meant climate change objectives have been overshadowed by a critical debate about the acceptability of the risks associated with nuclear power. It is likely, in the short term at least, that reduced nuclear power production following the shutdown and safety inspections after the Fukushima disaster will result in higher use of fossil fuels, with a resulting increase in GHG emissions. However, despite these challenges, in its *Fourth Basic Environment Plan* (agreed by Cabinet Decision on 27 April 2012), Japan has set itself a target of reducing GHG emissions by 80% by 2050 and, in October, the government introduced a carbon tax.

In most other developed countries, mixed progress has been made. **Australia** moved toward the implementation of its 2011 *Clean Energy Act* and announced a decision to link its emissions trading scheme with the established EU scheme by 2018 at the latest. For the first time, one country – **Canada** – has regressed following its decision to withdraw from the Kyoto Protocol and the subsequent repealing of its "flagship" climate legislation, the Kyoto Implementation Act.

2.3 Progress in Developing Countries

The limited progress in developed countries contrasts with the progress made in many developing countries in 2012. Significant advances have been made, albeit in different ways, in **Bangladesh**, **Brazil**, **Chile**, **Colombia**, **El Salvador**, **Kenya**, **India**, **Indonesia**, **Mexico**, **Pakistan**, **South Korea** and **Vietnam**. Others, including **China** and **South Africa**, have made more modest forward steps.

Mexico is perhaps the standout country in 2012 with the passage of its *General Law on Climate Change* (GLCC) and pioneering legislation to prepare the ground for REDD+ implementation. The GLCC gives equal focus to mitigation and adaptation, putting into legislation Mexico's target to reduce GHG emissions by 30% by 2020 versus her Business As Usual (BAU) scenario. It also mandates the creation of the institutional structures to support implementation of the law. **South Korea** passed legislation that introduces a nationwide emissions trading scheme by 2015.

In Africa, **Kenya** has developed a *Climate Change Authority Act* that is making progress through parliament and is likely to be voted into law in early 2013. In November 2012 a public validation process paved the way for government approval and launch in early 2013 of a complementary *Climate Change Action Plan* that defines clear measures on adaptation and mitigation, including NAMAs, a low carbon development strategy, knowledge management and capacity development, financing mechanisms and the creation of an institutional structure to ensure effective coordination.

In Asia, **Bangladesh** passed the *Sustainable and Renewable Energy Development Authority Act* designed to promote the production and use of green energy. **India** published its *12th Five-Year Plan* was due to be approved by the National Development Council in late December 2012. Although not technically legislation, the Five-Year Plan sets the strategic direction of the economy for the next five years and has comparable status (see our definition of "Legislation" in Section 4). The Plan includes recommendations put forward by the Low Carbon Expert Group, including measures to promote and diversify domestic sources of energy and reduce the energy intensity of production processes. **Pakistan** passed its National Climate Change Strategy in September 2012. **Vietnam** formally approved its national REDD+ Action Programme in June 2012, designed to reduce emissions from LULUCF by setting the legal framework for pilot REDD+ programmes and activities. It includes a target to reduce emissions from the agricultural sector by 20% and to increase the natural forest cover to 44–45%, both by 2020.

In Latin America, **Brazil's** new forest code, approved by President Dilma on 18 October 2012 after protracted political debate, determines, among other things, that landowners in the Amazon must maintain 80% of the native forest on their land as a forest reserve protected by law. **Chile** passed two laws relating to renewable energy, including one that reinforces its target to achieve 20% of installed electricity generation from renewable sources by 2020. **Colombia** launched a *Low Carbon Development Strategy* and a *National Plan for Climate* Change Adaptation that, although not technically legislation, will drive action on climate change. And **El Salvador** approved its *National Environment Policy*.

2.4 Flagship Legislation and Assessment of Progress in 2012

For most countries we have been able to identify a flagship law – a piece of legislation or regulation with equivalent status that serves as a comprehensive, unifying basis for climate change policy. Changes in flagship legislation are therefore particularly significant. They constitute a step change in a country's approach to climate change.

In 2012 four countries passed new flagship legislation, compared with seven in 2011. They are El Salvador, Kenya, Mexico and Pakistan. In contrast, Canada has repealed the *Kyoto Protocol Implementation Act* and therefore no longer has a flagship law on climate change.

In addition, we have changed the flagship laws of South Africa and the US. The South African law is changed from the *Vision, Strategic Direction and Framework for Climate Policy (2008)* to *The National Climate Change Response Strategy (2011)*. The USA flagship is changed from the *American Recovery and Reinvestment Act* and *Executive Order 13514* to the *Clean Air Act*. This reflects the shift away from attempts to develop a comprehensive and dedicated legislative response to climate change towards more of a regulatory approach (see Section 3.2 for discussion of country approaches), following the ruling by the Supreme Court that CO_2 should be classified as a pollutant under the *Clean Air Act* and the progress made by the EPA in 2012.

Table 1 below provides a summary of "flagship legislation" in all 33 countries. The final column displays an assessment of legislative progress in 2012. The assessment takes into account laws passed, major legislative proposals that, although not yet passed, signal the general direction of travel in the legislature and progress with implementation of existing legislation.

Table 1: Flagship Legislation and Legislative Progress in 2012

Country	Name of Law	Main Purpose	Date Passed	Progress in 2012
Argentina	*Presidential Decree 140/2007 declaring "rational and efficient" energy use a national priority*	Includes far-reaching and ambitious goals to reduce energy consumption and promote the use of renewable energy in the public sector (including public transport and lighting), private industry and private residencies.	2007	
Australia	*Clean Energy Act 2011*	The purpose of the Clean Energy Act is to put Australia on a path to reduce its GHG emissions by 80% by 2050. The central element of the bill is pricing carbon, initially via a carbon tax and, subsequently, via an emissions trading scheme.	2011	**Secondary legislation to underpin Clean Energy Act and draft legislation to link emissions trading scheme with EU by 2018**
Bangladesh	*The Climate Change Trust Fund Act*	Focused on funding adaptation-related activities over the period 2009–2011.	2009	**Passage of the Sustainable and Renewable Energy Development Authority Act in 2012**
Brazil	*National Policy on Climate Change* (NPCC)	The *NPCC* is based on Brazil's international commitment within the UNFCCC and incorporates all previous related government instruments (i.e. the National Plan on Climate Change, the National Fund on Climate Change and others).	2009	**Forest Code amendments**
Canada	None			**Repeal of the Kyoto Implementation Act**

Country	Name of Law	Main Purpose	Date Passed	Progress in 2012
Chile	*National Climate Change Action Plan 2008–2012*	Creates an Inter-ministerial Committee on Climate Change and two dialogue platforms, one for public–private partnerships and one for the civil society. The Plan establishes a set of public policy guidelines for 5 years, after which it will be followed by long-term national and sectoral plans for adaptation and mitigation.	2008	**Resolution 370 improving access to the grid for renewable energy and Law 20571**
China	*12th Five-Year Plan*	The 12th Five-Year Plan includes targets to decrease the carbon intensity of GDP by 17% by 2015; to decrease the energy intensity of GDP by 16%; to increase the share of non-fossil fuel primary energy consumption to 11.4%; and to increase forest coverage by 21.6%.	2011	**Progress with developing national climate change law**
Colombia	*Law No. 1450 of 2011*	National Development Plan 2010–2014 addresses sustainability and risk reduction and foresees the implementation of a National Climate Change Policy.	2011	**Launch of the Colombian Low Carbon Development Strategy and the National Plan for Climate Change Adaptation**
El Salvador	*National Environment Policy*	The National Environmental policy, passed as a government decree by the council of ministers, offers an ambitious framework through which the government will respond to climate change and environmental degradation. The general objective of the policy is to reverse environmental degradation and reduce vulnerability to climate change.	2012	**Approval of the National Environment Policy**

Country	Name of Law	Main Purpose	Date Passed	Progress in 2012
Ethiopia	*Climate-Resilient Green Economy Initiative*	The CRGE's vision is achieving middle-income status by 2025 in a climate-resilient green economy, outlining four pillars: • Agriculture • Reducing emissions from deforestation • Power: Expanding electricity generation from renewable energy • Transport, industrial sectors and buildings	2011	
European Union	*Climate and Energy Package*	The core of the package comprises four pieces of complementary legislation: • Revision and strengthening of the EU Emissions Trading Scheme (ETS) • Reducing GHG emissions fairly, taking into account the relative wealth of the EU Member States • A framework for the production and promotion of renewable energy • A legal framework for the environmentally safe geological storage of CO_2	2008	**New Directive on Energy Efficiency**
France	*Grenelle I* and *II*	Grenelle laws include comprehensive policies on emissions targets, renewable energy, energy efficiency and research and development.	2009 and 2010	

Country	Name of Law	Main Purpose	Date Passed	Progress in 2012
Germany	*Integrated Climate and Energy Programme*	This programme aims to cut GHG emissions by 40% from 1990 levels by 2020. The package focuses strongly on the building sector. The German Government approved a new climate package of measures in June 2008 that focuses on the transport and construction sectors.	2007 (updated 2008)	
India	*National Action Plan on Climate Change (NAPCC)*	India's *NAPCC* outlines existing and future policies and programmes directed at climate change mitigation and adaptation. The Plan sets out eight "national missions" running up to 2017.	2008	**12th Five-Year Plan published including recommendations of Expert Group on Low Carbon Strategy for Inclusive Growth**
Indonesia	*Presidential Regulation on the National Council for Climate Change (NCCC)*	The council coordinates climate change policy-making. It is composed of 17 Ministers and chaired by the President. The *NCCC* is assisted by the following working units: adaptation; mitigation; transfer-of-technology; funding; post-2012; and forestry and land use conversion.	2008	**Ministerial regulaton to expand thermal energy**
Italy	*Climate Change Action Plan (CCAP)*	Italy's *CCAP* is a comprehensive action plan to help Italy comply with GHG reduction targets under the Kyoto Protocol.	2007	
Jamaica	*Vision 2030 Jamaica*	Seeks to achieve developed country status for Jamaica by 2030. The Vision has four goals, 15 National Outcomes and 82 National Strategies, with sector strategies and actions. National outcome 14 under this goal is "Hazard Risk Reduction and adaptation to climate change".	2007	

Country	Name of Law	Main Purpose	Date Passed	Progress in 2012
Japan	*Law Concerning the Promotion of Measures to Cope with Global Warming*	This Law establishes the Council of Ministers for Global Environmental Conservation; develops the Kyoto Achievement Plan; and stipulates the establishment and implementation of countermeasures by local governments.	1998 (amended 2005)	**Carbon Tax introduced October 2012**
Kenya	*The Climate Change Action Plan*	Provides a platform for the implementation of the 2010 National Climate Change Response Strategy, defining clear measures on adaptation and mitigation.	2013	**Climate Change Authority Bill going through parliament and Climate Change Action Plan to be approved in 2013**
Mexico	*General Law on Climate Change*	Establishes the basis for the creation of institutions, legal frameworks and financing to move towards a low carbon economy. Puts into law the country's emissions reduction target of 30% below Business As Usual (BAU) by 2020, subject to the availability of financial resources and technology transfer.	2012	**General Law on Climate Change signed into law June 2012**
Mozambique	None			
Nepal	*Climate Change Policy, 2011*	Sets out a vision to address the adverse impacts of climate change and take opportunities to improve livelihoods and encourage climate-friendly change.	2011	
Pakistan	*National Climate Change Policy*	Identifies vulnerabilities to climate change, and spells out appropriate response measures, including disaster risk management.	2012	**National Climate Change Policy adopted September 2012**

Country	Name of Law	Main Purpose	Date Passed	Progress in 2012
Peru	*National Strategy for Climate Change*	The National Strategy on Climate Change has the general objective of reducing the adverse impacts of climate change by conducting research that identifies vulnerability and develop strategic action plans to mitigate climate change as well as adaption techniques.	2003	
Philippines	*Climate Change Act of 2009*	The Act establishes the Climate Change Commission as the sole policy making body within government, and requires the Commission to draft a National Climate Change Framework, a detailed National Climate Change Action Plan and guidelines for local Climate Change Action Plans.	2009	
Poland	*Strategies for Greenhouse Gas Emission Reduction in Poland until 2020*	Outlines the actions to be taken in each sector of the economy to comply with international obligations including energy, industry, transport, agriculture, forestry, waste, public utilities, services and households.	2003	
Russia	*Climate Doctrine of the Russian Federation*	The doctrine sets strategic guidelines for the development and implementation of future climate policy, covering issues related to climate change and its impacts.	2009	
Rwanda	*Green Growth and Climate Resilience – National Strategy on Climate Change and Low Carbon Development*	Includes a collection of 9 working papers covering all major sectors relating to mitigation and adaptation.	2011	

Country	Name of Law	Main Purpose	Date Passed	Progress in 2012
South Africa	*National Climate Change Response Policy (NCCRP)*	The National Climate Change Response Policy is a comprehensive plan to address both mitigation and adaptation in South Africa in the short, medium and long term (up to 2050). Strategies are specified for the following areas: Water; Agriculture and Commercial Forestry; Health; Biodiversity and Ecosystems; Human Settlements; and Disaster Risk Reduction and Management.	2011	**Carbon Tax proposed in 2012–2013 budget**
South Korea	*Framework Act on Low Carbon Green Growth*	This law creates the legislative framework for mid- and long-term emissions reduction targets, cap-and-trade, carbon tax, carbon labelling, carbon disclosure and the expansion of new and renewable energy.	2009	**Passage of the Act on the Allocation and Trade of Greenhouse Gas Emissions Rights**
United Kingdom	*Climate Change Act*	The *Climate Change Act* provides a long-term framework for improving carbon management, promoting the transition to a low carbon economy, and encouraging investment in low carbon goods. It includes specific emissions reduction targets (at least 80% reduction from 1990 levels by 2050) and creates 5-yearly carbon budgets.	2008	
United States of America	*Clean Air Act*	Following the "endangerment finding", the EPA is now required to regulate gases for their GHG potential under the Clean Air Act.	1963 (amended 1976 and 1990)	**Progress with regulating carbon dioxide under the Clean Air Act**

Country	Name of Law	Main Purpose	Date Passed	Progress in 2012
Vietnam	*The National Climate Change Strategy*	The following specific objectives are set out: ensure food security, energy security, water security, poverty alleviation, gender equality, social security, public health; enhance living standards, conserve natural resources in the context of climate change.	2011	**Approval of the national REDD+ action programme, June 2012**

Key:

Positive Legislative Progress in 2012

No Substantive Change in 2012

Negative Legislative Progress in 2012

3 Climate Change Legislation at the End of 2012

This section reviews the stock of climate change laws following the additions and changes in 2012. It also analyses the diversity of approach and identifies trends, themes and motivations.

3.1 The Approach to Climate Change Legislation

The updated country chapters include a total of 286 climate change-related laws in the 33 study countries, according to the definition used (see Section 4 for the definition used in this report).

As of December 2012, the European Union has the most climate change related laws with 25, and Jamaica, Nepal and Rwanda the fewest with just three. However, the number of laws relating to climate change is not a reliable indicator of the comprehensive nature of a country's legislative response. Some laws are integrative while others are very narrow in scope (see Section 4 for the scope of laws reviewed).

The pure numbers mask a wide diversity of approaches to climate change legislation, which we observe at three levels: first, diversity in the national approach to climate change (e.g. pure legislation versus policy approach); second, diversity in the sectoral focus of the study countries (see below for the categories used by the authors); and third, diversity and non-exclusivity in the goals and objectives of the individual pieces of legislation (some laws address several different objectives, for example a single law could cover pricing carbon, energy efficiency and transport).

In order to reflect this and to begin to develop an understanding of emergent patterns in climate change legislation, the authors made several methodological decisions: 1) continuing to use a broad definition of climate change legislation as per previous GLOBE studies (see Section 4 for the definition used in this study); 2) developing categories for the legislation that we found; 3) compiling summary statistics on the legislation using those categories, and determining the sectoral focus in each country; and 4) beginning to characterise the different national approaches to climate change.

At the national level, the broad definition of legislation allows us to capture the diverse approaches to climate change of the study countries. That is, some countries take a purely legislative approach, having existing stocks of laws and issuing new legislation, whereas others take a more policy-oriented approach that might involve the creation of national development plans that integrate climate change concerns. In a visual summary we have sorted the study countries into four categories which we think broadly describe these various approaches (Figure 1). While our assessment of where countries fit was informed by our summary statistics on legislation (Section 3), we do not claim to have quantified the study countries' relative positions. Moreover, we make neither normative judgments such as whether it is better to have more laws per se; nor any judgments on each country's listing within each quadrant of the diagram. Rather, we acknowledge that each country has an individual approach which reflects its unique institutional context, capacities, economic characteristics and current level of political engagement with climate change.

In addition to this national-level strategic pluralism, we observe diversity in the sectoral focus of legislation across countries. Some countries are focussed on a particular sector, fitting that country's individual circumstances and nationally appropriate management activities. For instance, one country's climate change legislation may focus more on energy supply legislation, while another may have a stronger focus on land use change and forest policy.

Finally, within the individual pieces of legislation themselves we observe diversity: much of the legislation has multi-sectoral objectives, addressing, for instance, the regulation of land use change and forestry as a mitigation activity, and simultaneously legislating for adaptation by modifying the areas in which development can take place to reduce the risk and scale of potential impacts. To describe these different objectives we created the following thematic categories for each piece of legislation: Carbon Pricing; Energy Supply; Energy Demand; REDD+ and LULUCF; Transportation; Adaptation; Research and Development; and Institutions/Administrative arrangements. These categories are not exclusive; many pieces of legislation in this study were adjudged to cover several different categories.

Beyond the scope of this study, there is additional action at the sub-national and supra-national levels. For example, there is significant state-level action in federal states such as Brazil, Canada and the US. An example of supra-national action is the decision to link the emissions trading schemes in Australia and the EU.

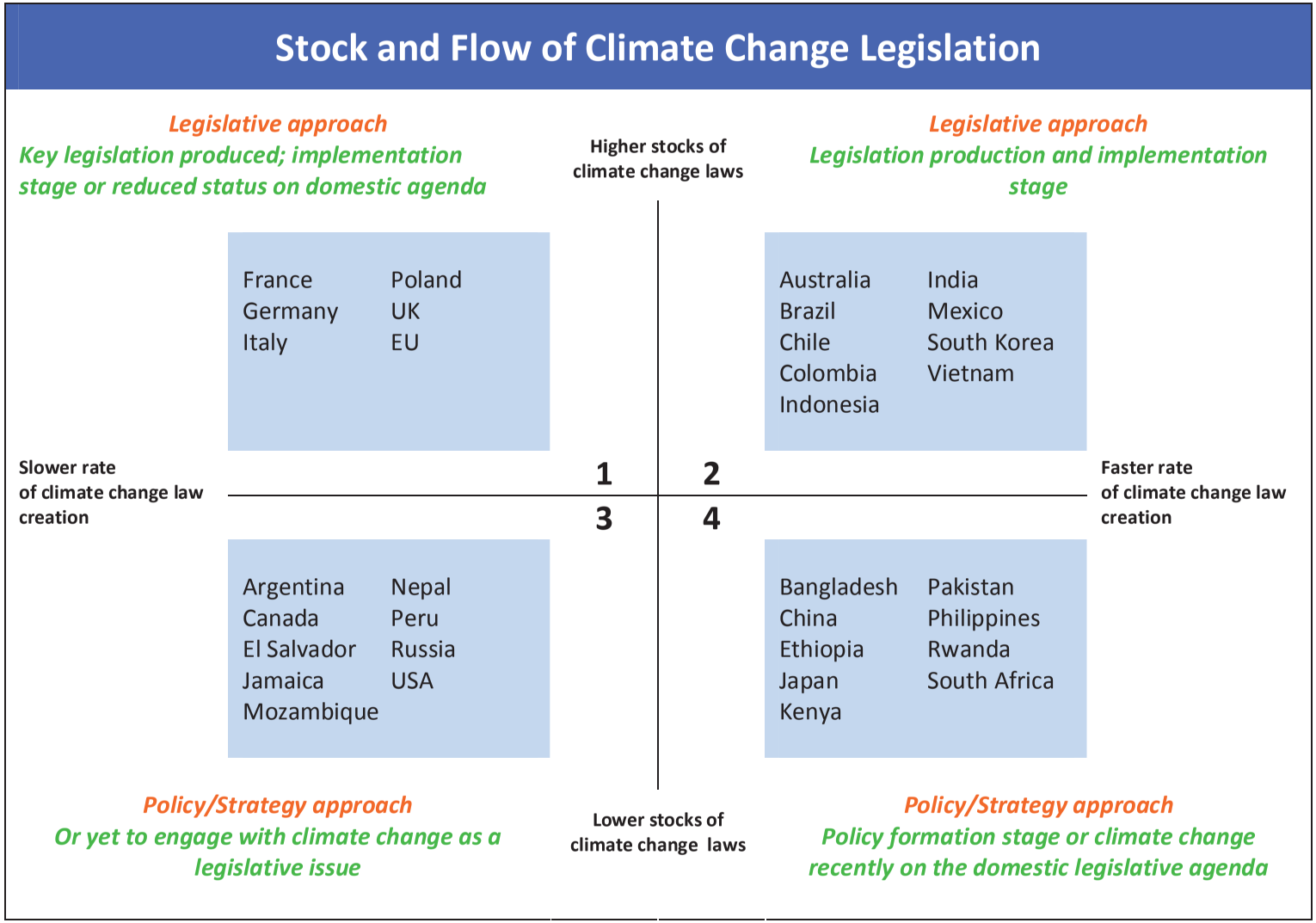
3.2 The Dynamics of Climate Change Legislation

It is instructive to examine the dynamics of climate change legislation. Figure 1 (overleaf) provides a graphical representation of the stock and flow of climate change-related laws in each of the 33 countries. A country's stock and flow is influenced by several factors. The first factor is the *time* when climate change became a legislative issue. For example, those Annex I countries that took on internationally legally binding quantified emissions reduction targets under the first commitment period of the Kyoto Protocol (2008–2012) engaged early. They might be expected to have a relatively strong stock of laws by now and, therefore, a decreasing flow of additional legislation. They are located in the top-left quadrant of Figure 1. Countries at the height of the legislative process would find themselves in the top-right quadrant. They are still adding new legislation to an already considerable stock. Countries that have only just engaged with climate change as a legislative issue would be located in the bottom-right quadrant.

A second factor is a country's overall *approach* to climate policy. Some countries have prioritised a *legislative* response to tackling climate change while others have taken a more *policy-oriented* or *regulatory* approach. Countries in the latter group would be concentrated in the bottom-left quadrant, with both a low stock and flow of climate laws. Similarly, countries with comprehensive, overarching laws will have lower stocks and flows than countries where individual policies are subject to separate legislation.

A third factor is the *relative priority* of climate change. Countries that have prioritised tackling climate change and preparing for its impacts are more likely to have a high stock of laws (e.g. EU, Mexico, South Korea) relative to those countries where tackling climate change is a low priority or where there the issue has become politicised (e.g. the US and Canada).

Figure 1: The Stock and Flow of Climate Change Legislation



3.3 Timeline of Climate Change Legislation

Figure 2 shows the timing of laws in the 33 study countries. Before interpreting the figure, it should be noted that the study includes 10 Annex I countries and 23 non-Annex I countries.[1] Therefore, all things being equal, one might expect the total number of laws for a given year to be greater in non-Annex I countries. It should also be noted that Australia's Clean Energy Act, passed in 2011, technically consists of 18 different laws. For the purposes of this study, these laws have been considered as one legislative act, thus the total number for Annex I countries for 2011 is consistent with the relatively low 2010 and 2012 totals for Annex I countries.

It is interesting to note the spike covering 2009 and 2010, possibly explained by the pressure from governments, civil society and international organisations around COP15/CMP5 in Copenhagen. This meeting was supposed to represent the conclusion of negotiations for a post-2012 agreement under the Bali Action Plan. There was immense pressure on governments to present a positive national picture at these negotiations. Many countries made significant national pledges under the Copenhagen Accord and the spike in 2009–2010, to some extent, reflects the fact that some countries underpinned the commitments made at Copenhagen with domestic legislation. The slight fall in 2012 could be due to the difficult macroeconomic conditions in developed countries, the fact that some countries already have comprehensive climate change legislation and the fact that the international political pressure has been relieved as a new deal is not now expected until 2015 under the Durban Platform. This gives the impression that, despite growing evidence of the impacts of climate change, the sense of urgency in tackling climate change has dissipated in many developed countries. The focus of politicians in stagnating developed economies has been on promoting short-term economic growth, a policy that is not necessarily consistent with action to tackle climate change.

However, it is possible that a new peak of legislative activity may occur in the run up to, and shortly after, the 2015 negotiations when a new post-2020 deal is due to be agreed under the Durban Platform.

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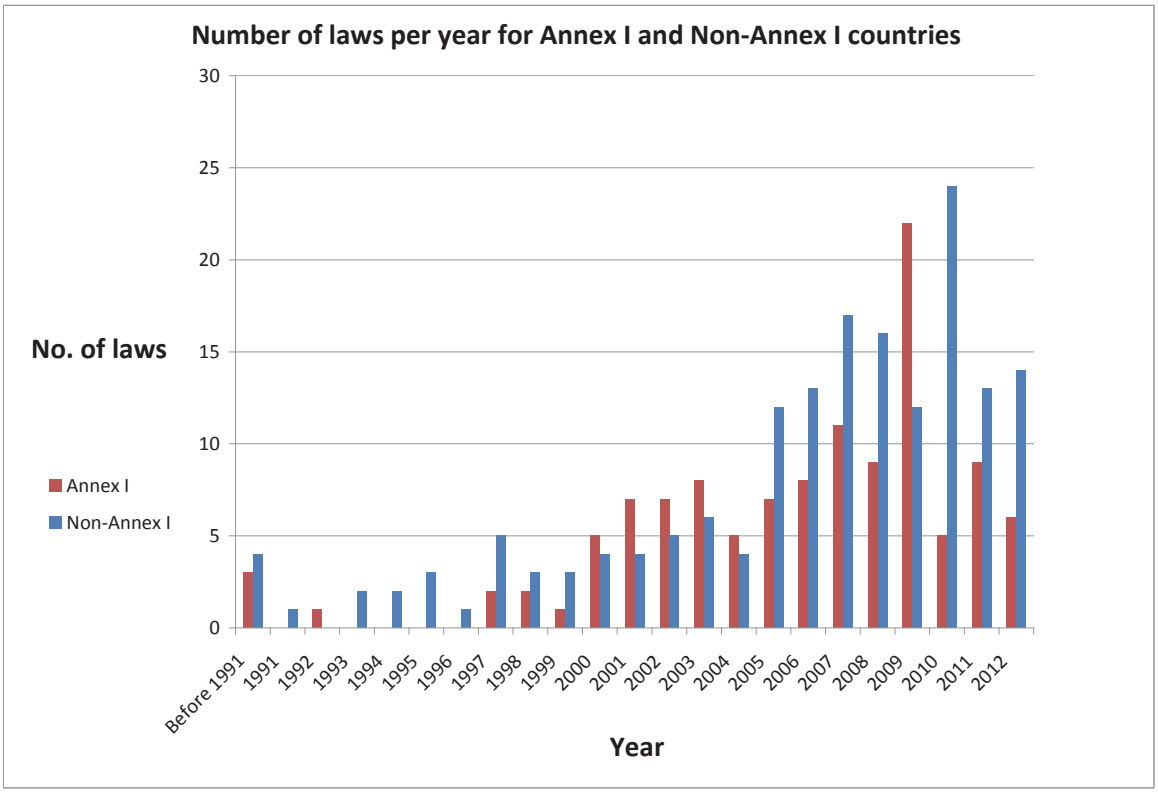
1 Countries listed in Annex I of the UN Framework Convention on Climate Change are developed countries. Those in non-Annex I are developing countries.

Figure 2: Climate Change Legislation Over Time



3.4 Sectoral Coverage and Motivations

Table 2 shows the sectoral coverage of climate change legislation in the 33 study countries.[2] The sectoral coverage continues to be broad and reflects different national circumstances and priorities. There are some notable themes related to these sectors and the broader motivation for climate change legislation that warrant highlighting:

2 For the EU Member States covered by this study (France, Germany, Italy, Poland and the UK), we have not replicated EU Directives listed under the EU chapter in each of the individual Member States' profiles, unless that country has implemented legislation that goes significantly beyond the scope of the Directive. Therefore, the sectoral coverage outlined in Table 2 for EU Member States relates only to independent national legislation.

3.4.1 Energy Demand and Energy Supply

After "institutional arrangements", "energy demand" and "energy supply" are the most popular categories addressed by the laws included in this study. A total of 116 laws (out of 286) address energy demand and 156 laws address energy supply. Almost all countries have a focus on energy efficiency, reflecting the fact that energy efficiency is seen as a 'win-win' strategy – it reduces energy demand, contributes to a reduction in GHG emissions and increases prospects for energy security and energy independence. At the same time it reduces demand for additional energy infrastructure, reduces energy costs and increases competitiveness.

3.4.2 Adaptation

Most countries (28 out of 33) include adaptation in their legislation, and in many developing countries it is the main focus, including highly vulnerable countries such as Bangladesh, Jamaica, Kenya, Mozambique, Nepal and Philippines. However, the delineation between adaptation and "climate risk" or resource management is not always clear. Many, often old, laws deal with disaster management, whereas others relate to fresh water management. This shows the close link between adaptation to climate change and the management of normal climate variability. Adaptation provisions specifically aimed at climate change often start with risk assessments (e.g. the Climate Change Risk Assessment in UK which examined more than 700 potential impacts) rather than outright action. Furthermore, adaptation is often delegated to agencies, regions and sub-national authorities, rather than driven by a centralised body, reflecting the fact that adaptation is local and diverse. For example, the Climate Change Act in the Philippines mandates local government to draft local Climate Change Action Plans and, in Pakistan, a special Provincial Climate Change Policy Implementation Committee has been established.

3.4.3 Carbon Pricing

In the last two years there has been a significant move towards pricing carbon, primarily through carbon trading but also using carbon taxes, as a tool with which to tackle GHG emissions. In addition to the proposed expansion of the EU's well-established emissions trading scheme to cover aviation emissions, Australia passed legislation in 2011 to develop a national trading scheme by 2015, China has proceeded with the development of pilot emissions trading systems in 7 municipalities and provinces, due to begin in 2013, with a view to a national scheme before 2020

and, in 2012, South Korea passed legislation that will see a national scheme in place by 2015. The US State of California's emissions trading scheme began in 2012. While this is interesting in the context of different country approaches to climate change, it is not national-level and therefore outside the scope of this study. Elsewhere, in July 2012, Australia and the EU announced their intention to link their schemes by 2018 at the latest, further strengthening the prospect of an inter-continental carbon price in the medium term.

Japan introduced a carbon tax in 2012, India has initiated a levy on coal with the revenue raised being used to fund clean energy research, and South Africa has proposed a carbon tax in its most recent budget for 2012–2013.

3.4.4 Forests and Land Use

As one would expect, the effort to reduce GHG emissions from deforestation and forest degradation (REDD) has been a driver of legislation and regulation in those countries with large forests. Bangladesh, Brazil, Indonesia, Mexico, Nepal and Vietnam all have significant laws and regulations designed to reduce deforestation. This legislation recognises the co-benefits of protecting natural forests, for example, water management, soil erosion and storm protection. That is, as with energy efficiency, REDD is seen as a win-win strategy that also supports adaptation through improving the resilience of ecosystems and maintaining the stock of natural capital.

3.4.5 Green Growth

A broader theme that has emerged over recent months and years is the use of the term "Green Growth" in legislation and regulation related to climate change. This represents a recognition that, although implementing climate policies may result in short-term costs, such policies will, in many cases, stimulate new low carbon industries, create new jobs and lead to more resource-efficient, shock-resistant and competitive economies, as well as managing the risks that climate change poses. Countries that explicitly couch their climate change activities as green growth strategies include Ethiopia and South Korea.

Table 2: Sectoral Coverage of Legislation

Country	No. of Laws	Pricing carbon	Energy Demand	Energy Supply	Forests and Other Land Use	Transport	Adaptation	Research and Development	Institutions/Administrative Arrangements
Argentina	6		M	X		X		X	X
Australia	9	M	X	X	X	X	X		X
Bangladesh	7		X	X	X		M	X	X
Brazil	13		X	X	M		X	X	X
Canada	4		M	X					
Chile	10		X	M	X		X	X	X
China	4	X	M	X	X	X	X	X	X
Colombia	8		X	X	M	X	X	X	X
El Salvador	5		X	X	X		M	X	X
Ethiopia	8		X	X		X	M	X	X
EU	25	M	X	X	X	X	X	X	X
France	14	X	M	X	X	X	X	X	X
Germany	12	X	X	M		X	X	X	X
India	14	X	M	X	X	X	X	X	X
Indonesia	18		X	X	M			X	X
Italy	18		M	X	X	X	X		X
Jamaica	3		X	X	X		M	X	X
Japan	9	X	M	X		X		X	X
Kenya	5		X	X	X		M		X
Mexico	8	X	X	M	X	X	X	X	X

Country	No. of Laws	Pricing carbon	Energy Demand	Energy Supply	Forests and Other Land Use	Transport	Adaptation	Research and Development	Institutions/Administrative Arrangements
Mozambique	4			X	X		M	X	X
Nepal	3						M	X	X
Pakistan	7		X	X	X	X	M	X	X
Peru	6		X	X	X	X	M	X	X
Philippines	6		X	X	X	X	M	X	X
Poland	4		X	M	X	X	X	X	X
Russia	9		M	X					
Rwanda	3		X	X	X	X	M	X	X
South Africa	4	X	X	M			X	X	X
South Korea	16	M	X	X	X	X	X	X	X
UK	9	M	X	X	X	X	X	X	X
US	5		X	M	X	X	X	X	X
Vietnam	10		X	X	M	X	X	X	X
Total	286	11/33	31/33	32/33	25/33	21/33	28/33	28/33	31/33

Key:

M = Main Focus
X = Coverage

4 Climate Change Legislation Country-by-Country

This chapter details the key information about the main climate change-relevant laws in each of the 33 countries covered by this *3rd GLOBE Climate Legislation Study*. It also includes information about emissions and the latest international commitment under the UNFCCC.

There is no clear-cut *definition* of a climate change law. There are ambiguities both with the terms "climate change" and "law". As in the original study, the authors define climate change law as:

> Legislation, or regulations, policies and decrees with a comparable status, that refer specifically to climate change or that relate to reducing energy demand, promoting low carbon energy supply, tackling deforestation, promoting sustainable land use, sustainable transport, or adaptation to climate impacts.

We have applied this definition with flexibility on a country-by-country basis to ensure the best reflection of the overall legislative, regulatory and policy response to climate change in the 33 study countries. This approach acknowledges the diversity of country approaches to climate change identified in Section 3.1. At the same time, we do not claim to have identified every relevant law from all 33 study countries. Whether or not a given law has been detected depends on a number of factors such as the availability of information through websites and the strength of connections with relevant legislators and legislatures. As a result, *this paper does not offer an exhaustive list of all climate-relevant legislation*.

The addition of a further 16, mostly developing, countries has resulted in more emphasis on adaptation. These country chapters have been written taking into account the priorities laid out in national adaptation plans, where available. However, a country's approach to adaptation is determined by its geography and therefore calls for context-specific strategies. For example, adaptation in one country may involve improving protection against sea-level rise, whereas in another involve developing drought-resistant crops and improving water management. Moreover there may be variations in the way that local adaptation measures are implemented, such as through creation of dedicated new legislation, use of existing legislation, or amendments to existing legislation. Because of this huge scope, this study does not capture all adaptation-related legislative activity.

We were also strict about not including laws under consideration. The detailed country chapters only include laws, regulations, policies and decrees that have been passed and that have come into effect. However, significant current legislative efforts not yet passed, or recently failed, have been referenced in the covering text of each country summary and are also taken into account in the assessment of "Progress in 2012" as outlined in Table 1.

Our focus on legislation at the federal level also excludes significant action at regional and local levels of government. This is particularly significant in countries with federal structures (e.g. Australia, Brazil, India and South Africa) and, within this category, in countries where federal legislation has been slow when compared with activity at the sub-national level (e.g. US and Canada).

For EU Member States covered by this study (France, Germany, Italy, Poland and the UK), we have not replicated EU Directives listed under the EU chapter in each of the individual Member States' profiles, unless that country has implemented legislation that goes significantly beyond the scope of the Directive. For example, the French *Farming Policy Framework* goes beyond the EU *Biofuels Directive.*

The *data sources* used for the "Fact Boxes" in the individual country chapters are from two sources. The *GHG emissions data* is taken from the most recent official national submission to the UNFCCC. This means that the figures are not comparable from country to country as the submissions are from different years. For the category of *Importance as an emitter*, 2005 World Bank emissions data have been used. Although slightly dated, the data are comparable and we have used broad categories (Top 5, Top 10, etc.) to provide an indicative assessment rather than attempt a specific ranking based on out of date or unofficial data.

Note to reader

The following abbreviations and formulae, appearing in the "Fact Box" of each section, should be noted:

LULUCF	LULUCF stands for land use, land use change and forestry, and refers to an official greenhouse gas inventory sector under UNFCCC
$MtCO_2e$	Mt stands for megatonne (i.e. one million metric tonnes). CO2 equivalent (CO2e) is the concentration of CO2 that would cause the same level of radiative forcing as a given type and concentration of greenhouse gas. Examples of such greenhouse gases are methane, hydrofluorocarbons (HFCs) and nitrous oxide. CO2e is expressed as parts per million by volume (ppmv).
Change from base year (1990)	The change from base year excludes LULUCF

4.1 Argentina

4.1.1 Fact Box

Greenhouse Gas emissions incl. LULUCF ($MtCO_2e$) excl. LULUCF ($MtCO_2e$) Change from base year (1990)	 289 282 NA
Latest reporting year	2000
Importance as an emitter	Top 50
UNFCCC ratification status and date	Date of signature: 12 June 1992 Date of ratification: 11 March 1994 Date of entry into force: 9 June 1994
Kyoto Protocol ratification status and date	Date of signature: 16 March 1998 Date of ratification: 28 September 2001 Date of entry into force: 16 February 2005
2020 pledge	No pledge made
Flagship legislation	**Presidential Decree 140/2007 declaring "rational and efficient" energy use a national priority**

4.1.2 Legislative Process

The Argentine legislative structure is a bicameral congressional model within a federal republic. The National Congress is composed of the Senate and the Chamber of Deputies. Each of the 23 provinces (and the autonomous federal capital, Buenos Aires) elects three senators (two from the majority party and one from the first minority) for a total of 72 senators. The 257 representatives of the Chamber of Deputies are elected by congressional districts based on proportional representation.

Legislative proposals are called law projects (*proyectos de ley*) and are generally introduced in the Chamber of Deputies before debate and vote in the Senate (exceptions include laws declaring war and tax/tariff legislation). To become law, all law projects must be passed by both congressional bodies and signed by the President, who acts as both head of state and head of government.

A law project is first drafted, proposed and debated in legislative committees in the Chamber of Deputies. Often included in the debate are experts invited by the committee, who may include high-level government officials, noted academics, civil society leaders, and members of the private sector. Once the proposal has passed the relevant legislative committee, it can officially be presented and debated in front of all the deputies, and amendments may be considered.

Argentina is a federal republic made up of 23 provinces and an autonomous national capital city. Each province elects its own governor and congress and is granted significant authority over the running of its territory by the Argentine National Constitution. While federal law usurps provincial law, many of the laws passed by National Congress and enacted by the President are written to coexist with provincial law. Some provinces have passed legislation directly or indirectly related to climate change, which will not be considered here. Article 41 of the Argentine National Constitution declares the importance of the natural environment and its protection from contamination a national priority. It considers "enjoyment" of the natural environment an individual and cultural right. Constitutionally, each province has the gubernatorial authority to legislate and control its natural resources; however, the national government reserves the right to dictate the norms for the protection of the environment.

4.1.3 Approach to Climate Change

Legislation, or regulation related to climate change, has been particularly difficult to enact in Argentina. The country experienced a severe recession from 1998 until 2002, and an acute crisis in 2001, after which nearly 60% of the population was plunged into poverty. During the last decade, the federal government's priority has been economic recovery and growth. Investments necessary to mitigate emissions and adapt to climate change are conceived as politically pitted against social investments in health, education and poverty reduction in a zero-sum game. As such, Argentina has neither enacted comprehensive legislation related to climate change nor made an official pledge to reduce GHG emissions by a measurable difference.

In its second report to the UNFCCC (2007), the Argentine government maintains that the country is vulnerable to climate change, particularly floods and landslides related to increased rainfall, melting glaciers and increased river flow. Various government-commissioned studies have laid out both mitigation and adaptation strategies; however, the government insists that substantial non-refundable international funds would be necessary for their implementation. In a public speech before the UNFCCC conference in Copenhagen in 2009, President Cristina Fernandez de Kirchner argued that developing countries should set GHG emissions reduction goals that were "humbler" but more feasible, and that wealthy nations that are the principal polluters should set more ambitious reduction goals as well as finance the mitigation and adaptation efforts of poorer nations.

That is not to say, however, that Argentina has made no institutional attempts to respond to climate change. The country ratified the UNFCCC in 1993 and the Kyoto Protocol in 2001. In 2002 a presidential decree created the Secretary of Environment and Sustainable Development (SAyDS), to be housed within the Ministry of Health and Environment. The SAyDS in turn created the Direction for Climate Change, which has responsibility for introducing and coordinating policies and actions relating to climate change. Other subgroups include the National Advisory Commission on Climate Change, which includes various academic and industry experts, and the Gubernatorial Committee on Climate Change, comprised entirely of government organs and intended to coordinate cross-sector government actions.

Energy demand and supply

Argentina has enacted legislation to reduce energy demand through the promotion of energy efficient practices in the private, public and residential sectors. The policy mechanism through which most energy demand projects are implemented is the National Program for Rational and Efficient Energy Use, which, according to official estimates, will lead to a 2,400 MW reduction in demand for electricity by 2015 and a 28 million tonne reduction in CO_2 emissions (between 2006 and 2015). Further details of The National Plan can be found in the detailed tables below.

Argentina has made the use of biofuels obligatory for all liquid fuel types used for transportation. Part of legislation meant to promote the production and use of biofuels, regulations for the commercialisation of petrol now mandate that all fuel types must contain a minimum of 5% biodiesel or bioethanol. Similar legislation related to renewable sources of electricity stipulates that by 2017, 10% of all electricity consumed must come from renewable energy sources. As such the federal government has laid out several tax benefits and financing and grant schemes to encourage new production of alternative energy and energy efficiency technologies.

Since the economic crisis mentioned above, the federal government has subsidised residential and commercial electricity, gas and water use resulting in some of the lowest energy prices in the continent. In 2011 The Ministry of Economy issued a resolution that ended the subsidies to large corporations and residencies deemed to be in “high income” areas in the Buenos Aires metropolitan area (home to 39% of the population) as well as gated communities and country clubs throughout all provinces. The motives behind the cutting of subsidies were not climate change mitigation or consumer behaviour-change. Nonetheless, possible effects include a decrease in energy consumption and/or more competitive price schemes for renewable energies in the future market.

Education

Argentina’s comprehensive *General Law of Environment*, which among other things establishes the Secretariat of Environment within the National Ministry of Health and Environment, explicitly states that modules related to the natural environment, protection of natural resources and prevention of pollution must be included in primary and secondary school curricula. Later congressional legislation and presidential decrees have mandated that climate change material (including information about mitigation of emissions and adaptation through individual and collective action) also be included. In addition to the production of educational materials and curricula for school-aged children, various laws call for “massive public education campaigns” on issues such as pollution and energy efficiency

targeted to the general population. Lastly, included in much of the legislation covered in the annex below are mechanisms for funding research at national universities, and facilitating knowledge transfer human resource training (including the establishment of postgraduate programs focussed on energy efficiency) between academic institutions and the public and private sectors.

Argentina: Flagship Legislation

Name of law	**Decree 140/2007: Presidential decree declaring "rational and efficient" energy use a national priority**							
Date of entry into force	21 December 2007							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×		×			×
Driver for implementation	Energy efficiency							
Summary of bill	This presidential decree is considered Argentina's "flagship legislation" due to its far-reaching and ambitious goals to reduce energy consumption and promote the use of renewable energy in the public sector (including public transport and lighting), private industry and private residencies. While the decree is not technically legislation, it has real authority to regulate energy consumption and demonstrated potential to drive new regulation and policies through legislation, executive decrees and ministerial resolutions. The decree operates within the framework established by the UNFCCC and the Kyoto Protocol, seeking sustainable development and growth while mitigating negative impacts to the environment. The decree's main purpose is to announce a National Program for Rational and Efficient Energy Use, to guarantee funding for the program in the federal budget, to name the Energy Secretary as the main authority for implementing the plan and to create a federal commission to oversee and monitor progress. The National Program for Rational and Efficient Energy Use is divided into actions to be realised in the 1) short term and 2) medium and long term. In the short term (30 days from implementation) the commission is to initiate a "massive" public education campaign about energy efficiency, take necessary measures to manage the replacement of incandescent light bulbs with energy efficient bulbs in all private residences in the country, begin work to rate the energy efficiency of all electric appliances, improve the energy efficiency in all sectors of public administration and promote agreements with energy providers, national universities and business associations to improve energy efficiency in non-public sectors.							

In the medium to long term, the actions are further subdivided by sectors:

- Industry: formulate a strategy to increase competitiveness by reducing energy costs; work to monitor and improve energy efficiency with those corporations that voluntarily participate in the program; disseminate and replicate the program; facilitate energy efficiency technology within the private sector; offer financing to small and medium companies who voluntarily invest in energy saving technology

- Commercial and Service Sectors: tailor an energy efficiency program to the specific circumstances of office buildings, retail shops, hotels, restaurants, commercial banks etc.; develop efficiency standards for the consumption of energy (lighting, heating and air-conditioning, food storage)

- Education: incorporate energy efficiency and renewable energy themes into pre-existing curricula at primary and secondary education levels; develop postgraduate programs focussing on energy efficiency at national universities

- Cogeneration: develop a plan to promote and regulate the cogeneration of electricity and heat with new and existing energy providing companies

- Energy efficiency standards and labelling: designate maximum and minimum standards of energy efficiency for electric appliances and machines produced or commercialised in the country; propose a timeline to ban the production, importation and commercialisation of incandescent light bulbs

- Public lighting: implement system technologies to make public street lighting and traffic lights more energy efficient

- Transport: improve the management and distribution of public transport in regards to energy consumption; with corresponding authorities develop minimum standards of efficiency for new automobiles; initiate a monitoring and maintenance program for public vehicles, commercial transport vehicles and taxis and limousines; design a public education campaign about the impacts of the excessive driving of automobiles

- Residences: initiate a system of energy certification for newly constructed residences in cooperation with construction-industry associations, architect associations and universities; introduce energy efficiency as an indicator of construction quality in the academic departments of engineering and architecture; indicate maximum energy consumption guides for new homes based on regional geographies; optimise solar energy in new construction projects; incentivise reduction of energy consumption in existing residences; develop a strategy to design “massive systems” of water heating using solar technology

- Climate Change–Clean Development Mechanism (CDM): evaluate the role of CDM, including international carbon markets, in supporting energy efficiency projects; develop a plan to take advantage of international sources of financing and technological cooperation; promote the CDM in public and private entities that could have a role in identifying new energy efficiency projects

Targets	None specified

Argentina: Other Relevant Legislation

Name of law	**Law 26473 Prohibiting commercialisation of incandescent light bulbs**							
Date of entry into force	31 December 2010							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×					
Driver for implementation	Energy efficiency							
Summary of bill	Prohibits the importation and commercialisation of incandescent light bulbs for residential use throughout the country.							
Targets	None specified							

Name of law	**Law 26.190 Regimen for the National Promotion for the Production and Use of Renewable Sources of Electric Energy**							
Date of entry into force	2 January 2007							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×					×	
Driver for implementation	Renewable energy							
Summary of bill	Law 26.190 declares the production of electricity from renewable energy sources a matter of national interest. It requires that within 10 years (2017), 8% of all electricity consumed nationally must be generated from renewable energy sources. The law directs the executive power to coordinate a Federal Program for the Development of Renewable Energy, which for a period of 10 years will create a fund to finance renewable energy projects. Private firms who are recognised as beneficiaries of the Plan and/or the Fund will enjoy a series of tax benefits.							
Targets	None specified							

Name of law	**Law 26.123 (2006) Promotion of Hydrogen Energy**							
Date of entry into force	25 August 2006							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×					×	
Driver for implementation	Renewable energy							
Summary of bill	Law 26.123 declares the technological development, the production of, and the use of hydrogen fuel, as well as other alternative energy sources, a matter of national interest. The executive power will determine the federal organisation responsible for developing a *National Programme for Hydrogen,* which will have among its objectives: develop and strengthen the technological and scientific research into alternative energy sources; incentivise the application of hydrogen energy technology; incentivise the participation of the private sector in the generation and production of hydrogen energy where it strengthens the national industry; promote the regional cooperation and technology transfer between MERCOSUR member-countries; develop a plan to educate the general public about the necessity to diminish contamination of the national environment and the importance of alternative energy use; incentivise the industrialisation of hydrogen fuel cells; and promote links between state entities, university research centres and private industry in the interest of a national industry of hydrogen energy. The objectives will be realised primarily through the creation of The National Fund of Hydrogen Promotion (FONHIDRO), which will depend on the national fiscal budget and which will also oversee various tax exemptions and deductions for participating firms.							
Targets	None specified							

Name of law	**Law 26.093 (2006) Regimen of Regulation and Promotion of the Production and Sustainable Use of Biofuels**							
Date of entry into force	12 May 2006 with some provisions activated 1 January 2010							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×					×	
Driver for implementation	Renewable energy							
Summary of bill	The object of the Law 26.093 is to provide a regulatory framework for the production and promotion of biofuels. The law creates and defines the authority of a federal regulatory entity, The National Advisory Commission for the Promotion of the Production and Sustainable Use of Biofuels, delineates the chemical definitions of biodiesel and bioethanol and provides direction for the issuing of subsidies and tax reductions. The Commission also has the charge of facilitating technology transfer, especially between small and medium sized firms who are beneficiaries of the law. Four years after enactment (by 2010) all gasoline produced and consumed in Argentina must be composed of no less than 5% biofuels. The regulations enacted and the Commission will be valid for a period of 15 years from the date of entry into force; however, the Executive Branch will have the authority to extend the law based on pre-existing tax law.							
Targets	None specified							

Name of law	**National Decree 1070/05 (2005) Creation of the Argentine Carbon Fund**							
Date of entry into force	5 September 2005							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
	×							
Driver for implementation	Climate change							
Summary of bill	National Decree 1070/05 has the single purpose of creating the National Argentine Carbon Fund (FAC) and to incentivise projects within the framework of The Clean Development Mechanism, as defined by Article 12 of the Kyoto Protocol. The fund is administered by the Secretary of Environment and Sustainable Development within the Ministry of Health and Environment.							
Targets	None specified. By the end of 2006, projects participating in the fund were estimated to have avoided 27 million tonnes of CO_2 equivalent.							

4.2 Australia

4.2.1 Fact Box

Greenhouse Gas emissions incl. LULUCF ($MtCO_2e$) excl. LULUCF ($MtCO_2e$) Change from base year (1990)	 581 543 125
Latest reporting year	2010
Importance as an emitter	Top 20
UNFCCC ratification status and date	Date of signature: 4 June 1992 Date of ratification: 30 December 1992 Date of entry into force: 21 March 1994
Kyoto Protocol ratification status and date	Date of signature: 29 April 1998 Date of ratification: 12 December 2007 Date of entry into force: 11 March 2008
2020 pledge	Reduction of GHG emissions between 5% and 25% from 2000 levels by 2020, based on actions taken by other states: • 5% unconditional reduction • 15% reduction if there is a global agreement which falls short of securing atmospheric stabilisation at 450 ppm CO_2e, under which major developing economies commit to substantially restrain emissions and advanced economies take on commitments comparable to Australia's • 25% reduction if global deal reached, capable of stabilising levels of atmospheric GHG at 450 ppm CO_2e or lower
Flagship legislation	**Clean Energy Act**

4.2.2 Legislative Process

The Australian parliamentary system is based on the UK's Westminster system. The Federal Parliament is bicameral, consisting of the House of Representatives (commonly known as the Lower House), and the Senate (often referred to as the Upper House). The Senate is composed of equal numbers of representatives from all six Australian states, with additional Senators representing Australian Territories. In the House of Representatives, the number of members of parliament per state is proportional to population. Australia retains the Sovereign of the United Kingdom as its head of state. All laws are formally enacted by the Sovereign (Royal Assent).

Proposed laws are called bills, and can be introduced into either House, except for bills that propose expenditure or tax levies (appropriation or money bills), which must be introduced in the House of Representatives. In practice, most bills are introduced in the House of Representatives. All bills must be passed (by a series of three readings) by both Houses of Parliament to become law (Acts). It is possible for the Senate to block the passage of legislation even in cases where the government has a clear majority in the House of Representatives. In the case of parliamentary deadlock, the Australian constitution allows the Governor-General (the Sovereign's representative) to authorise a "double dissolution" election under specific circumstances, at the request of the Prime Minister.

Australia operates under a Federal system of government, with six states (formerly separate colonies) with considerable autonomy, defined areas of jurisdictional responsibility under the Constitution and separate Parliaments. This chapter covers only those laws and policies that are enacted nationwide.

4.2.3 Approach to Climate Change

Australia's approach to climate change is best reflected in the Clean Energy Act of 2011. The Act is intended to take action towards Australia's long-term target of reducing net GHG emissions to 80% below 2000 levels by 2050. The Clean Energy Act introduces a price on carbon affecting large polluters, effective from July 2012 (starting at a fixed AUS$23 [US$24.2]). The price mechanism will be replaced by an emissions trading scheme (ETS) on 1 July 2015. Once the ETS comes into effect, the carbon price will be set by the market.

Climate change has been a contentious issue in Australian politics since the late 1990s. In 1998, the Australian government set up the Australian Greenhouse Office (AGO), which was the world's first national government agency dedicated to reducing GHG emissions, and the National Carbon Accounting System (NCAS). Australia signed the Kyoto Protocol in April 1998, but did not ratify it until December 2007. Controversy over the introduction of federal legislation to limit GHG emissions has become particularly acute since 2009, with both major parties (the Australian Labor Party or ALP, and the Liberal-National Party coalition or LNP) advocating different approaches.

In 2007, the LNP introduced the *National Greenhouse Energy Reporting Act 2007* (NGER Act). The object of this Act was to introduce a single national reporting framework for GHG emissions, with the intention of providing information to underpin a future emissions trading scheme (ETS). The Garnaut Climate Change Review (released 2007, updated 2011) indicated that an ETS could help to "decarbonise" the economy, and would not be inflationary if permit revenue were used to compensate households. Major political controversy surrounded the first attempt to introduce an ETS through the Carbon Pollution Reduction Scheme Bill 2009 (CPRS), and was twice defeated in the Senate in 2009, giving rise to a trigger for a double dissolution election. In April 2010, it was announced that the CPRS would be put on hold until 2012.

However, after a federal election in August 2010, the government began anew to introduce climate change legislation. A new package of 18 bills to combat climate change, headed by the Clean Energy Act 2011, was passed by the House of Representatives in October 2011 and by a narrow majority in the Senate in November 2011.

On 28 August 2012, the Australian Minister for Climate Change and Energy Efficiency and the European Commissioner for Climate Action announced that they will connect the Australian Emission Trading Scheme (ETS) to the European Union ETS, in a full two-way link commencing no later than 1 July 2018. The linkage between the trading schemes will introduce two changes to the Australian scheme: the first, removal of the price floor on carbon; the second, the application of a new sub-limit to the use of eligible Kyoto emission reduction credits. On 31 August 2012, the Department of Climate Change and Energy Efficiency released a draft of the Clean Energy Legislation Amendment (International Emissions Trading and Other Measures) Bill 2012 and six related bills to inform stakeholders of the way that it proposes to implement these linkages. The proposed amendments make amendments to the Clean Energy Act 2011 and related acts.

Ongoing contentious issues related to the carbon pricing mechanism have been the potential effects on export-oriented industries, and the effects on household bills. As a result, the package includes support packages for "trade-exposed industries" and substantial cuts to income tax, particularly for low income earners, in order to compensate for any price rises. Household transport fuel consumption and emissions from agriculture and other land-based activities are exempt from the carbon price.

Australia is involved in many regional and global activities, providing opportunities for building stronger political relationships and influencing other countries' climate change policies, and for capacity building in developing countries. It is involved in setting up REDD+ projects and has an allocated budget towards supporting adaptation efforts in developing countries.

Sub-national level

Several states have climate legislation and emission reduction targets. The state of South Australia has set ambitious targets in its 2007 legislation – reducing emissions by 60% to be 40% under 1990 levels by 2050; production and consumption of at least 20% renewable energy by 2014. Victoria's Climate Change Act 2010 came into effect in July 2011. Following federal legislation, the Act has been reviewed and "found no compelling case to maintain the (Victorian) target" when a national scheme was in place. State emission reduction targets (which are more ambitious than the federal targets) will be repealed from the state legislation; however, other elements of the legislation, including adaptation plans, will remain intact. New South Wales produced several plans, which include a commitment to be a net carbon neutral state by 2020, as well as other targets and measures with regards to energy consumption and supply and transportation. Australian Capital Territory also introduced ambitious legislation including net carbon neutrality by 2060.

Energy demand

There are several schemes targeted at increasing energy efficiency, but to date there is no overarching framework. The Australian government has outlined plans for a new National Energy Savings Initiative (ESI), designed to tie in with carbon pricing measures under the Clean Energy Act. A national ESI would place obligations on energy retailers to find and implement energy savings in households and businesses, and would assist consumers to save money through energy efficient technologies. Consultation on the design of the national ESI is currently underway; it is intended to replace state-based energy efficiency schemes that only apply in some states. A progress report was released in August 2012, and the

Working Group intends to release an assessment of regulatory impacts for public comment in late 2012. The findings of the regulatory impact analysis and stakeholder views will then be resented to the Australian government.

Australia began phasing out energy-intensive incandescent light bulbs from February 2009. A Tax Breaks for Green Buildings Programme came into effect on 1 July 2012, providing incentives for retrofitting energy-intensive buildings.

The budget for 2012–2013 allocates AUS$37.1 million (US$39 million) in funding to introduce a nationally consistent legislative framework for Greenhouse and Energy Minimum Standards to regulate equipment energy efficiency. This framework will replace an inefficient patchwork of state and territory schemes. The budget also includes AUS$2.8 million (US$2.9 million) in additional funding for a range of building energy efficiency activities, including maintenance and improvement of current building regulatory schemes.

Energy supply

Australia has had legislation in place to incentivise increased renewable energy generation since 2000 (the *Renewable Energy [Electricity] Act 2000*), with a Mandatory Renewable Energy Target (MRET) commencing in 2001. From 2009, the MRET was expanded to the Renewable Energy Target (RET) Scheme, designed to ensure that 20% of the nation's electricity supply will be generated from renewable sources by 2020. As of 2011, around 7% of Australia's electricity is supplied by renewable sources. Hydroelectricity, bagasse (a by-product of sugarcane), wood and wood waste together account for 85% of renewable energy production in Australia. Wind energy and solar energy are rapidly growing sectors within the renewable energy market.

The RET was split into a Large-scale Renewable Energy Target (LRET) and Small-scale Renewable Energy Scheme (SRES) in 2010. The two schemes recognise differences between large-scale operations (such as renewable energy projects, and energy suppliers) and small-scale renewable energy systems (such as households, small businesses and communities). Under the amended legislation, liable entities (normally electricity retailers) are required to purchase renewable energy certificates (RECs) from renewable energy providers. This is intended to provide a financial incentive for investment in renewable energy systems. LRET and SRES are overseen by a statutory authority (the Office of the Renewable Energy Regulator) created specifically for this purpose.

Land use

Emissions from land use change and land management account for around 25% of Australia's GHG emissions, a situation which stands the country apart from most of the other Annex I countries. The Australian government established the National Carbon Accounting System (NCAS) in 1998 to provide a complete accounting and forecasting system for human-induced sources and sinks of GHG emissions from Australian land-based activities. Reporting capabilities include emissions from land use, land use change and forestry (LULUCF), as well as projections for future emissions from these categories. Carbon pools that are covered through NCAS include soil carbon and biomass (both above-ground and below-ground). The NCAS is considered one of the leading programmes worldwide in accounting for carbon emissions and sequestration from land-based activities.

Emissions from agriculture are not covered within the provisions of the Clean Energy Act 2011. A separate package of three pieces of legislation received Royal Assent in 2011, with the aim of setting up the Carbon Farming Initiative. The central piece of legislation in the package was the *Carbon Credits (Carbon Farming Initiative) Act 2011*. The initiative is intended to give "farmers, forest growers and landholders" access to domestic and international carbon markets. The Carbon Farming Initiative will operate alongside the proposed carbon pricing mechanism by allowing for GHG abatement projects in the land use sector, and from landfill waste emissions. The initiative covers land-based sequestration activities, native forest protection and emissions avoidance projects.

A new Biodiversity Fund has been established as part of the Government's Clean Energy package. The fund will receive nearly AUS$1 billion (US$1.05 billion) over its first six years, which will be used to fund projects undertaken by landholders to establish, restore, protect or manage biodiverse carbon stores. Specific areas of the landscape will be targeted to increase wildlife habitat, ecological values and carbon biosequestration. Other funds include: Regional Natural Resources Management Planning for Climate Change Fund; the Indigenous Carbon Farming Fund to support Indigenous communities interested in implementing carbon farming projects; and the Carbon Farming Skills Initiative – to ensure that landholders can access credible, high quality advice and carbon services. Native forest wood waste has been removed, by regulation, from eligible renewable energy sources under the Renewable Energy Target.

Transport

Transport emissions account for approximately 15% of Australia's total GHG emissions. The Clean Energy Act 2011 specifically exempts transport fuel emissions from inclusion within emissions calculations and from the carbon price. In order to

reduce emissions from transport, the current ALP government intends to introduce mandatory emissions standards for vehicles, following on from a 2010 election commitment. A discussion paper on light vehicle CO_2 emissions standards was released in 2011, and comments were requested by December 2011. The discussion paper is intended to form the basis for new standards to be developed and implemented from 2015 for all new vehicles.

Adaptation

The National Climate Change Adaptation Framework was agreed by the Council of Australian Governments in April 2007. The Australian government has established the Climate Change Adaptation Program (CCAP), with funding of up to AUS$126 million (US$132 million). The CCAP is supported by a AUS$20 million (US$21 million) research programme (the National Climate Change Adaptation Research Facility or NCCARF), offering support for local governments and communities and a range of major vulnerability assessments to increase understanding of vulnerability in important natural and settled areas and establish priorities for adaptation activities. In the budget for 2012–2013, AUS$3 million (US$3.1 million) in funding are allocated to support the development of climate change adaptation policy and risk analysis. In February 2010, the government published a position paper on adaptation. The paper identifies six national priority areas for action: water, coasts, infrastructure, natural ecosystems, natural disaster management and agriculture. The paper emphasises responsibility sharing between government and private parties, and allocation of responsibilities among different levels of government.

Research and development

The Australian government is committed to climate change mitigation research through numerous programmes – the *Climate Change Research Strategy for Primary Industries* (CCRSPI), operating since 2007 under a mandate from the Primary Industry Ministerial Council and Primary Industry Standing Committee, leads the national collaboration, coordination and communication of climate change research, development and extension activity for Australia's primary industries. Research programmes such as *The Climate Change Research Program* and *Carbon Farming Futures* are led by the Department of Agriculture, Fisheries and Forestry (DAFF). The Australian government has approved AUS$72.5 million (US$76.1 million) worth of grants for the first round of projects, ranging from research into reducing emissions from livestock and cropping through to trialling sustainability and resilience enhancing practices and technologies on-farm. Adaptation related research is carried out through the *National Climate Change Adaptation Research Facility* (NCCARF).

Australia: Flagship Legislation

Name of law	Clean Energy Act 2011							
Date of entry into force	1 July 2012							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
	×	×	×		×			×
Driver for implementation	Climate change							

Summary of bill

The main objective of Australia's flagship legislation, the Clean Energy Act, is to support an effective global response to climate change that is consistent with Australia's national interests, and thereby give effect to Australia's obligations under the UNFCCC and the Kyoto Protocol. It is the centrepiece of a package of 18 Acts.

The central mechanism by which the Clean Energy Act and associated legislation will do this is by putting a price on carbon. Under the carbon price, facilities or corporations that emit more than 25,000 tonnes of CO_2e per year ("large polluters") will be required to purchase permits for every tonne of carbon emitted. It is expected that this will include around 500 "large polluters". Under the provisions of the NGER Act (see following section), many corporations are required to report their CO_2e emissions.

From 1 July 2012 to 30 June 2015, the carbon price will be fixed, moving to an emissions trading scheme from 1 July 2015. The fixed price stage will start on 1 July 2012 at AUS$23 (US$24.2) per tonne, rising by 2.5% per year in real terms. Once the ETS comes into effect, the carbon price will be set by the market.

The package also includes assistance for households, jobs, businesses (particularly "trade-exposed industries") and communities. Due to the projected rise in utility bills, income tax reform will be undertaken to compensate households. Household transport fuel consumption and emissions from agriculture and other land-based activities are exempt.

The package of laws establishes the Clean Energy Regulator as a statutory authority that will administer the carbon pricing mechanism, National Greenhouse and Energy Reporting Scheme, the Renewable Energy Target and the Carbon Farming Initiative (commencing April 2012).

The laws also establish the Climate Change Authority, which will advise the Australian government on the setting of carbon pollution caps and provide periodic review of the carbon pricing mechanism and other steps required to meet the legislated target to reduce emissions by 80% below 2000 levels by 2050. The Authority will hold public consultations as part of its reviews and its reports will be made public. A first review on the operation of the carbon price will be published by the end of 2016. This Climate Change Authority Act 2011 also sets up the Land Sector Carbon and Biodiversity Board, which will advise on the implementation of land sector measures (commencing July 2012).

Targets

The Act is designed to take action towards Australia's long-term target of reducing net GHG emissions to 80% below 2000 levels by 2050. The carbon price is expected to apply to around two-thirds of Australia's emissions.

Australia: Other Relevant Legislation

Name of law	**Clean Energy Legislation Amendment Act (CELA Act) 2012**							
Date of entry into force	June 2012							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
	×	×						×
Driver for implementation	Climate change							
Summary of bill	The CELA Act is part of the Clean Energy Legislation Package, making amendments to the Clean Energy Act 2011 and related legislation establishing the Government's carbon pricing mechanism. It contains provisions concerning the coverage of gaseous fuels by the mechanism and minor technical and consequential amendments to ensure the legislation is clear and consistent. It also amends the Clean Energy Regulator Act 2011 and the Australian Renewable Energy Agency Act 2011 to facilitate the sharing of information between the Australian Renewable Energy Agency and Clean Energy Regulator and the Clean Energy Finance Corporation.							
Targets	None specified							

Name of law	**Clean Energy (Consequential Amendments) Act 2011**							
Date of entry into force	1 July 2012							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
	×	×						×
Driver for implementation	Climate change							
Summary of bill	This Act makes amendments to other laws to ensure that the mechanism is integrated with existing laws, regulatory schemes and processes. It includes changes that ensure: • the National Greenhouse and Energy Reporting scheme supports the mechanism • the Australian National Registry of Emissions Units covers the mechanism, as well as the Carbon Farming Initiative • the Regulator covers the mechanism, Carbon Farming Initiative, the Renewable Energy Target and the National Greenhouse and Energy Reporting scheme							

- the Regulator and Authority are set up as statutory agencies and regulated by public accountability and financial management rules
- carbon units and their trading are covered by laws on financial services and regulated by the Australian Securities and Investment Commission

Targets	None specified

Name of law	**Additional Clean Energy Acts**							
Date of entry into force	April 2012, May 2012, July 2012							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
	×	×						×
Driver for implementation	Climate change							

Summary of bill

The following acts specify how fees are paid under the mechanism, and commence on 1 April 2012:

- Clean Energy (Unit Shortfall Charge General) Act 2011
- Clean Energy (Unit Issue Charge Auctions) Act 2011
- Clean Energy (Unit Issue Charge Fixed Charge) Act 2011
- Clean Energy (Charges Excise) Act 2011
- Clean Energy (Charges Customs) Act 2011
- Clean Energy (International Unit Surrender Charge) Act 2011
- Ozone Protection and Synthetic Greenhouse Gas (Manufacture Levy) Amendment Act 2011
- Ozone Protection and Synthetic Greenhouse Gas (Import Levy) Amendment Act 2011

The following acts deal with: imposing an effective carbon price on aviation and non-transport gaseous fuels through excise and customs tariffs; reducing business fuel tax credit entitlement of non-exempted industries for use of liquid and gaseous transport fuels, in order to provide an effective carbon price on business through the fuel tax system. They commence on 1 July 2012:

- Clean Energy (Fuel Tax Legislation Amendment) Act 2011
- Clean Energy (Excise Tariff Legislation Amendment) Act 2011
- Clean Energy (Customs Tariff Amendment) Act 2011

The following acts commence on 14 May 2012:

- Clean Energy (Household Assistance Amendment) Act 2011
- Clean Energy (Tax Laws Amendments) Act 2011
- Clean Energy (Income Tax Rates Amendments) Act 2011

Targets	None specified

Name of law	**Carbon Credits (Carbon Farming Initiative) Act 2011**							
Date of entry into force	15 September 2011							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
	×			×				×
Driver for implementation	Reducing GHG emissions; creating incentives to carry out land-based offset activities; increasing carbon abatement while protecting environment and increasing resilience to climate change							
Summary of bill	The Carbon Credits (Carbon Farming Initiative) Act 2011 (CFI Act) sets up a scheme for the issue of Australian Carbon Credit Units (ACCUs) in relation to eligible offsets projects. It is part of a package of three Acts to establish the Carbon Farming Initiative, including the Australian National Registry of Emissions Units Act 2011 and the Carbon Credits (Consequential Amendments) Act 2011. The goal of the CFI Act is to give "farmers, forest growers and landholders" access to domestic and international carbon markets. Implementation of the Act will assist Australia to meet international obligations under UNFCCC and the Kyoto Protocol, although it also covers activities that are not included within the Kyoto Protocol. The package of Acts establishes the existence of ACCUs as personal property, which are generally transferable, and can be sold domestically or internationally subject to regulation. The bill covers sequestration, native forest protection and emissions avoidance projects. The main eligibility requirements for projects are that they must be carried out in Australia, must be covered by a methodology determination made under the CFI Act, must be included on the "positive list" of activities that are not common practice and must not be on the list of "negative activities" that are excluded from the scheme. Project reports are submitted to the Carbon Credits Administrator.							
Targets	None specified. *Modelling estimates range from <5 to <15 Mt CO_2e in the year 2020*							

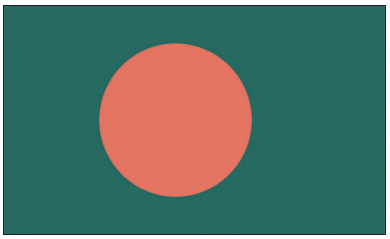
Name of law	The Steel Transformation Plan Act 2011							
Date of entry into force	4 December 2011							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×					
Driver for implementation	Green growth, GHG reduction							
Summary of bill	This Act is designed to assist Australia's steelmakers adjust to a low emissions economy. The Plan will commence on 1 July 2012 and will conclude on 31 December 2016. The plan includes a AUS$300 million (US$315 million) entitlement (self-assessment) scheme that will operate over the five payment years from 2012–2013, and competitiveness assistance advance payments up to the value of AUS$164 million (US$172.2 million) in 2011–2012.							
Targets	None specified							

Name of law	National Greenhouse and Energy Reporting Act 2007							
Date of entry into force	29 September 2007. First reporting period commenced 1 July 2008							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×					×
Driver for implementation	Reducing GHG emissions, including meeting obligations under UNFCCC and Kyoto Protocol							
Summary of bill	The *National Greenhouse and Energy Reporting Act 2007* (NGER Act) establishes the legislative framework for the National Greenhouse and Energy Reporting System. The goal of the NGER Act was to introduce a single national reporting framework for the reporting and dissemination of information related to GHG emissions, GHG projects, energy consumption and energy production of corporations. The NGER Act was primarily designed to underpin the introduction of a future emissions trading scheme. Additionally, the NGER Act is intended to meet Australia's international GHG reporting obligations, and reduce red tape and duplication associated with emissions reporting. The NGER Act sets out a number of thresholds in relation to GHG emissions, energy production and energy consumption. Corporations that meet an annual NGER threshold must register with the Greenhouse and Energy Data Officer, and submit annual reports of GHG emissions, energy production, energy consumption, and other information. The annual reports cover the financial year (1 July to 30 June). All registered corporations are required to submit a report, even where the threshold has not been met in a given reporting year. Failure to submit reports on time can attract civil penalties.							
Targets	None specified. Legislation intended to provide data on corporate emissions that would underpin a *future* emissions trading scheme designed to reduce GHG emissions							

Name of law	**Renewable Energy (Electricity) Act 2000** and associated legislation, including: **Renewable Energy (Electricity) (Large-scale Generation Shortfall Charge) Act 2000 and Renewable Energy (Electricity) (Small-scale Technology Shortfall Charge) Act 2010**							
Date of entry into force	21 December 2000							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						
Driver for implementation	Renewable energy; reducing GHG emissions							
Summary of bill	The *Renewable Energy (Electricity) Act 2000* and associated legislation establishes the framework for the Large-scale Renewable Energy Target (LRET) and the Small-scale Renewable Energy Scheme (SRES). LRET and SRES aim to encourage additional electricity generation from renewable sources; reduce emissions of GHGs in the electricity sector; and ensure that renewable energy sources are ecologically sustainable. These goals are achieved by the creation of online certificates by eligible renewable energy sources based on the amount of electricity in megawatt hours (MWh): • generated by a renewable energy power station, or small-scale solar panel, wind or hydro system; or • displaced by a solar water heater or heat pump They also include placing a legal obligation on liable entities (usually electricity retailers) to purchase and surrender a certain amount of these certificates each year. The trade in these certificates provides financial incentives for investment in renewable energy power stations, and for the installation of solar water heaters, heat pumps and small-scale solar panel, wind and hydro systems. The Office of the Renewable Energy Regulator (ORER) is a statutory authority established in 2001 to oversee the implementation of the LRET and the SRES.							
Targets	The renewable energy supply target for 2012 is GWh 16,763, increasing steadily to 41,000 GWh by 2020							

Name of law	**Offshore Petroleum and Greenhouse Gas Storage Act 2006**							
Date of entry into force	1 July 2008, some provisions activated 29 March 2006							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						
Driver for implementation	Reducing GHG emissions, carbon sequestration							
Summary of bill	The object of the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* is to provide an effective regulatory framework for petroleum exploration and recovery, and the injection and storage of GHG substances in offshore areas. The Act provides a comprehensive national framework for offshore petroleum exploration and GHG storage activities, as these are managed jointly by the relevant State and Commonwealth agencies. The Act designates a "Joint Authority" for each offshore area, which are responsible for implementing the Act. The Joint Authorities typically comprise the responsible State Minister and the responsible Commonwealth Minister. A 2011 amendment to the Act will establish the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) and the National Offshore Petroleum Titles Administrator (NOPTA or the Titles Administrator), which will advise the Joint Authorities on key decisions.							
Targets	None specified							

4.3 Bangladesh



4.3.1 Fact Box

Greenhouse Gas emissions incl. LULUCF ($MtCO_2e$) excl. LULUCF ($MtCO_2e$) Change from base year (1990)	 54 46 NA
Latest reporting year	1994
Importance as an emitter	Top 50
UNFCCC ratification status and date	Date of signature: 9 June 1992 Date of ratification: 15 April 1994 Date of entry into force: 14 July 1994
Kyoto Protocol ratification status and date	Date of ratification: 22 October 2001 Date of entry into force: 16 February 2005
2020 pledge	No pledge made
Flagship legislation	**The Climate Change Trust Fund Act**

4.3.2 Legislative Process

As with many other Commonwealth countries, Bangladesh Law is largely based on English Common Law. However, it also incorporates concessions to the local context and most notably deviates by incorporating Islamic Law. In particular a 1977 amendment to Part II: Fundamental State Policy in the constitution, replaced secularism with an "absolute trust and faith in Almighty Al-lah".

The Parliament of Bangladesh is known as the "House of the Nation", the Jatiyo Shangshad. It is the sovereign law-making body, vested with the legislative power of the Republic. All laws made are subject to the limits of the constitution and its provisions, such that any law conflicting with the constitution is void. Statutory law is made by Parliament. Laws are proposed, prepared and processed by the executive. Cabinet is the executive power. All members of Cabinet are members of Parliament.

Cabinet recommends a legislative initiative and arranges for a bill to be drafted. Cabinet then approves the bill as a bill of the government ready for enactment. To enact new primary legislation, this draft bill is then presented to Parliament, and is then opened for debate and amendment. Following this, Parliament votes for the formal adoption (or rejection) of a bill. If the bill is accepted by Parliament, it will be handed to the President for assent.

However, by Act of Parliament, the power to make subordinate legislation (including rules; regulations; by-laws; orders etc.) can be delegated to another lower authority in order to carry out the aim of any given Act of Parliament.

4.3.3 Approach to Climate Change

Bangladesh is a poster child for the potential impact of climate change. It is a Least Developed Country, recognised by the UNFCCC as one of the most vulnerable countries to climate change impacts. Among other things, cyclones, floods and saltwater inundation already threaten the livelihoods of some of the world's poorest people: some 50 million Bangaldeshis live in poverty. Moreover, Bangladeshis are mainly (79%) rural, and live at one of the highest densities in the world (964 people/km2), which intensifies threats even were they just to occur locally. Yet climate-related hazards occur on a wide scale, for instance flash floods already affect some 80% of the land area during the monsoon season. The increased intensity and frequency of these hazards under future climate change scenarios is a major challenge for Bangladesh's development, and a significant

barrier to its vision of eliminating poverty, and becoming a middle income country by 2021. These goals are to be met under the Government of Bangladesh's Vision 2012, which aims to support sustainable economic development without the environmental degradation experienced by other countries during economic development.

In terms of political responses, the highest level plans to address the domestic impacts of climate change are The National Adaptation Programme of Action (NAPA) and The Bangladesh Climate Change Strategy and Action Plan (BCCSAP). NAPA was launched in 2005 to provide a response to immediate adaptation needs. It identified priority adaptation programmes and activities for Bangladesh. However, it was felt that this document was insufficient for the dramatic impacts faced by the country. This then catalysed the BCCSAP, a 10-year programme (2009–2018) designed to build the capacity and resilience of Bangladesh to meet climate change derived challenges. This medium- to long-term programme recommends 44 actions in six areas: 1) food security, social protection and health; 2) comprehensive disaster management; 3) infrastructure; 4) research and knowledge management; 5) mitigation and low carbon development; and 6) capacity building and institutional strengthening. While far-reaching, the plan has, however, been criticised for not prioritising activities within the context of vulnerability.

This plan also brought mitigation into Bangladesh's climate change strategy in addition to adaptation. This allows Bangladesh to act to address climate change instead of solely responding to its impacts, and specifically, opened the way for REDD+ activities here. This is important given potential synergies to be gained through REDD+ implementation such as securing local ecosystem services provision (e.g. clean water; protection against erosion; biodiversity provision) and carbon sequestration and storage. For instance, under the mitigation and low carbon development pillar of the BCCSAP, one named activity is to expand Bangladesh's so-called greenbelt, by re-planting the mangrove and forest belt that once covered much more of the coastline. This is with the anticipation of coastal protection, but should also confer carbon storage and sequestration, and fisheries benefits.

Following the release of the BCCSAP, the Government of Bangladesh (GoB) took action by establishing a Climate Change Trust Fund (BCCTF) funded entirely through the GoB's budget. BCCTF received $100 million per year in 2009–2011, and was designed to focus mainly on making resources available for adaptation efforts. In addition to this, and to scale up the GoB's response, an international appeal was made for funding for the Bangladesh Climate Change Resilience Fund (BCCRF), which has been funded by, *inter alia*, Sweden, the UK and the EU.

Furthermore, The Bangladesh Green Development Plan (BGDP) is an initiative to develop new programmes in environment, energy and climate change. It is intended to address climate change adaptation and mitigation specifically through provision of benefits to the poor. Namely this is intended to be focus on demand-side energy management through provision of access to low-carbon fuels and energy supply. More broadly it should support the creation of green jobs. Within the plan there is a strong focus on improving the sound management of the natural environment, with the intention of facilitating better natural resource, biodiversity and ecosystem management. Specifically the government has expressed interest in the exploration of REDD+ as a strategy to fulfil some of these objectives, and the UN has produced a document investigating the readiness of the country to participate.

Legislation

There are 187 statutory laws relating to environmental management in Bangladesh. However, the majority of environmental laws in Bangladesh were passed historically (e.g. the Forest Act of 1927). They were therefore developed in a very different context from those of the present day and certainly prior to mainstream international political concern about climate change. Moreover, legislation which is relevant to climate change, such as the 1965 Factories Act, was written before industrial pollution was as major a concern as it is today.

That said, the 1992 Environment policy of Bangladesh recognised the need for a comprehensive approach to address climate change and the environment. Few elements of this policy have become law, however. The only legislation which specifically deals with environmental issues is the Bangladesh Environment Conservation Act (1) (ECA) of 1995. This Act was passed for conservation and improvement of environmental standards and for controlling and mitigating environmental pollution. Importantly, Section 2 A of the Environment Conservation (Amendment) Act, 2002 (Act No. IX of 2002) gives the provision of the law overriding effect over all other laws, and so giving the environment primacy in principle. The Environmental Conservation Rules (1997) were developed to promote the objectives of the ECA, though they are not enshrined in law. Elsewhere, Article 31 of Part III of the Constitution notes that the right to life includes the right to a healthy and stable environment. Article 18A of the Act, included in 2011, states that “the state shall endeavour to protect and improve the environment and preserve and safeguard natural resources, biodiversity, wetlands, forest and wildlife for the present and future citizens”. This latter article could therefore support the aims of mitigation activities under REDD+.

Forestry

The BCCSAP opened the door for climate change mitigation activities in Bangladesh in addition to adaptation, which allows for REDD+ activities to be implemented. The major piece of legislation with regards to forests is the 1927 Forest Act, the key law regulating forest resources in Bangladesh. Nonetheless, all the laws on local government have provisions either for afforestation or for street planting in urban areas. Specifically, these are the City Corporation Laws; the Paurashava Law; the Union Parishad Laws; and the Laws on Hill Districts. Furthermore the acquisition of Waste Land Act (1950) allows for afforestation of waste land. A potential conflict lies in the fact that afforestation is normally the process of planting trees in a treeless area, whereas reforestation is planting trees in an area previously forested. Benefits to ecosystem services provision and biodiversity conservation are more likely to be provided through reforestation and restoration, rather than afforestation of a naturally treeless ecosystem, which may already be providing other essential ecosystem services in addition to carbon sequestration and storage.

The first National Forest Policy in 1979 was adopted to improve protection and conservation of Bangladesh's forests, while developing the economy. The current Forest Policy (1994) was particularly important from a pro-poor perspective in that it recognised the role of active participation of communities living near to forest resources in both forestry specifically, and in sustainable development more broadly. The Forest Policy, in addition to the Forestry Sector Master Plan (FSMP, 1993) intends, through Social and Participatory Forestry, to raise the total forest cover of Bangladesh to 20% by 2015. This provides a strong background for the plus side of REDD+, in particular reforestation components.

Renewable energy

The Ministry of Power (2008) sets out in its Renewable Energy Policy the following three provisions; however, the document does not refer to any laws deriving from these policies:

- Renewable energy project(s), to sale *[sic]* electricity from plants shall be required to get power generation license from BERC if the capacity of the project(s) is 5 MW or more.
- GoB and SEDA, in consultation with BERC, will create a regulatory framework encouraging generation of electricity from renewable energy sources.
- BERC shall approve the energy tariff in consultation with GoB/SEDA as per the provision of the BERC Act 2003 if the capacity of renewable energy project(s) is 5 MW or more. Electricity distributors may offer "green energy" tariffs, which provide consumers an opportunity to co-finance through their electricity bills the development of new renewable energy sources.

However, more significantly, the Cabinet on 18 June 2012 approved the draft of Sustainable and Renewable Energy Development Authority Act, 2012. This aims to increase the production and use of green energy in the country.

Bangladesh: Flagship Legislation

Name of law	**The Climate Change Trust Fund Act**							
Date of entry into force	2009–2011 (three years of funding)							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
						×		×
Driver for implementation	Climate change adaptation. Created as a result of the BCCSAP as a means for providing the required funding for adaptation activities in Bangladesh							
Summary of bill	This is intended as GoB's quick-start domestic response to climate change adaptation activities, which are planned through the BCCSAP. As such this Act is intimately linked to the BCCSAP, and indeed it stipulates that 66% of its budget will be spent on the implementation of projects/programmes prioritised in the BCCSAP. The remainder of 34% will be maintained as a deposit for emergencies. Interest accrued on the deposit will be spent on project implementation. Funds from the BCCTF can be used to finance public sector and non-government projects. It is not mandatory to spend the total grant within a given financial year. The budget for the legislation is $100 million per year between 2007 and 2009.							
Targets	None specified							

Bangladesh: Other Relevant Legislation

Name of law	**Sustainable and Renewable Energy Development Authority Act**							
Date of entry into force	2012							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×					×
Driver for implementation	Energy sufficiency, efficiency and sustainable development							
Summary of bill	Aims to create an independent authority to promote the development and use of renewable energy in Bangladesh. Currently few details in the public domain since the bill is recent to the writing of this report.							
Targets	None specified							

Name of law	**Bangladesh Climate Change Strategy and Action Plan (BCCSAP)**							
Date of entry into force	2009							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×	×		×	×	×
Driver for implementation	Creating a framework of activities for a suitable response to climate change in Bangladesh; implementation of Vision 2021							
Summary of bill	The BCCSAP is a "knowledge strategy" built upon the National Adaptation Programme of Action (2005). It sets out 44 programmes to be taken by Bangladesh over the short, medium and long term within six strategic areas: • food security, social protection and health • comprehensive disaster management • infrastructure • research and knowledge management • mitigation and low carbon development • capacity building and institutional strengthening A common theme throughout all of of these strategic areas is the focus on the poor and vulnerable and in particular women and children. All programmes are expected to provide synergies with the GoB's Vision 2021. Examples of the programmes: • Infrastructure: programme T3P8 seeks to restore rivers and khals through dredging and de-siltation works • Mitigation: programme T5P7 targets re/afforestation							
Targets	None specified							

Name of law	**The Bangladesh Environment Conservation Act (and subsequent Environment Conservation rules)**							
Date of entry into force	1995 for the Act itself; rules introduced in 1997							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×		×				
Driver for implementation	Environmental quality management through pollution control							

Summary of bill	The Act is dedicated to the "conservation, improvement of quality standards, and control through mitigation of pollution of the environment". It legislates the conservation of environmental systems, improvement of environmental standards and control and mitigation and provides a framework for its implementation. It also calls for the protection of "Ecologically Critical Areas". The subsequent rules issued provide additional guidance for certain components of the Act: declaring an area as ecologically critical; on vehicles emitting smoke injurious to health and otherwise harmful pollution or degradation of the environment. The Environmental Conservation Act (1995) was amended in 2002 and the Environmental Conservation Rules (1997) were extended to incorporate ambient air quality and exhaust fan vehicles.
Targets	None specified

Name of law	**The new Forestry Sector Master Plan (FSMP)**							
Date of entry into force	1993							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
				×				×
Driver for implementation	Poverty alleviation, but pertains to REDD+							
Summary of bill	Primarily aimed at raising the total forest cover of the country to 20% by the year 2015 through "Social/Participatory Forestry" (SPF).							
Targets	20% forest cover by 2015							

Name of law	**The Hill District Local Government Parishad Act**							
Date of entry into force	1989							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
				×				×
Driver for implementation	Natural resources management and institutional reform. However, the Act is relevant to REDD+ implementation, given that it concerns land tenure over forest							
Summary of bill	These Acts devolve responsibilities for 33 subjects to the Hill District Council, including forest (except reserved and protected forest), agriculture, livestock, fisheries, environment, rivers and water bodies (except Kaptai lake), shifting (jhum) cultivation etc.							
Targets	None specified							

Name of law	**The Bangladesh Water and Power Development Boards Order**							
Date of entry into force	1972							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
				×				
Driver for implementation	Water management; but pertains to REDD+							
Summary of bill	Empowers the Water Board to develop schemes for watershed management. It can direct the owner of any private land to undertake anti-erosion operations including conservation of forests and re-afforestation.							
Targets	None specified							

Name of law	**The Forest Act of 1927**							
Date of entry into force	1927							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
				×				
Driver for implementation	Historical legislation which nonetheless continues to be the main law for regulating forest resources in Bangladesh							
Summary of bill	This is the key law regulating forest resources in Bangladesh. The Act encompasses the provisions for conservation and protection of government-owned forests, and also of some private forests. It stipulates the provisions for establishing Reserved Forests and Protected Forests and assigns responsibility to the Forest Department for managing forests with these designations. The Act provides scope for participatory management approaches in the context of joint management and establishment of village forests.							
Targets	None specified							

4.4 Brazil

4.4.1 Fact Box

Greenhouse Gas emissions incl. LULUCF ($MtCO_2e$) excl. LULUCF ($MtCO_2e$) Change from base year (1990)	 2192 863 NA
Latest reporting year	2005
Importance as an emitter	Top 10
UNFCCC ratification status and date	Date of signature: 4 June 1992 Date of ratification: 28 February 1994 Date of entry into force: 29 May 1994
Kyoto Protocol ratification status and date	Date of signature: 29 April 1998 Date of ratification: 23 August 2002 Date of entry into force: 16 February 2005
2020 pledge	Voluntary measures, including on deforestation, anticipated to lead to expected emission reductions of 36.1 to 38.9% by 2020, compared to business as usual
Flagship legislation	**National Policy on Climate Change (NPCC)**

4.4.2 Legislative Process

Brazil's legislative power is represented by a bicameral parliament ("National Congress") formed by the Chamber of Deputies and the Senate. The law-making process encompasses not only parliamentarians but also the President, the Supreme Court, the Higher Courts, and the Attorney General. Decrees are administrative acts passed by the President, laws are established by legislators and codes amount to a group of laws. Brazil tends to favour the legislative route in the adoption of environmental regulations, guidelines and policies. The country has a conservationist legal tradition and environmental legislation tends to be thorough and stringent. As a result, the key issue regarding environmental problems in Brazil is one of law enforcement as opposed to the lack of legal principles and instruments. This dynamic reflects a recurrent conflict between conservation and development objectives, which emerging payments for environmental services legislation and REDD+ law projects have been seeking to address.

4.4.3 Approach to Climate Change

The negotiations of a New Forest Code (Forest Law) were at the core of the agenda of the Executive and the Legislative powers in 2012. The new legislation regulating land-use in Forests and other Protected Area was sanctioned by President Dilma Rousseff on 18 October 2012, after a long and controversial process, and is now into force, replacing the 1965 Forest Law.

The debate over the new legislation spurred intense discussion at the National Congress and divided civil society. Discussions at the legislative power were polarised between the so-called "ruralists" (defending rural agriculture interests) and Deputies and Senators supporting the view of environmentalists and scientists against the bill under scrutiny. The main legislation was first approved at the House of Representatives in May 2011, followed by the Senate later in December 2011. The bill was then submitted to a second reading at the House of Representatives. The final draft legislation passed with 247 votes in favour and 184 against, on 25 April 2012. Under significant political pressure, President Dilma sanctioned the New Code (Law No. 12.651/2012), on 25 May 2012, but with partial veto on some articles. Overall, the Federal government made 32 alterations and 12 vetoes to the 84 Articles of the original proposal. Details were published on an Executive decree, or Provisory Measure (MP 571/2012). The amended text was approved by the Senate on 26 September, and subjected to 9 new vetoes by President Dilma, before being sanctioned on 18 October 2012. Among its key provisions, the new Forest Code grants small farmers amnesty to illegal deforestation practiced before

July 2008. Other farmers are only exempted from fines if they adopt measures to compensate their activities in order to meet the terms of legislation. Environment registry and full compliance with the new code are compulsory within 5 years; infringements are subjected to fines and credit access denial. Regarding Permanent Preservation Areas (PPAs), there was a change on the legal requirement of river basins to be protected, which now ranges from 5–100 meters according to the size of the properties. The new code amended by the Executive decree determines that landowners in the Amazon maintain 80% of the native forest as a legal reserve. That percentage drops to 35% for properties located in the "cerrado" (Tropical savannah), and 20% in all other areas.

Background: climate change

Brazil has shown a strong willingness to adopt climate change legislation. The country has passed legislation supporting its Copenhagen commitments; its *National Policy on Climate Change (Law No. 12187)* was passed in 29 December 2009. This law established the country's voluntary emission reduction target of 36.1% to 38.9% by 2020 with the year 2005 as a baseline. The policy presents emission reduction targets for its four designated strategic areas: deforestation (24.7%), agriculture and livestock (4.9% to 6.1%), energy (6.1% to 7.7%) and the steel sector (0.3% to 0.4%). Moreover, while the policy is rather broad, leaving specific implementation measures to be either established by decree or determined by the "Second Brazilian Inventory on GHG Emissions and Reductions" (Second Inventory), it also incorporates all laws, measures and policies pertaining to climate change (i.e. the National Plan on Climate Change, the National Climate Change Fund, the plans for conservation of the country's national biomes and others).

The Lula administration presented the Second Inventory in October 2010, the results of which were part of the second Brazilian communication to the UNFCCC, the last communication having been submitted in 1994. Between 1990 and 2005, Brazil produced an annual average of 2 billion tonnes of CO_2e. In 2009, GHG emissions totalled 1.7 billion tonnes of CO_2e, a reduction by one third in comparison with 2004 when emissions amounted to 2.7 billion Gt CO_2e, the peak of the 1990–2005 period. Moreover, the Second Inventory outlined the break-up of emissions by sector for 2005 when deforestation and forest fires were responsible for 61% of Brazilian emissions, agriculture and animal husbandry for 19%, the energy sector for 15%, industry for 3% and residue treatment for 2% – indicating increase in participation of other sectors. The data presented in the Second Inventory clearly indicate that Brazil will not face major problems complying with its emission reduction target of 36.1% to 38.9% by 2020.

As a result, one of civil society's main critiques of the Brazilian emission reduction pledge is that it fails to be challenging enough, particularly because it takes 2005, the year when the rate of Amazon deforestation reached a historical peak, as its baseline. Thus, according to this line of reasoning, the Brazilian pledge would be taking advantage of a sustained trend of decrease in deforestation rates that was already in place when the country arrived at this emission reduction commitment. The government has pointed to the fact that Brazil's pledge is indeed ambitious when compared to that of other countries.

With regards to the implementation of the National Policy, as previously observed with the adoption of the *National Fund on Climate Change* (Law No. 12144/2009), the *Inter-ministerial Committee on Climate Change* and the *National Plan on Climate Change* (Decree No. 6263/2007), Brazil has kept in line with its practice of passing relevant climate legislation in the context of UNFCCC's Conferences of the Parties. Accordingly, in December 2010, the then President Lula passed Decree No. 7390/2010 regulating a series of key proposals of the *National Policy on Climate Change*. Announced by the Minister of Environment during the COP-16 in Cancun, the Decree establishes that total national emissions should not surpass 2Gt by 2020, a 5.8% reduction vis-à-vis 2005 levels, thus making Brazil the first developing country to institute an absolute limit to its GHG emissions. In addition to regulating well-known features of the National Policy, such as the commitment of reducing Amazon deforestation by 80% by 2020, the Decree anticipates the elaboration of Sector Plans outlining mitigation actions for key economic sectors until the end of 2011, with targets to be revised on a tri-annual basis.

Although the National Plan foresees the creation of a cap-and-trade system, leaving the details of how it would be rendered operational for future appreciation, the Decree No. 7389/2010 does not implement regulatory arrangements for the creation of a carbon market in the country. At present, discussions on the implementation of a cap-and-trade system are most developed in the State of Sao Paulo. The Brazilian Emissions Reductions Market, a joint initiative between the Ministry of Development, Industry and Foreign Trade and the Brazilian Futures Stock Exchange, launched in Sao Paulo in 2004, supports the negotiation of carbon credits emanating from national Clean Development Mechanism (CDM) projects. In effect, Brazilian parliamentarians have put forward a series of Law Projects (PLs) – PL No. 493/2007, PL No. 494/2007, PL No. 594/2007, PL No. 1657/2007 – on carbon market development. These Law Projects include provisions on trading over the counter and through stock exchanges, for both spot and futures transactions, authorised by the Brazilian Securities and Exchange Commission (CVM); the establishment of CDM Investment Funds to be structured by the CVM and the

Inter-ministerial Commission on Climate Change; multiple fiscal incentives for the commercialisation of CERs emanating from CDM projects by individuals and companies.

Even if the *National Policy on Climate Change* is the overarching legal instrument in this area, the National Plan on Climate Change, created in December 2008 in response to a 2007 Decree, provides a comprehensive framework of 25 actions. As 75% of Brazil's GHG emissions result from emissions from deforestation, the framework primarily focuses on reducing deforestation by 80% by 2020. Additionally, the plan includes provisions on energy efficiency and renewable energy. In contrast, the Ministry of Mines and Energy's Energy Expansion Plan for the period 2008–2017 (*Plano Decenal de Expansão da Energia*), launched days before the National Plan on Climate Change, foresees the expansion of fossil fuel based thermal power stations. It therefore establishes a potential conflict with the efforts to reduce GHG emissions and promote renewable energy.

Payments for ecosystem services

Adopted in 2011, the *Green Allowance* (Law No. 12512/2011) establishes payments for ecosystem services scheme aimed at combating extreme poverty while incentivising conservation. Through the Green Allowance, payments of up to R$300 (US$169[1]) will be transferred once every three months for a maximum period of two years to families living in extreme poverty and for developing conservation activities.

The passing of a law on payments for ecosystem services is of particular significance not only because numerous law projects on this theme had been submitted to both Congress Houses in the past 5 years, but also because this is a reflection of an emerging consensus on a new development model that seeks to align economic growth with conservation through the promotion of sustainable production, infrastructure development, environmental protection and social inclusion.

Deforestation and land use change

A great part of Brazil's commitment to climate change involves measures to tackle deforestation, since 61% of the country's GHG emissions derive from the forest sector. Alongside provisions established by the *National Policy on Climate Change* and the National Plan on Climate Change, Brazil's commitment to its Copenhagen

[1] Exchange rate as of 22 October 2011.

pledges is further illustrated by the national REDD+[2] Bill, which was initially proposed in July 2009. Apart from REDD+, the Law Project also involves services such as recovery, reforestation, maintenance and improvement of ecosystems (including tourism, water and biodiversity). Despite its commitment to addressing a wide range of environmental services, there are some key points which remain under debate and unclear; namely, whether REDD+ should be treated as a Nationally Appropriate Mitigation Action (NAMA), allocation of financing and eligibility to participate in the programme. The bill was discussed by the Chamber of Deputies' Environment and Sustainable Development Commission in December 2009, which was followed by a series of public hearings and consultations with the private sector, social movements, civil society organisations and local and state governments in June 2010. Following the elections in 2010, a more comprehensive REDD+ Law Project was re-introduced to both the Lower House in February 2011 (PL 195/2011), and to Senate in May 2011 (PL 212/2011); the exact same text was presented to both Houses. These Law Projects are very much anchored on the *National Policy on Climate Change* (Law No. 12187/2009).

On the policy front and parallel to these developments, three working groups of around 120 representatives from the aforementioned stakeholder groups provided technical advice and recommendations to the elaboration of the National REDD+ Strategy between July and December 2010. The Secretariat for Climate Change and Environmental Quality within the Ministry of Environment under the new administration of President Dilma Rousseff has taken these comments on board and should be launching the Brazilian National REDD+ Strategy in the near future. Arguably, the launch of such a Strategy could provide renewed impetus to the adoption of REDD+ legislation in Brazil in 2012. This legislation clarifies which types of activities are eligible for REDD+, creates a commission to oversee REDD+ implementation and creates different types of REDD+ credits for fund and market based REDD+ systems. It is interesting to note that the National REDD+ Commission, charged with deciding on rules, conditions and foundations of the system, is to be formed by representatives from federal, state and municipal government, civil society, the private sector and academia.

Other important issues that the legislation covers are as follows:

- Ownership of the tradable REDD+ credits would likely follow the ownership of the land and forest.

2 "REDD+" refers to: reducing emissions from deforestation and degradation; increasing removals from enhancement of forest carbon stocks; forest conservation; and sustainable management of forests.

- The bill explicitly mentions some participatory rights and benefit-sharing rules to protect the rights of indigenous peoples, traditional communities and small rural producers, including the observation of the principle of prior and informed consent.

- The bill announces the creation of a dedicated dispute settlement procedure for REDD+ activities, which re-affirms traditional communities' rights to participation in accordance with international agreements ratified by Brazil.

- The bill endorses a nested approach to REDD+ financing as it establishes multiple sources of funding for the National REDD+ System including: nationally administered funds with public money from both the Brazilian government and international donors such as the Amazon Fund, the National Climate Fund and others, resources derived from bilateral and multilateral international climate agreements, donations, private investments and the commercialisation of carbon credits. In effect, the Law Project expressly makes reference to cap-and-trade systems from California and Japan when illustrating possible sources of finance on its justification. Accordingly, the Bill foresees and arguably incentivises the regularisation of the Brazilian Emission Reductions Market, as determined by Law 1287/2009, the eventual adoption of an international agreement that sanctions the use of REDD+ credits as a compensation mechanism between countries and a national compensation mechanism.

In terms of scale, the Law Project acknowledges the importance of both national and sub-national levels of governance, including private actors, to the implementation of REDD+.

At present, the REDD+ Law Project has surely made more progress in the Lower House where it currently sits with the Commission of Agriculture, Animal Husbandry, Supply and Rural Development, one of the final commissions. As for developments in the Senate, the bill is still awaiting a vote at the very first Commission to which it has been submitted, in May 2011, that is, the Commission of Constitution, Justice and Citizenship. Considering the extensive debate about this bill prior to the elections and that the Environment and Sustainable Development Commission in the Lower House overcame many of the critical issues in 2010, a quick decision was expected on this legislation after its re-introduction in the Lower House. This perception was reinforced by the fact that there seems to be good cross-government support for the passing of this bill. Nevertheless, from September 2011 onwards, the REDD+ Law Projects have been stalled in both the

Lower House and the Senate. The Congress debate on REDD+ has been obfuscated by the Forest Code as it evolves into its critical final stages, thus dominating parliamentary discussions on forestry and the environment.

Meanwhile, regional governments have been very successful in forging local plans on REDD+. In addition, Brazil has also been working with other countries (e.g. Mozambique, Indonesia, Nigeria, among others) in assisting on addressing REDD+. These initiatives are, however, in stark contrast with the lack of a Brazilian REDD+ National Strategy.

Renewable Energy

Renewable energy is a key driver of new climate change-related legislation in Brazil. This reality is clearly reflected in Brazil's prominent role in the development of biofuels. In addition, the country's focus on renewables is also to a large extent based on the promotion of hydropower. Hydropower is the main factor in the country's clean energy matrix. In this sense, the National Plan on Climate Change determines that Brazil should continue to generate more than 80% of its power from renewable energy sources through to 2030, and establishes a series of renewable energy and biofuels requirements. The plan brings forward the 5% biodiesel blending requirement of Law No. 11097/2005 from 2013 to 2010, and promotes solar and wind energy. In addition, the Federal Programme of Incentives for Alternative Electricity Sources (PROINFA) created by Law No. 10438/2002, establishes comprehensive renewable measures that seek to increase Brazil's electricity generation from non-hydropower renewable energy sources.

Brazil: Flagship Legislation

Name of law	**National Policy on Climate Change (NPCC) – Law No. 12187/2009, Decree No. 7390/2010**							
Date of entry into force	Law No. 12187/2009: 29 December 2009; Decree No. 7390/2010: 9 December 2010							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
				×		×	×	×
Driver for implementation	Climate change, air pollution, deforestation and land use							

Summary of bill	Law No. 12187/2009: Creates the *NPCC* with the following key areas of concern: combining climate protection with socio-economic development; reducing anthropogenic GHG emissions from all its sources and strengthening GHG sinks; adaptation; preservation, conservation and recuperation of national biomes; land use and reforestation measures; and the development of a national cap-and-trade mechanism. The *NPCC* is based on Brazil's international commitment with the UNFCCC and incorporates all previous government instruments related to its key areas (i.e.: the National Plan on Climate Change, the National Fund on Climate Change and others). Decree No. 7390/2010: Regulates the following Articles of Law No. 12187/2009: Article 6 on the National Plan on Climate Change, National Fund on Climate Change, and Action Plans on Deforestation Prevention and Control in national biomes; Article 11 on the Sector Plans on climate change mitigation in key economic sectors – the Article set the precedent for inclusion of the Clean Development Mechanism and Nationally Appropriate Mitigation Actions (NAMAs) in these Plans; and Article 12 which establishes the national voluntary emission reduction commitment. Foresees the promotion and development of scientific and technological research concerned with mitigation and strengthening of carbon sinks; reduction of uncertainty in national and regional climate projections; and adaptation measures. The Law foresees the establishment of the Brazilian Emissions Reduction Market (MBRE). It incorporates the National Plans for Prevention and Control of Deforestation in national biomes.
Targets	None specified

Brazil: Other Relevant Legislation

Name of law	**Forest Code (Law No. 12651)**							
Date of entry into force	18 October 2012							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
				×				×
Driver for implementation	Management of forest, protected areas and water sources. Regulation of land use							
Summary of bill	Enacted on 25 May 2012, the Forest Code establishes general norms applied to Permanent Protected Areas (PPAs), "Legal Reserves" and other areas with natural vegetation. The Law also regulates economic activities in forest areas, setting new rules for controlling deforestation and trade of forest products.							

The bill defines a compulsory forest reserve in all properties located in areas with native vegetation. The size of the area protected varies depending on the location. Properties on areas of the "Legal Amazon" must conserve 80% of the native forest. Illegal activities on the "Legal Amazon" area that started after 22 July 2008 must be immediately suspended, and are subjected to a compulsory reforestation process.

The bill adopts distinct levels of deforested areas to be restored, with exemptions granted to smallholders. Moreover, all properties must be adjusted to the new Law and added to the new "Rural Environmental Register" (Cadastro Ambiental Rural – CAR). Failure to meet these obligations will result in loss of access to bank loans, fines and should be subjected to prosecution.

Information gathered by the "Rural Environmental Register" will be used by the national deforestation tracking system to provide detailed data on activities in forest areas.

Amnesty is granted to landowners that began their economic activities in protected areas before 22 July 2008.

River banks must be reforested depending on the width of the river and the size of the property developed. Medium-size properties have to maintain 20 meters of forest areas along rivers, whereas the largest properties have to protect a 30-meter margin of native vegetation.

Mangrove swamps are protected, but certain economic activities around their edges are legalised.

Targets	None specified

Name of law	**Law No. 12512/2011 – Programme in Support of Environmental Conservation ("Green Allowance") and Programme for the Promotion of Rural Productive Activity**							
Date of entry into force	14 October 2011							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
				×				×
Driver for implementation	Conservation, payments for ecosystem services, poverty reduction, deforestation and land use							
Summary of bill	Creates the *Programme in Support of Environmental Conservation, popularly known as "Green Allowance"*, a payments for ecosystem services scheme aimed at the following objectives: 1) incentivising ecosystem conservation (preservation and sustainable use); 2) promoting citizenship, improved living conditions and income gains for people living in extreme poverty who engage in natural resource conservation activities in Conservation Units; and 2) incentivising the participation of grant-receivers in environmental, social, educational, technical and professional capacity-building. Caixa Econômica Federal (government-owned bank) is the Programme's Operating Agency and the Ministry of Environment is charged with its execution. Establishes the *Programme for the Promotion of Rural Productive Activity*, a cash-transfer policy with the following objectives:							

- to stimulate sustainable employment and income generation
- to promote food and nutritional security
- to promote the engagement of programme beneficiaries in capacity-building activities
- to incentivise organisation in cooperatives and associations

The Ministries of Agrarian Development and Social Development and Fight against Hunger are the executing agencies.

Monitoring and control related to the Programme in Support of Environmental Conservation will take place via sample audits and in partnership with state and municipal governments.

In order to qualify for the *Green Allowance*, families must be living in extreme poverty, registered in the Federal Government's Unique Registry for Social Programmes and developing conservation activities in

- national forests, extractive reserves and federal sustainable development reserves
- forest settlement projects, sustainable development projects or agro-extractive settlement projects established by the Incra (the National Land and Agrarian Reform Institute)
- territories occupied by people who live on river margins, communities who engage in extractive activities, indigenous peoples, quilombolas (communities of descendants of escaped slaves), and other traditional communities
- priority areas defined by the Executive. Payments amounting to R$300 (US$169[3]) will be transferred once every three months for a maximum period of two years, which can be extended according to the Programme regulation

To benefit from the *Programme for the Promotion of Rural Productive Activity*'s family-farmers and others must fit with the requirements of Law No. 11326/2006 (National Policy on Family Agriculture), be living in extreme poverty and be registered in the Federal Government's Unique Registry for Social Programmes. The Federal government will transfer up to R$2,400 (US$1,352)[4] per family in a minimum of three instalments during the maximum period of two years.

Grant receivers are encouraged to participate in environmental capacity-building activities.

Targets	None specified

3 Exchange rate as of 22 October 2011.

4 Ibid.

Name of law	Law No. 12305/2010 – National Policy on Solid Residues							
Date of entry into force	2 August 2010							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
Driver for implementation	Waste management and climate change							
Summary of bill	This bill forms the *National Policy on Solid Residues* which promotes strategies to minimise the generation of solid residues, domestic sewerage and industrial effluents, and to incentivise the selective collection, recycling and reuse of rubbish for the preservation of sanitary conditions and reduction of GHG emissions. Some of the policy's guiding principles are: prevention and precaution, the "polluter pays" and the "protector receives", sustainable development, and shared responsibility for product life cycle. The policy also seeks to promote, among other things, continued capacity building on solid residues; public-private technical and financial cooperation for the integrated management of solid residues; sustainable public procurement; and environmental labelling and consumption. It establishes measures to be implemented at the federal, state and municipal levels of government. The policy seeks to promote the adoption, development and improvement of clean technologies as a means of minimising the environmental impact of solid residues.							
Targets	None specified							

Name of law	Decree No. 7378/2010 – Ecological-Economic Macro-zoning of the Legal Amazon							
Date of entry into force	December 1, 2010							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
				×				×
Driver for implementation	Deforestation and land use, climate change, sustainable agricultural development, trade promotion and natural capital							
Summary of bill	Approves the Ecological-Economic Macrozoning (MacroZEE) of the Legal Amazon as a guiding instrument for public policy pertaining to development, spatial planning and the environment as well as for decisions taken by private actors. The aim of the Legal Amazon's MacroZEE is to ensure that regional development is sustainable by proposing production strategies and environmental and territorial management that are in tune with the Amazon's ecological, economic, cultural and social diversity. The Coordinating Commission of Ecological-Economic Macrozoning in the National Territory (CC-MacroZEE) will establish monitoring indicators and conduct evaluations of the MacroZEE in the Legal Amazon every two years. Results will be available to the public.							

	The Legal Amazon's MacroZEE promotes sustainable economic activity in the Amazon. It aims to foster trade and economic integration and endorses productive and environmental management strategies through a focus in ten territorial unities: 1) the Amazon–Caribbean corridor; 2) coastal capitals, mining regulation, and support to the diversification of other production chains; 3) polycentrism and the Pará–Tocantins–Maranhão junction; 4) the Araguaia-Tocantins productive systems; 5) regulation and innovation in the implementation of the agro-industrial complex; 6) ordering and consolidation of the logistical hub for integration with the Pacific; 7) diversification of the agro-forestry and animal husbandry frontier; 8) control of the expansion of the agricultural frontier into the forest with protected areas and alternative land-use; 9) defence of the forest's core based on sustainable productive activities; 10) defence of the Pantanal biome through the promotion of local culture, traditional activities and tourism.
Targets	None specified

Name of law	**Law No. 12144/2009, Decree No. 7343/2010 – National Fund on Climate Change (NFCC)**							
Date of entry into force	Law No. 12114/2009: 9 December 2009; Decree No. 7343/2010: 26 October 2010							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×				×		×
Driver for implementation	Climate change							
Summary of bill	NFCC resources may be directed to REDD^{+} projects, with priority being given to natural areas under threat as well as relevant biodiversity conservation strategies. Resources may be channelled to society and ecosystem adaption to climate change							
Targets	The NFCC may fund activities related to the development and diffusion of technologies for the mitigation of GHG emissions. It may also fund research, the creation of project and inventory systems, methodologies that contribute to the reduction of liquid GHG emissions, and the reduction of emissions from deforestation and land use change							

Name of law	**Decree No. 6527/2008 – Amazon Fund**							
Date of entry into force	1 August 2008							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
				×				×
Driver for implementation	Deforestation, climate change, sustainable land use							

Summary of bill	Establishes the Amazon Fund under the auspices of the Brazilian Development Bank (BNDES). The Decree authorises the BNDES to manage donation-based funds granted to the Amazon Fund with the purpose of developing non-reimbursable actions to prevent, monitor and combat deforestation as well as promoting conservation and sustainable land use in the Amazon. The Amazon Fund finances activities in the following areas: public forest management and protected areas; control, monitoring and environmental auditing; sustainable forest management; economic activities developed through the sustainable use of the forest; Ecological and Economic Zoning, spatial planning and land regulation; conservation and sustainable biodiversity use; reforestation. The Technical Committee, composed of 6 high-level members from the scientific community appointed by the Ministry of Environment in consultation with the Brazilian Forum on Climate Change, meets once a year to evaluate the methodology for calculating deforested areas as well as the amount of carbon per hectare used in the calculation of emissions. The Supervisory Committee is formed by representatives from different Ministries, the Brazilian Development Bank (BNDES), state governments, civil society (including Indigenous peoples, private sector associations and epistemic communities); mandates are two-year long and may be renewed. The Supervisory Committee meets once every six months and is charged with establishing the rules and criteria governing the use of the Fund's resources.
Targets	None specified

Name of law	**Decree No. 6263/2007 – Inter-ministerial Committee on Climate Change (ICCC) and National Plan on Climate Change**							
Date of entry into force	Federal Decree 6263: 21 November 2007; National Plan on Climate Change: 1 December 2008							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						×
Driver for implementation	Climate change, renewable energy, energy efficiency							
Summary of bill	More than 80% of the power base to be derived from renewable sources by 2030. It aims to: increase the share of electricity derived from wind and sugarcane bagasse plants; add a number of hydroelectric projects to the electricity network; expand the solar photovoltaic industry; promote the use of solar water heaters in the residential sector; as well as establish research on energy production from solid waste. The plan further encourages industrial users to increase their average consumption of ethanol by 11% in the next 10 years; brings forward the 5% biodiesel blending requirement from 2013 to 2010; and supports the creation of an international biofuels market. The Plan on Climate Change determines that a National Energy Efficiency Action Plan should be created to reduce electricity consumption by 10% by 2030 and to establish other measures such as incentives to replace old electric equipment with modern equipment, and create improvements in industry energy efficiency, transport and buildings. The Plan promotes a sustainable increase in the use of biofuels in the national transportation network. The National Plan establishes measures on adaptation to climate change.							

	The plan establishes that actions should be taken to eliminate total national forest cover loss by 2015. The plan sets targets for a consistent cut on deforestation to be accomplished in subsequent four-year periods. The goal is to reduce deforestation by 40% in the 2006–2009 period in relation to the Amazon Fund's 10-year reference period (1996–2005). This is followed by an additional 30% reduction in the 2010–2013 and 2014–2017 periods in relation to the previous 4-year period. These targets are to be accomplished through the provision of new and additional funding from national and international sources, including the Amazon Fund.
Targets	None specified

Name of law	**Decree No. 6263/2007 – Inter-ministerial Committee on Climate Change (ICCC) and National Plan on Climate Change**							
Date of entry into force	Federal Decree 6263: 21 November 2007; National Plan on Climate Change: 1 December 2008							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×	×				×
Driver for implementation	Climate change, renewable energy, energy efficiency							

Summary of bill

Federal Decree No. 6263/2007 creates the permanent ICCC charged with the development of the National Plan on Climate Change. This plan was officially launched at the COP14 in Poland; it focuses primarily on reducing emissions from deforestation and includes provisions on energy efficiency and on renewables. The plan is set to deal with:

- mitigation
- vulnerability, impact and adaptation
- research and development
- capacity building and promotion

Law No. 12187/2009 integrated the Plan into the National Policy on Climate Change.

More than 80% of the power base to be derived from renewable sources by 2030. It aims to: increase the share of electricity derived from wind and sugarcane bagasse plants; add a number of hydroelectric projects to the electricity network; expand the solar photovoltaic industry; promote the use of solar water heaters in the residential sector; as well as establish research on energy production from solid waste. The plan further encourages industrial users to increase their average consumption of ethanol by 11% in the next 10 years; brings forward the 5% biodiesel blending requirement from 2013 to 2010; and supports the creation of an international biofuels market.

The Plan determines that a National Energy Efficiency Action Plan should be created to reduce electricity consumption by 10% by 2030 and to establish other measures such as incentives to upgrade equipment, and create improvements in industry energy efficiency, transport and buildings.

The Plan establishes that actions should be taken to eliminate total national forest cover loss by 2015. The Plan sets targets for a consistent cut on deforestation to be accomplished in subsequent 4-year periods. The goal is to reduce deforestation by 40% in the 2006–2009 period in relation to the Amazon Fund's 10 years reference period (1996–2005). This is followed by an additional 30% reduction in the 2010–2013 and 2014–2017 periods in relation to the previous 4-year period. These targets are to be accomplished through the provision of new and additional funding from national and international sources, including the Amazon Fund.

Promotes a sustainable increase in the use of biofuels in the national transportation network.

The National Plan establishes measures on adaptation to climate change.

Federal Decree No. 6263/2007 creates an Executive Group on Climate Change within the ICCC charged with the creating, monitoring and evaluating the National Plan.

Targets	None specified

Name of law	**Law No. 11284/2006 – Management of Public Forests, Brazilian Forest Service and National Fund for Forest Development**							
Date of entry into force	2 March 2006							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
				×				×
Driver for implementation	Deforestation and land use, sustainable forestry							

Summary of bill

The bill establishes principles for the management of public forests for sustainable production; institutes, within the structure of the Ministry of Environment, the Brazilian Forest Service (BFS); and creates the National Fund for Forest Development.

In order to attest compliance with the forest management principles established by this bill, forest concession-holders should undertake independent forest audits, every 3 years at a maximum, and at their own cost. Additionally, the National Environment System (Sisnama) agencies are responsible for control and environmental inspection. The National Fund for Forest Development has a Consultative Council formed by members from the federal administration and civil society charged with overseeing the disbursement of funds and evaluating performance.

Regarding REDD+/land use policies, the bill establishes the following *principles for public forest management*:

- protection of ecosystems, land, water, biodiversity and associated cultural value
- efficient and rational use of forests in line with local, regional and national sustainable development targets
- respect of local communities' right of access to and use of public forests and the benefits associated with conservation

- promotion of local processing, increased value-added of forest products and services, industrial diversification, technological development, and capacity-building of local entrepreneurs and labour-force
- free access to information regarding public forest management
- promotion and dissemination of research on forestry related to conservation, restoration and sustainable use of forests
- promotion of knowledge and awareness of forest conservation, recovery and sustainable use
- creation of stable and secure conditions for the promotion of long-term investment in forest conservation and recovery

The National Fund for Forest Development (NFFD) is instituted with the purpose of promoting sustainable forestry activities in Brazil as well as technological innovation in the sector. Among other things, the Fund's resources should be channelled to technical assistance, monitoring and verification, recuperation of degraded areas, rational economic use of forests and environmental education. The Fund only finances projects from public institutions or not-for-profit private institutions. The Brazilian Forest Service (BSF) is created with the exclusive mandate of managing public forests; it is equally the managing authority of the NFFD. In this context, the BSF is responsible for, among other things: training, capacity-building and technical assistance; promoting of sustainable timber and wood and sustainable forest production in general; and market scoping for forest products and services.

Research and development: the National Fund for Forest Development finances research and technological development on forest monitoring.

Targets None specified

Name of law	**Federal Law No. 11097/2005 (amended in 2009 and 2010) – Mandatory Biodiesel Requirement**							
Date of entry into force	13 January 2005							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						
Driver for implementation	Renewable energy							

Summary of bill Establishes a series of biodiesel requirements with the purpose of stimulating the market for clean burning fuel. Biodiesel is a mixture of vegetable oil and sugarcane based ethanol.

With regards to *Energy supply-side policies*, the 2005 revision of the law mandates that by 2008 2% of diesel sold to consumers is biodiesel (B2 biodiesel), and that by 2013 5% is B2 biodiesel. The law was altered so that as of July 2008 all diesel had to contain 3% of biodiesel (B3). In July 2009, the mandatory blending was increased to 5% (B5) 3 years ahead of the original schedule.

Targets None specified

Name of law	**Law No. 10438/2002 – Programme of Incentives for Alternative Electricity Sources (PROINFA)**							
Date of entry into force	26 April 2002							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						×
Driver for implementation	Renewable Energy							
Summary of bill	Creates PROINFA, the largest national plan to promote the use of alternative energy sources, as well as other programmes. Regarding *energy supply-side policies* PROINFA's implementation is coordinated by Eletrobras (a publicly traded company controlled by the Brazilian government) and divided into two consecutive stages. The first stage sets a target power production value of 3,300 MW from renewable energy including wind, biomass and small hydroelectric sources. This target is to be reached by the end of 2007 through a system of subsidies and incentives drawn from an Energy Development Account. This is to be funded by end-use consumers through an increase in energy bills (with the exemption of low income sectors) as well as by financing programmes available for renewable energy projects from the Brazilian National Development Bank (BNDES). The second stage establishes a target of increasing the electricity generated by these three renewable sources to 10% of annual consumption within 20 years. In addition, Renewable Energy Certificates that are proportional to the amount of clean energy produced by each plant should be issued in this second stage.							
Targets	None specified							

Name of law	**Federal Law No. 10294/2001 – National Conservation and Rational Energy Use Policy**							
Date of entry into force	17 October 2001							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×					×
Driver for implementation	Energy efficiency							
Summary of bill	Creates the National Conservation and Rational Energy Use Policy charged with ensuring the efficient allocation of energy resources and protecting the environment. The law determines that one year after the Executive Power publishes the required levels of energy consumption and efficiency, a Targets Programme should be established to monitor the progressive evolution of these levels.							

	Regarding *energy demand-side policies*, the law charges the Executive Power with establishing maximum levels of energy consumption and minimum levels of energy efficiency for machines and energy consuming apparatus produced or traded in the country. It also obliges the producers and importers of these items to observe these requirements at the risk of being fined. Further charges the Executive Power with developing mechanisms to promote energy efficiency in buildings constructed after the commencement of the law.
Targets	None specified

Name of law	**Federal Law No. 9985/2000, Federal Decree No. 4340/2001 – National System of Conservation Units**							
Date of entry into force	Federal Law No. 9985: 18 July 2000; Federal Decree No. 4340: 22 August 2002							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
	×	×	×	×	×	×	×	×
Driver for implementation	Deforestation and land use							
Summary of bill	Federal Law 9985/2000 regulates Article 25, Paragraph 1, of the Federal Constitution and creates the National System of Nature Conservation Units. It thereby establishes norms and criteria for the creation, implementation and management of conservation units. Federal Decree No. 4340/2002 regulates several articles of the associated Federal Law and establishes provisions for its implementation. Establishes the use, types and restrictions that apply to each category of conservation unit. Divides conservation units into two broad groups: Integral Protection Units intended to protect nature. They permit the indirect use of natural resources (except for cases provided for in this Law); and Sustainable Use Units intended to reconcile the conservation of nature with the sustainable use of a portion of its natural resources. Integral Protection Units constitute the following conservation units: • Ecological Station • Biological Reserve • National Park • Natural Monument • Wild Life Refuge Sustainable Use Units comprise of: • Area of Environmental Protection • Area of Significant Ecological Value • National Forest • Extractive Reserve							

	• Fauna Reserve • Sustainable Development Reserve • Reserve Particular to the Natural Heritage The implementation of economic activities in these areas will depend on the conservation unit category in question as well as the respective uses permitted by law and by the unit's managing plan. It is also necessary to obtain a specific authorisation from the authority in charge of the protection unit.
Targets	None specified

4.5 Canada

4.5.1 Fact Box

Greenhouse Gas emissions incl. LULUCF ($MtCO_2e$) excl. LULUCF ($MtCO_2e$) Change from base year (1990)	 764 692 102
Latest reporting year	2010
Importance as an emitter	Top 10
UNFCCC ratification status and date	Date of signature: 12 June 1992 Date of ratification: 4 December 1992 Date of entry into force: 21 March 1994
Kyoto Protocol ratification status and date	Withdrawn December 2011, effective December 2012
2020 pledge	Reduction of 17% from 2005 levels by 2020
Flagship legislation	**None**

4.5.2 Legislative Process

The Parliament of Canada is the federal legislative branch of Canada. It consists of the Senate and the House of Commons. In the Parliament of Canada, as in all legislative assemblies based on the British model, there is a clearly defined method for enacting legislation.

The law-making process starts with a bill, which can be introduced in the House of Commons (C-bills) or the Senate (S-bills). Most public bills which concern matters of public policy such as taxes and the environment begin in the Commons. A bill goes through certain formal stages in each House. The stages include a series of three "readings" during which parliamentarians debate the bill. Prior to the third and final reading, each House also sends the bill to a committee where members examine the finer points of the legislation. Committee members listen to witnesses who give their opinions on the bill, and then subject it to a clause-by-clause study based on the testimony. Canada retains the Sovereign of the United Kingdom as its head of state. All laws of Canada are formally enacted by the Sovereign, "by and with the advice and consent" of the Senate and House of Commons. Once both Houses have approved a bill, it is presented for Royal Assent and becomes law.

The constitution divides the legislative abilities of Canada between the federal and provincial governments. Provincial legislatures may pass laws relating to topics explicitly reserved for them by the constitution.

4.5.3 Approach to Climate Change

Canada has no comprehensive federal climate change legislation. An act to implement Canada's targets under the Kyoto Protocol during the first commitment period of 2008–2012 was passed in 2007, and had been regarded as Canada's Flagship Climate Legislation in the previous versions of this study. However, in December 2011, Canada announced that it would withdraw from the Kyoto Protocol, and officially repealed the Act on 29 June 2012, within the framework of the budget implementation Act C-38.

There have been attempts to pass more comprehensive and longer-term climate change legislation, the most significant being the Climate Change Accountability Act. This Bill was originally introduced in 2006, again in 2010 (as Bill C-311), and then passed the House of Commons in May 2010 but did not pass the Senate. In June 2011 the bill was reintroduced (as Bill C-224) by Canada's largest opposition party, the New Democratic party, but no progress has been made since. This bill

would have required the federal government to set regulations to attain a medium-term target to bring GHG emissions 25% below 1990 levels by 2020, and a long-term target to bring emissions 80% below 1990 levels by 2050. The bill would also have allowed the government to establish regulations to meet these targets and set penalties for those that violate the regulations (for example, the Passenger Automobile and Light Truck Greenhouse Gas Emission Regulations published in October 2010).

The reduction targets in the bill were proposed by "Turning the Corner: Action Plan to Reduce Greenhouse Gases and Air Pollution", the Conservative Party's climate change plan announced in April 2007. Indeed, "Turning the Corner" provided the groundwork for Canada's approach to tackling climate change. Canada's priority is to realign its policies and regulations in order to maintain economic prosperity while protecting the environment and harmonising its regulatory framework with the United States, its largest trading partner. According to the action plan, the regulations require intensity-based targets for a variety of industrial sectors of 6% each year between 2007 and 2010, with a further 2% intensity reduction each year to 2015.

Sub-national activity

Despite the lack of comprehensive federal legislation in Canada, Canadian provinces have been very active in passing their own climate legislation. British Columbia and Quebec have introduced economic incentives to reduce emissions, such as a carbon tax (up to Can$30 [US$31.5] in 2012 in British Columbia). Vehicle fuel efficiency in British Columbia and Quebec were aligned with the stringent Californian standards. Ontario passed a comprehensive Green Energy and Green Economy Act in 2009, created to expand renewable energy generation, encourage energy conservation and promote the creation of clean energy jobs. The targets of the Act are to reduce emissions by 6% below 1990 levels by 2014, 15% by 2020 and 80% by 2050. It includes a feed-in tariff, energy conservation measures on all levels and a plan to shut down all coal-fired power plants by 2014. Cap-and-trade schemes have been introduced by three provinces, representing 75% of Canadian population – Ontario, Quebec and British Columbia. Alberta's climate change plan also relies upon intensity-based targets, with a commitment to reduce GHG emissions intensity by 50% by 2050 (Alberta, Ministry of Environment, Alberta's 2008 Climate Change Strategy: Responsibility, Leadership, Action). It relies on energy efficiency, carbon capture and storage and renewable energy production.

Energy demand

Canada has implemented minimum energy performance standards for a number of products since the approval of the Energy Efficiency Act in 1992. The most recent amendments modernise the act by increasing its scope and effectiveness. The amendments also require Canada's Minister of Natural Resources to submit an energy efficiency progress report to Parliament every 3 years. The Renewable Fuels Regulations that came into effect in December 2010 require an average renewable fuel content of 5% in gasoline.

On 5 September 2012, regulations were announced by the federal environment minister, designed to reduce emissions from coal-fired electricity facilities by phasing out high-emitting coal-fired generation and promoting lower or non-emitting types of generation. The regulations will set performance standards for new coal-fired units (producing electricity from 1 July 2015) and for units at the end of their "useful life" – i.e. which have been producing electricity for 50 years. Transitional regulations apply to units built before 1986. Regulated entities will be required to begin reporting emission levels two years in advance of that date. The level of the performance standard will be fixed at 420 tonnes of carbon dioxide per gigawatt hour (CO_2/GWh). The regulations effectively require installation of carbon capture and storage (CCS) equipment to coal-fired power stations, as emissions captured by CCS equipment are exempt from being counted towards the performance standard, and additionally, units which have CCS installed can apply for a complete exemption from the performance standard until 2025. This is of significance because government estimates are that 75% of coal plants will reach the end of their useful life by 2025 and 80% by 2030, and therefore will have to retrofit CCS equipment if they want to continue operating.

Transportation

In April 2012 the government announced proposed regulations to reduce GHG emissions from new on-road heavy-duty vehicles, from model year 2014. The emission standards and test procedures are designed to be aligned with those of the United States. The regulations are expected to reduce emissions by 3 million tonnes per year by 2020.

Canada: Flagship Legislation

Canada currently has no federal flagship climate legislation.

Canada: Other Relevant Legislation

Name of law	**Biofuel Bill C-33: An Act to amend the Canadian Environmental Protection Act**							
Date of entry into force	26 June 2008							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						
Driver for implementation	Renewable energy							
Summary of bill	The bill seeks to amend the Canadian Environmental Protection Act 1999 with respect to provisions for the regulation of fuels. The bill is designed to establish a framework within which the Government can regulate biofuels content. This would include the tracking of exports to make accurate calculations of the volume of renewable fuels as a percentage of the total fuel used in Canada, and the lifting of administrative burdens that would be placed on small producers and importers.							
Targets	The bill allows the federal government to implement regulations requiring 5% average renewable content in gasoline by 2010. Subsequent regulations will also require 2% average renewable content in diesel and heating oil by 2012 on successful demonstration of renewable diesel fuel use under the range of Canadian environmental conditions.							

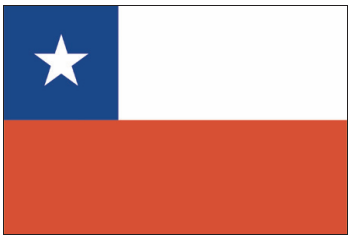
Name of law	**Greenhouse Gas Technology Investment Fund Act**							
Date of entry into force	Enacted in 2005, c. 30, s. 96, **not in force**							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
							×	×
Driver for implementation	Climate change							
Summary of bill	An Act to establish the Greenhouse Gas Technology Investment Fund for the reduction of GHG emissions and the removal of GHGs from the atmosphere.							
Targets	None specified							

Name of law	**Canada Foundation for Sustainable Development Technology Act**							
Date of entry into force	14 June 2001							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						
Driver for implementation	Research and development on solutions to issues which include climate change							
Summary of bill	This Act establishes a not-for-profit foundation that finances and supports the development and demonstration of clean technologies which provide solutions to issues of climate change, clean air, water and soil quality, and which deliver economic, environmental and health benefits to Canadians. The foundation shall, within 5 months after the end of each fiscal year, prepare an annual report in English and French of its activities during the preceding fiscal year. The report is to include: • the foundation's financial statements for the year as approved by the board and the report of the auditor respecting those statements • a detailed statement of its investment activities during the year, its investment portfolio as at the end of the year and its investment policies, standards and procedures • a detailed statement of its funding activities • a statement of its plans for fulfilling its objectives and purposes for the next year • an evaluation of the overall results achieved by the funding of eligible projects by the foundation during the year in review, and since the inception of the foundation							
Targets	None specified							

Name of law	**Energy Efficiency Act**							
Date of entry into force	1992. Regulations made under the Act have been amended a number of times, most recently in 2008, to expand the list of products covered by the Act and enhance standards for some products already in place							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×					
Driver for implementation	Energy efficiency							

Summary of bill	The Act aims to establish minimum energy efficiency standards for a broad range of products and equipment in order to decrease overall Canadian energy consumption. It gives the Government of Canada the authority to make and enforce standards for the performance of energy using products that are imported into Canada, or that are manufactured in Canada and shipped across provincial or territorial borders. The act also gives the Federal Government the authority to set labelling requirements for these products so consumers can compare the energy efficiency of various models of the same product. The following monitoring arrangements govern the Act: • A database would be used to identify the amount of energy that could be saved for specific products. It would also help in compiling statistics on energy consumption as well as develop alternative energy sources • Importing into Canada, or trading between provinces, products that do not meet such energy efficiency standards, or tapering with an energy efficiency label, is a criminal offence • Failure to comply with regulations will result in the possibility of prosecution, fines and secondary offences
Targets	None specified

4.6 Chile



4.6.1 Fact Box

Greenhouse Gas emissions incl. LULUCF ($MtCO_2e$) excl. LULUCF ($MtCO_2e$) Change from base year (1990)	 60 79 NA
Latest reporting year	2006
Importance as an emitter	Below top 50
UNFCCC ratification status and date	Date of signature: 13 June 1992 Date of ratification: 22 December 1994 Date of entry into force: 22 March 1995
Kyoto Protocol ratification status and date	Date of signature: 17 June 1998 Date of ratification: 26 August 2002 Date of entry into force: 16 February 2005
2020 pledge	Reduction of 20% of emissions compared with Business as usual
Flagship legislation	**National Climate Change Action Plan 2008–2012**

4.6.2 Legislative Process

Chile is a unitary nation divided into administrative regions, each headed by an administrator appointed by the central government. Each region is divided into provinces, each being administered by a governor also appointed by the central government. The provinces are further divided into municipalities headed by appointed mayors.

Chile's democratic system of government is based on the separation of powers. It is a multiparty republic with a presidential system based on the 1980 constitution. The constitution sets the format for the National Congress, composed of a Senate and a Chamber of Deputies. The Senate has 47 members (38 elected and 9 appointed) who serve 8-year terms. The Chamber of Deputies has 120 members who are directly elected for 4 years. The President of the Republic is elected for a 6-year term without possibility for re-election. The president is elected by an absolute majority of the valid votes cast. The executive branch in Chile is composed of 16 ministries and 4 cabinet-level agencies.

The constitution establishes a hierarchy of laws that must be approved by majorities of various sizes. Ordinary laws are approved by a simple majority of the members present in both chambers.

The President of the Republic holds the exclusive initiative for proposals of law related to changes to the political or administrative division of the country, or to the financial or budgetary administration of the State. The budgetary prerogatives of the legislative branch are also restricted. In several areas the President is given sole authority to introduce bills. These include measures involving spending, changes in the duties and characteristics of public-sector administrative entities, modifications to the political-administrative configuration of the State, and initiatives related to collective bargaining. The President may grant certain initiatives priority status, requiring that Congress act within 3, 10, or 30 days, depending on the degree of urgency specified. In this sense, the President has the exclusive power to set the legislative agenda.

The legislative process in Chile often starts with a "pre-legislative" phase through which any proposed legislation must first proceed. This phase is not governed or mandated by law in Chile. In practice, extensive consultations take place at this stage between the authorities and the representatives of institutions and agencies, both public and private, particularly the various organisations or associations representing the interests that will be affected by the new legislation.

All bills must be passed by the National Congress. The draft law is sent to the Chamber of Deputies for analysis of the bill's general aspects and main ideas at the relevant Commission. The Commission's conclusions are transmitted to the full Chamber. The Chamber then engages in a general discussion of the proposed law to decide whether to approve or reject the idea of legislating on the particular subject. After the bill is approved by the Chamber of Deputies in general discussion, it is sent to various legislative commissions that have jurisdiction over the bill. After the commission review, the Chamber studies the law in greater detail. When the Chamber approves the bill, it is sent to the Senate, where the bill undergoes an identical process of review. Once approved by both houses of the National Congress, the bill is sent to the President for approval. Upon endorsement of the bill the President issues a decree of promulgation and submits the bill for constitutional review by the Comptroller-General. After the bill has been declared constitutionally sound by the Comptroller-General the President has the bill published as law in the Official Journal. Publication of the law is the final step required in the legislative process. The average period of time for passage of regulatory legislation is approximately 24 months.

4.6.3 Approach to Climate Change

Chile ratified the UNFCCC in 1994 and established its National Advisory Committee for Global Change in 1996 (Decreto n° 466 Minrel).

Between its 1st National Communication under the UNFCCC in 1999 and its 2nd National Communication in 2011 Chile has made notable progress in incorporating climate change into its strategic long-term decision-making through institutional reforms. Public administration has been reformed in order to establish an institutional framework providing a platform for strengthened climate action. Extensive sectoral studies on the impact of climate change and on mitigation strategies have been carried out and informed a wide range of action plans and policies.

The National Strategy for Climate Change was adopted in 2006 and made operational by the National Action Plan for Climate Change 2008–2012 prepared by the Department of Climate Change of the National Environmental Commission. Under this Action Plan in 2009 an Inter-ministerial Committee on Climate Change was set up, integrated by the Ministers of the Environment, Foreign Affairs, Agriculture, Transport and Telecommunications, Energy, Economy, Finance, Mining and Public Works and two dialogue platforms, one for public–private partnerships and one for the civil society. The Plan establishes a set of public policy guidelines for 5 years, after which it will be followed by long-term national and sectoral plans for adaptation and mitigation.

The year 2010 witnessed the inauguration of Chile's new environmental institutional structure, a process that began in 2006 and transformed the country's multisectoral model, in which environmental matters were coordinated by the National Environmental Commission (CONAMA) into a more centralised model under the new Ministry of the Environment set up as the State body in charge of cooperating with the President of the Republic in the design and implementation of environmental policies, plans and programmes. The Ministry is in charge of proposing and developing national climate policy, specifically and for the first time in Chilean legislation by virtue of a special mandate to this effect (Art.70, Law 20.417 de 2010).

This institutional change was driven mainly by the need to streamline and better define environmental competencies; to have a Ministry responsible for environmental policies; to have a completely technical Environmental Assessment Service as well as a centralised and efficient enforcement system; and, urgently, to manage issues related to biodiversity and protected areas.

One of the Ministry's major areas of responsibility is the development of the country's response to climate change. Climate change is one of the five theme axes of the Ministry. The Office of Climate Change was created in 2010 under the Subsecretary of the Ministerio del Medio Ambiente, and endowed with an annual budget and permanent staff. For the first time in history the country's legislation includes a government mandate that specifically addresses this issue, affirming that "*the Ministry shall be especially responsible for proposing policies and formulating plans, programs and plans of action in the area of climate change*" (Art.70, letter h). To facilitate organisational aspects, the Office of Climate Change was formally created under the Office of the Undersecretary, with its own annual budget for conducting research and consultants to assist with its work. This Office also is responsible for participating in international negotiations related to the implementation of the Convention, as well as acting as Coordinator of the Committee for the Designated National Authority for the Clean Development Mechanism. It is also the focal point for the Intergovernmental Panel on Climate Change (IPCC) and the technical secretariat for Interministerial committees on climate change.

Energy

In December 2009, Chile's National Congress passed Law 20.402 creating the Ministry of Energy as a high level agency that works with the President of the Republic to govern and administrate Chile's energy sector.

The Ministry's primary objective is to prepare and coordinate the implementation of plans, policies and standards to ensure the sector's effective operation and development towards the objectives of energy security and of a high-quality competitive energy supply plus environmental protection at local and global level; to ensure these instruments are complied with; and to advise the Government on energy-related matters.

Chile's energy policy is founded upon the legal and regulatory role played by the State through the Ministry of Energy and the institutions under its purview, while the private energy sector is responsible for investments in the sector. This arrangement means that Chile's energy policies will have a major impact on limiting the growth of GHG emissions.

Some of the objectives of the energy policy of President Sebastian Piñera Echenique's administration are as follows:

- Increase energy availability and security to satisfy demand, assuming an average economic growth rate of 6% annually up to 2020.

- Promote the development of competitive and sustainable investments.

- Work towards the goal of having 20% of Chile's installed capacity for electricity generation come from non-conventional renewable energies by 2020.

- Enhance existing regulations for accessing energy resources in order to increase investment in renewable energies available in the country.

- Promote research programs in the area of energy and educate new generations of citizens on the importance of energy savings and efficiency.

- Improve the information available on the country's energy resources to support the formulation of a policy to promote energy efficiency and energy savings projects.

- Enhance existing energy efficiency standards and certification programs for residential construction, household appliances, lighting and transport vehicles.

Institutions under the Ministry's purview that play a key role in the sectoral mitigation of GHG emissions include the Center for Renewable Energies (CER) of 2009, the National Energy Efficiency Programme (PPEE) dating from 2005 and the Chilean Energy Efficiency Agency (AchEE).

The Center for Renewable Energies was created in 2009 under the purview of the Chilean Economic Development Agency (CORFO) and the direction of the Ministry of Energy with the aim of creating a technology antenna for the development of renewable energies in Chile.

The Ministry of Economy set up the National Energy Efficiency Programme in response to the Environmental Performance Review conducted by the Organization for Economic Cooperation and Development (OECD), which recommended that Chile incorporate Energy Efficiency into its national development. The Programme has contributed to the development of sustainable energy in Chile by promoting advances such as reducing energy demand in the Central Interconnected System (SIC) energy grid by 2.6% between March 2008 and March 2009 and establishing Energy Efficiency as a central pillar of Chile's national energy policy: the budget allocated to the National Energy Efficiency Programme by the National Energy Commission rose from US$1 million in 2006 to US$40 million in 2009.

Thermal regulations for housing were incorporated into the General Construction and Urbanism Bylaw (OGUC, Art. 4.1.10) and have been in force and operating in Chile since 2000. The first stage, which began in March of that year, established minimum R-values for housing roof systems that improved resistance to heat flow significantly in that part of the building shell. The second stage came into force in early 2007 and complemented the first one. This stage set out requirements for limiting heat loss through walls, floors and ventilated floors and windows, limiting size according to R-values.

The National Energy Efficiency Programme included a line of action for identifying potential energy efficiency applications for the *mining sector*. Under this line of action, in 2006 the *Mining Energy Efficiency Working Group* was established with the main objective of encouraging the country's largest mining companies to manage their energy consumption, exchange experiences, study the application of energy efficiency indicators that may be suitable for these companies and formulate innovation projects in this area. The Working Group is a voluntary technical board made up of representatives of Chile's large metal and non-metal mining companies, ENAMI, the EEPP and the Mining Undersecretary's Office.

The *Chilean Energy Efficiency Agency* is the successor to the National Energy Efficiency Programme and includes the participation of representatives of the ministries of Transportation and Telecommunications, Housing and Urbanism, and Energy, as well as the academic and business sectors. This new Agency has an updated mandate that replaces the lines of action of the PPEE with the role of

designing and establishing public policies for Energy Efficiency in the respective divisions of the Ministry of Energy.

The Agency has proposed a National Energy Efficiency Action Plan 2010–2020 with a roadmap towards a 15% energy efficiency progress by 2025. Some of its proposals have been incorporated in the National Energy Strategy published in February 2012, although the mechanisms and deadlines for their implementation are to be developed.

Chile is currently formulating a strategy to establish *Minimum Energy Performance Standards*, based on the Ministry of Energy's newly granted authority to enact MEPS, which was established in the recently passed law that also created that institution. The first phase was implemented in 2010 and involved MEPS for lighting.

LULUFC, water resources

The public institutions under the purview of the Chilean Ministry of Agriculture that have a role to play in mitigating climate change in Chile are the Office of Agrarian Policy and Studies, the Institute for Agriculture and Livestock Development, the National Forestry Corporation, the Foundation for Agrarian Innovation, the Institute of Agricultural Research, the Forestry Institute and the Natural Resource Information Center.

The Ministry for Agriculture set up the *Climate Change and Agriculture Council* in 2008, chaired by the Minister and integrated by representatives of the productive, public and academic sectors. The Council's main objective is to work with stakeholders in different sectors to build a common understanding of how climate change will impact activities in the agriculture, livestock and forestry sectors and to define major lines of action to address this impact. Functionally, the Council supports the Ministry in defining the main features and priorities of a climate change adaptation programme for the agriculture, livestock and forestry sectors and in defining potential mitigation measures to be implemented in each sector.

The Public Works Ministry created the *Glaciology and Snow Unit* within the *Water Directorate-General* in 2008 with the task of establishing and running a national glaciological programme to establish and implement a national glaciology programme that will develop a glacier inventory, study and monitor glaciers in Chile, define present and future responses to climate change in regard to glaciers and identify adaptation strategies for different climate scenarios. This includes defining strategic priorities to quantify and monitor glaciological variables in representative glaciers; building and regularly updating a Public Inventory of Glaciers based on

recent satellite images; implementing the Glacier Monitoring Network in priority geographic zones, and identifying suitable parameters for quantifying the interaction between climate and glaciers in representative zones. In February 2009 the Directive Council of Ministers adopted a National Policy for Glacier Protection and Conservation foreseeing the creation of a national glacier register, the study of their vulnerability to climate change and the introduction of preservation and conservation policies.

Research and development

Chile has signed Memoranda of Understanding and Framework Cooperation Agreements on climate action with Denmark and France, as well as a technical and scientific cooperation agreement on bioenergy with Colombia.

Chile: Flagship Legislation

Name of law	**National Climate Change Action Plan 2008–2012**							
Date of entry into force	4 December 2008							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×	×		×		×
Driver for implementation	Energy security, energy efficiency, adaptation							

The Action Plan is intended as a short-term measure designed to generate key information that will be used to prepare longer-term national and sector-specific adaptation and mitigation plans.

The Plan emerged out of an analysis of the national situation in regard to climate change, and strategic approaches to this situation. The Plan includes both situation analysis and strategic considerations as its base, and details of actions to be taken on three areas (adaptation, mitigation and capacity-building) and the entities responsible for delivery.

The analysis takes into account climate change science in Chile and abroad, the country's vulnerability and the actions needed for adaptation. It includes GHG emissions from the energy sector, advances in analysing emission scenarios and mitigation potential. It also delves into the country's capacity to design and implement policies, strategies and actions for adaptation and for mitigating emissions from legal, institutional and public policy perspectives. It further assesses national capacities for participating in international negotiations, meetings and reviews of IPCC reports, international and national cooperation initiatives on climate change, clean development mechanisms, and the carbon offset market, among others.

	The main adaptation actions proposed are: generating local climate scenarios, determining the impacts of climate change and the corresponding adaptation measures and formulating national and sector-based plans for adaptation to climate change. Specifically, the Plan affirms the need to determine impacts on water resources, biodiversity, the forestry, agriculture and livestock sectors, hydropower generation, infrastructure, coastal zones, fishery resources and public health. The Plan calls for a national programme and sector-based plans for mitigating GHGs. The actions proposed include: designing a system to update GHG inventories; assessing the total and sector-specific potential for reducing GHGs; preparing indicators to monitor the impact of actions taken; preparing GHG mitigation plans, policies and strategies and generating mitigation scenarios for different timeframes. The capacity building and development actions contemplated include: a national programme of education and awareness raising; a national fund for researching biodiversity and climate change; technical and economic assessment for a climate change monitoring network; and a national registry of glaciers. Other components of the Plan included developing Chile's negotiating strategies, strengthening the country's institutional framework for addressing climate change, designing development instruments for reducing GHG emissions and for adaptation, and preparing the Second National Communication of 2011.
Targets	None specified

Chile: Other Relevant Legislation

Name of law	**Resolution 370 regulating the subsidies for power transmission lines to facilitate access to the grid for renewable energy installations *(Reglamento subsidio líneas de transmisión para facilitar acceso a troncal a proyectos ERNC – Res. 370)***							
Date of entry into force	18 July 2012							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						
Driver for implementation	Climate change, energy security							
Summary of bill	The regulation establishes a subsidy for power lines granting access to the grid to renewable energy installations in the event that the demand is lower than expected, reducing the investment risks. The agent applying for the subsidy shall be facilitating access to the grid to at least three renewable energy installations. The subsidy is capped at US$700,000 and applies between the sixth and the tenth year of exploitation of the power line.							
Targets	Renewables to represent 20% of the installed power generation capacity by 2020							

Name of law	**Law No. 20571 regulating the payment of electricity tariffs of residential generators (Ley No. 20571 regula el pago de las tarifas eléctricas de las generadoras residenciales)**							
Date of entry into force	22 March 2012							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						
Driver for implementation	Climate change, energy security							
Summary of bill	The law introduces modifications to the General Law for Electric Services of 1982 with the objective of regulating the payment of electricity tariffs to residential generators. Final users are thus authorised to inject electricity from renewable installations of up to 100kW in the distribution grid through their connection line.							
Targets	Renewables to represent 20% of the installed power generation capacity by 2020							

Name of law	**Law No. 20.365 on Tax Exemption for Solar Thermal Systems (Ley 20.365 establece franquicia tributaria respecto de sistemas solares térmicos)**							
Date of entry into force	19 August 2010							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						
Driver for implementation	Climate change, energy security							
Summary of bill	The law grants tax deductions equivalent to the cost, or a share of the cost, of the installation of new solar thermal systems providing at least 30% of the hot water consumed in a given building per annum. The tax exemption targets construction companies that are willing to use solar systems in new housing developments, allowing them to discount the cost of solar collectors they install from their taxes on a sliding scale indexed to the value of each home. This measure seeks to promote the use of solar technology and extend its benefits to houses and buildings across the country by offering up to 100% of the installed cost of these hot water systems for new houses eligible by the tax exemption. The exemption covers 100% of the tax on solar thermal systems for houses priced at approximately US$87,000 and up to 20% of the tax for houses worth approximately US$195,000. The law also includes a consumer protection provision that mandates a 5-year guarantee against failures in the solar thermal system and a free inspection within the first year of home ownership. *Decree 331* of 26 May 2010 lays down the implementation rules establishing the eligibility of technical conditions for solar thermal systems.							
Targets	Renewables to represent 20% of the installed power generation capacity by 2020							

Name of law	**Law No. 20.283 on the Chilean Native Forest (Ley de bosque nativo 20.283 sobre la protección, recuperación y el mejoramiento de los bosques nativos)**							
Date of entry into force	July 2008							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
				×		×		
Driver for implementation	Climate change, forestry management, soil protection							
Summary of bill	The law is intended to protect, recover and improve the country's native forest species, ensuring their sustainability through management and preservation plans. It defines small landowners as those with title to total property of no more than 200 ha. This limit is larger for landowners living in the far south of Chile, who may own up to 800 ha, provided that their assets are valued at less than US$150,000 and their income derives mainly from agricultural or forestry activities. The law mandates detailed rules and definitions for the application of this instrument, including subsidies to promote the conservation, recovery and sustainable development of native species. The Native Forest Law also defines a series of incentives, most notable among which are those for preserving environmental services in native forests and xerophytic formations, forestry activities oriented towards obtaining non-wood forestry products and the management and recovery of native forests for wood production.							
Targets	None specified							

Name of law	**Law No. 20.257 on Non-Conventional Renewable Energies (Ley No. 20.257 de energías renovables no convencionales)**							
Date of entry into force	1 April 2008							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						
Driver for implementation	Climate change, energy security							
Summary of bill	The law mandates that a certain percentage of power sold by electricity companies operating in systems with an installed capacity greater than 200 MW come from NCREs. It is applicable only to new projects implemented by electricity companies that remove energy from power grids by selling it to distributors or end users.							

Targets	• From 2010 to 2014, all energy contracts signed on or after 2007 shall be required to supply at least 5% of their energy from non-conventional renewable sources • As of 2015, this percentage will increase by 0.5% per year until reaching 10% in 2024 • This gradual increase will be applied in the following way: 5.5% of all energy removed from the system shall be subject to this mandate in 2015, 6% in 2016, and so on, until reaching the goal of 10% by 2024

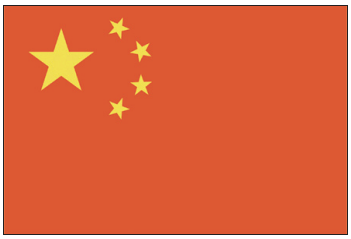
Name of law	**Decree No. 298 regulating the certification process of products that employ electricity and fuels of 2005 & Energy Efficiency Labelling Programme (Decreto 298 - Aprueba Reglamento para la certificación de productos eléctricos y combustibles, y deroga Decreto que indica)**							
Date of entry into force	The first label was placed on the market in 2007							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×					×
Driver for implementation	Climate change, energy security							
Summary of bill	Importers and producers must have their products certified through a third party certification institution before the products can be sold on the market. The legal framework defined by the Decree above and by **Organic Law 18.410 on the Superintendence of Electricity and Fuels** (SEC) of 1985 gives legal basis to the comparative label programme **Energy Efficiency Labelling Programme** (Programa de Etiquetado de Eficiencia Energética) implemented under Chilean standards that comply with ISO 15502 and IEC 60000 standards. The labeling scheme covers 14 products and 5 product types (HVAC, electric induction motors, incandescent and compact fluorescent bulbs, ICT and domestic appliances). Additional electrical and electronic devices will be added to these in the coming years. Products are tested by laboratories that are independent from industry and government. The results of testing are certified by a certification organisation and the results are then given to SEC. Market surveillance is conducted by the Ministry of Energy which undertakes import controls and random visual checks of retail outlets to ensure proper use of the labels. Verification testing is further conducted on samples of products on the market. The quality of third party certification agencies is maintained through a periodic renewal process administered by the National Standards Institute of Chile (INN).							
Targets	None specified							

Name of law	**Law No. 19.440 modifying the General Electrical Services Law (LGSE) of 1982 (Ley 19.940 modificando la Ley General de Servicios Eléctricos de 1982)**							
Date of entry into force	13 March 2004							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						×
Driver for implementation	Climate change, energy security							
Summary of bill	The law reformed the LGSE, changing several aspects of the energy generation market in Chile that affected all forms of energy generation, but included special provisions for Non-Conventional Renewable Energy sources (NCREs), defined as wind, hydropower installations up to 20 MW, biomass, biogas, geothermal, solar and tidal energy. The reform opened up the spot market and guaranteed the right to be connected to the country's power grids to small generating plants, many of which fall into the NCRE category. This move increased commercial and generating opportunities for these small producers. In addition, the reform exempted projects using NCREs from paying transmission fees, using a differentiated scale—one for plants generating up to 9 MW and another for those generating between 9 MW and 20 MW. In addition to benefiting those sources, this exemption serves to recognise a positive externality, given their low impact on transmission grids and on investments associated with their expansion.							
Targets	Renewables to represent of 20% of the installed power generation capacity by 2020							

Name of law	**Law No. 19.657 on Geothermal Energy and its Regulation by Decree 34 (Ley No. 19.657 de Geotermia y Decreto 34 con su Reglamento)**							
Date of entry into force	7 January 2000 and 20 October 2004							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						×
Driver for implementation	Climate change, energy security							
Summary of bill	This law established a special system for granting concessions for the exploration and development of geothermal energy.							
Targets	16 concessions for a total investment value of US$85 million were granted in 2009.							

Name of law	**Law No. 19.561 modifying Decree Law No. 701 (Ley No. 19.561 - Modifica el Decreto Ley No. 701, de 1974, sobre Fomento Forestal)**							
Date of entry into force	1998							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
				×				
Driver for implementation	Climate change, forestry management, soil protection							
Summary of bill	Decree Law No. 701 (DL 701) of 1974 was enacted to establishing the country's forest capital and meet the growing demand of the national forestry industry through subsidies to private parties undertaking forestation. From 1974 to 1995, subsidies were paid out for some 800,000 ha of suitable, eligible land, with a total investment of nearly US$136 million. In 1998, Law No. 19.561 modifying DL 701 was enacted, extending several subsidies to 2010, with a different focus – the protection and recovery of degraded soils in Chile and forestation activities carried out by small landowners, the latter including a group of additional benefits. From the enactment of the DL 701 modification up to 2008, the Government of Chile approved US$284 million (nominal value) in subsidies for forestation and soil protection, financing the forestation of 475,000 ha and soil recovery on another 175,000 ha. This state-sponsored effort generates major positive externalities such as erosion control, carbon capture and rural employment. This programme includes: • Subsidies granted to small landowners for forestation and management of forests planted in land suitable for forestry. The aim was to give small landowners a subsidy equal to 90% of the net cost of plantation for the first 15 ha, and 75% of the rest • Subsidies of 75% of the net cost of each activity to undertake forestation, soil recovery and stabilisation activities in dunes, on fragile soils, volcanic soils and those in process of desertification, in degraded soils or degraded soils on slopes with a grade greater than 100%							
Targets	None specified							

4.7 China



4.7.1 Fact Box

Greenhouse Gas emissions incl. LULUCF ($MtCO_2e$) excl. LULUCF ($MtCO_2e$) Change from base year (1990)	 3650 4058 NA
Latest reporting year	1994
Importance as an emitter	Top 5
UNFCCC ratification status and date	Date of signature: 11 June 1992 Date of ratification: 5 January 1993 Date of entry into force: 21 March 1994
Kyoto Protocol ratification status and date	Date of signature: 29 May 1998 Date of ratification: 30 August 2002 Date of entry into force: 16 February 2005
2020 pledge	Reduce CO2 emissions per unit of GDP by 40–45% by 2020 compared to the 2005 level, increase the share of non-fossil fuels in primary energy consumption to around 15% by 2020 and increase forest coverage by 40 million hectares and forest stock volume by 1.3 billion cubic meters by 2020 from the 2005 levels
Flagship legislation	**12th Five-Year Plan (2011)**

4.7.2 Legislative Process

China's legal system is largely a civil law system. The national legislative power is exercised by the National People's Congress (NPC) and the Standing Committee of the National People's Congress. The NPC is responsible for criminal law, civil law, state organ law and other basic laws. While the NPC is not in session, the Standing Committee of the NPC is responsible for supplementing and amending parts of the laws promulgated by the NPC, provided they do not contradict with the basic principles of these laws. There is not a division of legislative power between the central government and the provincial governments in China.

4.7.3 Approach to Climate Change

China's stance in combating climate change has focused mainly around energy-related laws. Climate change was first officially referred to in legislation or regulations by the Chinese government in China's National Climate Change Programme of 2007, and repeated in *China's Policies and Actions for Addressing Climate Change 2008.* In 2009, the National Peoples Congress passed a comprehensive *Climate Change Resolution*. All of these are not strictly laws but policy documents guiding legislation.

Although there is not yet a comprehensive Climate Change Bill in China, Congressman Wang Guangtao (Chair of the Environment Protection and Resources Conservation Committee of the National Peoples Congress) made the announcement, on 7 November 2010 at the GLOBE International legislators' forum in Tianjin, that China would begin work on a comprehensive climate change law. It is expected that a first formal draft of the law will be produced by early 2013 with passage likely by 2015. In the meantime, China's domestic climate-related laws are dominated by a focus on energy saving, reflecting the need for the country to improve energy efficiency to enable it to keep pace with energy demand as the economy grows strongly.

In that context, China has already passed the Energy Conservation Law of the People's Republic of China (Energy Conservation Law), and the 2005 Renewable Energy Law of the People's Republic of China (Renewable Energy Law) and is planning a new Energy Law of the People's Republic of China. The draft Energy Law contains provisions on the promotion of clean energy and energy efficiency. The goals are relatively vague with clearer targets expected to be set by ministries, including the National Development and Reform Commission (NDRC), Ministry of Construction, Ministry of Agriculture, Ministry of Transportation, the Bureau for Tax and others.

March 2011 saw the publication of China's 12th Five-Year Plan. The Plan includes a target to reduce the carbon intensity of its GDP by 17% from 2005 levels by 2015 (in line with the 40–45% target by 2020 committed by China under the Copenhagen Accord), increases the number of pollutants included in the "total emissions control" system and sets new targets for the energy intensity of GDP (a reduction of 16% by 2015), the percentage of non-fossil fuel energy (to increase to 11.4% by 2015 from 8% in 2011) and an increase in forest coverage of 21.6%. The specific policies and mechanisms required to implement these targets are being developed by ministries and provinces.

In November 2011, the State Council approved a package of policies and measures aimed at meeting the energy and carbon targets included in the 12th Five-Year Plan. This package included Provincial and Municipal-level carbon and energy intensity targets, recognising that the Provinces and Municipalities have different economic structures, efficiency options and levels of wealth. The 12th Five-Year Plan encourages the use of market mechanisms as a tool to encourage emissions reductions. Seven Provinces and Municipalities (Beijing, Chongqing, Guangdong, Hubei, Shanghai, Shenzhen and Tianjin) are developing pilot emissions trading systems, due to begin in 2013, the experiences of which will inform the design of a national scheme before 2020. Significantly, although outside the scope of this study, in October 2012 Shenzhen Special Economic Zone passed local legislation to restrict emissions of GHGs, the first such legislation in China.

In October 2012 the State Council published a White Paper on energy policy. At the same time it announced that China's nuclear programme, suspended after the Fukushima disaster, would resume but at a slower pace than initially planned under the 12th Five-Year Plan.

China: Flagship Legislation

Name of law	**The 12th Five-Year Plan for the Development of National Economy and Society (2011–2015)**							
Date of entry into force	Approved by the National People's Congress, 12 March 2011							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
	×	×	×	×	×		×	×
Driver for implementation	Economic and social development							

Summary of bill	The Five-Year Plan for National Economic and Social Development, or the Five-Year Plan, aims to create more socially inclusive and environmentally sustainable growth and boost domestic consumption that will begin to re-orientate the Chinese economy away from heavy industry and resource-intensive production towards a more consumption-based and resource-efficient economy. *Monitoring arrangements*: the National Peoples Congress serves as the monitoring body.
Targets	To decrease the carbon intensity of GDP by 17% by 2015; to decrease the energy intensity of GDP by 16%; to increase the share of non-fossil fuel primary energy consumption to 11.4%; and to increase forest coverage by 21.6%.

China: Other Relevant Legislation

Name of law	**National Climate Change Programme**							
Date of entry into force	4 June 2007 issued by the National Development and Reform Commission							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×	×	×	×	×	×
Driver for implementation	Energy conservation							
Summary of bill	This is a policy document and the government's position was repeated in two other policy papers "China's Policies and Actions for Addressing Climate Change 2008" and "National Peoples Congress Climate Change Resolution 2009". The document indicated that the Chinese government acknowledged the importance of addressing climate change and the need to adopt measures. The document covered five issues: GHG mitigation; adaptation; climate change science and technology; public awareness on climate change; and institutions and mechanisms. Concerning mitigation, the focus is on energy production and transformation, energy efficiency improvement and energy conservation, industrial processes, agriculture, and forestry and municipal waste. Regarding energy production and transformation, measures aim to strengthen the existing energy legal system, improve the national energy programme, implement the Renewable Energy Law, promote favourable conditions for renewable energy development and GHG mitigation, stimulate energy price reform, optimise the energy mix and promote innovation and efficiency improvements in various power generating technologies, both renewable and non-renewable, including nuclear power. All these policies are expected to have a major influence on the energy and utilities sectors. Chinese leaders essentially equate climate change with energy conservation. *Monitoring arrangements*: China promoted a number of policies and measures to adjust the economic structure, change the development patterns, save energy and improve energy efficiency, optimise energy mix and promote afforestation.							
Targets	The government plans to cut energy waste by 20% between 2006 and 2010. It also set an ambitious goal for using renewable energy, a 10% raise in the proportion of renewable energy in primary energy supply by 2010. It also aims to stabilise the 2005 nitrous oxide emission level, increase the 2001 forest coverage rate by 20%, and increase the carbon sink by 50 Mt over the 2005 level by 2010.							

Name of law	Renewable Energy Act							
Date of entry into force	Promulgated by the Standing Committee of the National People's Congress, 28 February 2005, effective 1 January 2006, amended 26 December 2009							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×				×	×
Driver for implementation	Renewable energy							
Summary of bill	This Act described duties of the government, business and other users in renewable energy development and utilisation. It also included a series of measures and goals relating to mandatory grid connection, price management regulation, differentiated pricing, special funds and tax reliefs, and it set the goal to realise 15% of China's energy from renewable sources by 2020. *Energy – supply-side policies*: The Act requires the government to encourage and support the application of renewable energy in various areas. *Research and development*: Article 24 requires that the Government budget establishes a renewable energy development fund. *Monitoring arrangements*: Article 6 requires that energy authorities of the State Council are responsible for organising and coordinating national surveys and management of renewable energy resources, and work with related departments to establish technical regulations for resource surveys. Relevant departments of the State Council, within their respective authorities, are responsible for related renewable energy resource surveys. The survey results will be summarised by the energy authority in the State Council.							
Targets	Article 7 requires that energy authorities of the State Council set middle- and long-term targets of the total volume for the development and utilisation of renewable energy at the national level, which shall be implemented and released to the pubic after being approved by the State Council.							

Name of law	Energy Conservation Law							
Date of entry into force	1 November 1997 adopted; 28 October 2007 first amended; 2008 amended							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×				×	×
Driver for implementation	Energy conservation, energy efficiency							
Summary of bill	The Act aims to strengthen energy conservation, particularly for key energy-using entities, promote rational utilisation of energy and advancement of energy conservation technology. *Monitoring arrangements*: the National Peoples Congress serves as the monitoring body.							
Targets	The Act requires the government to encourage and support the application of renewable energy in various areas.							

4.8 Colombia

4.8.1 Fact Box

Greenhouse Gas emissions incl. LULUCF ($MtCO_2e$) excl. LULUCF ($MtCO_2e$) Change from base year (1990)	 180 154 NA
Latest reporting year	2004
Importance as an emitter	Top 50
UNFCCC ratification status and date	Date of signature: 13 June 1992 Date of ratification: 22 March 1995 Date of entry into force: 20 June 1995
Kyoto Protocol ratification status and date	Date of ratification: 30 November 2001 Date of entry into force: 16 February 2005
2020 pledge	Unilateral guarantee of a minimum 77% share of renewable energy in the national mix; Zero deforestation in the Amazon basin and increased market share of biofuels up to 20% of total fuel consumption with external financial support
Flagship legislation	Law No. 1450 of 2011 Ratifying the National Development Plan 2010–2014 (Ley No. 1450 de 2011 – Por la cual se expide el Plan Nacional de Desarrollo, 2010–2014)

4.8.2 Legislative Process

Colombia's 1991 Constitution establishes an obligation on the part of the State to protect the country's natural wealth through some 60 dispositions, which establish a linkage between environmental issues and development plans and places environmental policies on the same footing as economic and social policies.

The Constitution grants certain legislative powers to Congress in general, divides other powers between the two Houses, and apportions others between Congress and the President. Legislative authority is vested in the bicameral Congress, consisting of the Senate (Senado), with 114 members, and the House of Representatives (Cámara), with 199 members.

Both houses of Congress have joint responsibility for initiating, amending, interpreting and repealing legislation; inaugurating the President and selecting the presidential designate; selecting the membership of the Supreme Court; changing the boundaries of the territories, creating new departments, granting special powers to the departmental legislatures and moving the location of the national capital; supervising the civil service and creating new positions in it; and setting national revenues, providing for payment of the national debt and determining the nation's currency.

Both Houses have three types of committees: permanent constitutional, legal and accidental. All Congress members are obliged to sit on only one committee. Each House has 7 constitutional committees.

Some Congress legal committees are common to both Houses. The Fifth Committee is responsible for agriculture, environment and regional government. It is integrated by 13 Members in the Senate and 19 Members in the House of Representatives.

After a congressman or government minister introduces a bill in either chamber, the congressional leadership refers it to one of the standing committees. If approved by the committee, it is reported back for a second reading to a plenary session of the House of origin, where a member of the committee guided it through debate. If approved by the full membership, the bill is forwarded to the other House, where it undergoes the same process.

Congress affects policy-making mostly by delaying or modifying legislation, since the executive, the political parties or the ministerial bureaucracy take the initiative in preparing legislation. However, its power of interpellation allows it to question cabinet members and public officials on the manner of implementing legislation.

Furthermore, Congress exercises purview over the Public Ministry by appointing its director, the attorney general. Although lacking cabinet status, the attorney general is an important official with broad powers of intervention in the nation's political processes.

The *National Council of Economic and Social Policy* (*CONPES – Consejo Nacional de Política Económica y Social*) was instituted by Law 19 of 1958. The CONPES is a "super-organ" of the Government. Its weekly meetings are chaired by the President of the Republic and attended by the Ministers in charge of Foreign Affairs, External Trade, the Treasury, Development, Labour and Public Works. The head of the National Planning Department also attends the session serving as the Secretary, along with the director of the National Bank. Other Ministers and civil servants can attend by invitation of the President.

The CONPES is the highest national planning authority and serves as the fundamental advisory body to the government on all aspects related to the economic and social development of the country by studying and adopting documents which propose guidelines and orientations for the development of general policies, which are drafted by the National Planning Department acting as the CONPES Secretariat and presented in session for discussion and adoption.

4.8.3 Approach to Climate Change

In 2000 the Environment, Housing and Territorial Development Ministry (MAVDT) coordinated the preparation of a *National Strategy Study for the Implementation of the Clean Development Mechanism* in order to evaluate Colombia's potential in the new market, to identify the capacity shortages and solutions and to promote the potential benefits.

Colombia submitted its first National Communication to the UNFCCC in 2001, prepared by the Institute of Hydrology, Meteorology and Environmental Studies of Colombia (Instituto de Hidrología, Meteorología y Estudios Ambientales de Colombia – IDEAM), presenting the first analysis of possible adaptation measures and the national GHG emissions inventory for 1990 and 1994. 84% of Colombia's electricity is generated by hydropower, which explains why its power sector is not

among Colombia's 7 largest GHG emitters. Beef cattle husbandry is the biggest emitter, with a 25% share of the total, followed by the transport sector (11%) and deforestation (9%).

According to the guidelines for climate change policy and the *National Development Plan 2002–2006* (*Plan Nacional de Desarrollo 2002–2006*) of the National Planning Department, which set targets for reduction of GHG emissions, an institutional strategy was established for the sale of environmental services derived from mitigation of climate change (CONPES 3242), to encourage greater participation by Colombia in the Clean Development Mechanism (CDM) and establish the generation of an institutional framework required for the development of emission reduction activities.

In 2002 the MAVDT and the National Planning Department developed the Guidelines for Climate Change Policy proposing mitigation and adaptation strategies. The Colombian Office for Climate Change Mitigation was set up in the same year as the body in charge of promoting CDM projects in Colombia. In 2003 the CONPES document 3242 "National Strategy for the sale of mitigation environmental services" introducing guidelines for the development of CDM projects as national mitigation measures was adopted.

Energy, transport, forestry, LULUFC: early measures

The National Development Plan 2002–2006 established a number of mitigation actions, including: the development of a national project for GHG capture, with a target to reduce 200,000 tonnes of CO_2; participation in the carbon market, via CDM, with a final target of a reduction of 1,000,000 tonnes of CO_2 equivalent for the energy sector; the promotion of less contaminating mass transit, with reductions of 800,000 tonnes of CO_2 equivalent; and a project to take advantage of methane in waste infills, with a reduction of 10,000 tonnes of CO_2 equivalent.

Four mitigation projects were approved for the energy sector with an estimated reduction of 233,000 tonnes of CO_2 equivalent. A project was approved in the transport sector with potential mitigation of 246,563 tonnes of CO_2 equivalent per year. These projects generated some 872,655 certificates, and income of circa US$3 million, or 1,123,000 tonnes in CO_2 equivalent of CER if the forestry project is included with approximate earnings of US$4.5 millions more.

Mitigation policies in the energy sector include provisions of the National Energy Plan 2006–2025, the programme for Rational Energy Use and Non-Conventional Energy Sources, the programme for rational energy use and other forms of nonconventional energy (2001 and 2003); subprogrammes for non-interconnected zones (2005), and the Methane Market Programme, with US-EPA.

In the oil sector, Ecopetrol structured a mitigation strategy under a collaboration agreement with the Inter-American Development Bank in 2008. The action identified 38 initiatives for mitigation in production, transport and refining, with a potential of some 2,000,000 tonnes of CO_2 equivalent/year, focusing on the exploitation of gas, fuel substitution, the generation of electricity with less GHG-intensive technologies and fuels, and energy efficiency.

Integrated mass transit systems are currently under construction or in operation in Bogotá, Soacha, Barranquilla, Cali, Cartagena, Medellín (Valle de Aburra) and Pereira (Dos Quebradas), with an average potential reduction of around 810,726 tonnes of CO_2 equivalent per year. According to the monitoring report for Phases 2 and 4 of the Transmilenio mass transit system in Bogotá, GHG reductions of 128,905 tonnes of CO_2 equivalent were generated during 2006 and 2007.

The government designed a National Forestry Development plan in 2000. A working plan was set up for mitigation in the forestry sector. Actions proposed included the definition of areas with potential for the execution of mitigation forestry projects, based on the definition of forests in the context of CDMs; the establishment of principles, requirements and criteria for the approval of CDM forestry projects; and the preliminary formulation of a National CDM Forestry Project, with potential for reduction of emissions of 26 million tonnes of CO_2 equivalent in 25 years.

During the period 2002–2008, MAVDT encouraged the introduction of 151,801 ha of protective reforestation, to support the integral management of water resources with a potential for reducing emissions of up to 13,175,937 tonnes of CO_2 equivalent in 20 years. For its part, the Ministry of Agriculture and Rural Development (MADR) promoted the commercial reforestation with the planting of 260,287 ha.

Further, the Forest Warden Families programme of the Office of the President engaged 88,488 families in mitigation activities, protects 282,588 ha of woodland, scrub and pàramo, and made it possible to recover 53,477 ha. There are 49,845 families with legal planted crops over 87,748 ha, who have been engaged in production projects.

MAVDT and IDEAM drew up a plan for “Scientific and technical institutional training to support REDD projects” developed over two years by IDEAM with the support of Fundación Natura, as a result of a donation from the Gordon and Betty Moore Foundation, in order to develop sub-national and national procedures for the processing of images to monitor deforestation, estimate carbon levels in woodlands and other vegetal cover and monitor biomass. The project produced a preliminary quantification of the rate of deforestation for the period 2000–2007.

Environmental management in *agriculture* uses two instruments which bring together measures relating to the mitigation of climate change. The interministerial environmental agenda, involving MAVDT and MADR, set lines of action which integrate mitigation measures such as 1) conservation and sustainable use of environmental goods and services such as climate regulation and water supply, strategic systems and agro-biodiversity, management of climate change, mitigation services and support for CDM, and 2) Environmental sustainability in national production, which seeks to develop management aspects in all alternative systems for sustainable farm production and the development of ecological production, environmental management for farm production and encouragement for the efficient use of soil and irrigation.

The environmental strategic plan for the farming sector (PEASA) encourages integral management of natural resources, to bring sustainability to environmental goods and services supporting production and strengthen the sector's capacity to face the challenges implicit in a threat to the productive base, such as desertification and climate change. PEASA contains activities for emission reductions, such as the development of productive systems with schemes for 1) agro-forestry and woodland-pasture systems, 2) integral management of the soil, 3) good agricultural practices (GAP), 4) ecological agriculture, 5) precision agriculture (evaluation of inputs required per unit of producing soil), and 6) vegetal germplasm banks for plants, cattle and microorganisms. There is a strategic plan for Colombian cattle-breeding (FEDEGAN, 2006), which is concerned with a range of targets which are articulated to mitigation.

The MADR has designed a research strategy linked to productive chains, called "Agriculture and climate change", financing programs and projects in research, and technological development and innovation within the farming sector, by production chains. The research programmes proposed develop and evaluate a range of technologies for mitigation in four themes: evaluation of levels of removal or capture of carbon dioxide, with different production systems, options in soil management, measures and technologies for cattle production, and evaluation of the impact of climate change on farming, fisheries and forestry production.

Two cattle raising projects, with support of GEF and the World Bank, seek to implement silvo-pastoral systems (SPS) in the sector, with a series of good management practices, to achieve profitable reduction of GHG emissions and to reduce vulnerability to climate change: the project for Integrated Silvo-pastoral Focus in Ecosystem Management, completed in 2008, and the "*Colombia mainstreaming sustainable cattle ranching project*".

The *National Development Plan 2006–2010* ratified by Law 1151 of 2007 acknowledged the need to provide support to the current portfolio of CDM projects, in order to strengthen the offer of environmental goods and services, and to promote options for the reduction of GHG emissions. In the component for biodiversity conservation, the Plan proposed development of a policy document to define and regulate the national system of protected areas (SInap), instruments of financial sustainability, and an expansion of an additional 200,000 ha. Further, it established the need to develop plans for land-use regulation and management of 2,000,000 ha of natural forest. The following new protected areas have been created since 2006: Serranía de los Churumbelos Auka Wasi Nature Park, Doña Juana Vascabel Volcanic Complex, Yaigoje-Apaporis Nature Park and the Orito-Ingi Ande Medicinal Plant Sanctuary.

Resolutions 2733 and 2734 of 29 December 2010 develop the regulatory framework for CDM mitigation programmes of activities and projects by defining the requirements and evidence of contribution to the sustainable development of the country and establishing the procedure for the national adoption of programmes of activities and projects under the CDM and regulating the authorisation of coordinating bodies.

The *National Development Plan 2010–2014* (Plan Nacional de Desarrollo 2010–2014) was ratified by Law 1450 of 16 June 2011, including provisions for comprehensive, cross-sectoral climate programmes and measures which have been developed in a Low-Carbon Development Strategy, a National Plan for Climate Change Adaptation and a National Strategy for REDD+ to be delivered under the coordination of the newly created National Climate Change System.

Colombia has ratified multilateral alliances giving priority to CDM as an instrument for effective mitigation. Among the most important are those with the World Bank Prototype Carbon Fund, the CAF Latin American programme for carbon and alternative energy; the Memorandum of Understanding with the government of the Netherlands (2002–2012) and that with the Government of France (2003–2012).

Institutional and administrative developments

CONPES Document 3700 Institutional Strategy for the Articulation of Climate Change Policies and Actions in Colombia (Estrategia Institucional para la Articulación de Políticas y Acciones en Materia de Cambio Climático en Colombia) of 14 July 2011 proposed an institutional and administrative strategy for the

articulation of climate change policies and actions consisting of the creation of a *National Climate Change System* (Sistema Nacional de Cambio Climático) led by the National Planning Department (DNP). The National System for Climate Change will coordinate 10 ministries at the political level, with an Executive Committee composed of all ministers. The System will be thus composed of an Executive Climate Change Commission (COMECC), a Committee for Financial Management, an Orientation Group, a Consultative Group for Permanent Sub-committees related to the sector and territorial issues, as well as international affairs, and knowledge production and analytical work. It will also be possible to set up ad hoc sub-committees and inter-institutional working groups for specific themes or whenever necessary.

The National Climate Change System will help coordinate and align all the institutional actors whose involvement is required for the implementation of the climate change actions prioritised by the government: the National Climate Change Adaptation Plan (PNACC) and the Colombian Low-Carbon Development Strategy (ECDBC) y ENREDD+ will guide the development of new initiatives.

Mitigation actions in Colombia are coordinated by the *Mitigation Group for Climate Change in the Ministry of Environment, Housing and Tourism (MAVDT)*, as a specific institutional instance which concentrates and articulates action taken by various production sectors. One of the objectives of the Climate Change Mitigation Group of MADVT is the promotion of development of high quality CMD projects. Up to December 2009, the Group's activities had enabled a national portfolio of 144 projects to be consolidated, 49 of them with approval at national level by direct request of the proposals, 20 being registered with UNFCCC, and six with CER.

The distribution of these projects by sectors is: energy (31.25%), transport (8.3%), forestry (11.8%), industry (31.25%) and waste (17.36%). The annual potential for the GHG emission reductions in CDM projects which are part of the national portfolio is approximately 16,402,496 tonnes of CO_2 equivalent, which could generate potential income for Colombia of some US$152 million.

Future low-carbon development

The *Colombian Low-Carbon Development Strategy* (*Estrategia Colombiana de Desarrollo Bajo en Carbono – ECDBC*) was launched in February 2012 as a tool to deliver the objectives of the National Development Plan 2011–2014 and the CONPES Document on Climate Change by promoting efficient low-carbon growth. It foresees the identification of a GHG emissions baseline and the formulation and

implementation of low-carbon development plans for the sectors of energy, mining, agriculture, transport, industry, waste and construction. On the basis of these results appropriate NAMAs and projects will be put in place. With the support of the EU, the UK Embassy to Colombia and the Children Investment Fund Foundation, UNDP will contribute to the implementation of the strategy by providing information for the development of the sectoral emissions baselines and cost-effective sectoral action plans and public policies. It will also strengthen the capacity of the sectoral ministries to integrate low-carbon aspects into their activities.

Adaptation

The *National Plan for Climate Change Adaptation* (*Plan Nacional de Adaptación al Cambio Climático, PNACC*) was launched on 31 August 2012. Its objectives are to increase knowledge of the potential risks and opportunities associated with climate change and climate variability, to incorporate climate risk management in territorial and sectoral planning and to mitigate the climate change vulnerability of ecological and socio-economic systems.

National strategy for REDD+

The process towards the adoption of a National Strategy for REDD+ started in 2009 with the constitution of a national REDD Platform (Mesa REDD) in 2009 as a space for dialogue between the Colombian Government, the private sector and the civil society including local communities as an initiative supported by WWF, Fundación Natura, The Nature Conservancy (TNC), Conservación Internacional Colombia (CI) and USAID through its MIDAS Programme and Corporación Ecoversa.

Colombia is currently developing a *National Strategy for REDD+* (*Estrategia Nacional REDD+*, or ENREDD+ as per its Spanish acronym) as one of the climate-related actions foreseen in the Colombian National Development Plan 2010–2014. The estimated duration of the ENREDD+ preparation process is two to three years. Implementation of the Strategy will follow immediately.

Between 2010 and 2011 the Colombian government developed a Proposal for the Preparation of a National Strategy for the Reduction of Emissions of Deforestation and Forest Degradation (R-PP) as part of the preparatory work to develop REDD+ activities, which also include actions developed through the World Bank's Partnership Fund for Forest Carbon (FCPF), the REDD+ Programme, international cooperation and the national budget. The R-PP was developed through a public dialogue structured in 20 events which gathered 280 organisations and 700 people

from indigenous, afro-colombian, peasant and civil society organisations, the industry sector, regional authorities, ministries and the office of the Colombian Ombudsman.

The R-PP describes the social, economic and environmental aspects of forests and climate change in Colombia; lists the studies and consultations needed to prepare Colombia for a future REDD+ mechanism; and reflects the development of the process and the contributions of the different interest groups partaking in the preparation of the ENREDD+. The R-PP has six components: organisation and consultation; preparation of the strategy; development of a reference level; design of a monitoring system; schedule and budget; and design of a program-monitoring and evaluation framework.

At national level preparatory actions focus on the design and implementation of a forest cover monitoring and reporting system and on the creation of the institutional instructions required for the development of the strategy. At regional level preparatory actions focus on identifying the measures needed to achieve economic and social development with the lowest possible impact on forests, as a result of the dialogue with the industry sector and communities and local, regional and national authorities in each of the five eco-regions of Colombia (Amazonía, Pacífico, Andina, Caribe y Orinoquía). This regional approach is a key feature of the Colombian process and stems from the diversity of ecological and economic conditions such as the distribution of forests and the different pressure factors on these. The corresponding five regional workshops were organised by the Ministry for the Environment, WWF, COICA and OPIAC with the financial support of the World Bank's Programme for Capacity Building for Forest-Dependent Peoples in REDD. At local level preparatory actions focus on the promotion of early implementation projects to allow stakeholders to "learn by doing" in terms of technical, legal, institutional and local governance issues, in compliance with national and international rules as regards rights of communities and their territories and the conservation of natural resources under fair negotiation conditions, and supported by voluntary carbon markets and Funds.

The R-PP was submitted to the FCPF in October 2011, which granted the donation of US$3.6 million to support the Colombian REDD+ readiness process. The WB is currently following the due diligence process with the aim to sign the donation agreement and to continue providing technical assistance to the process.

Parallel to the preparation of the ENREDD+, Colombia is implementing a series of demonstration activities and projects for the REDD+ Voluntary Carbon Market, such as the project "Institutional, Technical and Scientific Capacity for the Implementation of REDD+" by IDEAM and Fundación Natura financed by the Gordon and Betty Moore Foundation; the project "Preparation of a Voluntary GHG Mitigation Mechanism for Colombia" by the Environment Ministry, Fundación Natura, the Colombian Business Council for Sustainable Development (CECODES), and the Colombian Exchange, financed by GEF; as well as REDD pilot projects such as San Nicolás Agroforestry which is establishing forestry and agroforestry systems on 1,100 ha of abandoned pastures with the support of the World Bank's Forest Carbon Partnership Fund.

Colombia: Flagship Legislation

Name of law	**Law No. 1450 of 2011 (16 June) by which the National Development Plan 2010–2014 is issued (Ley No. 1450 de 2011 – Por la cual se expide el Plan Nacional de Desarrollo, 2010–2014)**							
Date of entry into force	16 June 2011							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×	×	×		×	×
Driver for implementation	Economic and social development and climate change							
Summary of bill	Chapter VI addresses environmental sustainability and risk prevention as one of the bases of the plan, and it foresees the implementation of a National Climate Change Policy, the design of a National Climate Change System, the identification and prioritisation of climate change adaptation measures in the framework of a National Adaptation Plan, the strengthening of data generation for sectoral and territorial vulnerability analysis, the design of a low-carbon development strategy including emission reductions from avoided deforestation and the identification of commercial barriers associated with carbon footprint standards and labelling schemes.							
Targets	None specified							

Colombia: Other Relevant Legislation

Name of law	**National Plan for Climate Change Adaptation (Plan Nacional de Adaptación al Cambio Climático, PNACC)**							
Date of entry into force	31 August 2012							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
						×	×	×
Driver for implementation	Climate change							
Summary of bill	The National Plan for Climate Change Adaptation's objectives are to increase knowledge of the potential risks and opportunities associated with climate change and climate variability, to incorporate climate risk management in territorial and sectoral planning and to mitigate the climate change vulnerability of ecological and socio-economic systems.							
Targets	None specified							

Name of law	**Colombian Low-Carbon Development Strategy (Estrategia Colombiana de Desarrollo Bajo en Carbono)**							
Date of entry into force	2012							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×		×	×		×	×
Driver for implementation	Climate change							
Summary of bill	The *Colombian Low-Carbon Development Strategy* (*Estrategia Colombiana de Desarrollo Bajo en Carbono – ECDBC*) was launched in February 2012 as a tool to deliver the objectives of the National Development Plan 2011–2014 and the CONPES Document on Climate Change by promoting efficient low-carbon growth. It foresees the identification of a GHG emissions baseline and the formulation and implementation of low-carbon development plans for the sectors of energy, mining, agriculture, transport, industry, waste and construction. On the basis of these results appropriate NAMAs and projects will be put in place. With the support of the EU, the UK Embassy to Colombia and the Children Investment Fund Foundation, UNDP will contribute to the implementation of the Strategy by providing information for the development of the sectoral emissions baselines and of cost-effective sectoral action plans and public policies. It will also strengthen the capacity of the sectoral ministries to integrate low-carbon aspects into their activities.							

	Colombia's LCDS seeks to explore ways in which Colombia can contribute to the challenge of mitigating global climate change, while adapting to the impacts of changing climatic conditions domestically. Notwithstanding the broader goals of mitigating and adapting to climate change impacts, Colombia sees potential co-benefits in terms of the LCDS contributing to economic, social and environmental goals. For instance, in terms of economic competitiveness it sees potential gains by increasing energy efficiency and hence production costs. Planning documents publicly available on the LCDS from May 2012 refer to the development of working groups to examine the potential mitigation and adaptation benefits in each sector of the economy, in addition to production of sector-specific abatement curves for Colombia. However, at the time of writing the Colombian government website which hosted the LCDS documents (and hence the documents themselves) was not available, and so this summary necessarily had to be written with little primary information as to the contents of the Strategy.
Targets	None specified

Name of law	**Resolution 18-0919 of the Ministry of Mines and Energy Adopting the Indicative Action Plan 2010–2015 to develop the Programme for a Rational and Efficient use of Energy and of other Non-Conventional Energy Sources (Resolución 18 0919 del 1° de junio de 2010 por la cual se adopta el Plan de Acción indicativo 2010 –2015 para desarrollar el Programa de Uso Racional y Eficiente de la Energía y demís Fuentes no Convencionales de Energía [PROURE])**							
Date of entry into force	1 June 2010							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×					×
Driver for implementation	Energy self-sufficiency, climate change							
Summary of bill	The Plan introduces energy efficiency sectoral sub-programmes for residential sector (phase out of incandescent bulbs, introduction of energy-efficient stoves, low-energy housing construction), industry (optimisation of energy use in cold chains, boilers, lighting, combustion processes, cogeneration), commercial/public (promotion and implementation of best practices in refrigeration, lighting, building stock retrofit and low-energy new building) and transport (modernisation of fleets, best practices, modal shift). The Plan also introduces provisions for the expansion of non-conventional renewable energies (FNCEs by their Spanish acronym) differentiating between zones connected to the national power grid and zones not connected. The Plan is to be carried out by the Inter-sectoral Commission for the Rational and Efficient Use of Energy and of Non-Conventional Sources of Energy (CIURE).							
Targets	The Plan introduces differentiated sectoral energy saving targets for 2015: housing (9.21%), industry (3.68%), commercial/public (2.66%) and transport (1.29%). The targets for FCNEs for connected areas are of 3.5% in 2015 and 6.5% in 2020 and of 20% for 2015 and 30% by 2020 for non-connected areas. The targets will be subject to annual revisions and adjustments.							

Name of law	**National Energy Plan 2006–2025 (Plan Energético Nacional [PEN] 2006–2025)**							
Date of entry into force	10 October 2006							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×		×		×	×
Driver for implementation	Economic and social development and climate change							
Summary of bill	The Plan establishes a series of long-term strategies and recommendations to inform decision-makers and orientate the formulation of energy supply policies adequate to face global productivity and competitiveness conditions. It includes an analysis of Colombia's current energy needs and scenario for the evolution of the energy needs of the country and its supply alternatives as well as the possibilities for energy supply integration at regional and international levels. The document proposes the analysis of specific long-term projects including the construction of a refinery on the Pacific, the regasification of natural gas in the north and an increase in exports of value-added oil and coal-based products. The document defines five principal objectives, the main of which is to maximise the energy sector's contribution to the sustainable development of the country. The objectives include the following: using resources to meet national demand while preserving the energy sector's long-term sustainability; consolidating regional energy integration; increasing vertical integration in the country's energy market; developing price structures to guarantee market competitiveness; and maximising coverage and access to energy throughout the country. Five horizontal elements fundamental for the attainment of these objectives are also analysed : • non-conventional energy sources and rational use of energy • environmental and public health protection • science and technology • institutional and regulatory framework • information, promotion and capacity-building The government's goals on energy policy include the promotion of the energy sources with the highest potential in the country and especially renewables on the basis of their environmental benefits, full development of Colombia's natural potential for the production of biofuels taking into consideration evaluations of technical, economic and environmental feasibility for domestic and foreign markets and institutional reforms to increase energy efficiency in the energy sector such as the proposed Office for the management and development of biofuels.							
Targets	None specified							

Name of law	**Decree 3683 of 2003 Regulating the Rational and Efficient Use of Energy as per Law 697 of 2001 and Creating an Inter-sectoral Commission (Decreto 3683 de 2003: Por el cual se reglamenta la ley 697 de 2001 y se crea una Comisión intersectorial)**							
Date of entry into force	19 December 2003							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×				×	×
Driver for implementation	Energy self-sufficiency, climate change, economic development							
Summary of bill	The Rational and Efficient use of Energy and the Use of other Non-Conventional Energy Sources is declared as a public interest issue and as a national priority to ensure energy supply, competitiveness and environmental protection. The State is mandated to establish the legal, technical, economic and financial framework needed for the development and application of the law and the development of short-, medium- and long-term projects. The Ministry of Mining and Energy is responsible for the promotion, organisation, facilitation and monitoring of energy efficiency and renewables programmes under the PROURE Programme to be gradually expanded to cover all the energy chain. Special obligations are foreseen for public service companies. The Government shall support energy efficiency and renewables research and development programmes. Companies importing or producing spare parts, boilers, solar panels, biogas generators, wind turbines and any other technology or product using renewable energy sources or allowing energy savings will benefit from incentives.							
Targets	None specified							

Name of law	**Law 788/2002 by which national and territorial tax and penal norms are adopted (Ley 788 por la cual se expiden normas en materia tributaria y penal del orden nacional y territorial)**							
Date of entry into force	27 December 2002							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×					
Driver for implementation	Energy self-sufficiency, climate change							
Summary of bill	The comprehensive tax reform introduces several provisions in support of the development of renewable sources of energy. The sale of electricity from wind energy, biomass or agricultural waste is to be exempted from income tax for 15 years, as long as the following criteria are satisfied: participation in CO_2-permit trading in accordance with the Kyoto Protocol, and reinvestment of at least 50% of revenues from the sale of permits in social projects situated within the area served by the utility. In addition, it was established that the importation of machinery and equipment for the project which generate GHG reduction certificates will be exempt from sales tax (IVA), both on the product and on related services.							
Targets	None specified							

Name of law	**Law 697* of 2001 Promoting the Rational and Efficient use of Energy and the Use of other Non-Conventional Energy Sources (Ley 697 de 2001: Mediante el cual se fomenta el uso racional de energía, se promueve la utilización de energías alternativas)** *regulated by Decree 3683 of 2003 and Decree 2688 of 2008, further regulated by Decree 2331 of 2007 and Decree 895 of 2008 phasing out incandescent lighting, Decree 2501 of 2007 on energy use of energy-transforming and energy-using products; Decree 3450 of 2008, Resolution 180540 of 2010, Resolution 182544 of 2010 and Resolution 180173 de 2011 banning the commercialisation of low-efficiency lighting and Resolution 180606 of 2008 on technical specifications for lighting in public buildings.
Date of entry into force	3 October 2001

Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×				×	×

Driver for implementation	Energy self-sufficiency, climate change, economic development
Summary of bill	The Rational and Efficient Use of Energy and the Use of other Non-Conventional Energy Sources is declared as a public interest issue and as a national priority to ensure energy supply, competitiveness and environmental protection. The State is mandated to establish the legal, technical, economic and financial framework needed for the development and application of the law and the development of short-, medium- and long-term projects. It is planned to set up a programme for the rational use of energy and the use of renewable forms of energy (Programa de Uso Racional y Eficiente de la Energía y demás formas de Energía No Convencionales – PROURE) under the auspices of the Ministry of Mining and Energy. It is also intended to develop political guidelines and strategies along with instruments to promote non-conventional energy sources, with the main emphasis being placed on regions that do not have access to electricity. Special obligations are foreseen for public service companies. The government shall support energy efficiency and renewables research and development programmes. Companies that manufacture or import components for use in exploiting renewable energy sources and energy efficiency are to receive special assistance. The Ministry of Mining and Energy is responsible for the promotion, organisation, facilitation and monitoring of energy efficiency and renewables programmes under the PROURE Programme to be gradually expanded to cover all the energy chain.
Targets	None specified

4.9 El Salvador

4.9.1 Fact Box

Greenhouse Gas emissions incl. LULUCF ($MtCO_2e$) excl. LULUCF ($MtCO_2e$) Change from base year (1990)	 16 12 NA
Latest reporting year	1994
Importance as an emitter	Below top 50
UNFCCC ratification status and date	Date of signature: 13 June 1992 Date of ratification: 4 December 1995 Date of entry into force: 3 March 1996
Kyoto Protocol ratification status and date	Date of signature: 8 June 1998 Date of ratification: 30 November 1998 Date of entry into force: 16 February 2005
2020 pledge	No pledge made
Flagship legislation	**National Environmental Policy**

4.9.2 Legislative Process

El Salvador has a unicameral legislative system organised in the form of a legislative Assembly ("Asamblea Legislativa") with 84 Deputies ("Deputados"). As established by the Constitution, the law-making process encompasses the legislative and the executive powers, but the right to initiate a legislative process is extended to numerous actors. As a general rule, Deputies and the President (acting through the Ministries) hold the responsibility to propose a piece of legislation; however, the Supreme Court of Justice can suggest laws directly related to the field of Justice. In addition, local Councils have a voice in laws that would address local taxations, whereas the Central American Parliament (Parlacen) can propose legislations regarding certain aspects of the integration process within Central America.

In all these cases, the law proposal must be submitted to the Assembly in the form of a Communication. The document is received by the Directive Board ("Junta Directiva") which schedules a formal presentation of the project to the Legislative. Following, the proposal is submitted for the approval of a legislative committee. The Committee drafts a law proposal and submits it to the Assembly, where it is voted upon. If approved by a simple majority of votes, the proposal becomes a law Decree. According to the Constitution, the Decree must be presented to the President within 10 days of its approval. Sanctioned by the President, the Decree is published at the Official Diary (Gazzette) and becomes a piece of law. In cases in which the President has observations or vetoes the Decree, the text is sent back to the Assembly. The Deputies then analyse the presidential comments and alter the law accordingly. In the case of presidential veto, the text is voted again by the Deputies, and, if approved by two-thirds of the Assembly, the law is ratified and sent again for presidential sanction. In the extreme circumstance in which the President still disagrees with the ratification and questions the constitutionality of the law, he/she can ask for the Supreme Court to deliberate on the matter, having the final say on the law.

4.9.3 Approach to Climate Change

Over the past years, El Salvador has made significant progress in terms of climate related policies/legislation. Increased concern with climate change partially spurred by the country's vulnerability to adverse climate events has resulted in the adoption of various policy instruments, with significant emphasis on adaptation and mitigation, but especially on risk management. Nonetheless, the most recent initiatives have been restricted to the Executive and were not converted into legislation. Furthermore, in the absence of a National Climate Change Policy/Plan,

El Salvador still lacks a broad and comprehensive policy framework on climate change. Nevertheless, the need for a general Climate Plan has been recognised by the government and suggested in several documents. Expectations are that such an instrument will be adopted in the near future.

Background

In May 2012 the government approved the National Environmental Policy, defining its general objective as "to reduce the process of environmental degradation and the vulnerability to climate change".

Moreover, the *2010–2014 Five-Year Development Plan* recognises the direct association between climate change and development, placing special emphasis on the negative impact of natural disasters for the economy. Thus, the Plan identifies as one of its priorities the efficient management of environmental risks, understood in terms of prevention of natural disasters in the form of an alert system, and the recovering of the infrastructure and means of production affected by past events. For this purpose, the Plan establishes the *Environment and Risks Reduction Policy*. The Plan also calls for the adoption of a *National Climate Change Plan* addressing issues of adaptation and mitigation, but this Plan remains to be established.

Adaptation and Mitigation

The *Integral Programme for Fiscal Sustainability and Climate Change Adaptation* focuses on reducing the country's natural and physical vulnerability to climate change. For this reason, the Programme aims at strengthening the conditions available to promote effective response measures to climate events in different aspects. Thus, the Programme suggests that the public policies addressing the issue of development should take into account four core elements: 1) macroeconomic stability; 2) fiscal sustainability; 3) strengthening of institutional capability; and 4) resilience and adaptation.

The *2005 Civil Protection, Disasters Prevention and Mitigation Law* provides further legal basis for initiatives on prevention and mitigation of natural disasters, creating the Civil Protection, Disasters Prevention and Mitigation National System.

As a long-term strategy to prepare society to deal with natural disasters, the Ministry of Education adopted the *2012–2022 Climate Change and Risk Management Educational Plan*. The main objective of the Plan is to increase the attention devoted to climate change and environmental issues by the educational system. For this purpose, the Plan aims to: 1) provide training on climate change related issues for educators; 2) support research on the topic; 3) develop social com-

munications mechanisms to enhance public awareness on climate change and risk management; 4) re-model the infrastructure planning of schools to reduce their vulnerability to climate events; and 5) ensure financial support to these initiatives.

In addition, focussing on adaptation, the Ministry for the Environment and Natural Resources launched the *National Ecosystem and Landscape Recovery Programme*, in May 2012. The main driver for the adoption of the instrument is the perception that environmental degradation increases the vulnerability to climate change.

The *2011–2015 National Food and Nutrition Policy* associates climate change with food security, and calls for the adoption of mitigation measures as an instrument to reduce the vulnerability of food production to these climate events. In a similar note, the document proposes the establishment of a national system of food storage to be employed in the case of emergency.

Energy policy

The *2010–2024 National Energy Policy* considers the need to address climate change when defining policies in the sector. In this light, the document proposed a set of actions on energy efficiency, promoting the reduction of the use of fossil fuels as sources of energy for industry, transport and households. Furthermore, the policy points to the importance of fostering the development of hydropower and geothermal energy, in addition to biofuels, in order to diversify the country's energy matrix, diminishing El Salvador's dependence on external energy supply.

Additionally, the proposal to promote further development of biofuel activities is supported by a 2007 legislation that adopts well-defined instruments to grant fiscal incentives to the sector, mostly translated into tax exemptions.

Forest management

The *2011–2030 National Forest Policy Proposal* acknowledges that the lack of political priority has been partially responsible for irregular deforestation practices that increased the country's vulnerability to the impact of climate change. Addressing this gap, the Policy intends to promote the recovery of around 15% of deforested areas. In addition, the Policy aims at modernising the forest sector, maximising the sustainable production of good and services, while at same time contributing to the diminishing of El Salvador's vulnerability to climate change.

Complementing this Policy, in early 2012, the Ministry for Agriculture and Livestock adopted the *Climate Change Mitigation and Adaptation National Strategy* for Agriculture, Livestock, Aquiculture and Forest sectors.

The *2002 Forest Law* provides the legal basis policy initiatives in this realm, its aims being to adopt provisions that allow the strengthening, management and the sustainable use of forest resources.

El Salvador: Flagship Legislation

Name of law	**National Environmental Policy**							
Date of entry into force	30 May 2012							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×			×	×	×
Driver for implementation	Climate change and environmental sustainability							
Summary of bill	The National Environmental Policy, passed as a government decree by the council of ministers, offers an ambitious framework through which the government will respond to climate change and environmental degradation. The general objective of the Policy is to reverse environmental degradation and reduce vulnerability to climate change. The structure of the policy follows six lines of action that will be prioritised by the national government: • restoration of damaged ecosystems and landscapes • integral environmental sanitation • integrated management of water resources • integration of environmental policy and priorities into the general governance of the national territory • environmental responsibilities and compliance • adaptation and risk reduction in relation to climate change One of the major mandates of the policy is that each ministry must incorporate environmental concerns into their own policies and participate in an inter-ministerial environmental council coordinated by the Ministry of Environment and Natural Resources. This council will assist in the creation of an "action plan" that will lay out implementation plans for the tasks and responsibilities explicated in the National Environmental Policy corresponding to each of the lines of action listed above.							

	In relation to climate change, adaptation is specifically prioritised along with reduction of environmental risks. The Policy calls for the development of a National Adaptation Plan. The Adaptation Plan should include mechanisms to monitor and evaluate climate change and the risks it poses; projects to improve water management, especially in relation to flooding during the rainy season and droughts during the dry season; incorporation of adaptation into urban planning and housing designs; evaluation of epidemiological monitoring and public health systems in relation to specific health risks caused by climate change; promotion of environmental concerns and climate change within the national education curriculum; promotion of renewable energy; funding priorities and plans to take advantage of international financing schemes.
Targets	None specified

El Salvador: Other Relevant Legislation

Name of law	**Fiscal Incentives for Increased Use of Renewable Energy in Electricity Generation Law**							
Date of entry into force	20 December 2007							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						×
Driver for implementation	Renewable energy							
Summary of bill	The Law sets out to foster investments on renewable energy, including hydroelectric, geothermal, wind, solar and biomass energy. For this purpose the law conceives a series of fiscal incentives for the development of new projects of electricity generation. Tax exemption can be claimed according to the volume of energy produced, varying from 5 to 10 years, depending on the nature of the tax. The Law also exempts investors from any sort of tax on revenues directly generated from activities related to Emission Trading Schemes (ETS), subject to a certification issued by the government. One of the eligibility criteria to apply for these tax exemptions is compliance with certification and registration norms of the Clean Development Mechanism, under the framework of the Kyoto Protocol. Breaches of law are subject to penalty. The Law defines institutional competences over implementation and compliance.							
Targets	None specified							

Name of law	**Civil Protection, Disasters Prevention and Mitigation Law**							
Date of entry into force	31 August 2005							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
								×
Driver for implementation	Mitigation							
Summary of bill	The Law aims at adopting mechanisms of prevention, mitigation and immediate response to natural and anthropogenic disasters, designating a public service of civil protection to operate in these eventualities. For this purpose, the Law creates the Civil Protection, Disasters Prevention and Mitigation National System. In addition to ensuring the implementation of the Law, the System is also in charge of ensuring the inclusion of provisions regarding risk management in development policies, as well as mapping areas of risk and raising public awareness on prevention and management of disasters.							
Targets	None specified							

Name of law	**Forest Act 2002**							
Date of entry into force	17 June 2002							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
				×				×
Driver for implementation	Forest management							
Summary of bill	The Law aims at regulating the management and sustainable use of forest resources and the development of forestry activities. The Law recognises all forests as national heritage and delegates the responsibility to protect and manage these areas to the State. Nevertheless, the law defines that every planted tree is a private property of the person who planted it (shifting from a more regulatory approach to private property adopted in the previous Forest Code). Article 1 call for the establishment of conditions to foment the engagement of the private sector in reforestation activities, subject to fiscal incentives established by the Law. Article 77 delegate competences over the establishment of market instruments to promote reforestation, taking into account the economic valuation of forest areas over the past years.							

	The law mandates the Ministry of Agriculture and livestock primary responsibility over the implementation of the Forest Code, and should, for that purpose: 1) create a "Forest Commission" composed by the government and representatives of the forest sector with the aim to promote industrial and technological development within the sector; 2) adopt policies that promote the productive use of forest resources; 3) manage national and international funds for activities addressing forest development and sustainable use of forest areas.
Targets	None specified

Name of law	**Environment Law 1998**							
Date of entry into force	4 March 1998							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
				×				×
Driver for implementation	Environment protection							
Summary of bill	The 1998 Environment Law sets out to further develop constitutional provisions regarding: 1) environment conservation and protection; sustainable use of natural resources aiming at improving the quality of life of the citizens; 2) regulation of public and private environment protection activities; 3) defining environmental protection as a legal obligation of the national and local governments shared with individuals; and 4) ensuring compliance with international agreements ratified by El Salvador. The Law delegates to the Ministry of Environment and Natural Resources the responsibility to draft and coordinate the execution of national plans addressing climate change and ozone layer protection. The Law adopts a series of criteria regulating land use, and the exploitation of natural resources, including forests, in addition to creating the Protected Areas System.							
Targets	None specified							

4.10 Ethiopia

4.10.1 Fact Box

Greenhouse Gas emissions incl. LULUCF ($MtCO_2e$) excl. LULUCF ($MtCO_2e$) Change from base year (1990)	 38 48 NA
Latest reporting year	1995
Importance as an emitter	Top 50
UNFCCC ratification status and date	Date of signature: 10 June 1992 Date of ratification: 05 April 1994 Date of entry into force: 04 July 1994
Kyoto Protocol ratification status and date	Date of ratification: 14 April 2005 Date of entry into force: 13 July 2005
2020 pledge	Actions in renewable and alternative energy; transportation, waste, agriculture, forestry and land sectors
Flagship legislation	**Climate-Resilient Green Economy (CRGE) Initiative**

4.10.2 Legislative Process

Ethiopia is a Federal parliamentary republic. It is formally a bicameral system – the Upper House known as the House of Federation (HOF) and the Lower House as the House of Peoples' Representatives (HPR). 550 Members of the HPR are elected every 5 years, with a minimum of 20 seats reserved by direction of the constitution for minority nationalities and peoples. The political party with most seats on the HPR will form and lead the executive branch. The HPR acts as the main legislative authority by issuing laws, called proclamations. The HPR nominates the candidate for President, who has more formal obligations than real-power ones. The HPR also ratifies international agreements and appoints federal judges.

The HOF serves as a representative house for nations, nationalities and people – each recognised ethnic-national group has one representative and an additional representative for every million of its population. Members of the HOF are elected by the State Councils in each regional state. The HOF does not have general legislative powers, but rather is dedicated to the interpretation of the constitution, issues of self-determination, disputes among states and distribution of federal and state revenues and federal subsidies among states.

In addition to the main form of legislation, i.e. HPR proclamations, the executive branch (Council of Ministers of the Federal Government and federal ministries) may issue decrees, regulations and directives according to a mandate issued by the HPR. Additionally, according to the constitution, international agreements ratified by the parliament are integral laws of the land.

4.10.3 Approach to Climate Change

In February 2011, the Ethiopian government finalised the "Climate-Resilient Green Economy" Green economy strategy – the first of its kind in Africa – under the leadership of the Prime Minister's Office, the Environmental Protection Authority and the Ethiopian Development Research Institute. The strategy seeks to "identify green economy opportunities that could help Ethiopia reach its ambitious growth targets while keeping greenhouse gas emissions low". The last few years have seen Ethiopia's real GDP growing at a double digit rate, with 11% *per annum* in 2005–2011. The CRGE initiative aims to preserve this trend, while freezing emissions at their 2010 level until 2030. The sections covering climate resilience were not published with the original CRGE document in September 2011.

The late Ethiopian president Meles Zenawi, who passed away in August 2012 after 21 years in power, had spearheaded efforts to fight climate change in Africa and to generate green growth in the country and in the region. Ethiopia's 1995 Constitution includes the principle of environmental rights, including the right to a clean and healthy environment and the principle of government responsibility to ensure this right. In 1997, the Environmental Protection Authority formulated the Environment Policy of Ethiopia, as part of a wider Conservation Strategy. The Environment Policy defines key guiding principles, including responsible and sustainable use of non-renewable and renewable sources. It defines policy guidelines (although no instruments) on atmospheric pollution and climate change; land use; forest, woodland and tree resources; biodiversity; water resources; and energy resources. Atmospheric pollution and climate change policies include: promoting a climate monitoring programme; acknowledging commitment to mitigate emissions, even at low or even insignificant levels of contribution to global emissions; actively participating in protecting the ozone layer as a means of reducing the vulnerability of the highlands of Ethiopia; and encouraging re-vegetation, monitoring grazing and rehabilitating degraded land to compensate for high biomass-fuel consumption.

Ethiopia is a non-Annex I member to the UNFCCC and the Kyoto Protocol, which it ratified in 2005. It has taken an active role in the Copenhagen climate negotiations, issuing on behalf of Africa and jointly with France an appeal to reach an ambitious accord, including among others halving global CO_2 emissions by 2050 compared to 1990 levels and full transparency of commitments, and adoption of a "fast-start" three-year fund of US$10 billion dedicated to adaptation and mitigation actions, including the fight against deforestation in developing countries, mainly the poor and vulnerable ones.

The Ethiopian Environmental Protection Authority was established under the Ministry of Natural Resources Development and Environmental Protection (MNRD&EP), in May 1994. In 2002 the EPA was re-established as an independent institution. The Ethiopian Electricity Agency, an autonomous federal government organ established in 1997 under the Electricity Proclamation, and later renamed as the Ethiopian Energy Agency, oversees Ethiopia's energy policy. After the ratification of UNFCCC, there has been capacity-building at the National Meteorological Services Agency (NMSA) – a climate change and air pollution research team, which aims to provide research guidance and directives on climate related issues.

Energy supply

Ethiopia's inadequate accessible energy sources struggle to meet increasing energy demand caused by a double digit growth in the economy in recent years. Only

about 5% of the energy demand is met by electric power (most of it hydro-electric), and the rest by wood-fuel, animal waste and human and animal power.

Ethiopia's Energy Policy was adopted in 1994, and focuses on research and development aimed at building technological capacity in the sector, and on transforming the energy sector from traditional sources (especially biomass) to modern ones, while conserving and protecting the environment. In January 2012 the Ministry of Water and Energy and the EPA finalised a draft Ethiopian Investment Plan for Scaling-Up Renewable Energy in Low Income Countries (SREP). The SREP is a targeted programme of the Strategic Climate Fund (SCF), which is one of two funds within the Climate Investment Funds (CIF) framework.

The Ministry of Water and Energy Resource has drafted a Feed-in-Tariff proclamation, which it presented to the cabinet in October 2011. The proclamation is expected to pass in the next few months. The draft opens the way for the private sector to contribute power to the national grid. The rates that are set in the draft are a minimum rate of US$0.08 per 100 kW of hydro-electric power and US$0.10 for 500 kW produced from wind power or biomass, decreasing with power input increase – paying US$5.50 for 25,000 kW to 40,000 kW of hydro-electric power and US$0.80 for 100 kW to 500 kW. The rates will be paid by the Ethiopian Electric and Power Corporation, which operates the grid.

In December 2011 Ethiopia ratified its membership in the International Renewable Energy Agency, by ratifying the Statute establishing the Agency at the HPR. Wendimu Gezahegn, an Ethiopian government official, explained that "…Ethiopia will benefit from technology transfer and capacity building… Ethiopia may develop its expertise in the area of renewable energy through experience sharing, policy debates, technology selection, and other incentive mechanisms that comes out of being a member of the Agency".

Adaptation

Ethiopia's Climate Change National Adaptation Programme of Action (NAPA) was finalised in June 2007 by the Ministry of Water Resources and the Meteorological service. The NAPA identifies high priority adaptation projects, for example, promoting drought/crop insurance programme; strengthening/enhancing drought and flood early warning systems in Ethiopia; community based sustainable utilisation and management of wet lands; Community Based Carbon Sequestration Project in the Rift Valley System; establishment of national research and development (R&D) centre for climate change; strengthening the malaria containment programme; and promotion of on farm and homestead forestry and agro-forestry practices in arid, semi-arid and dry-subhumid parts of Ethiopia. The NAPA was

updated and replaced in 2010 by the Ethiopian Programme of Adaptation to Climate Change (EPACC), identifying climate change related risks, and institutions in charge of mitigating these risks.

Ethiopia: Flagship Legislation

Name of law	**Climate-Resilient Green Economy (CRGE) Initiative**							
Date of entry into force	Finalised in September 2011							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×	×	×	×		
Driver for implementation	Green growth, sustainable development, vulnerability							
Summary of bill	The Climate-Resilient Green Economy (CRGE) initiative is a climate change focused national plan, headed by the office of the Prime Minister, targeting joint efforts of mitigation and adaptation, and setting a target of keeping emissions at their 2010 level by 2030. The CRGE's vision is achieving middle-income status by 2025 in a climate-resilient green economy, outlining four pillars: • Agriculture: Improving crop and livestock production practices for higher food security and farmer income while reducing emissions • Reducing emissions from *deforestation* by **p**rotecting and re-establishing forests for their economic and ecosystem services including as carbon stocks • Power: expanding electricity generation from *renewable energy* for domestic and regional markets • Transport, industrial sectors and buildings: Leapfrogging to modern and energy efficient technologies There are programmes to address the widespread of wood-fuel for domestic use, and replace it with less emitting and otherwise polluting fuels, such as biogas. Plans for the dissemination of 9 million stoves by 2015 and 34 million by 2030 are anticipated. The initiative establishes a national financial mechanism called the "CRGE Facility", the purpose of which is to mobilise, access, sequence and blend domestic and international, public and private sources of finance to support the institutional building and implementation of Ethiopia's CRGE strategy. The abatement cost for over 80% of the initiatives is estimated at under US$15 per tonne CO_2e.							
Targets	• Realising 25,000 MW of Ethiopia's generation potential by 2030 – hydro 22,000 MW, geothermal 1,000 MW and wind 2,000 MW. • Limiting 2030 emissions to 150 Mt CO_2e (level of 2010 emissions), approximately 250 Mt CO_2e less than in the business as usual scenario.							

Ethiopia: Other Relevant Legislation

Name of law	**Ethiopian Programme of Adaptation to Climate Change (EPACC)**							
Date of entry into force	2010							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
						×		
Driver for implementation	Adaptation/vulnerability							
Summary of bill	The EPACC calls for mainstreaming climate change into decision making on a national level, and emphasises planning and implementation monitoring. It identifies twenty climate change risks, mainly in the following areas: health risks (human and animal); agriculture production decline; land degradation; water shortages; biodiversity; waste; displacement; distributive justice. The EPACC also identifies institutions which are responsible for mitigating these risks. Specific adaptation objectives include: • Reducing impacts of droughts by cloud seeding to induce rain • Establishing building and construction codes that ensure structures withstand extreme weather events • Storing food and feed in good years for use in bad years • Ensuring transportation access to disaster prone areas • Developing insurance schemes for weather damage compensation • Organising local communities for quick response to extreme weather events • Preparing to cater for refugees driven away by climate change • Mapping and delineating areas likely to suffer from climate change and extreme weather events • Developing an accessible information network on climate change • Developing an early warning system to alert people of impending extreme weather events							
Targets	None specified							

Name of law	**The Growth and Transformation Plan (GTP)**							
Date of entry into force	2010							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×					×
Driver for implementation	Development							
Summary of bill	The GTP is the government's development plan for 2010–2015. Concerning energy, the Plan sets a few targets – generation of electricity from renewables for domestic use and export, expansion of transmission and distribution systems (which suffer from a high loss rate) and near-doubling the access to electricity. It states targets with regards to bio-fuels (ethanol and bio-diesel production and blending), minimising the gap between supply and demand. The GTP focuses on building institutional capacity nationally and in the regions, enhancing energy development and management capabilities and awareness. The electric power company is to undergo complete restructuring and regulation is to be developed and strengthened.							
Targets	• Generation of an additional 8,000 MW renewable energy • Increasing electricity customer base from 41% to 75% • Increasing bio-ethanol production to 194.9 million litres and bio-diesel usage to 1.6 billion litres • Increasing ethanol blending facilities to 8, and biodiesel to 72							

Name of law	**National Disaster Prevention and Preparedness Fund Establishment Proclamation**							
Date of entry into force	2000							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
						×		×
Driver for implementation	Adaptation							
Summary of bill	The proclamation establishes a disaster management fund, to maintain a readily available cash reserve to combat disasters, and to assist the implementation of Employment Generation Schemes (EGS) that would support the achievement of National Food Security.							
Targets	None specified							

Name of law	**Environment Policy of Ethiopia**							
Date of entry into force	1997							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×					×	
Driver for implementation	Sustainable development							
Summary of bill	The Policy's stated goal is to "improve and enhance the health and quality of life of all Ethiopians and to promote sustainable social and economic development through the sound management and use of natural, human-made and cultural resources and the environment as a whole…" This is done through several sectoral policies as well as some cross-sectoral policies. One of the sectoral policies specifically addresses the issue of climate change and atmospheric pollution, through: • Promoting a climate monitoring programme • acknowledging commitment to mitigate emissions, even at low or even insignificant levels of contribution to global emissions • actively participating in protecting the ozone layer, as a means to reduce vulnerability of the highlands of Ethiopia • encouraging re-vegetation, monitoring grazing and rehabilitating degraded land to compensate for high biomass-fuel consumption Other sectoral policies include: • Soil Husbandry and Sustainable Agriculture • Forest, Woodland and Tree Resources • Genetic, Species and Ecosystem Biodiversity • Energy Resource • Water Resources • Mineral Resources • Human Settlement, Urban Environment and Environmental Health • Control of Hazardous Materials and Pollution From Industrial Waste • Cultural and Natural Heritage							
Targets	None specified							

Name of law	**The Electricity Proclamation (No. 86-1997)**							
Date of entry into force	1997							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						×
Driver for implementation	Energy management							
Summary of bill	The proclamation establishes the Ethiopian Electricity Agency (EEA) as an autonomous federal government organ (later changed to Ethiopian Energy Agency). The Agency's mandate is regulating the operation of the energy sector on technical and economic issues – from standards, efficiency and reliability, to tariffs.							
Targets	None specified							

Name of law	**Disaster Prevention and Preparedness Commission Establishment Proclamation**							
Date of entry into force	1995, amended 2004 and 2008							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
						×		×
Driver for implementation	Adaptation							
Summary of bill	The proclamation establishes a federal commission to oversee the management of national human-made and natural disasters. Climate change is not mentioned specifically. The Commission was originally established as an autonomous public institution of the Federal Government, but later proclamations transferred its rights and obligations to the Ministry of Agriculture and Rural Development.							
Targets	None specified							

Name of law	**Ethiopia Energy Policy**							
Date of entry into force	1994							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×		×			×
Driver for implementation	Increasing energy supply							
Summary of bill	Ethiopia's Energy Policy aims to increase availability of reliable and affordable energy supplies and ensure their use in a rational and sustainable manner in order to support national development goals, mostly increasing *energy supply* to meet needs, among others by developing and utilising hydro-electric power, natural gas and oil explorations, and providing alternative energy sources for the household, industry, agriculture, transport and other sectors – naming coal as the main alternative to the popular biomass. It aims to introduce *energy conservation* and energy saving measures in all sectors. The plan also discusses community participation, with a focus on women, and the promoting of legal and *institutional* frameworks to deal with energy issues. *Transportation* is mentioned briefly, with the objective of introducing conservation measures to reduce fuel consumption.							
Targets	None specified							

4.11 European Union

4.11.1 Fact Box

Greenhouse Gas emissions incl. LULUCF ($MtCO_2e$) excl. LULUCF ($MtCO_2e$) Change from base year (1990)	 4409 4721 -862
Latest reporting year	2010
Importance as an emitter	Top 5[1]
UNFCCC ratification status and date	Date of signature: 13 June 1992 Date of ratification: 21 December 1993 Date of entry into force: 21 March 1994
Kyoto Protocol ratification status and date	Date of signature: 29 April 1998 Date of ratification: 31 May 2002 Date of entry into force: 16 February 2005
2020 pledge	20% from 1990 unilaterally; move to 30% as part of a global and comprehensive agreement for the period beyond 2012 and provided that other developed countries commit themselves to comparable emission reductions and that developing countries contribute adequately according to their responsibilities and respective capabilities
Flagship legislation	**Climate and Energy Package**

[1] The EU's emission ranking has been calculated as if it had been an individual country. Otherwise, EU member states have been ranked individually.

4.11.2 Legislative Process

Decision-making at the European Union (EU) level involves the European Commission (independent from national governments), the European Parliament (elected by EU citizens), and the Council of the European Union, which represents Member States. Most often, the European Commission proposes new legislation, but it is the Council and Parliament together that pass the laws.

The main forms of EU laws are directives and regulations. Adopted by the Council in conjunction with the European Parliament or by the Commission alone, a "regulation" is a general measure that is binding in all its parts, is directly applicable in the Member States and is addressed to everyone. Adopted by the Council in conjunction with the European Parliament or by the Commission alone, a "directive" is addressed to the Member States. It is binding as to the result to be achieved but leaves states the choice of the form and method they adopt to achieve it. The Commission is required to verify that Member States transpose correctly and in due time the different directives that have been adopted and can sanction them.

The Commission can also publish "Action Plans", "White Papers" and "Green Papers". A White Paper sets out the Commission's policy programme in a specific area. Before a White Paper is written, a Green Paper is published, which is a consultative document including suggestions and options for new policy. However, each single proposal for legislation announced in a White Paper or deriving from a policy initiative announced in it will be subject to one or more rounds of open consultation and impact assessment. They can thus be useful to identify future Commission proposals.

4.11.3 Approach to Climate Change

EU legislation on climate change has been characterised by a strategy of cooperation with the international community, compliance with the Kyoto Protocol and a will to maintain leadership in terms of ambitious targets and emission reduction mechanisms. This "international dimension" is illustrated by the decision to adopt a 30% emission reduction target below the 1990 level (instead of the 20% reduction target that is currently in place) provided that other industrialised nations commit themselves to comparable emission reductions and that "advanced developing countries" (i.e. China and India) also contribute under the framework of a post-2012 agreement.

Further to the European Council endorsement of the objective of reducing EU emissions of GHGs to 80–95% below 1990 levels by 2050, and since current policies are projected to reduce domestic emissions to -30% in 2030 and -40% in 2050, in March 2011 the European Commission adopted a *Roadmap for transforming the European Union into a competitive low carbon economy by 2050* describing a cost-effective pathway to reach the EU's objective of cutting GHG emissions by 80–95% of 1990 levels by 2050 and giving direction to sectoral policies for all economic sectors, national and regional low-carbon strategies and long-term investments.

The Roadmap recommended that Europe should achieve its target largely through domestic measures since by mid-century international credits to offset emissions will be less widely available and any credits used would increase the overall emissions reduction beyond 80%.

The economic modelling underlying the Roadmap showed that to achieve an 80% European "domestic" reduction by 2050, cuts of the order of 40% and 60% below 1990 levels should be achieved by 2030 and 2040, respectively. All sectors will need to contribute. It also showed that the most cost-efficient pathway to the 2050 target requires a 25% emissions cut in 2020, to be achieved through internal measures alone, rather than the current 20% reduction target. The Roadmap indicated that this 25% domestic cut could be reached in 2020 if the EU meets its 20% energy efficiency improvement goal and fully implements the Climate and Energy package of 2009.

The Roadmap estimated that over the next 40 years additional annual investment equivalent to 1.5% of EU GDP – or €270 billion (US$353 billion) – on top of overall current investment of 19% of GDP would be required. This proposed increase would return Europe to the investment levels seen before the economic crisis. Much or all of this extra investment would be recovered through lower import bills for oil and gas. These savings were estimated at €175–320 billion (US$228–418 billion) a year. This investment in clean technologies, infrastructure such as "smart" electricity grids and environmental protection would have multiple benefits in terms of reduced energy dependency and created domestic value-added, the development of new sources of growth and employment creation, as well as lower air quality-related health costs which could reach up to €88 billion (US$115 billion) a year by 2050.

The European Parliament expressed its support for the Roadmap in March 2012, but in June the Energy Ministers of the EU 27 Member States were unable to adopt unanimous conclusions on the Roadmap in Council owing to the opposition of

Poland. However, legislative progress along the lines laid down in the Roadmap is possible, as under the EU Lisbon Treaty climate policy decisions are taken by the qualified majority under environment policy legal base. Therefore the Commission is expected to continue developing specific 2050 sectoral roadmaps.

Carbon pricing

A key component of EU climate legislation is the "Emission Trading System" (ETS) that entered into force in 2005 (Directive 2003/87/EC) in order to help reach the targets agreed at Kyoto. This mechanism has been amended several times to extend it to new sectors (for example, aviation: Directive 2008/101/EC) or to new GHGs (petrochemicals, ammonia and aluminium, nitrous oxide and perfluorocarbons: Directive 2009/29/EC). In parallel, the EU has set up a Mechanism for monitoring GHG emissions (Decision 280/2004/EC) to enable more accurate and regular evaluation of the progress of emissions reduction.

The Commission published a proposal for a Regulation on a mechanism for monitoring and reporting GHG emissions and for reporting other information at national and Union level relevant to climate change in November 2011. The main objective of this Regulation is to help the Union and its Member States meet their national, Union and international commitments and goals and to further develop policy through transparent, accurate, consistent, comparable and complete reporting. It seeks to improve the availability of information for Union policy and decision-making and the coordination and consistency of Union and Member State reporting under the UNFCCC. This proposal provides the necessary accounting rigour to implement the annual compliance of the EU effort-sharing decision's linear trajectory and of international reporting, but also includes an obligation for the EU Member States to adopt low carbon development strategies for 2050, as well as harmonised reporting on the use of ETS auction revenues for climate and international climate finance.

In July 2012 the European Commission tabled a Proposal for a Decision amending Directive 2003/87/EC clarifying provisions on the timing of auctions of GHG allowances in order to address the growing surplus of allowances built up during the 2nd Phase of the ETS in the short term to improve the functioning of the market for adoption before the Phase 3 starts at the beginning of 2013. This technical amendment to the ETS Directive aims to clarify that the timing of auctions within a trading period may be changed, in exceptional circumstances, by the Commission through amending the Regulation on auctioning in order to ensure the orderly functioning of the carbon market. On 14 November 2012 the Commission presented a first report on the functioning of the European carbon

market setting out some steps that are needed to address the growing imbalance between supply and demand in the EU ETS. The report outlines a shortlist of six options for structural measures that could provide a sustainable solution to the surplus allowances in the longer term. The Commission is inviting stakeholders' views and will launch a formal consultation process.

On 28 August 2012 the Australian Minister for Climate Change and Energy Efficiency, the Hon Greg Combet MP, and the European Commissioner for Climate Action, Ms Connie Hedegaard, announced that Australia and Europe will be linking their emissions trading systems. This agreement should be adopted by the European Union and the Commonwealth of Australia by mid-2015 to facilitate the commencement of full linking no later than 1 July 2018. A full two-way link, by means of the mutual recognition of carbon units between the two cap-and-trade systems, will allow businesses to use carbon units from the Australian emissions trading scheme or the European Union Emissions Trading System (EU ETS) for compliance under either system.

Energy supply and emand

The EU's "flagship" climate change legislation is the "Climate and Energy Package (CARE package)" that entered into force in June 2009. The package illustrates the integrated approach of the EU and proposes binding legislation to implement the 20-20-20 targets: 20% emission reduction; 20% EU energy consumption from renewable *Climate Change Legislation European Union* energies; and 20% reduction in primary energy use compare with projected level through energy efficiency improvement. This ambitious package is based on an extension and revision of the ETS (Directive 2009/29/EC), an Effort-sharing Decision (Decision 406/2009/EC) between Member States taking into account respective capacities, national targets for renewable energy (Directive 2009/28/EC) as well as the promotion of carbon capture and storage (Directive 2009/31/EC).

These targets are to be achieved through several pieces of legislation promoting more "energy efficient" products and uses. They include the directive on energy performance of buildings (2002/91/EC), the legislation on the eco-design requirements for energy-using products (2005/32/EC) and the Biofuel Directive (2003/30/EC) which sets targets for Member States.

The EU has also put in place European certification schemes, subsidies and other incentive mechanisms at the community level to support the use of renewable energy (Directive 2001/77/EC; Directive 2009/28/EC).

The publication of a Commission Proposal for a Regulation on the Energy Labelling of Boilers is expected imminently as an implementing act under Eco-design Directive (combining minimum requirements for efficiency and labelling requirements). This proposal will cover the sector with the biggest potential for energy saving under the Eco-design instrument and it will be the first measure to complement the recently adopted Energy Efficiency Directive towards the EU energy saving target for 2020. *The combined Regulations on Eco-design and Energy Efficiency of Boilers are expected to bring an additional 2% of energy savings to add to the 15% expected from the implementation of the Energy Efficiency Directive. The non-published proposal which emerged from the Commission's Inter-Service Consultation foresees the introduction of a single label scheme for boilers placed on the EU market which will create an incentive mechanism for the uptake of the most efficient renewable energy systems and will allow clear differentiation between products on the EU market.*

In June 2011 the Commission published its *Proposals for the EU 2014–2020 Multi-Annual Financial Framework*. The proposed climate-related share of the future EU budget was significantly increased to include investment in projects with a significant climate component, in order to meet the Europe 2020 goals and to help countries worldwide step up their efforts to combat climate change. Climate mitigation and adaptation actions will be become a part of all the major EU programmes with a budget of €800 million (US$104 million). Infrastructure projects of common EU interest were granted €40 billion (US$52 million) of which €9.1 billion (US$11.9 billion) are earmarked for energy infrastructure projects. The reformed, greener Common Agricultural Policy, incorporating proposed climate objectives, would receive €386.9 billion (US$505.5 billion).

The European Parliament adopted a Resolution on the budgetary period 2014–2020 in June 2011 asking that the ensemble of all EU funding should lead to an improvement in the general state of the European environment. This includes a reduction in GHG emissions that at least corresponds to the objectives in the present EU legislation and proposes that positive and negative climate and environment effects of the spending of EU funds should be analysed on aggregated levels. The Multi-Annual Financial Framework was scheduled to be adopted before the end of 2012 but the complexity of the negotiations have meant that leaders will require more time to agree. A new round of talks is expected in early 2013.

In October 2011 the Commission published a draft *Regulation for an Energy Infrastructure Package for 2014–2020* for a value of €9.1 billion (US$11.9 billion). A number of projects of common EU interest and important for reaching its climate and energy goals will be eligible for EU co-financing via grants, project bonds or

guarantees (up to 50% of the costs for studies and works, and in exceptional circumstances up to 80%). This is the first time that the EU will co-finance the construction of large energy infrastructure from its regular budget. The projects should display economic, social and environmental viability and involve at least two Member States. Additional sector-specific criteria will ensure that projects notably strengthen security of supply, enable market integration, foster competition, ensure system flexibility and allow transmission of renewable generation to consumption centres and storage sites. An offshore grid to transport electricity produced by offshore wind parks to consumers in the big cities and innovative projects to store electricity would be examples of the kind of projects eligible. The Regulation is expected to come into force in 2013. This will leave enough time for the establishment of the first Union-wide list of projects of common interest, in view of their possible financing under the CEF, which will enter into force in 2014.

REDD+/LULUCF

Following the decision adopted at the UNFCCC COP 17 on revised accounting rules from soils and forests, in March 2012 the European Commission published a proposal for a *Decision on accounting rules and action plans on GHG emissions and removals resulting from activities related to land use, land use change and forestry*, taking a first step towards incorporating removals and emissions from forests and agriculture, the last major sectors without common EU-wide rules, into the EU's climate policy. Member States would be obliged to adopt action plans on how they will increase removals of carbon and decrease emissions of GHGs in forests and soils. The proposal does not include a commitment for national emission reduction targets for these sectors. This may come later once the accounting rules have proven robust.

This initiative follows the Commission's proposals for the *Reform of the EU Common Agricultural Policy (CAP) after 2013* published in October 2011. In line with the other Commission policy initiatives for the period after 2013, the proposed reformed CAP would integrate climate change mitigation and adaptation measures by introducing two Rural Development policy priorities for restoring, preserving and enhancing ecosystems and for resource efficiency and the fight against climate change, subject to ex-ante conditionality of compliance with EU policies, supporting the shift towards a low-carbon economy in all sectors and promoting climate change adaptation, risk prevention and management, such as the Energy Efficiency Directive, the Water Framework Directive and the Renewables Directive.

Transport

The transportation sector is also a key area where EU legislation attempts to reduce emissions and achieve energy efficiency. It has recently set emission performance standards for new passenger cars (Regulation [EC] No. 443/2009), new light commercial vehicles (Regulation [EC] No. 510/2011) and supports the research and development of clean vehicles (Directive 2009/33/EC).

In July 2012 the Commission put forward proposals to implement targets that will further considerably reduce carbon dioxide (CO2) emissions from new cars and light commercial vehicles (vans) by 2020. *T*he proposals cut average emissions from new cars to 95 grams of CO2 per km (g CO2/km) in 2020 from 135.7g in 2011 and a mandatory target of 130g in 2015. Emissions from vans will be reduced to 147g CO2/km in 2020 from 181.4g in 2010 (the latest year for which figures are available) and a mandatory target of 175g in 2017. The mandatory targets for 2020 are already envisaged in existing legislation but are subject to implementation. The Regulations proposed establish the modalities by which these targets would be achieved.

The European Commission's legislative proposal to address the indirect land-use change impacts (ILUC) of biofuels was published on 17 October 2012 to limit global land conversion for biofuel production, and raise the climate benefits of biofuels used in the EU. The use of food-based biofuels to meet the 10% renewable energy target of the Renewable Energy Directive will be limited to 5%. This is to stimulate the development of alternative, so-called second generation biofuels from non-food feedstock, like waste or straw, which emit substantially fewer GHGs than fossil fuels and do not directly interfere with global food production. For the first time, the estimated global land conversion impacts – Indirect Land Use Change (ILUC) – will be considered when assessing the GHG performance of biofuels.

With these new measures, the Commission wants to promote biofuels that help to achieve substantial emission cuts, do not directly compete with food and are more sustainable at the same time. While the current proposal does not affect the possibility for Member States to provide financial incentives for biofuels, the Commission considers that in the period after 2020 biofuels should only receive financial support if they lead to substantial GHG savings and are not produced from crops used for food and feed.

European Union: Flagship Legislation

Name of law	**The EU Climate and Energy Package (contains 3 directives and 1 decision; see below)**							
Date of entry into force	2009							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
	×	×	×	×	×			×
Driver for implementation	Climate change							
Summary of bill	In March 2007 the EU's leaders endorsed an integrated approach to climate and energy policy that aims to combat climate change and increase the EU's energy security while strengthening its competitiveness. In January 2008 the European Commission proposed binding legislation to implement the 20-20-20 targets. This "climate and energy package" was agreed by the European Parliament and Council in December 2008 and became law in June 2009. The core of the package comprises four pieces of complementary legislation.							
Targets	The 20-20-20 targets: a reduction in EU GHG emissions of at least 20% below 1990 levels by 2020; 20% of EU energy consumption to come from renewable resources; and a 20% reduction in primary energy use compared with projected levels, to be achieved by improving energy efficiency. The EU leaders also offered to increase the EU's emissions reduction to 30%, on condition that other major emitting countries in the developed and developing worlds commit to do their fair share under a global climate agreement. Member States will limit their GHG emissions between 2013 and 2020 according to a linear trajectory with binding annual targets. This will ensure a gradual move towards the 2020 targets in sectors where changes take time to implement, such as buildings, infrastructure and transport. To increase the cost-effectiveness of policies and measures, Member States are allowed to deviate from the linear trajectory to a certain degree.							

Name of law	**Improve and extend the greenhouse gas emission allowance trading scheme (Directive 2009/29/EC)** (amending Directive 2003/87/)							
Date of entry into force	2009							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
	×	×		×	×			×
Driver for implementation	Climate change							

Summary of bill	A revision and strengthening of the Emissions Trading System (EU ETS). A single EU-wide cap on emission allowances will apply from 2013 and will be cut annually, reducing the number of allowances available to businesses to 21% below the 2005 level in 2020. The free allocation of allowances will be progressively replaced by auctioning. From 2013 the power sector will be required to buy all emissions permits under a EU-wide auction (with some time-limited exceptions for newer member countries). From 1 January 2013 (phase III of EU ETS, 2013–2020), the revised ETS will incorporate new sectors; petrochemicals, ammonia and aluminium, nitrous oxide and perfluorocarbons. Smaller emitters (<25,000 tCO_2/year) may opt out of the EU ETS. One of the measures requires that by 31 December 2009 the Commission determines the sectors or sub-sectors deemed to be exposed to a significant risk of carbon leakage. According to the Directive, production from sectors deemed to be exposed to a significant risk of carbon leakage will receive relatively more free allowances than other sectors. In 2008 and 2009, the Commission held five stakeholder meetings on the subject of carbon leakage. The revised Directive also recognises that the competitive situation, and thus the risk of carbon leakage, may change unless there is an international climate change agreement. The Commission first consulted the stakeholders on the analytical report and its preliminary conclusions at an ad-hoc meeting of the European Climate Change Programme (ECCP) working group on emissions trading on 17 March 2010.
Targets	None specified

Name of law	**An "Effort Sharing Decision" (Decision No. 406/2009/EC)**							
Date of entry into force	2009							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×	×				
Driver for implementation	Climate change							
Summary of bill	It aims to reduce GHG emissions from sectors not included in the EU Emission Trading System (EU ETS) such as transport, buildings, agriculture and waste.							
Targets	The overall goal is 10% reduction of emissions from the non-ETS sectors in 2020 compared with 2005 levels. Under the Decision each Member State has agreed to a binding national emissions limitation target for 2020 that reflects its relative wealth. The targets range from an emissions reduction of 20% by the richest Member States, to an increase in emissions of 20% by the poorest. These national targets will cut the EU's overall emissions from the non-ETS sectors by 10% by 2020 compared with 2005 levels. Member States may transfer unused emission allocations to the following year or to other Member States and purchase a proportion of credits from third countries. The ETS and effort-sharing together produce the 20% emissions reductions by 2020 from 1990 levels.							

Name of law	**Promotion of the use of energy from renewable sources (Directive 2009/28/EC)**							
Date of entry into force	2009							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						
Driver for implementation	Renewable energy/climate change							
Summary of bill	Establishes a common framework for the production and promotion of energy from renewable sources. The Directive takes into account energy from biofuels and bio-liquids. The latter should contribute to a reduction of at least 35% of GHG emissions in order to be recognised. From 1 January 2017, their share in emissions savings should be increased to 50 %. Commission to assess the inclusion of emissions and removals related to land use, land use change and forestry (LULUCF) – anticipated to follow up on any international agreement on forestry and deforestation. Member States should build the necessary infrastructure for energy from renewable sources in the transport sector. The Member States are required to establish national action plans which set the share of energy from renewable sources consumed in transport, as well as in the production of electricity and heating, for 2020. These action plans must take into account the effects of other energy efficiency measures on final energy consumption (the higher the reduction in energy consumption, the less energy from renewable sources will be required to meet the target). These plans will also establish procedures for the reform of planning and pricing schemes and access to electricity networks, thereby promoting energy from renewable sources. The Directive requires Commission reporting from 2012 with an impact and implementation review in 2014.							
Targets	Binding national targets for renewable energy that collectively will lift the average renewable share across the EU to 20% by 2020. Each Member State can "exchange" an amount of energy from renewable sources using a statistical transfer, and set up joint projects. Under certain conditions it is also possible to establish cooperation with third countries. Each Member State has a mandatory national target for the overall share of renewable energy in gross final consumption of energy for 2020, divided across Member States based on existing scale of effort and GDP. The national targets range from a share of 10% in Malta to 49% in Sweden. There are rules for determining the trading or offsetting of target requirements both within Europe and with third countries. The share of energy from renewable sources in the transport sector must amount to at least 10% of final energy consumption in the sector by 2020.							

Name of law	**Geological storage of carbon dioxide (Directive 2009/31/EC)**							
Date of entry into force	2009							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
	×	×					×	
Driver for implementation	Climate change							
Summary of bill	The Directive establishes a legal framework for the environmentally safe geological storage of CO_2. It covers all CO_2 storage in geological formations in the EU, and lays down requirements covering the entire lifetime of a storage site. It implements a permit regime for exploration and storage, and selection criteria for storage sites. The Directive defines the relationship between carbon, capture and storage (CCS) and the EU ETS in terms of finance and also rules that CO_2 captured and stored will be considered as "not emitted". The key debate will be linked to finance of CCS both in terms of support from EU and national funds and recycling of revenues from the EU ETS. Money has been set aside to fund up to twelve CCS demonstration projects and innovative renewable energy technologies demonstration projects. In addition, the European Economic Recovery Programme allocated around €1 billion (US$1.3 billion) to fund six CCS demonstration projects. There are monitoring and reporting obligations, inspections, measures in case of irregularities and/or leakage and provision of financial security. Site selection is the crucial stage for ensuring the integrity of a project and the Directive lays down extensive requirements. A site can only be selected for use if a prior analysis shows that, under the proposed conditions of use, there is no significant risk of leakage or damage to human health or the environment. The operation of the site must be closely monitored and corrective measures taken in the case that leakage does occur. In addition, the Directive contains provisions on closure and post-closure obligations, and sets out criteria for the transfer of responsibility from the operator to the Member State.							
Targets	None specified							

European Union: Other Relevant Legislation

Name of law	**Directive on Energy Efficiency and repealing Directives 2004/8/EC and 2006/32/EC**							
Date of entry into force	November 2012							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×					×
Driver for implementation	Energy saving, energy self-reliance, mitigation, competitiveness							

Summary of bill

The Directive brings forward legally binding measures to step up Member States efforts to use energy more efficiently at all stages of the energy chain – from the transformation of energy and its distribution to its final consumption. Measures include the legal obligation to establish energy efficiency obligations schemes or policy measures in all Member States. These will drive energy efficiency improvements in households, industries and transport sectors. Other measures include an exemplary role to be played by the public sector and a right for consumers to know how much energy they consume.

Summary of key measures

Indicative national energy efficiency target: each Member State will be obliged to *set an indicative national energy efficiency target*, based on either primary or final energy consumption, primary or final energy savings or energy intensity.

Exemplary role of public bodies' buildings: public bodies will need to play an exemplary role, as Member States will have to ensure that as from 1 January 2014, 3% of the total floor area of heated and/or cooled buildings owned by their central government is renovated each year.

Building renovation: Member States shall establish a long-term strategy for mobilising investment in the renovation of the national stock of residential and commercial buildings, both public and private.

Energy efficiency obligation schemes: Member States must set up an energy efficiency obligation scheme, ensuring that obligated energy distributors and/or retail energy sales companies achieve a cumulative end-use energy savings target by 31 December 2020. That target shall be at least equivalent to achieving new savings each year from 1 January 2014 to 31 December 2020 of *1.5% of the annual energy sales to final customers* of all energy distributors or all retail energy sales companies by volume, averaged over the most recent 3-year period prior to 1 January 2013.

However, to achieve this target, Member States will have the option of using a bundle of flexibility measures as well as equivalent alternative measures. The use of these flexibility measures should *not lead to a reduction of more than 25% of the amount of the energy savings target*.

Energy audits: Member States shall ensure that large enterprises are subject to an energy audit carried out in an *independent* and cost-effective manner by *qualified and/or accredited experts* or implemented and supervised by independent authorities under national legislation within 3 years after the entry into force of this Directive and at least every 4 years from the date of the previous energy audit.

Billing of customers based on actual consumption: in order to enable final customers to regulate their own energy consumption, billing should take place on the basis of actual consumption at least once a year, and billing information should be made available at least quarterly, on request or where the consumers have opted to receive electronic billing or else twice yearly.

Promotion of efficiency in heating and cooling: by 31 December 2015, Member States shall carry out and notify to the Commission a comprehensive assessment of the potential for the application of high-efficiency co-generation and efficient district heating and cooling. For the purpose of this assessment, Member States shall carry out a cost–benefit analysis covering their territory based on climatic conditions, economic feasibility and technical suitability.

The National Energy Efficiency Action Plans shall list significant measures and actions taken towards primary energy saving in all sectors of the economy. For every measure or package of measures/actions estimations of expected savings for 2020 and savings achieved by the time of the reporting shall be provided.

Where available, information on other impacts/benefits of the measures, including GHG emissions reduction and the budget for the implementation, should be provided.

By 30 June 2014, the Commission will assess the progress achieved and whether the Union is likely to achieve energy consumption of no more than 1474 Mtoe of primary energy and/or no more than 1078 Mtoe of final energy in 2020.

Targets

The Directive aims at enabling EU-wide 15% energy savings by 2020.

Each Member State shall set an indicative national energy efficiency target, based on either primary or final energy consumption, primary or final energy savings, or energy intensity. When doing so, they shall also express those targets in terms of an absolute level of primary energy consumption and final energy consumption in 2020 and shall explain how, and on the basis of which data, this has been calculated.

Name of law	**Emission performance standards for new light commercial vehicles as part of the EU's integrated approach to reduce CO_2 emissions from light-duty vehicles (Regulation [EC] No. 510/2011)**							
Date of entry into force	2011							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
					×			

Driver for implementation	Transport/emissions
Summary of bill	This legislation sets emission performance standards for new light commercial vehicles. In 2014, 70% of each manufacturer's newly registered units must comply on average with the limit value curve set by the legislation. This will rise to 75% in 2015, 80% in 2016 and 100% from 2017. A "super-credit" scheme will help manufacturers comply: a multiplier figure decreasing from 3.5 om 2014 to 1.7 in 2017 will be applied to every vehicle with specific emissions of CO_2 of less than 50g CO_2/km, up to 25,000 units per manufacturer. To incentivise investment in new technologies, from 2014 onwards, producers will have to pay an increasing penalty if their fleet fails to meet their target. Vehicles running on E85 (petrol with 85% bioethanol) will benefit from a 5% lower emission target by 31 December 2015 in recognition of the greater technological and emission reduction capability when running on biofuels of at least 30% of the filling stations in the Member State in which the vehicle is registered provide this type of alternative fuel complying with the EU sustainability criteria for biofuels. CO_2 savings achieved through the use of innovative technologies shall be taken into consideration up to 7g CO_2/km. The Commission shall publish a list indicating whether each manufacturer has met the relevant target for the preceding calendar year on an annual basis. By January 2013 the Commission shall complete a review of the specific emissions targets and of the derogations, with the aim of defining the modalities for reaching, by 2020, a long-term target of 147 g CO_2/km in a cost-effective manner. Then, if appropriate, the Commission shall make a proposal to amend this regulation. By 2014 the Commission shall, if appropriate, launch a proposal to include in the Regulation vehicles in category N2 and M2 with a reference mass not exceeding 2160 kg and vehicles to which type-approval is extended in the Regulation (EC) No. 715/2007, with a view to achieving the longer-term target from 2020. By 2014 the Commission shall publish a report on the availability of data on footprint and payload and their use as utility parameters for determining specific emissions targets and, if appropriate, submit a proposal to the European Parliament and to the Council.
Targets	Limit of 175g CO_2/km for the average CO_2 emissions from manufacturers' fleet of small vans of average mass by 2017. Specific targets for individual vehicles will vary according to their weight. A 2020 target of 147g CO_2/km has been included.

Name of law	**White paper – Adapting to climate change: towards a European framework for action (Communication COM/2009/0147)**							
Date of entry into force	Published 2009							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
						×		
Driver for implementation	Adaptation							
Summary of bill	The European Commission presented a White Paper on adapting to climate change that presents the framework for adaptation measures and policies to reduce the European Union's vulnerability to the impacts of climate change. As a next step, the Commission will present a "Blueprint to Safeguard European Waters" by 2012, which, together with the analysis of all plans for 110 river basin districts, will perform a review of the Strategy for Water Scarcity and Droughts and of the vulnerability of water and environmental resources to climate change and human-made pressures. Successful adaptation to the impacts of climate change on water depends not just on effective national and European water regulations, but also on the extent to which water management can be integrated into other sectoral policies such as agriculture, energy, cohesion and health. The White Paper highlights the need "to promote strategies which increase the resilience to climate change of health, property and the productive functions of land, inter alia by improving the management of water resources and ecosystems". As part of the actions included in the White Paper, in December 2009 Water Directors of EU Member States adopted a Guidance document on adaptation to climate change in water management to ensure that the River Basin Management Plans (RBMP) are climate-proofed.							
Targets	None specified							

Name of law	**Emission performance standards for new passenger cars (Regulation [EC] No. 443/2009)**							
Date of entry into force	2009							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
					×			
Driver for implementation	Transport/emissions							
Summary of bill	This legislation sets emission performance standards for new passenger cars. In 2012, 65% of each manufacturer's newly registered cars must comply on average with the limit value curve set by the legislation. This will rise to 75% in 2013, 80% in 2014, and 100% from 2015 onwards. Commission to report on implementation by 2010 and to publish performance indicators for each manufacturer, highlighting success or failure to comply (by 31 October each year, beginning in 2011).							

	Until 2018 the manufacturer has to pay an excess emissions premium for each car registered if the average CO_2 emissions of a manufacturer's fleet exceed its limit value in any year from 2012.
Targets	Car manufacturers must ensure their average annual CO_2 emissions do not exceed 130g CO_2/km. A target of 95g/km is specified for the year 2020. The modalities for reaching this target and the aspects of its implementation including the excess emissions premium will have to be defined in a review to be completed no later than the beginning of 2013.

Name of law	**Clean and energy-efficient road transport vehicles (Directive 2009/33/EC)**							
Date of entry into force	2009							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×		×			
Driver for implementation	Transport/energy efficiency							
Summary of bill	Member States shall ensure that contracting authorities, contracting entities and operators under a public service contract, take into account the operational lifetime energy and environmental impacts when purchasing road transport vehicles.							
Targets	None specified							

Name of law	**Clean Sky JTI (Council Regulation [EC] No. 71/2008)**							
Date of entry into force	2008							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×		×		×	
Driver for implementation	Economy/transports							
Summary of bill	The "Clean Sky" Joint Technology Initiative (JTI) is aiming to unite the public and private driving forces (human and financial) in European aviation and to develop the technologies necessary for a clean, innovative and competitive system of air transport, through research.							
Targets	"Clean Sky" aims to reduce CO_2 emissions by 50% and NOx by 80%							

Name of law	**Seventh Framework Programme (2007 to 2013) (Decision No. 1982/2006/EC)**							
Date of entry into force	2007							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
							×	
Driver for implementation	Economy							
Summary of bill	The 7th Framework Programme is adapted to the EU's needs in terms of growth and employment. After wide-ranging public consultation, four main objectives have been identified which correspond to the four specific programmes around which the European research effort is to be structured Environment including climate change and energy are identified as key research areas.							
Targets	None specified							

Name of law	**Reduction in fluorinated greenhouse gases (Regulation [EC] No. 842/2006)**							
Date of entry into force	2006							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
Driver for implementation	Climate change							
Summary of bill	The Regulation is aimed at reducing emissions of certain fluorinated gases (HFCs, PFCs and sulphur hexafluorides), to improve containment and monitoring of these gases and restrict their marketing and use. From 31 March 2008, and every year thereafter, anyone producing, importing or exporting more than one tonne of any of fluorinated GHGs must communicate the imported or exported amount produced, the applications in which they will be used including the expected emissions, and the amounts recycled, reclaimed or destroyed.							
Targets	The Regulation was expected to lead to a reduction in emissions of 23 million tonnes of carbon dioxide equivalent by 2010, and an even greater reduction thereafter.							

Name of law	**Action Plan for Energy Efficiency (2007–2012) (Action Plan for Energy Efficiency: Realising the Potential [COM(2006)] 545)**							
Date of entry into force	2006							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×					
Driver for implementation	Energy efficiency							
Summary of bill	This Plan replaces the Action Plan for Energy Efficiency 2000–2006. The Commission has adopted an Action Plan aimed at achieving a 20% reduction in energy consumption by 2020. The Action Plan includes measures to: improve the energy performance of products, buildings and services; improve the yield of energy production and distribution; reduce the impact of transport on energy consumption; facilitate financing and investments in the sector; encourage and consolidate rational energy consumption behaviour; and increase international action on energy efficiency. In 2012, the European Commission will assess the progress achieved by the Community and Member States with regard to the implementation of the Action Plan for Energy Efficiency that lays down the first objectives for emission reductions by 2020. Following this assessment, the Commission will propose strengthened or new measures.							
Targets	None specified							

Name of law	**Competitiveness and Innovation Framework Programme (CIP) (2007–2013)**							
Date of entry into force	2006							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×				×	
Driver for implementation	Economic/research and development							
Summary of bill	The programme supports measures to strengthen competitiveness and innovation capacity in the European Union. Particularly, it encourages the use of information technologies, environmental technologies and renewable energy sources. The Intelligent Energy – Europe Programme helps speed up efforts to achieve the objectives in the field of sustainable energy. It supports improvements in energy efficiency, the adoption of new and renewable energy sources, greater market penetration for these energy sources, energy and fuel diversification and an increase in the share of renewable energy.							
Targets	None specified							

Name of law	**Energy end-use efficiency and energy services (Directive 2006/32/EC [repealing Council Directive 93/76/EEC])**							
Date of entry into force	2006							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×					
Driver for implementation	Energy efficiency							
Summary of bill	The purpose of the Directive is to make the end use of energy more economic and efficient: • by establishing indicative targets, incentives and the institutional, financial and legal frameworks needed to eliminate market barriers and imperfections which prevent efficient end use of energy • by creating the conditions for the development and promotion of a market for energy services and for the delivery of energy-saving programmes and other measures aimed at improving end-use energy efficiency • the Directive applies to the distribution and retail sale of energy and the delivery of measures to improve end-use energy efficiency. Activities included in the GHG emissions trading scheme and certain aspects of the armed forces are excepted • Member States must ensure that the public sector adopts measures to improve energy efficiency, inform the public and businesses of the measures adopted and promote the exchange of good practice. Member States must appoint one or more new or existing organisations to carry out administrative, management and implementation duties in order to meet their obligations • Member States required to develop a series of National Energy Efficiency Action Plans. The first action plan was due on the 30 June 2007; the second action plan was due on the 30 June 2011; while the third action plan is due on the 30 June 2014.							
Targets	Member States must adopt and achieve an indicative energy saving target of 9% by 2016 in the framework of a National Energy Efficiency Action Plan (NEEAP). Member States must also set themselves an intermediate national indicative target to be achieved by 2009.							

Name of law	**Eco-design requirements for energy-using products (Directive 2005/32/EC) (Recast Proposal [COM(2008)] 399)**							
Date of entry into force	2005							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×					

Driver for implementation	Energy efficiency
Summary of bill	The directive 2005/32/EC aims to establish a coherent framework for eco-design requirements applied to energy-using products. Mandatory minimum requirements are set for products taking account of life-cycle costs. The extension expanded the directive's scope to encompass all energy related products. The agreed directive defines the conditions, criteria and methodology for the Commission to adopt eco-design requirements for specific products using the fast-track comitology procedure. In addition, the directive will apply to any product using energy, except motor vehicles; however, it does not create legal obligations for manufacturers, unless implementing measures are adopted.
Targets	None specified

Name of law	**Mechanism for monitoring greenhouse gas emissions (Decision 280/2004/EC)**							
Date of entry into force	2004							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
	×							
Driver for implementation	Climate change							
Summary of bill	The European Union has established a new mechanism for monitoring and reporting GHG emissions to evaluate more accurately and more regularly the progress made in reducing emissions. The Member States and the Community must devise, publish and implement national programmes and a Community programme to limit or reduce anthropogenic emissions by sources, and enhance the removal by sinks, of all GHGs not controlled by the Montreal Protocol. The national programmes must include information on: the effect of national policies and measures on emissions and removals, broken down by gas and by sector; national projections for emissions and removal of CO_2 and other GHGs for 2005, 2010, 2015 and 2020; measures being taken or planned to implement relevant Community policies; and to comply with commitments under the Kyoto Protocol.							
Targets	Not applicable							

Name of law	**Cogeneration (Directive 2004/8/EC [amending Directive 92/42/EEC])**							
Date of entry into force	2004							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						
Driver for implementation	Energy efficiency							
Summary of bill	The purpose of this Directive is to facilitate the installation and operation of electrical cogeneration plants (a technology allowing the production of heat and electricity in one process) in order to save energy and thereby combat climate change. In the short term, the Directive should make it possible to consolidate existing cogeneration installations and promote new plants. In the medium to long term, the Directive should serve as a means to create the necessary framework for high efficiency cogeneration, aimed at reducing emissions of CO_2. Following a request by the Commission at least six months before the due date, Member States must evaluate progress towards increasing the share of high-efficiency cogeneration for the first time by the 21 February 2007 at the latest and thereafter every four years.							
Targets	None specified							

Name of law	**Greenhouse gas emission allowance trading scheme (Emission Trading Scheme [ETS]) (Directive 2003/87/EC)**							
Date of entry into force	2003							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
	×	×			×			×
Driver for implementation	Climate change							
Summary of bill	This Directive establishes a Community GHG emissions trading scheme from 1 January 2005. In this context, “allowance” means the entitlement to emit a tonne of carbon dioxide (or an amount of any other GHG with an equivalent global warming potential) during a specified period. This scheme should enable the Community and the Member States to meet the commitments to reduce GHG emissions made in the context of the Kyoto Protocol. Directive 2004/101/EC reinforces the link between the EU’s emission allowance trading scheme and the Kyoto Protocol by making the latter’s “project-based” mechanisms (Joint Implementation and the Clean Development Mechanism) compatible with the scheme.							

With effect from the 1 January 2005, all installations carrying out any of the activities listed in Annex I to this Directive (activities in the energy sector, iron and steel production and processing, the mineral industry, and the wood pulp, paper and board industry), and emitting the specific GHG associated with that activity, must be in possession of a permit issued by the appropriate authorities.

Each Member State must draw up a national plan complying with the criteria set out in Annex III to this Directive, indicating the allowances it intends to allocate for the relevant period and how it proposes to allocate them to each installation.

Including aviation activities in the emissions trading scheme within the Community (Directive 2008/101/EC): This bill includes aviation within the EU Emissions Trading Scheme (ETS). All flights that arrive or depart from a Member State's territory shall be subject to the EU ETS (by 1 January 2012).

At the end of the year, the operator must submit a report to the appropriate authority detailing the GHG emissions produced by the installation during that year. Any operator failing to surrender, by 30 April, the quantity of allowances commensurate with the emissions from his/her installation during the previous year will be required to pay an excess emissions penalty. The penalty is €100 (US$130.5) for each tonne of carbon dioxide equivalent (€40 [US$52] during the 3-year period starting on 1 January 2005) and will not release the operator from the obligation to surrender an amount of allowances equal to the excess emissions.

Targets None specified

Name of law	**Community framework for the taxation of energy products and electricity (Council Directive 2003/96/EC)**							
Date of entry into force	2003							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×					×
Driver for implementation	Energy efficiency							

Summary of bill The European Union establishes generalised arrangements for the taxation of energy products and electricity. The Community system of minimum rates (previously confined to mineral oils) is extended to coal, natural gas and electricity. Energy products and electricity are only taxed when they are used as motor or heating fuel.

In line with the Community's objectives and the Kyoto Protocol, the framework encourages more efficient use of energy so as to reduce dependence on imported energy products and limit GHG emissions. Also, in the interests of protecting the environment, it authorises Member States to grant tax advantages to businesses that take specific measures to reduce their emissions. Member States can apply for exemption for biofuels or energy which is derived from solar, wind, tidal, geothermal, biomass or waste.

Targets None specified

Name of law	**Use of biofuels (Directive 2003/30/EC)**							
Date of entry into force	2003							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×			×			
Driver for implementation	Climate change; reduction of dependence on oil							
Summary of bill	The Directive requires that the Member States introduce legislation and take the necessary measures to ensure that as of 2005, biofuels account for a minimum proportion of the fuel sold on their territory. Biofuels are defined as liquid or gaseous fuels which are used for transport and which are produced from biomass. Biomass is biodegradable waste obtained for example from agriculture and forestry. The Directive sets a minimum percentage of biofuels to replace diesel or petrol for transport purposes in each Member State. The Commission will present a report to the European Parliament and to the Council before the 31 December 2006 on the progress achieved in the use of biofuels in the Member States, and then decide whether any new legislative proposals will be necessary.							
Targets	The Member States must ensure that the minimum share of biofuels sold on their markets is 2% by the 31 December 2005, and 5.75% by December 2010. Any Member State setting lower objectives will have to justify this on the basis of objective criteria.							

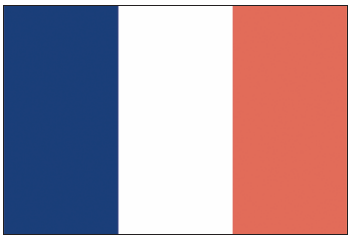
Name of law	**Energy performance of buildings (Directive 2002/91/EC) (also Recast adopted by parliament in 2010)**							
Date of entry into force	2002							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×					
Driver for implementation	Energy efficiency							
Summary of bill	The Member States must apply minimum energy performance requirements of new and existing buildings, ensure the certification of their energy performance and require the regular inspection of boilers and air conditioning systems in buildings. The Directive concerns the residential sector and the tertiary sector (including offices and public buildings). The Directive forms part of the Community initiatives on climate change (commitments under the Kyoto Protocol) and security of supply (the Green Paper on security of supply).							

	The directive requires a common methodology for calculating the integrated energy performance of buildings. This includes: minimum standards on the energy performance of new buildings, and existing buildings that are subject to major renovation. It also includes systems for the energy certification of new and existing buildings and the prominent display of this certification and other relevant information for public buildings. Certificates must be less than five years old. Regular inspection of boilers and central air conditioning systems in buildings and an assessment of heating installations in which the boilers are more than 15 years old must be conducted. In the recast, the goal is that at the end of 2018, public buildings will have nearly zero-energy standards and by 2020, all new buildings are to be nearly zero-energy. Extending the scope of the directive by eliminating the current 1,000m² threshold would mean that all existing buildings undergoing major renovations would have to meet minimum efficiency levels. The EU Member States are responsible for drawing up the minimum standards. They will also ensure that the certification and inspection of buildings is carried out by qualified and independent personnel. The recast adopted by parliament in 2010 intends to clarify, strengthen and extend the scope of the existing Directive.
Targets	In the 2010 recast, the EU executive expects the overhaul to bring its energy consumption down by 5–6%, consequently slashing CO_2 emissions by 5% by 2020.

Name of law	**Promotion of electricity from renewable energy sources (Directive 2001/77/EC)**							
Date of entry into force	2001							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						
Driver for implementation	Renewable energy							
Summary of bill	The European Union is creating a framework for promoting renewable energy sources for electricity production. It is setting an objective for renewables of a 21% contribution to electricity production and is laying down specific measures relating to the evaluation of the origin of the electricity, connection to the grid and administrative measures. This framework been repealed by Directive 2009/28/EC (cf. CARE).							
Targets	12% renewable contribution to electricity production by 2010							

Name of law	**Information on the fuel consumption and CO_2 emissions of new cars (Directive 1999/94/EC), amended by Directive 2003/73/EC and Regulation (EC) No. 1882/2003**							
Date of entry into force	2000							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×					
Driver for implementation	Transport/emissions							
Summary of bill	To help consumers choose vehicles with low fuel consumption, the European Union requires dealers of new passenger cars to provide potential buyers with useful information on these vehicles' fuel consumption and CO_2 emissions. The purpose of the Directive is to ensure that information relating to the fuel economy and CO_2 emissions of new passenger cars offered for sale or lease in the Community is made available to consumers. This consumer information system is to be set up using the following four methods: attaching a fuel consumption and CO_2 emissions label to the vehicle; producing a fuel consumption and CO_2 emissions guide; displaying posters in car showrooms; and including fuel consumption and CO_2 emissions data in promotional material.							
Targets	None specified							

4.12 France



4.12.1 Fact Box

Greenhouse Gas emissions incl. LULUCF ($MtCO_2e$) excl. LULUCF ($MtCO_2e$) Change from base year (1990)	 496 528 -34
Latest reporting year	2010
Importance as an emitter	Top 20
UNFCCC ratification status and date	Date of signature: 13 June 1992 Date of ratification: 25 March 1994 Date of entry into force: 23 June 1994
Kyoto Protocol ratification status and date	Date of signature: 29 April 1998 Date of ratification: 31 May 2002 Date of entry into force: 16 February 2005
2020 pledge	20% reduction from 1990 levels by 2020 rising to 30% under an international agreement, per the EU position. Domestically, the Grenelle envisages a 75% (factor 4) cut by 2050, annual reductions of 3% and annual emissions of less than 140 $MtCO_2e$.
Flagship legislation	**Grenelle I and Grenelle II (2009 and 2010)**

4.12.2 Legislative Process

In France, there is a bicameral parliamentary system where legislative power belongs to the "Assemblée Nationale" and the "Sénat". Statute legislation may be proposed by the government (council of ministers) or by members of Parliament. The government has a strong influence in shaping the agenda of Parliament and only 10% of existing laws were proposed by members of parliament.

There is a strict separation between what belongs to "law" and what belongs to "regulation". Laws determine general principles and rules in domains explicitly quoted in the constitution such as civil rights, nationality and crime. Laws must be voted on by the parliament and can be blocked by the "Conseil Constitutionnel" if it finds that the law goes against the constitution. In this case, the law must be modified and voted on again, or abandoned. Regulations can establish rules outside of the law's domain or specify more precisely the implementation modalities of passed laws. Regulations do not need to be voted on by the parliament.

4.12.3 Approach to Climate Change

Climate related regulation in France comes from different sources. In 2000, France produced its first National Programme for Tackling Climate Change that synthesised the objectives and measures that the government wanted to implement to tackle climate change. These measures were then either inscribed in laws or regulations on energy, finance, agriculture, urban planning, or abandoned. The same experience was reproduced with the Climate Plan 2004 and the Climate Plan 2006. It is now required that the Climate Plan be refreshed every two years according to the 2005 Energy Policy Framework Law (2005-781). Also, the state encourages local authorities to adopt the same process at the sub-national level and to produce local climate plans.

Most of the policies regarding transportation or energy efficiency have been implemented through a regulatory framework (for instance Thermal Regulation 2005 reinforced through "Grenelle I" in 2009). The fiscal tools, such as incentives for renewable energy or feed-in tariffs, have been passed through the yearly finance laws ("Loi de Finances 2005, 2006, 2009"). Most energy supply related objectives have been passed through the Energy Policy Framework Law (2005-781) of 2005. France's ambition to reach a target of 23% of renewable energy in the total national energy consumption by 2020 (Loi Grenelle I, 2009) goes above the EU's target (20% in 2020).

In October 2007, an original process called "Grenelle de l'environnement" was initiated. "Grenelle" refers to the Grenelle agreements that were negotiated during the events of May 1968 between the government and unions. The objective of "Grenelle de l'environnement" was to gather environment stakeholders, in order to reach a series of agreements, policies and objectives, which would then be translated into laws and regulations. One of the six working groups focused specifically on climate and energy, and was composed of 40 members divided into five sub-groups (state, authorities, non-government organisations, employers and employees). Some of the measures agreed were adopted in the Grenelle I law in 2009. More precise policies (designed to implement the principles stated in Grenelle I) were voted on in the June 2010 Grenelle II law. One of the key mechanisms agreed in the Grenelle was the carbon tax, or "Contribution Climat-énergie". However, this policy was eventually abandoned by the government for reasons of national economic competitiveness. Instead, the French government announced that it would strongly push for a European border carbon tax, before implementing a carbon tax at the national level.

The integrative approach of the Grenelle has contributed in bringing the important principles and policies addressing climate change into the mainstream. The Grenelle has either strengthened those policies and goals which already were part of national legislation, or has incorporated them into a specifically dedicated law on the environment. It has also created a dynamic between various stakeholders that still continues today.

Although some of the initially planned measures have proven challenging given the economic slowdown and budgetary constraints, the Grenelle II law still contains many positive provisions. Particularly encouraging is that it prioritises emission reductions and energy efficiency improvements in the buildings and transport sectors. These two sectors account for the bulk of France's GHG emissions, and reducing them is a daunting task, especially for the transport sector (IEA).

Another source of climate legislation in France comes from the European directives that France has transposed into national legislation. This was achieved directly in the case of the French National Allocation Plan voted on in 2005 to implement the CO_2 EU-Emissions Trading Scheme (Directive: 2003/87/CE); or can be achieved indirectly through broader laws such as the EU Directive 2002/91/CE on the energy performance of building transposed within the Energy Policy Framework law passed in 2005 (2005-781). The main national objectives and regulations to reduce emissions and improve energy efficiency find their sources in European law.

In his first major speech on 6 May 2012 President François Hollande set the course for France to become "the nation of environmental excellence" and indicated the way for France towards an energy transition based on sobriety and efficiency as well as on the development of renewable energy. This transition involves a sustained reduction of GHG emissions coupled with a reduction of the weight of nuclear energy in the national energy mix from the current 75% to 50% by 2025.

To define the most appropriate and economically, environmentally and socially fair transition, a national debate on energy transition started in autumn 2012 whose outcome will be a Bill by mid-2013. A dedicated organization will be created to lead the debate and ensure objectivity. It will be sequenced around key issues: developing renewables, housing stock energy retrofits and reorganisation, transformation and creation of industrial sectors.

A national commission respecting the balance of six colleges, including parliamentarians, will constitute the "parliament" of the debate. Led by a steering committee, it will rely on a committee of scientific experts and citizens. It will organise and lead a transparent dialogue with all companies involved in the debate. The Commission will ensure a dialogue with Parliament, the Economic, Social and Environmental Commission (EESC) and the National Commission for Public Debate (CNDP). The national debate will cover a period from November 2012 to May 2013.

The new government held a National Environment Conference on 14–15 September 2012 where a set of measures in the field of climate and energy was announced:

- Push for a reduction of the EU's emissions of GHG by 40% in 2030 and 60% in 2040 and for the introduction of a carbon inclusion mechanism for sectors most exposed to international competition.

- Hydraulic fracturing technology now known only for exploration and exploitation of unconventional hydrocarbons will remain prohibited because of the risk to public health and the environment.

- Goal to develop in the next ten years industrial vehicles consuming 2 litres of gasoline per 100 kilometres within the framework programme for Future Investments dedicated to clean vehicles.

- Scaling of the ambition of buildings' thermal renovation with a new programme to start in 2013 increasing resources for the renovation of social housing by increasing eco-specific loans available. Implementation of a new

funding system – involving the intervention of third-party investors – will relieve owners of the advance fee. This device will be strengthened by contributions from energy producers, through the device of Energy Savings Certificates. In addition, a national call for projects will select projects for local thermal renovation to help their funding and/or deployment.

- Simplification of administrative procedures for the development of renewable energy and networks.

- Continued support for wind power.

- A call for tenders will be launched by December 2012 for the creation of offshore wind farms at Tréport and Noirmoutier.

- Support to the solar sector by favoring high standards to ensure the quality of the French and European offers. A call for tenders will be launched before the end of 2012 to support large installations targeting innovative technologies and local economic development. This tender will favour large roofs to avoid the use of farmland. Target volumes triggering rate adjustment for small installations will be immediately scaled up significantly, taking into account the feedback on the projects carried out since March 2011.

- Purchase prices for installations and simplified integration for non-residential buildings shall be accompanied by a bonus of up to 10% depending on the origin of the components of the photovoltaic panels.

- Pathways for heat networks, biomass and geothermal energy will also be supported, building on local initiatives and avoiding conflicts of uses for bioenergy. The extension of the heat fund contributes to the development of renewable heat.

- The Environment and Energy Management Agency (ADEME) will launch an initiative in early 2013 for the construction of tidal energy demonstration plants. A study on the potential of the marine energy sector will be completed by late 2012.

France: Flagship Legislation

Name of law	Grenelle I ("Loi de programme relatif à la mise en œuvre du Grenelle de l'environnement")							
Date of entry into force	2009							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
	×	×	×		×		×	×
Driver for implementation	Environmental policy							

Summary of bill

In July 2007, the French government established six working groups gathering state and non-state actors to address ways to redefine France's environment policy. The proposed recommendations were then put to public consultation, leading to a set of recommendations released at the end of October 2007. These recommendations were presented to the French parliament in early 2008.

One working group was specifically created to address the issue of climate change. The Grenelle I Law states the principles of the Grenelle process. The Grenelle II Law will give a more detailed implementation framework. Not all the measures negotiated during the Grenelle process were adopted after the law went through parliament.

The name of the process, "Le Grenelle de l'Environnement", refers to a 1968 conference when government negotiated with unions to end weeks of social unrest.

Monitoring arrangements: a specific committee ("Comité national du développement durable et du Grenelle de l'Environnement") is set up to monitor the implementation of the measures adopted in the Grenelle Laws and report once a year to the parliament to suggest improvements. The committee is also associated with the formulation, monitoring and evaluation of sustainable development and biodiversity national strategies. The committee was instituted by Decree No. 2010-370 in April 2010 and held its first meeting in May 2010. It is the institutionalisation of the "Comité de Suivi du Grenelle" created in 2007.

This "Comité national du développement durable et du Grenelle de l'Environnement" is chaired by the Ministry of environment, the inter-ministerial delegate for sustainable development and several groups made up of representatives of the State, the private sector, Environmental NGOs and unions. It has also 6 members who represent the domain of family, consumers protection, solidarity, social integration, youth, development aid and a representative of the Chamber of Commerce and Industry. In total, it has 41 members.

This committee has a secretariat within the Minister of the environment and Sustainable Development (the same secretariat as for the "Commissariat général au développement durable") and must meet at least four times. It can also meet when needed under a convocation from the Ministry of environment. It can also meet if two thirds of its members demand it.

The outcomes of this meeting are made available to the public.

Local and regional authorities are invited to produce Local Climate plans before 2012. Measures to *mainstream climate change* and energy efficiency into urban law. Several measures for state exemplarity (carbon footprint studies, +20% energy efficiency etc.). Reorganisation of public environmental expertise to include more multi-disciplines.

Transport of merchandise: objective of 25% of non-road based transport (support and extension of railway, high speed trains, fluvial, maritime transportation).

Support of public transport and clean vehicles. Extension of subway and regional train in Ile-de-France (Paris region).

Research and development: Additional funding for Sustainable Development research programmes (€1 billion over 4 years). Objective: by 2013 spending for clean energy and environment is to be equal to spending in research on civil nuclear programmes.

Targets	None specified

Name of law	**Grenelle II ("Loi portant Engagement national pour l'environnement")**							
Date of entry into force	2010							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
	×	×	×		×		×	×
Driver for implementation	Environmental policy							

Summary of bill

This law aims at specifying the Grenelle I axes and objectives in order to facilitate their implementation.

Putting a price on carbon: the first version of the Carbon Tax proposition was blocked by the "Conseil Constitutionel" in December 2009 for reasons of fiscal inequalities.

Later, in the context of the economic crisis the carbon tax project was increasingly seen by the government as an important issue for national economic competitiveness. Before the regional elections, president Sarkozy announced the withdrawal of the legislative project justifying it by the will to promote a European Carbon tax before implementing one at the national level.

Energy – supply-side policies:

- Better linkage of renewable energy to the main energy network
- Regulation of experimental carbon storage installations

Support and administrative facilitation for wind power. Incentives for solar power (each person is allowed to have photovoltaic panels on his/her building and to sell it)

	Energy – demand-side policies: "Carbon tax" abandoned. Improvement of energy saving certification schemes. Improvement of energy consumers' information on their level of consumption and means of reduction. Publication of Regional programmes for climate and energy within a year of the law entering into force.
Targets	Same as for Grenelle I

France: Other Relevant Legislation

Name of law	**Finance Law**							
Date of entry into force	2009							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×					×
Driver for implementation	National finance							
Summary of bill	The 2009 Finance Law contains various provisions to increase financing for energy efficiency investments and in support of renewable energy. The Law also includes some provisions targeting biofuels. Ethanol E85 is to benefit from progressively reduced consumption taxes. The Finance Law established a zero-interest loan programme for those purchasing a home for the first time (either new or existing construction); the loan amount is increased by EUR 20,000 if the building meets standards beyond those required under current building regulations. Eco-loan: 0% loan for energy-efficient renovation (Art. 99) (thermal insulation for roofs, exterior walls, Installation, regulation or replacement of heating or hot water systems etc.).							
Targets	None specified							

Name of law	Bonus-*Malus*: vehicle CO_2 bonus and penalty system							
Date of entry into force	2007							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
					×			
Driver for implementation	Climate change							
Summary of bill	Following the "Grenelle of the environment" process, a combined bonus and penalty system (Bonus-*Malus* programme) was announced to encourage the purchase of low-polluting vehicles. The bonus system applies to new vehicles purchased from 5 December 2007 and is provided as a function of the CO_2 emitted							
Targets	None specified							

Name of law	Farming Policy Framework ("Loi d'Orientation Agricole" No. 2006-11)							
Date of entry into force	2006							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
				×				
Driver for implementation	Land use							
Summary of bill	Sets outs the main targets and policies for the national agriculture policy							
Targets	This Law goes beyond the 2010 European objective of 5.75% of biofuels (cf. 2003/30/CE and Energy Policy Framework) and sets an ambitious target of 7% of biofuels in fuels for 2010.							

Name of law	Plan Climat (Policy framework)							
Date of entry into force	2006							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×		×	×		
Driver for implementation	Climate change							

Summary of bill	As envisaged in the Energy Policy Framework (2005), the government elaborated a new Climate Plan two years after the 2004 Climate Plan. The Climate Plan 2006 was meant to reinforce the measures adopted in the Climate Plan 2004 and implement a few new measures. Most of the measures have been implemented under previous existing laws, decrees and regulations that do not need parliamentary approval. Energy – supply-side policies include increasing the number of "certificates for energy savings" ("certificats économie énergie") in order to incite energy producers to promote energy savings. Incentive and information mechanisms to promote wood heating and solar electricity: e.g.: increase of the feed-in tariffs for photovoltaics. Energy – demand-side policies include: • reinforcement of tax exoneration on renewable installations • January 2007: creation of the Sustainable Development booklets: it enables banks to finance low interest rate loans for energy efficiency renovation of buildings • Generalisation of the energy performance diagnostics monitored by an inter-ministerial mission on GHG. Increased transparency through an operational document ("Document de politique transversal") annexed to the yearly Budgetary Law ("loi de finances") in order to give more visibility to members of parliament. Local authorities of more than 100,000 inhabitants are incited to produce Local Climate Plans. Increased presence of climate change in school programs. Transport polices: Extension of the Energy label to second hand cars and advertisments. A set of measures is introduced for limiting air pollution (congestion charges, increase in the number of taxis and public transport etc.). September 2007: Creation of a 5-year National Adaptation Plan for climate change. Avoiding 10% emissions by 2010. Dividing emissions by 4 by 2050
Targets	None specified

Name of law	**Thermal Regulation 2005 (RT 2005)**							
Date of entry into force	2005							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×					

Driver for implementation	Energy efficiency
Summary of bill	Thermal Regulation 2005 (Regulation Thermique 2005) directly replaces Thermal Regulation 2000, introducing more stringent regulations of thermal insulation and heating systems. RT 2005 requires 15% improvement of thermal efficiency and applies to new buildings. It also creates a labelling system to identify energy efficient buildings. Calculations now include natural lighting and renewable energy sources. Imposition of distinct summer and winter requirements to encourage bioclimatic architecture. Calculation of air conditioned buildings to discourage their use and construction in France.
Targets	None specfied

Name of law	**Energy Policy Framework ("Loi de Programme fixant les orientations de la politique énergétique" [POPE], No. 2005-781)**							
Date of entry into force	2005							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×				×	×
Driver for implementation	Energy supply and energy efficiency							
Summary of bill	This law, adopted after two years of public debate, defines the objectives and orientations of France's energy policy (energy security, competitive energy market, fighting greenhouse effect, manage demand, diversify sources of supply, develop new technology). The bill states that tackling climate change is a priority of France's energy policy. It contains objectives to increase the share of renewable electricity in the national energy mix and to diversify energy sources: including a target that renewable energies' satisfy 10% of French energy demand by 2010. Specifically, this entails the development of thermic energy sources by 50% before 2010 and the fuel mix incorporation of biofuels by 2% before 2006 and 5.75% before 2011 (Biofuel Plan). The Law creates a High Council on Energy to manage all aspects of the energy sector (including exchange of White Certificate on clean energy). Objective to decrease energy demand in order to decrease the final energy intensity by 2.5% in 2030. It also includes new incentive mechanisms such as tax exonerations, energy label for building and a White Certificate Programme to encourage energy efficiency among firms in the energy sector as envisaged in the 2004 Climate Plan.							

	Transposition of the EU directive 2002/91/CE on the energy performance of building (standards, energy performance certificate, energy efficiency studies before construction begins). Information campaigns targeting both schoolchildren and consumers. Energy Technology R&D: The government will publish its domestic research strategy, to be revised every 5 years, and report each year to Parliament regarding development of renewable energies and energy efficiency programs. Funds have been given to the National Research Agency. It requires the government to elaborate a Climate Plan every two years in order to elaborate all the national framework and policies implemented to fight climate change. It also demands support for regional and municipal programs of energy management.
Targets	Includes objective of annual reduction between now and 2015 of French energy intensity by 2%, and between now and 2030 by 2.5% Objective to decrease the GHG emissions by 3% per year reduce total of emissions by 75% by 2050. It contains objectives to increase the share of renewable electricity in national energy production and to diversify its sources: renewable energies to satisfy 10% of French energy demand by 2010.

Name of law	**Plan Climat 2004 (Policy framework)**							
Date of entry into force	2004							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
	×	×	×	×	×	×	×	
Driver for implementation	Climate change							
Summary of bill	After extensive interministerial discussions the plan was postponed 5 times and finally adopted by the government in July 2004. The goal of the Climate Plan 2004 (Plan Climat 2004) was to reinforce the National Programme for Tackling Climate Change and to implement a pragmatic set of tools to respect France's Kyoto commitments. Some measures have been implemented. The Plan envisaged the February 2005 "French National Allocation Plan 2005–2007" (Implementation of the 2003 European Directive creating a CO_2 EU-Emissions Trading Scheme [2003/87/CE]). The scope of the French NAP has been enlarged to installations of other sectors that are not mentioned in the European Directive (chemicals, agro-food, services), adding more than 700 installations. The new entrants reserve has increased to 5.69 Mt.							

	Most of the Climate Plan energy supply side-measures rests on the 2005 Framework law on Energy. Tax exoneration for solar energy installations (40% in 2005, 50% in 2006). January 2005 (Finance Law 2005): Includes the creation of a tax exoneration that aims to support the integration of energy efficient equipment, materials and devices in private households. This provision is to be applied from 2005 to 2009 with 40% tax exoneration for the expenses on equipment producing renewable energy. April 2005: Air conditioners must have energy label. January 2006 (Finance Law 2006): Tax or malus on the registration document acquired for the purchase of cars producing more than 200g CO_2/km. January 2006 (Finance Law 2006): increase of tax exoneration for clean vehicles (1525 euros to 2000 euros). May 2006: Energy Label ("Etiquette Energie") for new cars mandatory (transposition of EU directive of 1999). Biofuel Plan: objective 5.75% of Biofuels in 2010 (transposition of the Biofuel European directive), development of a network of biofuel stations. Tax exonerations for organic farmers are introduced. Extension of Company Mobility Plans ("Plan de Déplacement pour les enterprises"). This is a set of measures that incites and helps companies to improve professional transportation plans, reducing the use of individual cars. Acceleration of the construction of new High Speed Train railways. The Climate Plan is distributed into various ministries and turned into sectoral more detailed plans after which different tools and regulations are developed and implemented. Elaboration of voluntary regional plans and subsidies for renewable energy (Alsace and Rhône-Alpes). Support of local administrations (regions, departments) to develop their own policies and regulations (urban planning, CO_2 quantification etc.). The Plan Climat 2004 mandates ONERC to prepare a strategy for national adaptation to climate change and to lead a certain number of projects in this field. The plan is monitored by an inter-ministerial mission on GHGs.
Targets	Goal to reduce by 75% the level of emissions in 2050 and to cut 72 million tonnes of carbon dioxide emissions annually until 2010.

Name of law	**Finance bill for 2003 (Law No. 2002-1575 of 30)**							
Date of entry into force	2003							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×					
Driver for implementation	National finance							
Summary of bill	This yearly law sets out the benefits and expenses of the state. It contains mechanisms to achieve emission or energy efficiency targets. The Finance Law of 2003 extends the tax credit for acquiring energy producing equipment which uses a renewable source of energy, and which is installed in new housing. The credit is equal to 15% of the amount of the purchase price. The Finance Law extends until 31 December 2005 the tax credit for the acquisition of a new vehicle operating on natural gas, liquefied natural gas and hybrid vehicles (electric/ combustion).							
Targets	None specified							

Name of law	**Creation of the National Observatory on the Effects of Global Warming (Observatoire national sur les effets du réchauffement climatique – ONERC)**							
Date of entry into force	2001							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
							×	×
Driver for implementation	Climate change							
Summary of bill	The Observatory is created to improve the links between scientific and political national institutions on climate change and monitor the effects of climate change. It is intended to collect and disseminate information, studies and research on the risks relating to global warming and extreme climatic phenomena in connection with other national or international institutions. To advise the means of climate change mitigation and adaptation to limit associated risks.							
Targets	None specified							

Name of law	**National Programme for Tackling Climate Change 2000/2010 (Programme National de Lutte contre le Changement Climatique [PNLCC])**							
Date of entry into force	2000							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×		×		×	×
Driver for implementation	Climate change							
Summary of bill	Following previous national reports or communications on the subject (1990, 1995, 1997), the Programme was adopted in January 2000 in order to reach the objectives adopted at Kyoto. This programme provides information on the national dispositions to tackle climate change but is not legally binding. It was inspired by the will to pursue legislative activity on climate change, create structural and fiscal measures, economic incentives tools as well as mechanisms to control energy production and consumption. It suggested measures that if applied would help France reach its objectives for the 2008–2010 period. Not all measures proposed have been adopted. Energy – demand-side policies : Raising the tax on natural gas in order to give a signal to domestic consumers. This increase should be compensated by the decrease of other taxes. The French government decided in December 2000 to create an information network on energy efficiency, “Points Info Energie”, to supply local information concerning energy saving and renewable energy. Transport polices: Raising the internal tax on oil products (Taxe Intérieure sur les Produits Pétroliers – TIPP) in order to lower demand in transportation sector. Reinforcement of existing measures such as increase of rail merchandise transportation, decrease of unitary vehicle consumption Increased support to research and development in renewable energies (wind, solar, wood). Monitored by an inter-ministerial mission on GHG.							
Targets	Stabilisation of emissions in 2008–2012 at the level of 1990s emissions (Kyoto): avoiding the emission of 16 millions tonnes of CO_2e from 2000 to 2010.							

Name of law	**Thermal Regulation**							
Date of entry into force	2000							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×					
Driver for implementation	Building/energy efficiency							
Summary of bill	This regulation is the result of the implementation of the "Law on air and rational use of energy" (1996). It sets up the minimal threshold for buildings' thermal characteristics and the conventional methodology to calculate energy consumption of buildings. It consists of a decree on the thermal characteristics of construction and an order relating to the thermal characteristics of new buildings and new additions to existing buildings. The new rules apply standards that are 20% more stringent than previous ones for the residential sector, and 40% more stringent in the light industry sector. The National Programme for Tackling Climate Change 2000/2010 allows for periodically increasing the standards, beginning in 2005.							
Targets	None specified							

4.13 Germany

4.13.1 Fact Box

Greenhouse Gas emissions	
incl. LULUCF ($MtCO_2e$)	954
excl. LULUCF ($MtCO_2e$)	937
Change from base year (1990)	-310
Latest reporting year	2010
Importance as an emitter	Top 10
UNFCCC ratification status and date	Date of signature: 12 June 1992 Date of ratification: 9 December 1993 Date of entry into force: 21 March 1994
Kyoto Protocol ratification status and date	Date of signature: 29 April 1998 Date of ratification: 31 May 2002 Date of entry into force: 16 February 2005
2020 pledge	30% reduction by 2020 compared to 1990 levels, provided that other developed countries commit themselves to comparable emission reductions and that developing countries contribute adequately according to their responsibilities and respective capabilities; however, the current coalition government goes even further by setting a domestic target to reduce GHG emissions by 40% below 1990 levels by 2020.
Flagship legislation	**Legislative acts in the context of the Energy Concept of 2010/11, building on the Integrated Climate and Energy Programme of 2007/8**

4.13.2 Legislative Process

In Germany, the Bundestag is the most important organ of the legislative branch. The German Bundesrat is also involved in the legislative process as an organ through which the sixteen *Länder* of Germany participate in the legislation of the Federation.

The Federal Government introduces most legislation; when it does so, the Bundesrat reviews the bill and then passes it on to the Bundestag. If a bill originates in the Bundesrat, it is submitted to the Bundestag through the executive branch. If the Bundestag introduces a bill, it is sent first to the Bundesrat. The Joint Conference Committee resolves any differences over legislation between the two legislative chambers. Once the compromise bill that emerges from the conference committee has been approved by a majority in both chambers and by the cabinet, it is signed into law by the federal president.

The German Basic Law assigns no general legislative powers to the Federal Government in respect of environment protection. Rather, the respective legislative powers are separated out for air pollution control, noise abatement, waste management, nature conservation and water supply. Environmental responsibilities that fall either to a limited extent under these sectoral responsibilities or are not covered by them at all can, under certain circumstances, be covered by the legislative power of "law relating to economic affairs". Then, legislation on climate change can in part be covered by the legislative area of "air pollution control", but must also be covered by the "law relating to economic affairs". Therefore, there is no uniform legislative area of climate change law in Germany.

4.13.3 Approach to Climate Change

Energy supply

Building on its national climate policy programmes of 2000 and 2005, Germany launched its first national climate change and energy programme in 2007, closely followed by a second package in 2008. More recently, in September 2010, the German government launched its Energy Concept for an Environmentally Sound, Reliable and Affordable Energy Supply. This strategy included an extension of the operation of its nuclear reactors (by an average of 12 years) and the expansion of renewable energy sources. However, following the Fukushima disaster in Japan in March 2011, the German government reassessed the risks associated with nuclear

power. The government has now decided to phase out nuclear energy by 2022 and will increase its ambition for renewable energy, including a target to produce 35% of electricity from renewable sources by 2020 (from the original target of 30%). In 2011 the government amended the Atomic Energy Act and the Renewable Energies Sources Act to put these changes into law.

Historically, the government's integration of climate change mitigation into the legal system has been primarily focused on energy efficiency and renewable energy. Germany has introduced a range of statutory regulations on energy efficiency in key sectors. Amendments to the Combined Heat and Power Act in 2008, 2009 and 2012 increased the percentage share of high-efficiency combined heat and power (CHP) plants in electricity and heat generation (primary energy use over 90%) from 12 to 25% in 2008 and 2009 to reach a 25% share of the total conventional energy generated by 2020. District heat networks will also be expanded. The government amended the Combined Heat and Power Act in 2011 and again in 2012 on the basis of a monitoring report to strengthen energy production in CHP plants.

Use of renewable energy is of fundamental importance in German climate change legislation. The Renewable Energy Sources Act of 25 October 2008 remains the most important instrument for expanding the use of renewable energy sources. This law set a target to generate 30% of electricity supply from renewable energy resources by 2020 and this target was increased to 35% in 2011 following the Fukushima disaster and the resultant decision to phase out nuclear power by 2022. The feed-in-tariff regime for photovoltaic installations was revised in summer 2012. Payments for PV systems above 10 MW were cancelled. The feed-in-tariffs for installations below 10 MW have been adjusted for several classes of PV systems. For April 2012 ranges between 13.5 and 19.5 cent/kWh have been set which decrease 1% per month plus/minus a variable factor starting in September 2012 with an maximum degression fixed at 29%. The government has announced that it wants to maintain a solar "growth corridor" of 2,500–3,500 MW per year, with support for new installations capped when a national total of 52 GW is reached. A class system for medium-sized roof-top installations will also be introduced.

In line with the Meseberg Integrated Energy and Climate Programme, new instruments were introduced under the Renewable Energies Heat Act of 7 August 2008, which is designed to foster and enforce the use of renewable energy for heat supply. Given that around half of the energy used in Germany goes to supplying heat and for refrigeration, the aim of this Act is not only to reduce energy

consumption by improving energy efficiency, among other things with the aid of the Energy Saving Ordinance (EnEV), but also to switch the unavoidable portion of energy consumption over to renewable energy.

The Act on Demonstration and Application of Gechnologies for Capture, Transport and Permanent Storage of Carbon Dioxide (CCS), transposing the EU Directive 2009/31 on CCS, was adopted in 2012, after a long conciliation process between the lower (Bundestag) and the upper (Bundesrat) Chambers. The federal regions (Länder) represented in the Bundesrat demanded the introduction of an annual storage limit of 4 million tonnes of CO_2, as well as provisions granting discretionary powers to the Länder as to the authorisation of CCS demonstration sites on the basis of alternative uses for the site, its geological features and public interest factors.

To expand and upgrade the grid in the expansion of renewable energy sources, the government intends to adopt a Grid Expansion Acceleration Act to create the prerequisites for a quicker expansion. This is particularly relevant for electricity transmission grids with the main function of transporting wind power from the North to the consumption centres of the south. The revised Energy Industry Act will create a stronger basis for smart grids and storage facilities. The government is also preparing a Planning Acceleration Act to help ensure the required capacities of fossil fuel power plants are created quickly.

Another key component in the promotion of renewable energy involves greater use of biofuels. The German government has introduced a package of rules that simplifies the procedure for feeding biogas into the gas grid. The package includes a revised Gas Grid Access Ordinance 2008 and the Gas Grid Fee Ordinance 2008. What is more, the Meseberg Integrated Energy and Climate Programme contained a 17% target for biofuels by 2020. The legal basis is provided by the Biofuel Quotas Act of 2009. Germany has also transposed the Renewables Directive requirements on sustainable biomass production one for one into national law by means of the Federal Biofuels Sustainability Ordinance in 2009.

Energy efficiency

In the buildings sector, the Energy Saving Ordinance (EnEV) was amended (most recently in 2009), with the requirements for restricting primary energy use and transmission heat loss being significantly tightened. An upcoming Energy Saving Ordnance will provide for a gradual harmonisation of standards for new buildings with the future European standard for near zero-energy buildings by 2020. In order

to comply with stringent energy efficiency criteria (any products and services procured should have best performance with regard to energy efficiency), the government will adopt amendments to the Ordinance on the Award of Public Contracts. The Heat Cost Ordinance was also amended in 2009 to foster energy-saving behaviour among tenants of rented premises. The Law for energy labelling legislation implementing EU Directive 2010/30 of 19 May 2010 on the indication of the consumption of energy and other resources by energy-related products by labelling and standard product information was adopted in 2012.

Transport

For road transport, improvements are expected in the statutory reduction targets for CO_2 emissions per kilometre. Among other things, these include enhanced engine efficiency (Regulation EC 443/2009). Consumer-side incentives come in the form of revised fuel consumption labelling for private vehicles (Ordinance on Fuel Consumption Labelling for Cars, last amended in 2006). In respect of industrial facilities, greater efficiency is expected to be achieved through the emissions trading scheme.

Land use

The Federal Ministry for Education and Research is funding the project "Interdependencies between Land Use and Climate Change Strategies for a Sustainable Land Use Management in Germany (CC-LandStraD)", running from 2010 to 2015, to evaluate the mitigation and adaptation potential of various land management strategies across the major land-using sectors area-wide in Germany in order to develop sustainable land management strategies in close collaboration with stakeholders taking feasibility and social acceptability into account.

Germany: Flagship Legislation

Name of law	**Integrated Climate and Energy Programme**							
Date of entry into force	2007 and 2008							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×		×		×	×
Driver for implementation	Energy security, energy efficiency and climate change							

Summary of bill	This programme, which draws on the government's policy statement of 26 April 2007 and the results of an energy summit held on 3 July 2007, has as its guiding principles security of supply, economic efficiency and environmental protection. The integrated climate and energy programme aims to cut greenhouse emissions by 40% by 2020 compared with 1990 levels. Through 29 measures, the programme addresses a wide range of issues, including combined heat and power generation, the expansion of renewable energy in the power sector, carbon capture and sequestration technologies, "smart" metering, clean power station technologies, the introduction of modern energy management systems, support programmes for climate protection and energy efficiency (apart from buildings), energy efficient products, provisions on the feed-in of biogas to natural gas grids, an energy savings ordinance, the operating costs of rental accommodation, a modernisation programme to reduce CO_2 emissions from buildings, energy efficient modernisation of social infrastructure, the Renewable Energies Heat Act, a programme for the energy efficient modernisation of federal buildings, a carbon dioxide strategy for passenger cars, the expansion of the biofuels market, reform of vehicle tax on the basis of carbon dioxide, energy labelling of passenger cars, reinforcement of the influence of the HGV toll, aviation, shipping, the reduction of emissions of fluorinated GHGs, procurement of energy efficient products and services, energy research and innovation, electric mobility, international projects on climate protection and energy efficiency, reporting on energy and climate policy by German embassies and consulates, and a transatlantic climate and technology initiative.
Targets	Energy supply: to double electricity generation from Combined Heat and Power to 25%; approval of a 850km underground grid to transport offshore wind energy to the country's south. Energy demand: Energy-related requirements for new homes and fully renovated old homes to target a 30% reduction in energy use; also rules on replacement of central heating boilers and new standards for windows and the insulation of building facades. Incentives for "smart" meters; reform of the Energy Saving Ordinance. Transport: Increase in road tolls for trucks; reform of vehicle tax to a pollutant and carbon dioxide emissions basis; amendment to the Passenger Car Energy Consumption Labelling Scheme. Research and development: €400 million (US$522.5 million) to be allocated from sales of carbon allowances in the EU ETS to invest in low carbon projects, including refrigeration technology and biomass research.

Germany: Other Relevant Legislation

Name of law	Energy Concept for an Environmentally Sound, Reliable and Affordable Energy Supply							
Date of entry into force	28 September 2010							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
	×	×	×	×	×	×	×	×
Driver for implementation	Renewable energy, energy security, climate change							
Summary of bill	To set out a long-term energy strategy to 2050 that will provide an environmentally sound, reliable and affordable energy supply. Scientifically tested monitoring every three years, to be published. Methodology to be established.							
Targets	40% below 1990 levels by 2020; 55% by 2030; 70% by 2040 and 80–95% by 2050							

Name of law	Biofuel Quota Act							
Date of entry into force	15 July 2009, amended on 17 September 2009							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×			×			
Driver for implementation	Renewable energy							
Summary of bill	The legal basis for the Meseberg Integrated Energy and Climate Programme, which contained a 17% target for biofuels by 2020.							
Targets	Under the Act, a growing percentage of fuel for use in motor vehicles must be produced from biomass. The German Advisory Council on the Environment found the target to be far too high, and favours biomass use in stationary CHP plants. The European Union in Article 3 (4) of the Renewable Energy Directive (Directive 2009/28/EC) prescribes a renewables share of only 10% for the transport sector.							

Name of law	**German Strategy for Adaptation to Climate Change**							
Date of entry into force	17 December 2008							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
						×	×	
Driver for implementation	Climate change							
Summary of bill	The Strategy adopted by the Federal Cabinet creates a framework for adapting to the impacts of climate change in Germany. It primarily describes the contribution of the Federation, thus acting as a guide for other actors. The Strategy lays the foundation for a medium-term, step-by-step process undertaken in cooperation with the federal Länder and other civil groups and aimed at assessing the risks of climate change, identifying the possible need for action, defining appropriate goals and developing and implementing options for adaptation measures.							
Targets	None specified							

Name of law	**Renewable Energy Sources Act (EEG)**							
Date of entry into force	25 October 2008, amended in 2009 and 2011							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
	×	×						
Driver for implementation	Climate change							
Summary of bill	This Act replaced the law on feeding electricity from renewable resources into the public grid of 7 December 1990. The instrumental core of the former Electricity Grid Feed Act has been retained: grid operators must feed renewables-generated electricity into the grid and charge a state-prescribed price for it. However, the regulatory approach has been updated and made more sophisticated under the new Act. On 1 January 2011 a degression of 13% for PV systems became effective. The 2011 revision also made comprehensive amendments to the Biomass Ordinance, which came into effect on 1 January 2012. The amended Biomass Ordinance stipulates which substances are eligible for an additional tariff payment based on the types of biomass, which energy-related reference values are to be used to calculate the tariff and how tariffs relating to biomass types should be calculated.							
Targets	The Act aims to generate 30% of electricity supply from renewable energy resources by 2020 (amended to 35% following the Fukushima disaster).							

Name of law	**Renewable Energies Heat Act**							
Date of entry into force	7 August 2008, amended 2009 and 2011							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×					
Driver for implementation	Energy efficiency; and switch the unavoidable portion of energy consumption over to renewable energy							
Summary of bill	The regulatory core of the Act comprises the statutory obligation to cover a percentage of heat demand from renewable energy sources. The percentage involved depends on the type of energy used and ranges from 15% for solar energy to 50% for biofuel. However, the obligation to meet heat demand using renewables may be replaced by other measures, e.g., high-performance CHP plants.							
Targets	It is hoped that the share of renewables in heat supply will be increased from the current 6.6% to 14% in 2020. An annual €500 million (US$653) in funding will be made available up to 2012 to promote energy efficiency in buildings.							

Name of law	**Energy Saving Ordinance (EnEV) on energy-saving insulation and energy-saving systems technology in buildings**							
Date of entry into force	24 July 2007, last amended 29 April 2009							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×					
Driver for implementation	Energy efficiency							
Summary of bill	The regulation prescribes requirements for buildings: that specific annual primary energy consumption may not be exceeded (Section 3 and 4 EnEV). These minimum requirements include thresholds for transmission heat loss and also apply in adapted form from existing buildings (Section 9 and 10 EnEV). It was amended in 2009, with the requirements for restricting primary energy use and transmission heat loss being significantly tightened.							
Targets	The Federal Government expects these measures to effect a 20% reduction in CO_2 emissions in the buildings sector by 2020.							

Name of law	**Energy Industry Act**							
Date of entry into force	13 July 2005							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×					×
Driver for implementation	Energy security, energy efficiency							
Summary of bill	A framework policy to enhance competition, security of supply and sustainable energy production. It requires electricity labelling according to type of energy source, providing greater information on electricity sources to allow consumers to make informed decisions about suppliers.							
Targets	None specified							

Name of law	**Law on the Conservation, Modernisation and Development of Combined Heat and Power (CHP)**							
Date of entry into force	19 March 2002 amended 15 October 2008 and 21 August 2009							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						
Driver for implementation	Renewable energy							
Summary of bill	This law replaces the 2000 law on combined heat and power. Both laws are primarily intended to promote large CHP plants that were affected by decreasing electricity prices as a consequence of liberalisation. At the same time the share of CHP-produced electricity is to be increased, aiming at lowering CO_2 emissions by 23 million tonnes by 2010. Half of this target is to be achieved by the CHP law, the other half by a voluntary agreement with industry. The renewable energy technologies not covered by the EEG may benefit from this law. This includes co-firing of biomass in fossil-fuelled power plants and biomass-fired CHP larger than 20 MW. The premium cannot be combined with other support, particularly not with the EEG.							
Targets	With the amendments in 2008 and 2009, the percentage share of high-efficiency CHP plants in electricity and heat generation (primary energy use over 90%) will be increased from 12 to 25%. District heat networks will also be expanded.							

Name of law	Law to amend the Mineral Oil Tax Law and Renewable Energy Law							
Date of entry into force	June 2002							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						
Driver for implementation	Renewable energy							
Summary of bill	The Law raises the cap on total photovoltaic capacity that is eligible for premium payments under the renewable energy law, and extends mineral oil tax exemption to cover all biomass fuels. This Law was accepted by the EU in February 2004. The Law raises the cap on the total photovoltaic capacity that is eligible for premium payments under the renewable energy law. It benefits biofuels by exempting them from oil tax from January 2004 until the end of 2009. The Law requires that the Federal Finance Ministry draw up a report with the aid of other relevant ministries every two years, with the first due at the end of March 2004, to chart progress in the market introduction of biofuels, and to examine price developments of biomass, crude oil and automobile fuels.							
Targets	None specified							

Name of law	Act amending the regulatory framework for electricity from PV (EEG change) (Gesetz zur Änderung des Rechtsrahmens für Strom aus PV [EEG-Änderung])							
Date of entry into force	23 August 2012							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×					×	×
Driver for implementation	Decarbonisation of energy mix							
Summary of bill	This Act introduces monthly tariff degressions in the national feed-in tariff (FiT), replacing the annual FiT cut that typically occurs in January. The feed-in-tariffs for installations below 10 MW have been adjusted for several classes of PV systems. For April 2012 ranges between 13.5 and 19.5 cent/kWh have been set which decrease 1% per month plus/minus a variable factor starting in September 2012 with an annual maximum degression fixed at 29%. The feed-in-tariff for systems between 10 and 1,000 kW will be calculated on the bases of 90% of the energy generated. This rate will be valid until January 2014. Funding for photovoltaic installations above 10 MW has been cancelled. All funding will be back-dated to the original date of 1 April 2012. A €50 million (US$65 million) research and development programme for PV storage solutions will be operational from 1 January 2013.							
Targets	None specified							

Name of law	**Act amending the Combined Heat and Power Act (KWK) (Gesetz zur Änderung des Kraft-Wärme-Kopplungsgesetzes [KWK])**							
Date of entry into force	19 July 2012							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						
Driver for implementation	Decarbonisation of energy mix, energy conservation							
Summary of bill	The purpose of the Act is to increase the electricity generation from combined heat and power plants by promoting the modernisation and construction of combined heat and power plants, the support of the launch of the fuel cell and the funding for the construction and expansion of heating and cooling systems, and the construction and extension of heat and cold storage capacity.							
Targets	Power from combined heat and power plants should represent 25% of total electricity production by 2020.							

4.14 India

4.14.1 Fact Box

Greenhouse Gas emissions incl. LULUCF ($MtCO_2e$) excl. LULUCF ($MtCO_2e$) Change from base year (1990)	 1301 1524 NA
Latest reporting year	2000[1]
Importance as an emitter	Top 5
UNFCCC ratification status and date	Date of signature: 10 June 1992 Date of ratification: 1 November 1993 Date of entry into force: 21 March 1994
Kyoto Protocol ratification status and date	Date of ratification: 26 August 2002 Date of entry into force: 16 February 2005
2020 pledge	Voluntary action to reduce the emissions intensity of GDP (excluding agriculture) by 20–25% by 2020 relative to 2005
Flagship legislation	**National Action Plan on Climate Change**

1 In May 2010, India published a GHG inventory for the year 2007; this has not been officially submitted to the UNFCCC.

4.14.2 Legislative Process

The Indian parliament is a bicameral legislature composed of a Lower House (the Lok Sabha or House of the People), and an Upper House (the Rajya Sabha or Council of States).

The legislature passes laws – also called "acts" – on constitutionally specified matters, such as central government finances and constitutional amendments. The two houses have the same powers, but the Rajya Sabha's power in the legislative process is subordinate to the Lok Sabha. All legislative proposals have to be brought in the form of Bills before Parliament. A Bill is a statute in draft and cannot become law unless it has received the approval of both the Houses of Parliament and the assent of the President of India.

There are 28 States and 7 Union territories in the country. The system of government in states closely resembles that of the Union. Each State Government has the freedom to draft its own laws on subjects that are classified as state subjects. Laws passed by the Parliament of India and other pre-existing central laws on subjects that are classified as central subjects are binding on all citizens of the country.

4.14.3 Approach to Climate Change

Climate change

India is a non-Annex I country under the Kyoto Protocol and thus has no binding target for emissions reduction. However, India is an active participant in the Clean Development Mechanism (CDM) established by the Protocol. Indeed, it has more than 889 registered CDM projects as of 10 September 2012. India has a number of policies that, while not primarily driven by climate concerns, contribute to reducing or avoiding GHG emissions.

Rather than integrative binding legislation, India is developing a policy process to specifically address climate change. India adopted a "*National Action Plan on Climate Change" (NAPCC)* in 2008 outlining existing and future policies and programmes directed at climate change mitigation and adaptation. The plan outlines eight *"national missions"* running up to 2017. These missions include the National Solar Mission, the National Mission for Enhanced Energy Efficiency, the National Mission on Sustainable Habitat and the National Mission for a Green India (focussed on the increasing of forest cover), as well as the National Mission on Strategic Knowledge (aiming at establishing a research fund). In addition, it contains adaptation missions such as the National Mission for Sustaining the

Himalayan Ecosystem to help protect India's water supply from the Himalaya and the National Mission for Sustainable Agriculture.

In addition to actions at the Federal level, State governments are preparing (and some have already launched) State-level Action Plans on Climate Change, through which the NAPCC will be implemented. They draw upon India's National Action Plan in order to put in place state-level measures in mitigation and adaptation.

In June 2010, the Ministry of Environment and Forests at the Government of India released a document called "India: Taking on Climate Change – Post Copenhagen Domestic Actions". In addition to evaluating the progress of the policies announced in the 2008 NAPCC, it stated that India would be the first developing country to publish its emissions inventory in a two-year cycle going forward. It started by publishing its 2007 inventory. In May 2012, India published its second communication to the UNFCCC, which includes an emissions inventory for the year 2000. The communication also includes a section on vulnerability assessment and adaptation: it presents climate change projections for India and impact assessments on water, forests, agriculture and human health. Consultations are underway for a third communication.

On 4 October 2012, the Indian government approved India's 12th Five-Year Plan for 2012–2017, drafted by the Planning Commission, which sets a target of 8.2% growth during that period. The Plan makes clear that high growth requires supporting growth in energy and that the Indian government must take steps to reduce the energy intensity of production processes and also to increase domestic energy supplies as quickly as possible. The Government of India has set up an Expert Group on Low Carbon Strategy for Inclusive Growth. The Group has been given the mandate to develop a roadmap for India for low carbon development. The Group's recommendations are a central part of India's 12th Five-Year Plan. The Plan received final approval from the National Development Council in late December 2012.

On the forestry side, a Technical Group has been set up to develop methodologies and procedures to facilitate the assessment and monitoring of REDD+ actions.

Energy supply and demand

India has made important efforts in the last two decades to reduce its energy intensity. Factors contributing to the decline in energy intensity include improved energy efficiency, increased use of renewable and nuclear power, expanded public transport and energy pricing reform.

In February 2010, India announced a levy – a clean energy cess – on coal, at the rate of Rs. 50 (about US$1) per tonne, which will apply to both domestically produced and imported coal. This money will go into a National Clean Energy Fund that will be used for funding research, innovative projects in clean energy technologies and environmental remedial programmes.

The *Electricity Act 2003* sought to better coordinate development of the power sector in India. As an objective, it seeks to promote efficient and environmentally benign policies, among others. The Act recognised the role of renewable energy in the country's National Electricity Policy (issued by the government in 2005) and contains key provisions relating to renewable energy. This Act was supplemented by the *2006 Tariff Policy* that stipulates that State Electricity Regulatory Commissions (SERCSs) must purchase a minimum percentage of power from renewable sources. The 2006 *Integrated Energy Policy* that received Cabinet approval in 2008 has the broad objective of meeting energy demand "at the least cost in a technically efficient, economically viable and environmentally sustainable manner". It contains a number of policies that contribute to avoiding GHG emission.

In 2007, India's cabinet made a series of announcements regarding ethanol production and proposed an indicative target of 20% blending of biofuels, both for bio-diesel and bio-ethanol, by 2017. A National Policy on Biofuels outlining the same target was approved by government in December 2009. In order to avoid a conflict between energy security and food security, the policy promotes only fuels derived from non-edible plants, in waste, degraded or marginal lands. The policy offers farmers and cultivators a minimum support price for non-edible oil seeds, as well as a minimum purchase price for fuel.

In addition to these framework policies, there are an important number of regulation and incentive instruments promoting energy efficiency and the use of renewable energy, at the Federal and the State levels. These include a revision in 2007 of the *Energy Conservation Building Code* that sets minimum requirements for building envelope components, lighting, HVAC, electrical systems and water heating and pumping systems. Solar and wind power are strongly promoted as well through Solar and Wind *Power Generation Based Incentives.* As announced by the NAPCC, the *National Solar Mission* is a large-scale solar energy programme that runs from 2010 to 2022 and promotes electricity generation from both small- and large-scale solar plants. Presently, wind farm projects qualify for accelerated depreciation under the Income Tax Act and also a "tax holiday" as infrastructure projects. Lots of local projects are also being implemented such as the *Solar Photovoltaic Programme*, the *Solar Water Heating System Programme* and the *Village Electrification Programme.*

India: Flagship Legislation

Name of law	National Action Plan on Climate Change							
Date of entry into force	2008							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
	×	×	×	×	×	×	×	×
Driver for implementation	Climate change							

Summary of bill

India's first National Action Plan on Climate Change (NAPCC) outlines existing and future policies and programmes directed at climate change mitigation and adaptation.

The Plan outlines eight "national missions" running until 2017.

The Government has created an Advisory Council on Climate Change, chaired by the Prime Minister. The Council has broad based representation from key stakeholders, including Government, Industry and Civil Society and sets out broad directions for National Actions in respect of Climate Change. The Council will also provide guidance on matters relating to coordinated national action on the domestic agenda and review of the implementation of the National Action Plan on Climate Change including its R&D agenda.

The Council would also provide guidance on matters relating to international negotiations including bilateral and multilateral programmes for collaboration, research and development. The Council will be responsible for undertaking periodic reviews and reporting on the Missions' progress. Each Mission will report publicly on its annual performance.

These National Missions will be institutionalised by respective ministries and will be organised through inter-sectoral groups that include, in addition to related Ministries, the Ministry of Finance and the Planning Commission, experts from industry, academia and civil society. The institutional structure would vary depending on the task to be addressed by the Mission and will include providing the opportunity to compete on the best management model.

Each Mission will be tasked to evolve specific objectives spanning the remaining years of the 11th Plan and the 12th Plan period 2012–2013 to 2016–2017. To be able to quantify progress, appropriate indicators and methodologies will be developed to assess both avoided emissions and adaptation benefits.

Energy Supply is dealt with through the *National Solar Mission*: it sets a goal of increasing production of photovoltaic electricity to 1,000MW per year, and to deploying at least 1,000MW of solar thermal power generation. It also sets the objective of establishing a solar research centre, increased international collaboration on technology development, strengthening of domestic manufacturing capacity and increased government funding and international support. The Plan's long-term aim is to make solar energy competitive with fossil-based energy.

	Energy demand is addressed via two programmes: the first is the *National Mission for Enhanced Energy Efficiency*. The Plan estimates that current initiatives, based on the Energy Conservation Act of 2001, will yield 10,000MW of savings by 2012. Building on this, the plan recommends mandating specific energy consumption decreases in large energy-using industries, including a system for companies to trade energy-savings certificates. It also focuses on the role of incentives. *National Mission on Sustainable Habitat*: The Plan seeks to promote *energy efficiency* as an essential component of urban planning. It calls for extending the Energy Conservation Building Code, and emphasises urban waste management and recycling, including power production from waste. *REDD+ and LULUCF* aspects of the climate action plan are addressed through the *National Mission for a Green India*: The Plan sets an afforestation target of 6 million ha of degraded forest lands, as well as expanding forest cover from 23% to 33% of the country's territory. Transportation issues are also dealt with in the plan, which calls for stronger enforcement of automotive fuel economy standards, using pricing measures to encourage the purchase of efficient vehicles, and providing incentives for the use of public transportation. *The National Mission on Strategic Knowledge of Climate Change* calls for the establishment of a Climate Science Research Fund, improved climate modelling capacities and increased international collaboration. Other missions include: *National Water Mission*: The plan sets a goal to improve efficiency in water use by 20% through pricing and other measures. *National Mission for Sustaining the Himalayan Ecosystem*: The plan targets biodiversity, forest cover and other ecological conservation in the Himalayan region, home to glaciers that are a major source of India's water supply. *National Mission for Sustainable Agriculture*: The plain aims to support *adaptation* to climate change in agriculture, through the development of climate-resilient crops and adapted agricultural practices, as well as the expansion of weather insurance mechanisms.
Targets	Targets specified per specific missions

India: Other Relevant Legislation

Name of law	National Electricity Plan (Generation)							
Date of entry into force	January 2012							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						
Driver for implementation	Climate change, energy efficiency							
Summary of bill	This Plan was prepared in fulfilment of Central Electricity Authority's obligation under the Electricity Act 2003, with the primary aim of ensuring reliable access to electricity. The Plan's 4th chapter deals with initiatives and measures for GHG mitigation, and aims to keep CO_2 intensity declining while massively expanding rural access and increasing power generation to meet the demands of a rapidly growing economy. The main initiatives are in these areas: • Technological improvements of power stations – increase of unit size, introduction of clean-coal technologies (super-critical technology; ultra-super-critical technology; CFBC- Circulating Fluidised Bed Combustion technology; IGCC- integrated gasification combined cycle technology); renovation and modernisation of thermal power plants; renovation, modernisation and uprating of hydro-electric power projects; retirement of old and inefficient thermal plants; generation and energy efficiency measures; efficient use of resources (including combined cooling heating and power); distributed generation; coal quality improvement. • Development of renewable sources, including solar							
Targets	As set out in the national solar mission							

Name of law	Post-Copenhagen announced domestic actions (follow up of the 2008 Climate Action Plan)							
Date of entry into force	Document released 30 June 2010							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
	×	×	×	×	×	×	×	×
Driver for implementation	Climate change							

Summary of bill

Ministry of Environment and Forests at Government of India has released its document called "India: Taking on Climate Change – Post Copenhagen Domestic Actions" and has described a set of various actions being taken by the government in the country. On 10 May 2010, India released its Greenhouse Gas (GHG) Emissions Inventory for 2007, with the aim of enabling informed decision-making and to ensure transparency.

Before then the only official emissions estimates available had been for the year 1994. With this publication, India has become the first "non-Annex I" (i.e. developing) country to publish such updated numbers.

India also announced its intent to publish its emissions inventory in a two-year cycle going forward, which is much more frequent than the requirement under its NATCOM commitments. India will be the first developing country to do so.

Pricing carbon: India has announced a levy, a clean energy cess, on coal, at the rate of Rs. 50 (US$1) per tonne, which will apply to both domestically produced and imported coal.

This money will go into a National Clean Energy Fund that will be used for funding research, innovative projects in clean energy technologies and environmental remedial programmes. The expected earnings from this cess are expected to be around US$500 million for the financial year 2010–2011.

India's cabinet approved the National Mission on Enhanced *Energy Efficiency* (NMEEE) on 24 June 2010. The Mission includes several new initiatives – the most important being the *Perform, Achieve and Trade (PAT) Mechanism*, which will cover facilities that account for more than 50% of the fossil fuel used in India, and help reduce CO_2 emissions by 25 million tonnes per year by 2014–2015.

The National Mission on Sustainable Habitat (NMSH) was approved as one of the eight National Missions under the Prime Minister's National Action Plan on Climate Change (NAPCC). A comprehensive strategic plan is being drafted for the implementation of this Mission.

The GIM, also one of the eight National Missions under NAPCC, is being finalised. The overarching target of the GIM is to double the area to be taken up for afforestation/eco-restoration in India in the next 10 years, taking the total area to be afforested or eco-restored to 20 million ha. This would increase the above and below ground biomass in 10 million ha of forests/ecosystems, resulting in increased carbon sequestration of 43 million tonnes CO_2e annually.

India has also announced a number of initiatives related to its preparedness for REDD+:

- A Technical Group has been set up to develop methodologies and procedures to make assessment and monitor REDD+ actions
- A National REDD+ Coordinating Agency has been given in-principle approval
- Methodologies for National Forest Carbon Accounting are being institutionalised
- A national level consultation on the preparedness for REDD+ was held in March 2012

The Indian Network for Climate Change Assessment (INCCA) is undertaking a major "4X4" assessment of the impacts of climate change on four sectors – water resources, agriculture, forests and human health – in four critical regions of India – the Himalayan region, North east, Western Ghats and Coastal India. This was released in November 2010. INCCA is a network comprising 127 research institutions tasked with undertaking research on the science of climate change and its impacts on different sectors of the economy across the various regions of India.

Launch of Indian satellite to monitor GHG emissions by 2013 is on track.

The Government of India has set up an Expert Group on Low Carbon Strategy for Inclusive Growth. The Group has been given the mandate to develop a roadmap for India for low carbon development. It will recommend prioritised actions in sectors such as Electricity, Transport, Industry, Oil and Gas, Buildings, and Forestry. The Group's recommendations, published in an interim report in May 2011, are a central part of India's 12th Five-Year Plan.

State governments are preparing State-specific Action Plans on Climate Change, which draw upon India's National Action Plan and operationalise state-level measures in mitigation and adaptation. Delhi became the first state to complete and launch their Action Plans. Most other States are finalising their Action Plans.

With regards to *adaptation*, The National Mission for Sustaining the Himalayan Ecosystem has been approved and launched. This Mission focuses on evolving suitable management and policy measures for sustaining and safeguarding the Himalayan glacier and mountain eco-system.

Adaptation measures are key elements of state level plans, which will not be discussed in detail.

Targets	None specified

Name of law	**National Solar Mission (consequence of National Action Plan on Climate Change)**							
Date of entry into force	2010							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						×
Driver for implementation	Renewable energy, energy efficiency							
Summary of bill	The Indian Solar Mission is a large-scale solar energy programme that will run from 2010 to 2022. Given the major policy focus of the Indian government to provide wider energy access in rural areas, the project promotes electricity generation from both small- and large-scale solar plants. The plan's long-term aim is to make solar energy competitive with fossil-based energy. The Solar Roadmap establishes specific installed capacity targets for three different periods of three and four years. It sets specific goals for increasing use of solar thermal technologies in urban areas, industry and commercial establishments. To support the Solar Roadmap, the government has set up a Power Purchase Tariff (PPT) fixed by the Central Regulatory Commission (CERC) and revised annually. The government also decided to reduce to 5% the customs levy on imports of machinery, instruments, equipment and appliances used in solar PV and solar thermal plants. Domestic equipment will be exempt from the excise levy. The Solar Mission will also stimulate national R&D and academic research by providing innovation subsidies and scholarships to at least 1000 young scientists and engineers, and by launching specific pilot projects aligned with the Mission's targets. A Solar Mission Council is established to oversee the strategy.							
Targets	• To create an enabling policy framework for the deployment of 20,000MW of solar power by 2022 • To ramp up capacity of grid-connected solar power generation to 1,000MW within three years – by 2013; an additional 3,000MW by 2017 through the mandatory use of the renewable purchase obligation by utilities backed with a preferential tariff • To promote programmes for off grid applications, reaching 1,000MW by 2017 and 2000MW by 2022 • To achieve 15 million sq. meters solar thermal collector area by 2017 and 20 million by 2022 • To deploy 20 million solar lighting systems for rural areas by 2022							

Name of law	Incentives for Wind Power							
Date of entry into force	Introduced 2009, ceased March 2012							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						
Driver for implementation	Renewable energy							
Summary of bill	In July 2008, the Ministry of New and Renewable Energy (MNRE) launched a new generation-based incentive scheme for wind power production. The scheme is designed to promote investment in new and large independent wind power producers. The scheme is currently not accepting new applications. The incentive provided Rs. 0.50 (about US$0.10) per kWh, and payments were capped at around US$120,000 per MW spread over a minimum of four years. A second programme introduced, which has proven more popular among developers, is the accelerated depreciation incentive scheme, according to which developers could claim depreciation of up to 80% of the project in the financial year after the year the project was commissioned.							
Targets	Generation based scheme: Securing 4,000MW of new wind power capacity by 2012							

Name of law	Solar Power Generation Based Incentive							
Date of entry into force	2008							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						
Driver for implementation	Renewable energy							
Summary of bill	In January 2008, the federal minister responsible for renewable energy announced that the Indian government would provide a subsidy for solar power plants to help develop renewable energy infrastructure. The subsidy will consist of 12 rupees (US$0.30) per kilowatt- hour for solar photovoltaic power and 10 rupees per kWh for solar thermal power fed to the electricity grid. A maximum capacity of 10MW from each Indian state will be eligible under the scheme and 5 MW per developer. Capital investors will not be eligible to apply. Developers will sell electricity to state-run utilities and the incentives will be paid to them based on the tariff the utilities provide. The incentives, for a period of 10 years, will be over and above any financial assistance provided by the states.							
Targets	None specified							

Name of law	**Energy Conservation Building Code**							
Date of entry into force	2007							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×					×
Driver for implementation	Energy efficiency							
Summary of bill	The Energy Conservation Act of 2001 mandated the creation of the Bureau of Energy Efficiency (BEE), established in March 2002. The BEE was mandated with establishing an Energy Conservation Building Code (ECBC). A National building code was developed by the Bureau of Indian Standards, and last revised in 2005. However, it does not specifically address energy efficiency issues. Rather, it promotes the use of new and innovative technologies and methods. This code serves as a building block to achieve the Sustainable Habitat mission of the National Climate Action Plan. The ECBC sets minimum requirements for building envelope components, lighting, HVAC, electrical systems, water heating and pumping systems. It has been developed to account for five different climatic zones, particularly for envelope component requirements. It is not mandatory the first three years, and will become so in 2010, to allow the necessary implementation capacity to be developed. The code will be mandatory for all new buildings (commercial buildings or complexes) with a connected load of 500kW or more, or a contract demand of 600 kVA or greater. It will also apply to buildings with a conditioned floor space of 1,000m2 or greater.							
Targets	None specified							

Name of law	**Ethanol Production Incentives**							
Date of entry into force	2007							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						
Driver for implementation	Biofuel							
Summary of bill	In October 2007, India's cabinet made a series of announcements regarding ethanol production and proposed an indicative target of 20% blending of biofuels, by 2017, both for bio-diesel and bio-ethanol. A National Policy on Biofuels outlining the same target had been approved by government in December 2009. In order to avoid a conflict between energy security and food security, the policy promotes only fuels derived from non-edible plants, in waste, degraded or marginal lands. The policy offers farmers and cultivators a minimum support price for non-edible oil seeds, as well as a minimum purchase price for fuel. The government is formulating a national policy on biofuels to introduce financial incentives, develop R&D for production and commercialisation of ethanol and jatropha and establish a national biofuel development board. The policy allows sugar companies to manufacture ethanol directly from sugarcane juice (previously, ethanol had been produced only from the sugarcane by-product, molasses). It extends a freight subsidy to sugar mills for exports by one year; the scheme was to end in April 2008. The policy set a uniform price of Rs. 21.50 (US$0.54) per litre for ethanol. Since October 2007, 5% blending of ethanol with petrol has been mandatory, increasing to 10% from October 2008.							
Targets	None specified							

Name of law	**Integrated Energy Policy**							
Date of entry into force	2006							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×					×
Driver for implementation	Energy framework							
Summary of bill	At the direction of the Prime Minister and Deputy Chair of the Planning Commission, an expert committee was established to develop a comprehensive energy policy in 2004. The Integrated Energy Policy, released in August 2006, addresses all aspects of energy, including energy security, access and availability, affordability and pricing, efficiency and the environment. The Policy process was approved with the broad objective of meeting energy demand "at the least cost in a technically efficient, economically viable and environmentally sustainable manner". It contains a number of policies that contribute to avoiding GHG emissions. It received Cabinet approval in the last week of December 2008. In relation to renewable energy, the policy proposed: • The phase-out of capital subsidies by the end of the 10th Plan linked to creation of renewable grid power capacity • Requiring power regulators to seek alternative incentive structures that encourage utilities to integrate wind, small hydro, cogeneration and so on into their systems, and the linking of all such incentives to energy generated as opposed to capacity created • Requiring power regulators to mandate feed-in laws for renewable energy, where appropriate, as provided under the Electricity Act 2003. The policy also made a range of more specific recommendations in relation to particular renewable energy sources, including mini hydro, wind and wood gasification power The Energy Coordination Committee (under the chairmanship of the prime minister of India) oversees implementation of the policy.							
Targets	None specified							

Name of law	**Tariff Policy 2006**							
Date of entry into force	2006, amended 2011							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						×
Driver for implementation	Energy framework/renewable energy							
Summary of bill	In January 2006, the Ministry of Power announced the Tariff Policy, in continuation of the National Electricity Policy of 2005. The Tariff Policy included certain provisions regarding renewable energy and cogeneration. Under the Electricity Act 2003 and the National Tariff Policy 2006, the central and the state electricity regulatory commissions must purchase a certain percentage of grid-based power from renewable sources. The appropriate electricity commission is to fix a minimum percentage for purchase of energy from renewable and cogeneration sources, taking into account resource availability and impact on tariffs. Percentages for energy purchase were made applicable for tariffs to be determined by the State Electricity Regulatory Commission (SERC) by 1 April 2006. Procurement by distribution companies is to be done at preferential tariffs, determined by the appropriate commission, to encourage non-conventional energy technologies to eventually compete with conventional ones. Such procurement is to be done through a competitive bidding process. In January 2011, the cabinet voted to amend the Tariff Policy so it would be aligned with the National Solar Mission strategy – the amendment requires the state electricity regulators to purchase a fixed percentage of solar power – 0.25% by 2013, and up to 3% in 2022. This will be supported by a Renewable Energy Certificate (REC) mechanism.							
Targets	Solar power to comprise 0.25% of power purchases by states by 2013, and 3% by 2022							

Name of law	**National Electricity Policy**							
Date of entry into force	2005							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×				×	×
Driver for implementation	Renewable energy							
Summary of bill	Government of India put out the National Electricity Policy as required by the Electricity Act of 2003. Among other goals, this policy stressed the need for the promotion of non-conventional energy sources. The policy: • Noted the need to reduce the capital cost of projects based on non-conventional and renewable sources of energy • Stressed the importance of promoting competition among renewables projects • Provided for state electricity regulatory commissions to increase progressively the share of electricity that must be purchased from non-conventional resources, and further provided that the purchase of such electricity should be conducted via a competitive bidding process • Suggests tax neutrality across energy sources • States that "maximum emphasis" would be put on the development of hydro-power. Use of thermal power could be made cleaner by using low-ash coal, improving lignite mining, and through increased use of natural gas and nuclear power. It also calls for the use of the most efficient technologies and more funding for R&D • Emphasises the need for conservation and demand-side management including a national awareness campaign							
Targets	None specified							

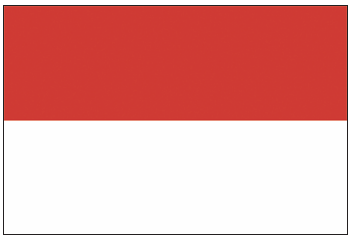
Name of law	National Auto Fuel Policy							
Date of entry into force	2003							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
					×			
Driver for implementation	Transport/air pollution							
Summary of bill	The National Auto Fuel Policy (2003) mandated that all new four-wheeled vehicles in eleven cities meet Bharat Stage III emission norms for conventional air pollutants (similar to Euro III emission norms) and comply with Euro IV standards by 2010.							
Targets	None specified							

Name of law	Electricity Act 2003							
Date of entry into force	2003, amended in 2007							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						×
Driver for implementation	Energy framework							
Summary of bill	The Electricity Act 2003 sought to better coordinate development of the power sector in India, providing a comprehensive framework for power development. Objectives include: consolidating laws relating to generation, transmission, distribution, trading and the use of electricity; and promoting competition in the industry; promoting efficient and environmentally benign policies, among others. The Act recognised the role of renewable energy in the country's National Electricity Policy and in stand-alone systems. Key provisions of the Act in relation to renewable energy include (IEA): • Preparation of a National Energy Policy and tariff policy based on optimal utilisation of resources such as coal, natural gas, nuclear substances or materials, hydro and renewable sources of energy • The specification, by State Electricity Regulatory commissions, of the terms and conditions for the determination of tariffs, as guided by the promotion of cogeneration and the generation of electricity from renewable sources • Promotion of cogeneration and the generation of electricity through renewable sources by providing suitable means for connectivity with the grid and sale, and by specifying for the purchase from such sources a percentage of the total consumption of electricity in the area of a distribution licensee.							
Targets	None specified							

Name of law	**Energy Conservation Act**							
Date of entry into force	2001							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×					×
Driver for implementation	Energy efficiency							
Summary of bill	This Act requires large energy consumers to adhere to energy consumption norms; new buildings to follow the Energy Conservation Building Code; and appliances to meet energy performance standards and to display energy consumption labels. The 2008 National Climate Action Plan builds on this legislation to achieve its energy efficiency target. Under the Act, large energy-consuming industries are required to undertake energy audits and an energy-labelling programme for appliances has been introduced. The Act establishes the Bureau of Energy Efficiency to implement the provisions of the Act.							
Targets	None specified. The plan estimates that current initiatives based on the Energy Conservation Act of 2001, will yield 10,000MW of savings by 2012.							

Name of law	**Energy Conservation Awards**							
Date of entry into force	1993							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×					
Driver for implementation	Energy efficiency							
Summary of bill	Programme: The Ministry of Power instituted National Energy Conservation Awards, coordinated by the Bureau of Energy Efficiency, to recognise industrial units that have made special efforts to reduce energy consumption. In the first five years, the participating industrial units collectively saved 2397 million units of electrical energy; 9067 kilo litres of furnace oil; 2.76 Mt of coal and 11,585 million cubic metres of gas per year, resulting in substantial reduction in GHG emissions.							
Targets	None specified							

4.15 Indonesia



4.15.1 Fact Box

Greenhouse Gas emissions incl. LULUCF ($MtCO_2e$) excl. LULUCF ($MtCO_2e$) Change from base year (1990)	 1376 554 NA
Latest reporting year	2000
Importance as an emitter	Top 10
UNFCCC ratification status and date	Date of signature: 5 June 1992 Date of ratification: 23 August 1994 Date of entry into force: 21 November 1994
Kyoto Protocol ratification status and date	Date of signature: 13 July 1998 Date of ratification: 3 December 2004 Date of entry into force: 3 March 2005
2020 pledge	26% emission reduction by 2020 in relation to business as usual scenario to be achieved through 7 mitigation actions
Flagship legislation	**Presidential Decree (PerPres) No. 61 2011, National Action Plan to reduce GHG emissions (RAN-GRK)**

4.15.2 Legislative Process

The Indonesian legal system is based on Roman-Dutch law, custom and Islamic law. The legislative power is bicameral and constituted by the House of People's Representatives (Dewan Perwakilan Rakyat or DPR) and the House of Regional Representatives (Dewan Perwakilan Daerah or DPD). The ensemble of DPR and DPD members forms a third representative body known as the People's Consultative Assembly (Majelis Permusyawaratan Rakyat or MPR). The DPR and the President jointly discuss and approve every Bill. Bills may come from the DPR, the President or the DPD. Given that there is a wide range of legislation produced from different sources and with different levels of authority, it is useful to have a hierarchy of legislation, which has been set out in the academic literature as follows:

- 1945 Constitution
- MPR Resolution
- Law
- Government Regulation Substituting a Law
- Government Regulation
- Presidential Decree
- Regional Regulation

Also binding: Presidential Instructions, Ministerial Decrees and Circular Letters.

4.15.3 Approach to Climate Change

Climate change

In terms of the country's legislative response to climate change, although Indonesia has passed meaningful legislation, it is also the case that key initiatives are embodied in decrees and regulations passed by Ministries as opposed to parliamentarians. With regards to the hierarchy of law set out above, the implication is that efforts led at the level of Ministries will have less significant impacts than Resolutions of the People's Assembly, or Laws.

Moreover, despite the country's active legislative response, enforcement, corruption and land tenure issues continue to be the central challenges when it comes to action on climate change and deforestation. Still, Norway's pledge of US$1 billion to help Indonesia cut emissions from deforestation and forest degradation has created momentum for a more comprehensive legal response to climate change. Furthermore the Government of Indonesia's "Indonesia Climate Change Trust Fund", operational since 2010, demonstrates a commitment to scale up financing

by seeking to develop innovative links between international finance with domestic investment.

Indeed, at the highest level the government has demonstrated a willingness to tackle climate change. President Susilo Bambang Yudhoyono made a bold pledge at the G-20 Summit in Pittsburgh, in September 2009, to voluntarily reduce emissions by 26% – and up to 41% depending on international support – by 2020 in relation to the business as usual scenario. The 26% target also corresponds to Indonesia's commitment with the UNFCCC, to be achieved through 7 mitigation actions; they are: 1) sustainable peat land management, 2) reduction in the rate of deforestation and land degradation, 3) development of carbon sequestration projects in forestry and agriculture, 4) promotion of energy efficiency, 5) development of alternative and renewable energy sources, 6) reduction in solid and liquid waste, and 7) shifting to low-emission transportation mode.

While the country is strongly committed to the principle of "common but differentiated responsibility" it has already opened pathways to implement domestic activities. Namely, Indonesia launched the "National Action Plan – Addressing Climate Change" when it hosted the 13th Conference of the Parties in Bali in 2007. Following this, there is now a presidential decree on the National Action Plan to Reduce Greenhouse Emissions, signed in 2011 (PerPres 61.2011). This is intended as a framework document to plan Nationally Appropriate Management Activities.

This is a broad cross-sectoral Plan including areas such as agriculture, forestry, industry, energy and infrastructure as well as instruments like taxation, investment policies, awareness raising and others. In July 2008, the Plan was officially incorporated into the country's national development strategy under the coordination of the Ministry of Planning. Indonesia created the National Council on Climate Change in July 2008 through a Presidential Regulation. The Council, formed by 17 Ministers and chaired by the President, is in charge of coordinating Indonesia's climate change policies and international positions, including the creation of a cap-and-trade mechanism.

Deforestation and degradation of forests and peat lands

Indonesia has one of the highest rates of deforestation and degradation in the world. Approximately 80% of Indonesia's GHG emissions result from deforestation and degradation, and about half of these from carbon-rich peat lands. From 1990 to 2005 deforestation rates equalled nearly 28 million ha; it is the world's third largest GHG emitter due primarily to forest loss. There are large financial incentives involved: forest industries contribute approximately US$21 billion to Indonesia's economy, about 3.5% of GDP. So, while a multi-sectoral approach is important, any

attempt to reduce Indonesia's carbon emissions necessarily must focus on Land Use, Land Use Change and Forestry (LULUCF).

A letter of intent between the governments of Norway and Indonesia signed on 26 May 2010 has created momentum for a new internationalised response to reduce deforestation and forest degradation. The letter establishes a climate change partnership between the two countries intended to support the development and implementation of Indonesia's REDD+ strategy. It makes US$1 billion available, conditional on monitored progress on the various projects to be implemented.

In addition, the initiative will create an institution to monitor Indonesia's REDD+ plans as well as an independent Monitoring, Reporting and Verification (MRV) system for anthropogenic forest and peat land related GHG emissions.

Within the Ministry of Forestry (MoF) itself – which has clearly been one of the most active with regards to climate change in Indonesia – a decree has established a MoF working group on climate change (WG-FCC; SK.13/Menhut-II/2009). However, the centrepiece of the agreement between Indonesia and Norway has been the moratorium on new forestry licences and development of peat land in Indonesia for two years, starting in May 2011: Presidential Instruction (Inpres) No. 10/2011 on "The postponement of issuance of new licences and improving governance of primary natural forest and peat land". This was intended to provide breathing space which facilitates transition to a more sustainable forestry sector.

Enabling regulations being used for REDD+ include Regulation on the implementation of REDD demonstration activities (PERMENHUT No. P68/Menhut-II/2008) and the Regulation on REDD (PERMENHUT No. P30/Menhut-II/2009). Both of these were intended to respond to the high demand from both international partners and national stakeholders to participate in REDD activities, as well as to exercise outcomes of COP/SBSTA processes on REDD. A further enabling regulation that seeks to clarify property rights for forest carbon is Regulation No.P36 of 2009. This regulation sets out licensing procedures for businesses seeking to exploit the carbon storage and sequestration potential of production and protection forests.

While the next piece of legislation seems originally developed with respect to Clean Development Mechanism activities, reforestation is a potential activity under the plus of REDD+. So it is noteworthy that MoF Regulation No. 14/Menhut/II/2004 outlines procedures for reforestation of land that was not a forest in the last 50 years or more, and reforestation of land that has not been a forest since 31 December 1989.

The *2nd GLOBE Climate Legislation Study* highlighted some uncertainty surrounding the moratorium, which can now be clarified. The moratorium affects only what is mapped as Natural Primary Forest. Existing concessions are not affected by the moratorium. No new licences for concessions can be granted during the moratorium, including on carbon-rich peat land. However, the experience of over a year of the implementation of the moratorium has demonstrated some gaps between legislation and implementation.

As far as exemptions are concerned, in addition to those in place for what is defined as Secondary Forests and existing concessions, projects of national significance such as geothermal, oil and natural gas are also exempt from the moratorium.

A final initiative to improve Indonesia's forest cover is the Ministry of Forestry's One Billion Indonesian Trees regulation launched in January 2010. The plan is to plant 1 billion trees in compliance with international standards that see that all trees must be verified on the ground.

Renewable energy

Indonesia's commitment to renewable energy is centred on the promotion of geothermal power, and the development and use of biofuels. Indonesia is currently the third largest producer of geothermal energy after the US and Philippines. Over the 2007–2008 period, the country's geothermal power plant capacity increased by 317 MW. Indonesia plans to further expand capacity, taking advantage of its position on the so-called "Ring of Fire". In terms of stimulating supply, Ministerial Regulation No. 15/2010 (under the 2nd Stage of the 10,000 MW "Crash Program") is intended to accelerate the development of this source so that it generates 3,967 MW by 2014. A series of other regulations regulates the geothermal energy price structure (Ministerial Regulation of MEMR No. 02/2011) and fiscal incentives for geothermal development (Government Regulations No. 62/2008; No. 1/2007; MR of MoF No. 177/PMK.011/2007; and MR of MoF No. 22/PMK.011/2011).

Ministerial Decree 0002/2004 is intended to promote development policy of renewable energy and energy conservation. This encompasses investment and funding policy; incentives; energy pricing; human resource development; information; standardisation and certification; R&D; and institutionalisation. More significant in legal terms, given the position in the hierarchy, the comprehensive Geothermal Law (No. 27/2003) was passed in 2003. This law is further supported by the Geothermal Regulations No. 59/2007 and Ministerial Regulation No. 14/2008.

Overall, action on renewables is pursued through more of a regulatory than a legislative approach. Indeed, aside from the Geothermal Regulations mentioned, the country has passed a series of regulations in recent years including a Presidential Instruction on Biofuel Development in 2006 (No. 1/2006), and Ministerial Regulation No. 32/2008 which sets out plans for a greater role for biodiesel and ethanol-blend fuel in transport.

Ministerial Regulation No. 32/2008 or the Biofuel Decree by the Ministry of Energy and Mineral Resources establishes a mandatory utilisation framework in the transportation, industrial, commercial and power generation sectors for biodiesel, bio-ethanol and bio-oil from 2009 to 2025. The minimal obligation level of biodiesel utilisation in all four sectors is set around 20% respectively in 2025, from around 1–2% in 2008. The Ministry of Energy and Mineral Resources has also launched the National Biofuel Roadmap 2006–2025 that establishes actions to accelerate the use of biofuels as a replacement of fossil-based fuel and targets 5% of biofuel utilisation in the energy mix, 20% biodiesel use in diesel fuel consumption and 15% bio-ethanol use in gasoline consumption by 2025. Besides, there is also the National Energy Blue Print (2005), a comprehensive development plan for the 15% of the country's electricity demand that by 2025 should come from renewable energy sources.

The main opposition to Indonesia's renewable energy initiatives comes from national and international civil society groups who point to a potential conflict between biofuel development and forest conservation objectives for Indonesia in general, and more specifically under REDD+ objectives. In addition, the expansion of Indonesia's thermal power programme may also conflict with REDD+ objectives. The MoF reports that some 80% of geothermal sources are in conservation forests.

Indonesia: Flagship Legislation

Name of law	**Presidential Decree (PerPres) No. 61 2011, National Action Plan to reduce GHG emissions (RAN-GRK)**							
Date of entry into force	1 September 2011							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
								×
Driver for implementation	Formal follow-up of the commitments made by President Susilo Bambang Yudhoyono to reduce GHGs by 2020 at the G20 in Pittsburgh.							

Summary of bill	RAN-GRK is a national guideline for emission reduction covering 70 programmes, to be conducted together by the Central Government, Local Governments, private sectors/business actors and civil society. It is the reference document for activities in Indonesia directly and indirectly related to reducing GHG emissions. It sets out the different sectors in which Indonesia will make emissions reductions. The Provinces are expected to make their own action plans within one year, and have these formalised within a governor's decree. Allocation of emission reduction targets into 5 key sectors namely Forestry and Peat land, Agriculture, Energy and Transportation, Industry and Waste Management. Government Program to facilitate implementation of GHG emission reduction nationally both at the central and local level.
Targets	None specified

Indonesia: Other Relevant Legislation

Name of law	**Ministerial Regulation No. 01/2012 Accelerating Development of Geothermal Energy Supply (revised Ministerial Regulation No. 15/2010)**							
Date of entry into force	2012							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						×
Driver for implementation	Renewable energy							
Summary of bill	This is a revision of the Ministerial Regulation 15/2010, which is intended to accelerate the development of Indonesia's Geothermal energy.							
Targets	None specified							

Name of law	**President Regulation No. 71/2011 on the Implementation of a National Greenhouse Gases Inventory**							
Date of entry into force	2011							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
								×

Driver for implementation	Climate change
Summary of bill	The regulation is a component of the RAN-GDK GHG emissions reductions plan. The purpose of the bill is to establish a GHG inventory administration guideline, and an administration to coordinate that inventory. Furthermore the legislation should lead to a system to provide regular information on the level, status and trend of GHG emission change and absorption. This will include national and sub-national carbon stock as well as GHG emission reduction information.
Targets	None specified

Name of law	**Presidential Instruction No. 10/2011 on Forest Moratorium (Development of REDD+ schemes including Indicative Moratorium maps)**							
Date of entry into force	2011							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
				×				
Driver for implementation	Climate change, forestry							
Summary of bill	This instruction is part of Indonesia's commitments under the agreements in the Letter of Intent signed with the Kingdom of Norway in May 2011. Presidential Instruction (Inpres) No. 10/2011 on "The postponement of issuance of new licences and improving governance of primary natural forest and peat land" was intended to facilitate Indonesia's participation in internationally financed REDD+ activities.							
Targets	None specified							

Name of law	**Ministerial Regulation No. 15/2010 Re. 10,000 MW Crash Program**							
Date of entry into force	2010							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						
Driver for implementation	Diversification of energy mix; increasing energy security							
Summary of bill	This is the 2nd Stage of 10,000 MW Crash Program, and is intended to accelerate the development of geothermal power.							
Targets	Indonesia should generate 3,967 MW of geothermal power by the year 2014							

Name of law	**Law No. 70/2010 concerning Geothermal Business Activity**							
Date of entry into force	2010							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						×
Driver for implementation	Facilitating business activity in geothermal energy; accounting for bureaucratic barriers to entry in the sector							
Summary of bill	Under Article 86 of Law 59/2010, permission to explore for geothermal energy would be relinquished if works were not completed within the given time period. However, this did not properly account for bureaucratic delays involved in granting relevant permits required to actually carry out exploration. This amendment accounts for the length of Indonesia's bureaucratic processes, and specifically amends Article 86 of Law 59/2010 such that more time is available to businesses to complete works.							
Targets	None specified							

Name of law	**P. 30/Menhut-II/2009 On the implementation of REDD+ activities**							
Date of entry into force	2009							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
				×				
Driver for implementation	REDD+							
Summary of bill	P. 30 sets out the regulations for the implementation of REDD+ in Indonesia, including previously unresolved questions over which land classes could be used to develop REDD+ activities.							
Targets	None specified							

Name of law	**Presidential regulation 70/2009 concerning Energy Conservation**							
Date of entry into force	16 November 2009							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						

Driver for implementation	Energy efficiency
Summary of bill	This is the implementing legislation on energy conservation with regard to the Energy Law. It calls for: • Drafting and adoption of a new National Energy Conservation Master Plan—RIKEN • (Rencana Induk Konservasi Energi Nasional), which is to be updated every five years, or annually, as required • Mandatory assignment of an energy manager, to implement energy auditing, and energy conservation program for users of final energy of more than 6000 tonnes of oil equivalent • Voluntary energy efficiency standards and energy labeling • Implementing government incentives, which includes tax exemption and fiscal incentives on imports of energy saving equipment and appliances, and special low interest rates on investments in energy conservation • Implementing government disincentives for non-compliance parties that include written notices to comply, public announcements of non-compliance, monetary fines and reductions of energy supply
Targets	None specified, although "targets" are mentioned

Name of law	**Minister of Forestry Regulation No. P.68/Menhut-II/2008 on Implementation of Demonstration Activities Reducing Carbon Emissions from Deforestation and Forest Degradation**							
Date of entry into force	2008							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
				×				
Driver for implementation	LULUCF, REDD+							
Summary of bill	These regulations set out the rules that REDD+ demonstration projects should adhere to; enabling legislation.							
Targets	None specified							

Name of law	**Presidential Regulation on the National Council for Climate Change (NCCC or DNPI)**[1]							
Date of entry into force	4 July 2008							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×		×				×
Driver for implementation	Climate change, deforestation and land use							
Summary of bill	Establishes the NCCC to coordinate climate change policy-making and strengthen Indonesia's position in international forums. The Council is composed of 17 Ministers and chaired by the President. The NCCC is to be assisted by the following Working Units: Adaptation, Mitigation, Transfer-of-Technology, Funding, Post-Kyoto 2012, and Forestry and Land Use Conversion. The adaptation programme focuses on agriculture, disaster risk reduction, data dissemination and establishes an integrated development plan to improve climate-resilience.							
Targets	None specified							

Name of law	**Presidential Instruction No. 2/2008 – Regulation on Energy and Water Efficiency**							
Date of entry into force	2008							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×					
Driver for implementation	Energy efficiency, water efficiency							
Summary of bill	Sets out instructions to Ministers, Governors and Mayors to implement energy and water efficiency in government offices. It optimises national policy on energy and water efficiency through establishment of the National Taskforce for Energy and Water Efficiency. The main tasks are: • Researching, planning and preparing policies, strategies and programmes for energy and water efficiency, including energy conservation programme by taking into account that 1) most national energy and water are supplied with a subsidy, 2) tighten the non-essential use of energy and water use by ensuring it reflects the economic price, 3) ensuring the price of water and energy for industry reflects the true economic cost, 4) all government offices should take steps to improve energy and water efficiency • Monitoring and reporting to the President							

[1] This was the flagship legislation for the chapter on Indonesia last year.

	The instruction works towards mainstreaming climate change, by establishing that all government offices should observe energy efficiency – lighting, AC, electrical equipment, official vehicle and other buildings, and water efficiency – in all activities that use water.
Targets	None specified

Name of law	**PP6/2007 on Forest Management**							
Date of entry into force	2007							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
				×				
Driver for implementation	Forest rehabilitation							
Summary of bill	This legislation allowed for the first time the ownership of a forestry concession in Indonesia with the expressed objective of restoring natural forest and biodiversity. This was created within the general framework of sustainable development in Indonesia, ensuring good governance and management of Indonesia's natural resources. This law could be important in implementation of REDD+.							
Targets	None specified							

Name of law	**Law No. 59/ 2007 on Geothermal Energy** (N.B. see subsequent amendment under Law 70/2010)							
Date of entry into force	2007							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						
Driver for implementation	Renewable energy development; diversification of energy mix and security							
Summary of bill	One of the basic framework laws which governs the development of Geothermal energy extraction in Indonesia.							
Targets	None specified							

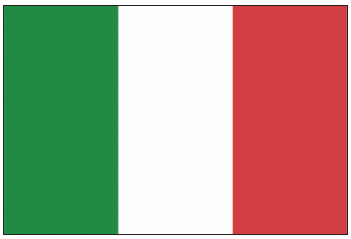
Name of law	**Law No. 30/ 2007 – Energy**							
Date of entry into force	2007							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×					×	
Driver for implementation	Renewable energy, energy efficiency							
Summary of bill	This comprehensive energy legislation stresses sustainable development, environmental preservation and energy resilience in national energy management In terms of energy – supply-side policies, it establishes that more attention should be given to new and renewable energy development and that incentives should be developed for energy providers to promote this end. Promotion of national energy efficiency through: • creating an inventory of energy resources • enhancing energy stocks • outlining the energy balance • diversification, conservation and intensification of energy and energy resources • securing the distribution, transmission and storage of energy and energy resources Providing energy for under-developed, remote and rural areas by using their energy potential, particularly renewable energy. Prioritisation of environmentally friendly technologies. The bill prioritises the development of environment-friendly technologies.							
Targets	None specified							

Name of law	**Presidential Regulation No. 5/2006 concerning National Energy Policy**							
Date of entry into force	25 January 2006							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×					
Driver for implementation	To ensure sufficient domestic energy supply and promote sustainable development in Indonesia							
Summary of bill	The goal of the National Energy Policy is to direct efforts to the creation of sufficiency of domestic energy supply. Aims to optimise the energy mix in Indonesia; reducing the dependency on fossil fuels and increasing the use of renewables.							
Targets	• Achievement of energy elasticity of less than one by 2005 (whereby the elasticity in this case is the ratio of between energy demand and economic growth) • Creation of optimal energy mix by 2020, achieving the following proportions: 1. Oil becomes less than 20% 2. Gas becomes less than 30% 3. Coal becomes less than 33% 4. Biofuel becomes more than 5% 5. Geothermal becomes more than 5% 6. Other new energy and renewable energy, particularly biomass, nuclear, hydropower, solar power, and wind power becomes more than 5% 7. Liquified coal becomes more than 2%							

Name of law	**Presidential Instruction No. 1/2006 on Biofuel Development**							
Date of entry into force	2006							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×		×				
Driver for implementation	Renewable energy supply development							
Summary of bill	Regarding energy – supply-side policies, the Instruction sets out instructions to 13 Ministers, Governors and Mayors to take the necessary actions for biofuel development from supply (feedstock) through to commercialisation and consumption. The Instruction issues forest utilisation permits for biofuel plants in critical or abandoned forest/land. The Instruction promotes biofuel use, replacing fossil fuels as an alternative for transportation.							
Targets	None specified							

Name of law	**Law No. 27/2003 – Geothermal Law**							
Date of entry into force	2003							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						
Driver for implementation	Renewable energy							
Summary of bill	The Geothermal Law seeks to provide a stronger legal basis for upstream geothermal energy development, including private investments in the sector. The bill also seeks to expand regional autonomy to support sustainable energy alternatives to fossil fuels. The Law establishes the regulatory structure for geothermal development. Geothermal Business Permits (IUP) are to be granted by the state through competitive bidding among prospective investors. In 2005, the Directorate of Geothermal Enterprise Supervision and Groundwater Management was created, to strengthen the sector's management efficiency. There is a fiscal incentive for NRE development (Article 20 paragraph 5).							
Targets	None specified							

4.16 Italy



4.16.1 Fact Box

Greenhouse Gas emissions incl. LULUCF ($MtCO_2e$) excl. LULUCF ($MtCO_2e$) Change from base year (1990)	 445 501 -18
Latest reporting year	2010
Importance as an emitter	Top 20
UNFCCC ratification status and date	Date of signature: 5 June 1992 Date of ratification: 15 April 1994 Date of entry into force: 14 July 1994
Kyoto Protocol ratification status and date	Date of signature: 29 April 1998 Date of ratification: 31 May 2002 Date of entry into force: 16 February 2005
2020 pledge	As the EU: 20% from 1990 unilaterally; move to 30% as part of a global and comprehensive agreement for the period beyond 2012 and provided that other developed countries commit themselves to comparable emission reductions and that developing countries contribute adequately according to their responsibilities and respective capabilities
Flagship legislation	**Climate Change Action Plan (2007)**

4.16.2 Legislative Process

Italy has a bicameral political system. The Lower House is the Chamber of Deputies and the Upper House is the Senate. For a text to become law, it must receive the vote of both Houses independently in the same form. A bill is discussed in one of the Houses, amended, and approved or rejected: if approved, it is passed to the other House, which can amend it and approve or reject it.

Laws can rule directly, or trust the Government to issue a regulation ("*Regolamento*") in order to indicate how they should be enforced, or how citizens should ask for what they are entitled to. "*Regolamenti*" have the advantage that the Government can be swifter than the Parliament in updating them according to advances in technology, but they cannot always be used: some legal matters are reserved to Laws, and most "*Regolamenti*" have to be authorised by a specific law. A "*Regolamento*" may belong to one of these categories: Presidential Decree, Decree from the President of the Council of Ministers, or Ministerial Decree. The Presidential Decree is the most common and does not usually require prior authorisation by a law.

The Italian Constitution reserves some specific matters to Regions. Moreover, the laws of the Republic may delegate power to the Region to issue norms for their enforcement.

4.16.3 Approach to Climate Change

Climate change

Soon after Kyoto, the Inter-ministerial Committee on Economic Planning (CIPE) *resolution no.137/98* established the guidelines for the national policies and measures for the GHG emissions reduction. It also set the targets of such reduction for the period 2008–2012. These specific provisions on GHG emissions have been later confirmed by several pieces of legislation *(126/99; 123/02; Budget law 2007; Ministerial decree 25.11.2008)*. To partly implement these measures, the industry organisations, environmental NGOs and other groups in Italy concluded an agreement with the government scheduled to begin in 1999, under which they agree to curb CO_2 emissions (*Voluntary Climate Pact*). Furthermore, the financial law, approved at the end of the year 2000 (*Finance Law 2001, Art. 10),* established a fund for the reduction of atmospheric emissions and the promotion of energy efficiency and sustainable energy sources. The fund is financed from a portion equal to 3% of the receipts accruing from the *Law 23/12/1998 N.448* (carbon tax).

However, the carbon tax law ended in 2002 and a 30 December 2004 law, *Number 311*, cancelled the provision entirely for economic reasons.

In 2002, the Environment Ministry released the government's strategy to cut national GHG emission. The plan relies on the Protocol's three flexible mechanisms of emissions trading and joint projects with other countries to deliver over half of the required emissions cuts. Several plans, that include a reforestation plan, are the basis of this strategy. For the most part, they have yet to be implemented. Five years later, in June 2007, the Italian parliament's environment committee set out a comprehensive action plan (*Climate Change Action Plan*) aimed at helping Italy comply with GHG reduction targets. The plan was later endorsed by the Lower House, but has yet to be taken up by the government as national policy.

As a member of the European Union, Italy implemented the EU Emissions Trading Scheme in 2006 (*Decree 4/4/2006 no. 216 transposed EU Directive 2003/87/CE*). It issued two National Allocation Plans, the first one running from 2005 to 2007 (agreed on by the Italian Council of Ministers in 2004), and the second one running from 2008 to 2012 (finalised in early March 2008).

Energy efficiency

The ministerial decree *no. 164 of 23 May 2000*, and subsequent amendments, establish national targets for increasing energy efficiency in end-uses of energy up to 2012 for electricity and gas distributors. To reach these targets, Decrees voted 20 July 2004 require Italian electricity and gas suppliers to help their customers save energy and engendered the *2005 White Certificates trading scheme*. All Italian electricity and gas distributors with at least 100,000 end customers at the close of 2001 can – as of May 2006 – trade white certificates of certified energy savings. The white certificates represent marketable documents issued by the Energy Market Administrator testifying the energy saved by the energy distribution companies – as well as by their controlled partnerships – and by the Energy Service Companies (ESCO). In 2009 a new decree *(DL 02/2009)* was issued confirming the scheme's extension until 2012. In addition, it allows the programme to automatically renew for three additional years in 2012 unless steps are taken by parliament. In terms of efficiency, the Ministry of Environment said in January 2009 that the programme had prevented approximately 2 million tonnes of carbon dioxide emissions.

These measures are supplemented by other pieces of legislation addressing energy efficiency. The Reorganisation of Energy Sector Regulation *(Law 23 August 2004, no. 239)* devolved power to Italian regions to promote energy efficiency and renewable energy sources while maintaining the national scale of such promotion. Furthermore, the *Budget Law 2007* provides for various fiscal incentives and financial measures to improve energy efficiency and to abate emissions. Among them is the establishment of the "Revolving fund for Kyoto". It provides €200 million (US$261 million) for financing measures to promote GHG emission reductions for the period 2010–2012 and to achieve the targets. The *Law no. 102 of 3 August 2009,* concerning anti-crisis measures, includes three articles designed to accelerate the deployment of more advanced, efficient and energy-saving technologies. In 2010, a special fund to support the implementation of energy efficiency targets was set up *(Decree-Law of 25 March 2010, No. 40)*.

Regarding energy efficiency, Italian legislation also includes the transposition of European directives such as the Implementation of EU Energy Performance of Buildings Directive (EPBD; *Directive 2002/91/CE*; *Legislative Decree 19th August 2005, no. 192 and its corrections and integrations by Legislative Decree 29 December 2006, no. 311*). Additionally, in accordance with *EU Directive 32/CE/2006,* Italy submitted its *National Energy Efficiency Action Plan* in July 2007. The proposed measures aim to achieve an energy saving target of 9.6% by 2016. The plan considers measures already undertaken under the budgetary law of 2007 and other measures, such as application of energy efficiency standards in buildings and the promotion of high efficiency CHP plants.

These measures are supplemented by regional law promoting energy efficiency, such as the *Umbria regional law no. 38, 20/12/2000* that aims at improving the level of a building's interior comfort and energy efficiency.

Renewable energy

Italy adopted a Green Certificates System (several decrees from 1999 to 2004) to increase its share of renewable energy in total energy supply. This cap-and-trade system requires Italian energy producers and importers (producing or importing more than 100 GWh/year from conventional sources) to ensure that a certain quota of electricity fed into the grid comes from renewable energy sources. The quota has been progressively strengthened (2002 and 2008). Producers and importers can buy green certificates through bilateral contracts or by participating in the green certificates platform (managed by GME, the energy markets operator). Suppliers can fulfil the obligation by buying green certificates from entitled new

renewable energy plants, by building new renewable energy plants, or by importing electricity from new renewable energy plants from countries with similar instruments on the basis of reciprocity. The 2008 Budget Law *(Law No. 244 24/12/2007 and Law No. 222 29/11/2007)* raised the incentive period to 15 years. Therefore, renewable source plants that came into operation before 31 December 2007 can now obtain green certificates for 15 years.

This mechanism is supplemented by the *Legislative decree no. 387 of 29/12/2003* implementing *EU Directive 2001/77/EC,* that sets out in 20 articles a national reference framework for the promotion of renewable energy sources (RES) and particularly for their use in micro-generation plants. Additionally, several national and regional incentives exist to promote solar and wind energy supply. At the national level, it includes the *New Feed-In premium for photovoltaic systems (Ministerial Decree 19/02/2007)*. At the regional level, it includes, for instance, the *Lazio Solar Thermal Water Heating programme.*

The policies regarding biofuel build on various regional incentives as well as the CIPE (Interministerial Committee for Economic Planning) resolution of 15 February 2000, also known as the *Biomass Fuels National Plan (PROBIO)* that aims to promote the deployment of biomass to replace fossil fuels through incentive systems. *Decree no. 128/2005* established a national indicative target of 2.5% of substitution of traditional fuels with biofuels by 31 December 2010. From 1 January 2007 the quota for that date has been increased to 5.75% (European standard).

A number of incentives exist as well at the national and regional levels to promote cleaner transportation and vehicles. For instance, the *government Decree of Environment Ministry of 20 December 2000* creates incentives to encourage the sharing of private means of transport among several users, co-ordinated by local mobility managers for the creation of car crews. Additionally, in 2004, the Ministry of Environment has set up a programme that will reimburse Italian city governments up to 65% of the cost of adding environmentally friendly vehicles to each city's fleet.

Italy: Flagship Legislation

Name of law	Climate Change Action Plan							
Date of entry into force	2007							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
	×	×	×		×			
Driver for implementation	Climate change							
Summary of bill	In June 2007, the Italian parliament's environment committee set out a comprehensive action plan aimed at helping Italy comply with GHG reduction targets under the Kyoto Protocol. The Plan was later endorsed by the lower house, but would now have to be taken up by the government as national policy. *Energy – demand-side policies*: among the proposals was a ban on the sale of household appliances ranked below A on the EU energy efficiency labelling scale. The industrial sector would be encouraged to switch to low energy devices and install more efficient engines and motors. Small and medium sized firms would be targeted. Energy saving would be encouraged through various incentives aimed at industrial and domestic consumers. Under a new system of energy tariffs, heavy users and daytime users would pay more per unit of energy. The committee also proposed a 10% increase in waste recycling and says this could prevent 4 $MTCO_2$ emissions annually. It further sought a shift in goods transport to rail from road, which currently carries 85% of goods traffic.							
Targets	None specified							

Italy: Other Relevant Legislation

Name of law	2010 Finance Law							
Date of entry into force	2010							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×					
Driver for implementation	Energy supply and consumption, biofuels							

Summary of bill	The Finance law 2010 provides incentives for energy efficient buildings and the use of biofuel. *Energy – demand-side policies*: in June 2009, a new regulation requires that all buildings bought, sold or leased, residential or commercial, will require an energy performance certificate as of 25 July 2009. The measure applies to new and refurbished buildings. Guidelines for energy performance certificates were issued in July 2009. Traditional fossil fuels are subject to specific excise duties on the basis of weight or volume units. Biofuels are incentivised through a reduction of this excise duty. In particular, the Budget Law 2010 defines a maximum of 18,000 tonnes of biofuels that can benefit from this reduction. Italian legislation also stipulates that fossil fuel producers should annually supply a minimum quota of biofuels based on the total amount of fuel supplied during the previous year.
Targets	None specified

Name of law	**Special fund to support the implementation of energy efficiency targets (Decree Law of 25 March 2010, no. 40)**							
Date of entry into force	2010							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×					×
Driver for implementation	Energy efficiency							
Summary of bill	This decree established a special fund for the implementation of objectives related to energy efficiency, environmental protection and workplace safety. The Decree of 26 March 2010 specifies the activities towards which funding is dedicated. *Energy – demand-side policies*: the fund provides incentives for the following: High efficiency appliances, replacing motorcycles, purchase of new energy efficient buildings, purchase and installation of inverters, high efficiency motors, uninterruptible power sources, purchase of newer and more efficient farm machinery and machinery for construction and boats.							
Targets	None specified							

Name of law	**Cleaner vehicle purchase incentives (Decree Law No. 5 of 2009)**							
Date of entry into force	2009							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
					×			
Driver for implementation	Economy/transport							

Summary of bill	In February 2009, as part of measures aimed at supporting industrial sectors in crisis, Italy's Council of Ministers launched a temporary incentive scheme for consumers to replace their old vehicles with new ones meeting certain environmental criteria. *Energy – demand-side policies*: the scheme applies to cars, light commercial vehicles, as well as motorcycles and scooters. The incentives are provided in the form of a discount obtained by consumers directly from the dealers, who in turn receive this as a tax credit. A bonus of €1,500 (US$1,960) is provided when a car older than 9 years meeting Euro 0, 1 or 2 standards is exchanged for a new vehicle meeting Euro 4 or 5 standards and that emits a maximum of 130g CO_2/km for diesel cars or 140g CO_2/km for others. The exchanged vehicle must have been registered by December 1999. This can be combined with a purchase incentive of €1,500 (US$1,960) should the new vehicle run on electricity, hydrogen or methane. Similar bonuses are provided for lightweight commercial vehicles, motorcycles and scooters.
Targets	None specified

Name of law	**Law concerning anti-crisis measures: energy provisions (Law no. 102 of 3 August 2009)**							
Date of entry into force	2009							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×					
Driver for implementation	Energy consumption							
Summary of bill	Law no. 102 of 3 August 2009, concerning anti-crisis measures, includes three articles designed to accelerate the deployment of more advanced, efficient and energy-saving technologies. *Energy – demand-side policies*: Art. 5 concerns tax reduction for investment in capital goods (appliances and equipment), and while the law does not specify energy performance thresholds for the equipment, the measure aims to encourage the replacement of existing equipment with newer, more efficient technology. • Art. 6 concerns depreciation rates for capital goods investments: it provides that depreciation rates for equipment should vary according to energy use, in order to take account of the evolving impact on production processes of more efficient equipment • Art. 6 bis concerns measures for business activity in public transport sector: provides grants to companies for the purchase of new buses that meet Euro 4 or Euro 5 emission standards							
Targets	None specified							

Name of law	**Finance Law 2008 (Law No. 244 24/12/2007 and Law No. 222 29/11/2007); M.D. 18.12.08; Law 99/09)**							
Date of entry into force	2008							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						
Driver for implementation	Renewable energy							
Summary of bill	Finance Law 2008 confirmed the 2007 Budget Law measures, and extended the deadline of borne expenditures from December 2007 to 2010 *Putting a price on carbon*: the revisions concerning green certificates are twofold. First, the incentive period is raised to 15 years. Second, the number of certificates issued varies depending on the type of renewable source, according to a coefficient of multiplicative energy produced. *Energy – demand-side policies*: the 2008 Budget Law includes new measures relating to the production of electricity from renewable energy sources. In particular, it introduced the possibility for small renewable plants (<1 MW and < 200 kW for wind plants) commissioned after 1 January 2008 to choose between green certificates and a feed-in tariff mechanism (called "all inclusive tariff") for an incentive period of 15 years. Both green certificate and all inclusive tariff are differentiated by renewable energy source.							
Targets	None specified							

Name of law	**New Feed-In premium for photovoltaic systems (Ministerial Decree 19/02/2007)**							
Date of entry into force	2007							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						
Driver for implementation	Renewable energy							
Summary of bill	The Ministerial Decree of 19 February 2007 introduced in Italy a new version of the feed-in premium scheme applied to photovoltaic plants connected to the grid with a nominal capacity higher than 1 kWp realised by individuals, registered companies, condominiums and public bodies. *Energy – demand-side policies*: the decree provided a set of tariffs, valid for a period of 20 years, with a bonus in cases of a high degree of photovoltaic integration in the buildings.							
Targets	None specified							

Name of law	2007 Finance Law							
Date of entry into force	2007							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						
Driver for implementation	Energy							
Summary of bill	The Budget Law 2007 provides for various fiscal incentives and financial measures to improve energy efficiency and to abate emissions. *Energy – demand-side policies*: the Budget Law 2007 also established an obligation for all traditional fuel producers to supply, each year, a minimum quota of biofuels determined as a percentage of the previous year's total supply volume. The initial quota was 1% for 2007; subsequently it has been increased to 2% for 2008 and 3% for 2009. Non-compliance with the quota is subject to penalties. The Ministry of agriculture and forestry is responsible for verifying the fulfilment of this obligation. • The 2007 Finance Law introduced tax allowances for the purchase or installation of high-efficiency electric motors • The 2007 Finance Law introduced tax allowances for the purchase of high-efficiency fridges and freezers • Reduction of duty for biofuels used for transport • Fiscal incentives for enhancing energy efficiency and use of renewable energy in buildings The Budget Law 2007 also established the so-called "Revolving fund for Kyoto": it provides €200 million (US$261 million) for financing measures to promote GHG emission reductions for the period 2010–2012 and to achieve the targets. It finances, for instance, a high-performance micro-cogeneration plant. • Electricity and heating production from small-scale renewable energy sources • High efficiency electric motors (more than 45 kW) • Improving end-use energy efficiency in the civil sector • R&D for new technologies, low or zero emissions energy sources							
Targets	None specified							

Name of law	**White Certificate Trading for End-Use Energy Efficiency**							
Date of entry into force	2005							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×					×
Driver for implementation	Energy consumption							
Summary of bill	Decrees voted 20 July 2004 require Italian electricity and gas suppliers to help their customers save energy and engendered the 2005 White Certificates trading scheme. The two decrees of 20 July 2004 repealed the two decrees of 24 April 2001 about the identification of quantitative national targets for energy savings and development of renewable sources. *Energy – demand-side policies*: In compliance with specific energy conservation targets, all Italian electricity and gas distributors with at least 100,000 end customers at the close of 2001 can – as of May 2006 – trade white certificates of certified energy savings. The white certificates represent marketable documents issued by the Energy Market Administrator testifying the energy saved by the energy distribution companies – as well as by their controlled partnerships – and by the Energy Service Companies (ESCO). The white certificates can be exchanged by means of bilateral contracts, or in the frame of a specific market ruled by GME. Energy service providers, subsidiaries of electricity and gas distributors and distributors themselves will all sell energy efficiency certificates (white certificates) each representing primary energy savings of one tonne of oil equivalent (toe). Distribution companies must meet specified energy savings targets, either by implementing energy conservation projects that benefit their customers, which will earn them white certificates, or through the purchase of white certificates produced by energy conservation projects undertaken by others.							
Targets	None specified							

Name of law	Biofuel (decree no. 128/2005)							
Date of entry into force	2005							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						
Driver for implementation	Biofuel							
Summary of bill	Decree no. 128/2005 established a national indicative target of 2.5% of substitution of traditional fuels with biofuels by 31 December 2010. From 1 January 2007 the quota for that date has been increased to 5.75%.							
Targets	None specified							

Name of law	Reorganisation of Energy Sector Regulation (Law 23 August 2004, no. 239)							
Date of entry into force	2004							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×					
Driver for implementation	Energy efficiency							
Summary of bill	In 2004, the Italian government devolved power to Italian regions to promote energy efficiency and renewable energy sources while maintaining the national scale of such promotion. *Energy – demand-side policies*: within the strategic law, several measures served to reorganise the energy markets and encourage competition. It includes the expansion of green certificate trading from renewable and CHP projects to include hydrogen. The law also reduces the size of green certificates from the initial value of 100 MWh to 50 MWh. *Mainstreaming climate change*: power devolved to regions to promote energy efficiency and renewable.							
Targets	None specified							

Name of law	**Introduction of the Green Certificates System (Legislative decree 79/99 of 16 March 1999 entitled; Ministry of Productive Activities decree 18.03.02; Followed by Ministry of Productive Activities decree 14.03.04, implementing the rules for the green certificates)**							
Date of entry into force	2002							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						×
Driver for implementation	Renewable energy							
Summary of bill	This legislation completes the introduction of a cap-and-trade mechanism to promote renewable energy sources (MICA Decree 11/11/99). It introduces the green certificates that producers and importers can buy. *Energy – demand-side policies*: the 1999 Electricity Liberalisation Act and Decrees from Italy's Ministries of Trade and Industry and of Environment (MICA Decree 11/11/99) introduced a cap-and-trade mechanism to promote renewable energy sources. It required Italian energy producers and importers (producing or importing more than 100 GWh/year from conventional sources) to ensure that a certain quota of electricity fed into the grid comes from renewable energy sources. A 2% quota obligation was set, strengthened in 2003 and again in 2008. Producers and importers can comply with the obligation by means of green certificates. They can buy those certificates through bilateral contracts or by participating in the green certificates platform (managed by GME, the energy markets operator). Suppliers can fulfil the obligation by buying green certificates from entitled new renewable energy plants, by building new renewable energy plants or by importing electricity from new renewable energy plants from countries with similar instruments on the basis of reciprocity. Renewable energy producers in operation before 31 December 2007 can obtain green certificates for 12 years. Subsequent regulatory interventions have increased the incentive period to 15 years.							
Targets	A CO_2 reduction of about 4Mt – 6Mt by 2006 is expected.							

Name of law	Strategy to Cut National Greenhouse Gas Emissions (Kyoto implementation)							
Date of entry into force	2002							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
								×
Driver for implementation	Climate change							
Summary of bill	The Environment Ministry released the government's strategy to cut national GHG emissions by 6.5% on 1990 levels by 2008–2012, as agreed under the Kyoto Protocol. *Putting a price on carbon*: the plan relies on the Protocol's three flexible mechanisms of emissions trading and joint projects with other countries to deliver over half of the required emissions cuts. *Emission reduction targets*: the estimated 93 million tonnes of carbon dioxide (CO_2) cuts needed are to be achieved through existing – but yet to be implemented – plans (reducing emissions by 52 million tonnes) plus reforestation (minus 10.2 million tonnes). The remaining 30m tonnes are to be cut through measures yet to be detailed.							
Targets	6.5% (93MtCO_2e) reduction from 1990 levels by 2008–2012.							

Name of law	Fund for GHG emissions reduction and energy efficiency (Finance Law 2001 Art. 10)							
Date of entry into force	2001							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×		×				×
Driver for implementation	Climate change, energy efficiency							
Summary of bill	The financial law, approved at the end of the year 2000, establishes a fund for the reduction of atmospheric emissions and the promotion of energy efficiency and sustainable energy sources. The fund is financed from a portion equal to 3% of the receipts accruing from Law 23/12/1998 N.448 (carbon tax). *Energy – demand-side policies*: among other activities, the fund will finance up to 80% of the cost of programmes for installation of solar collectors (mostly PV), particularly in southern Italy. *REDD/Land Use policies*: the fund will also finance reforestation programmes to increase absorption of CO_2.							
Targets	None specified							

Name of law	**Utility targets for increasing energy efficiency/introduction of white certificates (Ministerial Decree, 24/04/2001)**							
Date of entry into force	2001, amended 2007							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×					×
Driver for implementation	Energy efficiency							
Summary of bill	The ministerial decrees no. 164 of 23 May 2000, and subsequent amendments, establish national targets for increasing energy efficiency in end-uses of energy up to 2012 for electricity and gas distributors. Italian Distribution System Operators (DSO) of gas and electricity with more than 100,000 customers were obliged to achieve energy savings not lower than the target defined within the scheme. Companies which carry out energy efficiency improvement projects related to district heating, including use of renewable energy sources and technologies, may obtain white certificates, tradable on a specific environmental exchange managed by GME. The 2007 amendment extended the system to 2012 and extended the scope of the programme to companies with more than 50,000 customers.							
Targets	Minimum savings targets (Amended 2007) (Mtoe/year):							

Year	Electricity distributors	Gas distributors
2005	0.1	0.1
2006	0.2	0.2
2007	0.4	0.4
2008	1.2	1.0
2009	1.8	1.4
2010	2.4	1.9
2011	3.1	2.2
2012	3.5	2.5

Name of law	National Plan for Biofuels and Biomass (CIPE resolutions: 15/02/2000 [PROBIO]; 24/06/1998 [PNERB]; 18/06/1999 [PNVBAF])							
Date of entry into force	2000							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						×
Driver for implementation	Biofuel							
Summary of bill	CIPE (Inter-ministerial Committee for Economic Planning) resolution of 15 February 2000, also known as the Biomass Fuels National Plan (PROBIO) aims to promote the deployment of biomass to replace fossil fuels through incentive systems. This is projected to affect mainly the agricultural, transport and energy sectors. It represents the first operative tool of the two CIPE resolutions "National Programme for the Valorisation of Agricultural and Forestry Biomass (PNVBAF)" and the "National Programme for the Energy Valorisation of Biomass (PNERB)", which set goals for the reduction of GHGs (3–4% by 2010/12), the production of renewable energy from agro-forestry products and by-products, the development of eco-compatible agricultural methods and increased use of energy crops.							
Targets	None specified							

Name of law	Voluntary Climate Pact							
Date of entry into force	1999							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×		×			×
Driver for implementation	Climate change							
Summary of bill	In December 1998, industry organisations, environmental NGOs and other groups in Italy concluded an agreement with the government scheduled to begin in 1999, under which they agree to: curb CO_2 emissions; improve energy efficiency in the industrial, energy and transport sectors; and promote the use of renewable energy. The Italian Environment Ministry acts as monitor.							
Targets	None specified							

Name of law	**Provisions on GHG emissions reduction (Kyoto targets) (CIPE resolutions: 137/98; 126/99; 123/02; Budget Law 2007; Ministerial decree 25.11.2008)**							
Date of entry into force	1998							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×					×
Driver for implementation	Climate change							
Summary of bill	The Inter-ministerial Committee on Economic Planning (CIPE) resolution no. 137/98 establishes the guidelines for the national policies and measures for GHG emissions reduction. It also sets the targets of such reduction for 2008–2012. A further CIPE deliberation known as the "Italian white paper on renewable energy" (CIPE resolution no. 126/99) identifies, for each renewable source, the targets that have to be achieved in order to realise the planned reduction and the relative strategies and instruments needed. In 2002 the targets were revised through the publication of the CIPE resolution no. 123. It sets the targets of such reduction for 2008–2012 (6.5% on 1990 levels).							
Targets	6.5% (93MtCO_2e) reduction from 1990 levels by 2008–2012							

4.17 Jamaica

4.17.1 Fact Box

Greenhouse Gas emissions incl. LULUCF ($MtCO_2e$) excl. LULUCF ($MtCO_2e$) Change from base year (1990)	 116 116 NA
Latest reporting year	1995
Importance as an emitter	Below top 50
UNFCCC ratification status and date	Date of signature: 12 June 1992 Date of ratification: 6 January 1995 Date of entry into force: 6 April 1995
Kyoto Protocol ratification status and date	Date of ratification: 28 June 1999 Date of entry into force: 16 February 2005
2020 pledge	No pledge made
Flagship legislation	**Vision 2030 Jamaica**

4.17.2 Legislative Process

Jamaica remains a member of the Commonwealth since achieving independence in 1962, and retains the British Monarch as the titular head of state. It therefore retains a Governor General as the representative of the Monarch, but who is appointed on the recommendation of the Jamaican Prime Minister, and whose role is largely ceremonial.

Jamaica is as such a constitutional monarchy and a parliamentary democracy. The parliament is bicameral, featuring a House of Representatives and a Senate. Members of the House of Representatives are directly elected by the Jamaican people (universal adult suffrage). The Senate's 21 members are selected by the Prime Minister, who chooses 13 Senators; and the Leader of the Opposition, who chooses 8 Senators. Under Chapter 5 of the 1962 Constitution Parliament is given power to make laws. The Senate largely serves as a review chamber for legislation developed by the Cabinet. The Cabinet is thereby the main instrument of government policy, and consists of the Prime Minister and at least 13 other members of the House.

4.17.3 Approach to Climate Change

International cooperation and action

As a fairly small low-lying tropical island state, Jamaica is vulnerable to a series of risks which are predicted to worsen due to climate change, such as changes in sea level and an increase in the intensity and frequency of tropical storms. And as a small state, the ability to respond to climate change among other demands on government can be challenging. Given this context, Jamaica has seen much of its engagement with climate change issues developed through a number of region-wide initiatives targeted specifically at climate change. In particular this involvement has occurred through the Caribbean Community (CARICOM). Jamaica participated in the 2001 the Caribbean Planning for Adaptation on Climate Change Project (CPACCP), whose goal was capacity-building for adaptation. Under this project, a National Climate Change Policy for Jamaica was drafted. However this has not been further developed.

The Adaptation to Climate Change in the Caribbean (ACCC) Project followed the CPACCP, running between 2001 and 2004. The aims of this project were to continue activities developed during the CPACCP, in addition to the development of further activities. This was in turn followed by the Mainstreaming Adaptation

to Climate (MACC) Project between 2004 and 2007, designed to mainstream adaptation activities into CARICOM states' national and sectoral planning. An example of one outcome is that Jamaica's Development Orders are undergoing revision and will in future include consideration of climate change in certain high-risk coastal zone areas.

The EU has funded Jamaica's Climate Change Adaptation and Disaster Risk Reduction Project, which involves rehabilitation of watersheds through reforestation, improving coastal ecosystems, maintaining forest resources and improving climate change awareness. However, most recently, in a move to develop a stronger institutional response to climate change, Robert Pickersgill (the Minister of Water, Land, Environment and Climate Change) announced the establishment of the Jamaican Climate Change Advisory Committee in April 2012. This is due to begin operations in 2013. This department is charged principally with the mainstreaming of climate change.

In addition in May 2012, The Ministry of Science, Technology, Energy & Mining (STEM) launched the Energy Efficiency & Conservation Programme. This is intended to make advancements in energy efficiency mainly within the public sector. This involves strengthening the institutional capacities of the Ministry of Science, Technology, Energy and Mining for implementing energy efficiency and conservation, in addition to actually then designing and implementing cost-saving energy efficiency and conservation measures in the public sector. Furthermore the programme is intended to increase awareness among both public and private sector stakeholders of energy efficiency issues, in conjunction with demand-side energy management.

While the above constitutes a considerable degree of government activity in climate change related areas, climate change concerns do not, however, appear to be included in any of the legal instruments of Jamaica. Indeed, there is no single policy or piece of legislation in Jamaica dealing specifically with climate change. Rather, the response is integrated into broader policy development, supported by some historic environmental regulations that could incidentally support adaptation and mitigation actions. Looking forward, the National Climate Change Policy, Strategy and Action Plan is currently being developed with support from GoJ/EU/UNEP Climate Change Adaptation and the Disaster Risk Reduction Project (CCADRRP) in collaboration with USAID. A draft of this policy is anticipated to be ready by January 2013.

Finally, Jamaica's National development plan, "Vision 2030", seeks to make Jamaica "the place of choice to live, work, raise families and do business". It sets out a plan for Jamaica to achieve developed country status by 2030. The Vision considers climate change to be a cross-cutting issue that should permeate all future plans, legislation and policy making through an ambitious mainstreaming strategy. It contains two national strategies to support "adaptation to climate change" and "to contribute to the effort to reduce the global rate of climate change". Vision 2030 Jamaica is therefore our "Flagship" policy in the following section of this chapter.

Acts and regulations pertaining to air quality

Two Acts are tangentially related to climate change via impacts on air quality; but the driver for implementation seems to have been impacts on human health of particulates and particular gases. Nonetheless they are probably the main pieces of "real" legislation related relevant to climate change. These are The Clean Air Act (1964; followed by the 2002 Air Quality Regulations) and The Ozone Act (2008). However, the National Ozone Unit of the National Environment and Planning Agent state on their website that:

> The Ozone Act will not be promulgated, as…Jamaica has achieved all targets under the Montreal Protocol through the use of Ministerial Orders under the Trade Act. These Orders will be expanded or new ones created to achieve additional ODS phase out targets under the Montreal Protocol.

Forestry and land use

Jamaica was once covered by forest but only small fragments of the original ecosystem remain, covering around 8% of the land area. However, 30% of Jamaica is still classified as forest of some sort, which in the mountainous regions provides the crucial ecosystem services of protection against erosion and fresh water.

The Forest Act of 1996 allows for the re-afforestation of degraded land which is a potential activity under the mitigation strategy REDD+. At least on a small scale, and moreover in a way which encourages social participation and raises awareness, The Ministry of Forestry of Jamaica is holding a national tree planting day on 5 October 2012.

In the Forest Regulations developed under Section 37 of the Forestry Act, regulation 44 states that "The Minister may establish a Forestry Development Fund which shall be used exclusively in support of the following activities on both public

and privately owned lands: Carbon conservation projects". Otherwise there is no reference to climate change in this document, and the regulation pre-dates the development of REDD+ negotiations.

Other policies and plans which could potentially support climate change mitigation and adaptation in Jamaica include the National Forest Management and Conservation Plan; the National Land Policy; the Watersheds Policy; the National Biodiversity Strategy and Action Plan; and the National Hazard Mitigation Policy. However, probably the most influential forthcoming plan will be the National Forestry Plan 2012, draft versions of which refer to essential climate resilience and adaptation functions of forest, in addition to the ecosystem services which are vital to Jamaica's future. The plan also refers to innovative financing mechanisms to achieve these goals, such as the issuance of reforestation bonds.

Renewable energy

Most notable in policy is The Ministry of Energy and Mining's National Energy Policy. This relates directly to climate change through concerns over energy supply and demand. In particular, the recognition that as much as 87% of Jamaica's foreign exchange earnings are spent on fossil fuel imports has led to a drive to diversify the energy mix and look toward sustainable energy sources. Activities set out in this policy range from advocating the incorporation of energy conservation measures into Jamaicans' behaviour, to modernising the nation's energy infrastructure.

Specific strategies of climate change mitigation and adaptation mentioned within this policy include carbon trading and auctions; and energy conservation and efficiency through technology transfer (including technologies relating to developing renewable energy sources). Finally the policy mandates the percentage of renewable sources required in Jamaica's energy mix. As a potential policy linkage, the Forest Policy of 2001 also states that sustainable wood-based energy programmes will be fostered, facilitated and encouraged to provide more biomass energy.

Jamaica: Flagship Legislation

Name of law	Vision 2030 Jamaica							
Date of entry into force	2007							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×			×	×	×

Driver for implementation

Sustainable economic development, achieving developed country status.

Adaptation considerations, particularly the impacts of natural hazards should be incorporated into all areas of planning, so that the impacts of climate change upon development are minimised.

Summary of bill

Vision 2030 Jamaica is a national development strategy that seeks to achieve developed country status for Jamaica. The National Vision statement is that by 2030, Jamaica should be "the place of choice to live, work, raise families and do business".

This is Jamaica's first long-term (21-year) national development plan, commencing in 2006 under People's National Party (PNP) administration, and launched formally in 2007 under the Jamaica Labour Party (JLP). 2009 was the first year of implementation.

As a national development plan, the Vision is naturally multi-sectoral. It provides a framework to ensure that the management of natural hazards, which are predicted to increase in frequency and severity under climate change, is integrated into Jamaica's development and that hazard considerations are systematically incorporated into development policy.

The Vision has four goals, 15 National Outcomes and 82 National Strategies, with sector strategies and actions. With regards to climate change, goal four of the Vision is that Jamaica has a healthy natural environment, meaning that Jamaica's development is in harmony with the environment. National outcome 14 under this goal is "Hazard Risk Reduction and adaptation to climate change". There are four specific National Strategies here:

1. Improve resilience to all forms of hazards
2. Develop measures to adapt to climate change
3. Contribute to the effort to reduce the global rate of climate change
4. Improve emergency response capability

Furthermore, in the Environmental sector, Plan 16 focuses on Hazard Risk Reduction and Climate Change.

Under National Outcome 10 (Energy security and efficiency) National Strategies include diversification of the energy supply; and the promotion of energy efficiency and conservation. The Vision sees this as a "win-win" opportunity, providing decreased spending on imported oil, less pollution and a reduction in pollution-related illness. Finally, reforestation efforts are seen as a means to mitigate climate change and improve watersheds and reduce landslides and erosion.

	Adaptation considerations, particularly the impacts of natural hazards should be incorporated into all areas of planning, so that the impacts of climate change change upon development are minimised.
Targets	• Achieving developed country status by 2030. • 62 National Outcome Indicators with Targets for 2012, 2015 and 2030, which relate to Human Development Index; economic performance; crime and environmental standards. • The progress of implementation of Vision 2030 Jamaica will be monitored and evaluated through a Results-Based Management Systems (RBMS) framework. • Selected targets of relevance to the present GLOBE study are as follows:

Outcome #10 – Energy Security and Efficiency	*2012*	*2015*	*2030*
Percentage of renewables in energy mix	11.00%	12.50%	20.00%
Intensity index (EII) BTU/US$1 Unit of output (Constant Year 2000 $US)	14000	12700	6000
National Outcome #14 – Hazard Risk Reduction and Adaptation to Climate Change	*2012*	*2015*	*2030*
Cost of damage caused by hazards as % of GDP	2.50%	1.50%	≤1%
Loss of lives due to hazards	≤10	0	0

Jamaica: Other Relevant Legislation

Name of law	**Ministry of Energy and Mining long-term National Energy Policy 2009–2030**							
Date of entry into force	Promulgated 2009							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×					
Driver for implementation	Energy security and efficiency							
Summary of bill	Developed in parallel with the Vision 2030 Jamaica document, the overarching goal of the National Energy Policy is to develop: *"a modern, efficient, diversified and environmentally sustainable energy sector providing affordable and accessible energy supplies with long-term energy security and supported by informed public behaviour on energy issues and an appropriate policy, regulatory and institutional framework".*							

The Strategic Framework underpinning the policy addresses both the supply and demand energy issues Jamaica faces. It prioritises seven key areas:

- Security of energy supply through diversification of fuels as well as development of renewable energy sources
- Modernising the country's energy infrastructure
- Development of renewable energy sources such as solar energy and hydro power
- Conservation and efficiency in energy use
- Development of a comprehensive governance/regulatory framework for the energy sector
- Enabling government ministries and agencies to be models/best practice for the rest of society in terms of energy management
- Eco-efficiency in industries

Finding environmentally sustainable energy solutions is central to the document. It seeks to facilitate cultural, institutional and technological change in a way that supports "aggressive" advances in energy efficiency and conservation, minimises greenhouse emissions and ultimately provides green growth. These energy efficiency and conservation goals are seen as "no regrets" mitigation actions which can have positive impacts on society and the economy, principally by reducing costs and dependency on fossil fuel imports.

Among stated goals of the policy is that Jamaica realises its energy resource potential through the development of renewable energy sources and enhances its international competitiveness and energy security while reducing its carbon footprint.

Five sub-policies exist to support the National Energy Policy, namely:

- A Carbon Emissions Trading Policy developed to address Jamaica's participation in the Clean Development Mechanism
- National Renewable Energy Policy 2010–2030
- National Energy from Waste Policy 2010–2030
- Energy Conservation and Efficiency Policy
- Biofuels Policy

Targets

Reduce the percentage of petroleum in the country's energy supply mix from the current 95% (does not state to which new level).

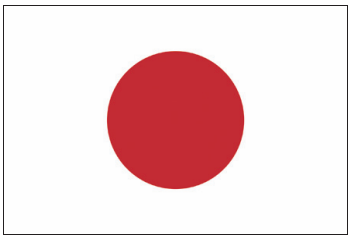
Increase in the percentage of renewables in the energy mix with proposed targets of 11% by 2012, 12.5% by 2015 and 20% by 2030.

The Policy document itself contains a section "Proposed Energy Sector Indicators and Targets" on electricity supply, efficiency targets etc. However, the section does not provide the actual indicators and targets.

Name of law	**Air Quality Regulations**							
Date of entry into force	2002							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						
Driver for implementation	Human health concerns; but also makes specific references to GHGs							
Summary of bill	Regulates the emissions of particulates and substances deleterious to human health. This includes the licensing of premises and plants which produce such polluting substance; fees for discharge; and inspection.							
Targets	The regulations set track Emissions Targets for both existing sources and new sources. These are highly detailed and concern a suite of measures, ranging from the opacity of smoke stack output, through to the proportion of sulphur dioxide in stack emissions. As one example, for emissions sources, the overall target is 20% opacity and up to 40% opacity for 6 consecutive minutes in any hour or 6 hours in 10 days.							

Name of law	**The Forest Act**							
Date of entry into force	1996, amended 2001							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
				×				
Driver for implementation	Management of Jamaica's remaining forest resources							
Summary of bill	This is the primary legislation governing the management of forests in Jamaica. This law mandates the National Forestry Agency as the lead agency responsible for forests on crown land. The law mandates that the National Forestry Agency establish the rules on directing and controlling the exploitation of forest resources, promote reforestation, conduct research, establish public education, and develop recreational activities in forests.							
Targets	None specified							

4.18 Japan



4.18.1 Fact Box

Greenhouse Gas emissions incl. LULUCF ($MtCO_2e$) excl. LULUCF ($MtCO_2e$) Change from base year (1990)	 1185 1258 -9
Latest reporting year	2010
Importance as an emitter	Top 5
UNFCCC ratification status and date	Date of signature: 13 June 1992 Date of ratification: 28 May 1993 Date of entry into force: 21 March 1994
Kyoto Protocol ratification status and date	Date of signature: 28 April 1998 Date of ratification: 4 June 2002 Date of entry into force: 16 February 2005
2020 pledge	25% from 1990, premised on the establishment of a fair and effective international framework in which all major economies participate and on agreement by those economies on ambitious targets
Flagship legislation	**Law Concerning the Promotion of the Measures to Cope with Global Warming (Act on Promotion of Global Warming Countermeasures)**

4.18.2 Legislative Process

Japan has a civil law system. The National Diet of Japan is the sole law-making organ of the State based on the Constitution and is Japan's bicameral legislature. The Diet comprises two houses, the House of Representatives (the Lower House) and the House of Councillors (the Upper House). Under the Japanese legislative process, many draft bills come from government agencies and are then submitted to the Diet through the Cabinet. To become law, a bill must pass both houses of the Diet. Japanese laws follow a certain hierarchy, headed by the Constitution. Statutes are often sorted by the nature of the subject, into public and private laws, or into substantive and procedural laws. The sources of Japanese law include: Constitution, Treaties and International Agreements, Codes and Laws/well-established customs, Cabinet Orders, Ministry Ordinances and Ministry Notifications.

4.18.3 Approach to Climate Change

Japan has a long established tradition of legislation on climate change issues. In 1998 Japan introduced the Guideline of Measures to Prevent Global Warming and Law Concerning the Promotion of Measures to Cope with Global Warming (Act on Promotion of Global Warming Countermeasures), which created a legal framework for climate change policy. The Law stipulated that a plan for reaching Japan's target should be established when the Kyoto Protocol came into effect. In response to the Protocol coming into effect in 2005, the Kyoto Protocol Target Achievement Plan was established. In 2007, the revised Act on Promotion of Global Warming Countermeasures provided that a study shall be conducted concerning the targets and programs prescribed in the Kyoto Protocol Target Achievement Plan and that any changes to the Plan should be promptly enacted if found necessary based on the results of the study. The Plan was completely revised in March 2008.

More recently, a new Japanese bill of the Basic Act on Global Warming Countermeasures was approved by the cabinet on 12 March 2010, and submitted to the Diet. It passed the Lower House in May 2010 but stalled in the Senate. An amended version of the bill was again passed by the Cabinet in autumn but again stalled in the Senate.
If passed, the bill would have put into legislation an emissions reduction target of 25% below 1990 levels by 2020 and 80% below 1990 levels by 2050, premised on the establishment of a fair and effective international framework in which all major economies participate and on agreement by those economies on ambitious targets.

It would also have set up a national cap-and-trade scheme as the major delivery mechanism. Additionally, the draft bill included a target to produce 10% of primary energy supply from renewable sources by 2020, including the introduction of a feed-in tariff.

However, after the Great East Japan Earthquake and the accident at the Fukushima Daiichi Nuclear Power Station of Tokyo Electric Power Co. (TEPCO) (see below), Japan undertook a complete review of its energy policy to take into account a commitment to reduce Japan's reliance on nuclear energy (see below under the "Energy" section).

Despite the challenges associated with the 2011 earthquake, the Japanese government has been taking forward a number of measures to tackle climate change. The Act on Purchase of Renewable Energy Sourced Electricity by Electric Utilities was approved at the Diet in August 2011. This law introduced a feed-in tariff system for renewable energy from July 2012. In its Fourth Basic Environment Plan (Cabinet decision on 27 April 2012), Japan decided that it would aim for an 80% reduction of GHG emissions by 2050. On 14 September 2012, the Japanese government decided to formulate the "Global Warming Action Plan" for the period from 2013, based on the "Innovative Strategy for Energy and Environment" (see below) by the end of 2012. In addition, a carbon taxation system was introduced from October 2012. The carbon tax is designed to help reduce Japan's emissions of GHGs and builds on the pre-existing tax regime on crude oil and coal imports. The introduction of the carbon tax is one of the items of the Tax Reform Act that was enacted on 30 March 2012.

Energy

The two oil crises in the 1970s triggered the Law Concerning the Rational Use of Energy in 1979 in order to promote energy conservation to reduce total energy demand. It has been amended 6 times, most recently in 2008. In order to initiate energy policy in a comprehensive and consistent manner, the National Fundamental Law on Energy was enacted in June 2002. This law sets the basic principles regarding energy policy as:

- Energy security
- Adaptability to the environment
- Utilisation of market mechanisms based on the careful consideration of principles 1 and 2

The government was directed to draft and publish the Basic Energy Plan in order to promote energy demand and supply related policies in a long-term, comprehensive, and strategic manner. The accident at the Fukushima Daiichi Nuclear Power Station of Tokyo Electric Power Co. (TEPCO) in March 2011 triggered heated debate among the Japanese public regarding doubts about nuclear safety, the need for fundamental safety measures for nuclear power plants, and the validity of an energy system which is dependent on nuclear power. In the midst of this, the government set up the Energy and Environment Council in June 2011 with a view to reviewing from scratch Japan's national energy strategy as well as examining global warming countermeasures as two sides of the same coin. In June 2012, the Energy and Environment Council announced the "Options for Energy and the Environment", which is constituted of three scenarios (0% scenario, 15% scenario, 20–25% scenario) depending on the degree of dependence on nuclear power. National discussions on these options were held throughout Japan for over a month. After taking the results of such discussions into account, the Energy and Environment Council decided on the "Innovate Strategy for Energy and Environment" on 14 September 2012. The Innovative Strategy's basic policy is to strive to reduce the dependence on nuclear energy and fossil fuels by maximising green energy. The three pillars of this new strategy include "realisation of a society not dependent on nuclear power in the earliest possible future", "realisation of a green energy revolution" and "stable supply of energy".

In December 2012 the Low Carbon City Promotion Act entered into force, establishing a recognition system for low-emitting buildings, as a part of a plan to incentivise low carbon cities.

Land

The new Japanese bill of the Basic Act on Global Warming Countermeasures requires the government to establish and implement a comprehensive national land plan, and the basic urban plan, etc. The Soil Contamination Countermeasures Act (Act No. 53 of 2002) aims to protect the health of the citizens rather than protect the climate.

Japan: Flagship Legislation

Name of law	**Law Concerning the Promotion of the Measures to Cope with Global Warming (Act on Promotion of Global Warming Countermeasures)**							
Date of entry into force	Passed 9 October 1998, amended 2003, came into force 16 February 2005							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×		×		×	×
Driver for implementation	Climate change							
Summary of bill	All the clauses of the Act were amended in 2003. The main points of the amendments are as follows: • Establishment of the Council of Ministers for Global Environmental Conservation by law • Development of the Kyoto Achievement Plan • Stipulation of the establishment and implementation of countermeasures by local governments It requires the increase of clerical work that is under the control of the Global Warming Prevention Headquarters, and requires those who emit more than a certain amount of global warming gases to assess and report these global warming gas emissions to the government. It also requires the government to introduce a system to compile and publish these data reported to the government.							
Targets	None specified							

Japan: Other Relevant Legislation

Name of law	**Low Carbon City Promotion Act**							
Date of entry into force	Passed August 2012, came into force December 2012							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×					×
Driver for implementation	Energy efficiency							

Summary of bill	The Law is designed to establish a recognition system for law carbon buildings that contribute to the reduction of CO_2, and give preferential treatment to the buildings of high-performance evaluation through incentives such as tax reduction. Local government is required to make a "Low Carbon City Development Plan", and the government gives financial support to the local government which aims for a compact, energy-efficient city.
Targets	None specified

Name of law	**The Tax Reform Act**							
Date of entry into force	31 March 2012							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
	×							
Driver for implementation	Climate change							
Summary of bill	Part of the tax reform implemented by the Tax Reform Act was the introduction of a carbon tax, beginning in October 2012. The tax has been designed to help achieve Japan's target to reduce emissions of GHGs by 25% from 1990 levels by 2020 and by 80% by 2050. The tax builds on the pre-existing tax regime on crude oil and coal imports. The amount of tax that companies have to pay on a kiloliter of oil was introduced at a rate of JPY 250 (US$3) during the fiscal year to March 2013. The tax will be increased every 2 years until fiscal year 2016.							
Targets	None specified							

Name of law	**Act on Purchase of Renewable Energy Sourced Electricity by Electric Utilities**							
Date of entry into force	Passed 26 August 2011, enforced 1 July 2012							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						
Driver for implementation	Renewable energy							
Summary of bill	This act obliges electric utilities to purchase electricity generated from renewable energy sources (solar PV, wind power, hydraulic power, geothermal and biomass) based on a fixed-period contract with a fixed price. Costs incurred by the utility in purchasing renewable energy sourced electricity shall be transferred to all electricity customers, who pay the "surcharge for renewable energy" in general proportional to electricity usage.							
Targets	None specified							

Name of law	**Law Concerning the Rational Use of Energy (Energy Conservation Act, Law No. 49)**							
Date of entry into force	Passed in 1979, enforced in October 1979; 1st amendment in 1983, enforced in December 1983; 2nd amendment in 1993, enforced in April 1993; 3rd amendment in 1998, enforced in April 1999; 4th amendment in 2002, enforced in April 2003; 5th amendment in 2005, enforced in April 2006; 6th amendment in 2008, enforced partly in April 2009 and wholly in April 2010							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×		×			
Driver for implementation	Energy efficiency							
Summary of bill	The Law is the pillar of Japanese energy conservation policy. It was enacted in 1979 in the light of the oil shock. It covers all sectors as following: • energy management in manufacturing, commercial and transportation sectors • energy efficiency standards for vehicles and appliances • energy efficiency standards for houses and buildings In 2008, the Law was revised to strengthen measures to enhance energy efficiency, including those for the commercial sector. Also in this revision, sectoral approaches used in domestic regulation were introduced. The Law stipulates rules for rational energy use in buildings. It requires that manufacturers and importers of equipment such as automobiles, air-conditioners or other electrical or heat-using appliances ensure the rational use of energy by that equipment. It provides a regulatory framework for mandatory and voluntary energy audits.							
Targets	None specified							

Name of law	**Law Concerning the Rational Use of Energy and Recycled Resources Utilisation (Energy Conservation and Recycling Assistance Act)**							
Date of entry into force	Came into force on 25 June 2003; revised in 1 October 2003 and determined to be extended until 31 March 2013							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×					×
Driver for implementation	Energy efficiency							

Summary of bill	The Law is designed to support business operators voluntarily implementing projects to promote the rationalisation of the use of energy and natural resources. It covers 3R (Reduce, Reuse, Recycle) concept based activities, additional financial assistance for overseas energy conservation or CO_2 emission reduction projects and the use of Kyoto Mechanisms (CDM and JI projects). From its inception, this Act has assisted business operators who voluntarily undertake activities such as the rationalisation of energy use and the use of recycled resources, including the provision of fiscal and financial incentives, such as low-interest loans. The Act includes provision for low-interest loans, tax incentives and a subsidy for introducing energy efficient equipment and facilities. The following three categories of activities are defined as "specific business activities" and any business operator, or other agent carrying out these activities, can submit an activity plan to the competent minister for approval: • Installing new equipment or improving existing equipment contributing to the rationalisation of energy use in a factory or other business location • The use of building material, the installation or improvement of any equipment contributing to the rationalisation of energy use in the construction of a building • Conducting R&D on the manufacturing technique of an industrial product contributing to the rationalisation of energy use Moreover, heat supply facilities that are necessary to establish effective energy utilisation systems will be designated as "specified facilities". Effective energy utilisation systems include "the large-scale cogeneration regional heat supply system" or "the cascade heat utilisation-type industrial complex".
Targets	None specified

Name of law	**National Fundamental Law on Energy (Basic Act on Energy Policy)**							
Date of entry into force	Came into force 14 June 2002							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×					×
Driver for implementation	Energy security							
Summary of bill	A lawmaker-initiated legislation, this Law sought to set out the country's fundamental and overall energy policy direction after the approval of the Diet. It set the principles on the use of market mechanisms to encourage a secure and more environmentally friendly supply of energy.							
Targets	None specified							

Name of law	**Law Concerning Special Measures for Promotion of New Energy Use (Special Measures Law for Promoting the Use of New Energy)**							
Date of entry into force	Came into force 23 June 1997, amended January 2002							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×					×
Driver for implementation	Renewable energy							
Summary of bill	The Law aims to accelerate the advancement of the introduction of New Energy. This Law, while clarifying the role of each area for the overall advancement of New Energy usage, provided financial support measures for utilities that use new energy. Based on this Law, a fundament policy to provide for basic matters concerning measures for each area that the public, utilities and governments should consider was determined in September 1997. The amendment in 2002 added "New Energy use, etc." to Article 1 of the Act. Then, Biomass Energy and Cool Energy could be added. In April 2008, the definition of "New Energy" was changed and became almost equivalent to renewable energy, but large-size hydropower generation and geothermal power are excluded.							
Targets	None specified							

Name of law	**Law Concerning Promotion of Development and Introduction of Oil Alternative Energy**							
Date of entry into force	1980							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×				×	×
Driver for implementation	Renewable energy							
Summary of bill	After the oil price crises in the 1970s, the Japanese government enacted this Law and implemented measures for the development and introduction of alternatives to oil, including renewable energy. Under the Law, the New Energy Development Organisation (NEDO; from 1988, the New Energy and Industrial Technology Development Organisation) was established in October 1980. In 2003, NEDO was reorganised as an Incorporated Administrative Agency.							
Targets	None specified							

4.19 Kenya

4.19.1 Fact Box

Greenhouse Gas emissions incl. LULUCF ($MtCO_2e$) excl. LULUCF ($MtCO_2e$) Change from base year (1990)	 -7 21 NA
Latest reporting year	1994
Importance as an emitter	Below top 50
UNFCCC ratification status and date	Date of signature: 12 June 1992 Date of ratification: 30 August 1994 Date of entry into force: 28 November 1994
Kyoto Protocol ratification status and date	Date of signature: 15 February Date of ratification: 25 February 2005 Date of entry into force: 26 May 2005
2020 pledge	No pledge made
Flagship legislation	**The Climate Change Action Plan**

4.19.2 Legislative Process

Law-making in Kenya is a responsibility of the Parliament, formed by the National Assembly and the Senate. Nonetheless, depending on the nature of the law (or bill) this process engages the executive power and is open to public consultation.

Kenya's legal system divides laws into two categories: 1) Public and 2) Private. Public Bills regard matters considered as public policy or alter an existing legislation, and are initiated by the government. Private Bills, on the other hand, are promoted by a private member of the Parliament.

Climate legislations feature in the category of "Public Bills", thus engaging the Executive power in law-making. The first stage of this process is the drafting of a law by a Ministry of the Government, in coordination with the Kenya Law Reform Commission (KLRC) and the Attorney-General Chambers (AGC). The first draft is sent to the Commission for the Implementation of the Constitution (CIC), which opens a consultation process with stakeholders and civil society (compulsory according to Article 10 of the Constitution). Drawing from the various contributions, the AGC prepares the Bill, working with the CIC. At the next stage, the draft Bill is submitted for the Cabinet's approval. The Bill is then published in the Kenya Gazette and introduced in Parliament.

Responsible for debating and enacting a bill, the Parliament scrutinises the proposal in three readings. The first reading is normally conducted by the Committee in charge of a specific issue-area. Next, all the Members of the Parliament discuss the Bill, before returning the text to the Committee with eventual amendments. The third reading takes place after the Committee has reviewed the draft. Once passed in Parliament, the AG presents the bill to the Cabinet. Following, the Bill returns to Parliament for a last round of debate. The final text approved by Parliament is submitted to the President for his/her assent. The bill signed by the President is published and becomes a law.

4.19.3 Approach to Climate Change

Over the past decade, Kenya's government has increased the number of national policies on climate change. Still, initiatives at the Executive power surpass the amount of legislation adopted by the legislative. Lacking a specific legislation on climate change, the government has worked towards the promotion of a Climate Change Authority Bill, currently under the scrutiny of Parliament. Moreover, it has recently validated the Climate Change Action Plan.

After two years of negotiations, Kenya's Climate Change Action Plan was publicly approved on 22 November 2012, and pends cabinet approval, expected in early 2013. Developed by the Kenyan Government, through the Ministry of Environment and Mineral Resources, and in conjunction with donor partners, the Action Plan provides a platform for the implementation of the 2010 National Climate Change Response Strategy (NCCRS). For this reason, the Plan addresses eight action areas identified by the NCCRS, in addition to including a new subcomponent focusing on coordination. Overall, adopting a comprehensive approach, the document defines clear measures on adaptation and mitigation to climate change across a wide range of issues, bringing an important contribution to the development of Kenya's legal and political framework in this realm. After being passed, the Action Plan could qualify to be considered Kenya's flagship legislation on climate change.

Background

Following the development of the international climate change regime, since the 1990s Kenya has been employing significant efforts to forge a comprehensive framework to address climate issues. Interestingly, even though the executive and legislative powers are both directly involved in the law-making process, there are significantly more policies than pieces of legislations addressing environmental/climate problems. Moreover, in spite of significant progress achieved over the past decades, Kenya's legal framework is structured under a sectorial (and fragmented) approach. Moreover, given that the legal basis for environmental policies (the Environmental Management Coordination Act) dates back to 1999, there is the need for a new and updated Act.

Against this background, over the past years Kenya's government has been committed to promote a new and comprehensive legislation. The legislative process leading to the enactment of the Climate Change Authority Bill has been followed closely by the international and national communities. Additionally, the National Climate Change Response Strategy (NCCRS) was launched in 2010, complemented by the 2012 Climate Change Action Plan. Finally, another process underway is the formulation of the National Environment Policy, also expected to be adopted soon.

The state of the art

The Climate Change Authority Bill was introduced in the National Assembly on 18 June 2012; up to October 2012 it had passed the first reading session in Parliament. In addition to establishing a Climate Change authority, the Bill sets out to provide for the development of strategies to address the effects of climate change, as well as forging a framework for mitigation of and adaptation to climate.

According to the proposal, the main functions of the Climate Change Authority shall be: 1) coordinating negotiations on climate issues at local, regional and international levels; 2) adopting and managing a national registry for energy and carbon emission applied to both public and private sectors; 3) advising the government on legislative and other measures on adaptation and mitigation to be adopted; 4) recording GHG emissions and set reduction targets; 5) coordinating research activities, as well as the engagement between government and non-governmental agencies focusing on climate issues; 6) formulating, coordinating, and publishing climate change programmes on adaptation, mitigation, R&D and education on climate related issues; among other competences. The Bill also foresees the creation of the Climate Change Trust Fund to finance projects and programmes developed by the Authority.

Over the past four years the Ministry of Environment and Natural Resources has produced several drafts of a National Environmental Policy (NEP). According to the 5th revised draft (July 2012), one of the core objectives of the NEP is to establish "a framework for an integrated approach to planning and sustainable management of Kenya's environment and its natural resources". The draft recognises climate change as one of the direct causes of natural disasters, and proposes measures to be adopted in addressing climate issues. The five actions suggested are: 1) implementing the National Climate Change Strategy; raising awareness on the opportunity for adaptation, mainly through technology transfer and capacity building; 3) Develop and implement investment and technology transfer projects under the Clean Development Mechanism (CDM) of the Kyoto Protocol; 4) develop an integrated, improved early warning and response system for climate and disaster risks; and 5) build and strengthen research capacity on climate change and related environmental issues.

As one of the six countries to benefit from the Scaling-Up Renewable Energy Programme in Low Income Countries (SREP), which operates under the Climate Investment Funds (CIF), in May 2011 the Kenya Government presented a Draft Investment Plan for the SREP.

Institutional setting

Adopted in 1999, the Environmental Management and Co-ordination Act (EMCA) focuses on regulation, management and protection of the environment. Furthermore, the Act establishes important institutions that have been among the central authorities responsible for environmental policies/legislations in Kenya, namely: the National Environment Management Authority (NEMA); the National Environmental Council ("Council"); and the National Environment Action Plan Committee ("the Authority").

Adaptation and mitigation

In April 2010 the Ministry for Environment and Mineral Resources adopted The National Climate Change Response Strategy (NCCRS). The document's "primary focus is ensuring adaptation and mitigation measures are integrated in all government planning, budgeting and development objectives". Towards this end, the Strategy identifies and recommends specific measures to be adopted by the government in addressing climate change. The issues covered range from adaptation and mitigation (including suggestions on carbon markets and green energy development), to R&D and climate governance, among others. As stressed in the outset, the 2012 Action Plan provides a platform for the implementation of the NCCRS, adopting concrete measures on adaptation and mitigation.

In 2011 the government adopted the National Food and Nutrition Security Policy, in which it recognises the direct implication of climate change for food and nutrition security. In order to tackle the issue, the 2011 Policy proposes a set of measures addressing both risk management and adaptation to climate change. The government committed to "Promote integration of climate change adaptation in agricultural development programmes and policies". In addition to assisting local communities to develop rapid adaptation mechanisms, the Policy also sets out to develop more effective mechanisms of drought prevention, preparedness and mitigation; instruments of irrigation; and, eventually, exploring the creation of a Drought Management Authority and Drought Contingency Fund "to ensure rapid response to climate change related calamities".

Energy supply

The 2005 Energy Act regulates activities in all areas of the sector. The Act stimulates the promotion of renewable energy, delegating competences for the Ministry of Energy to forge a National Plan towards this goal. Furthermore, the Act creates the Energy Regulatory Commission (ERC). No specific measure on how to promote renewables is set up.

Forest management

Kenya Forest Act was adopted in 2005 and came into force in 2007. The Act establishes the autonomous Kenya Forest Service, and contains provisions on forest management, with emphasis on the engagement of local communities and the promotion of private investments. Setting up the basis for a Forest Policy, the objectives of the Forest Act can only be achieved with the implementation of subsidiary legislation rules.

Land use in forest areas in also regulated by the Agriculture (Farm Forestry) Rules. Adopted in 2009, these Rules require farmers to establish and maintain farm

forestry on at least 10% of every agricultural land holding. One of the objectives of the Rules is to preserve and sustain the environment and combat climate change and global warming. They also include provisions on enforcement measures and inspection.

Water management

The 2002 Water Act establishes governmental rights and competence over water use and conservation relating to all water sources. The Act also provides for the decentralising of policy-making regarding water management, creating new institutions to this end.

Kenya: Flagship Legislation

Kenya currently has no flagship climate legislation. The Climate Change Action Plan, which is expected to be approved by cabinet in early 2013, addresses key elements of climate change policy.

Kenya: Other Relevant Legislation

Name of law	**Agriculture (Farm Forestry) Rules 2009**							
Date of entry into force	20 November 2009							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
				×				
Driver for implementation	Forest and land management and conservation							
Summary of bill	As a subsidiary legislation to the Agriculture Act, the Agriculture Rules adopted in 2009 aim at the promotion of the establishment and sustainable management of farm forestry. More specifically, these Rules require maintaining farm forest cover of at least 10% in every agricultural land holding. Additionally, other declared objectives of the 2009 Agriculture Rules are: the conservation of water, soil and biodiversity; the protection of riverbanks, shorelines, riparian and wetland areas; the sustainable production of wood charcoal and non-wood products; the providing of fruits and fodder; and carbon sequestration and other environmental services. The Agriculture Rules also contain provisions on enforcement measures and inspection. The responsibility for ensuring compliance is mainly delegated to The District Agricultural Committee							
Targets	Maintenance of 10% of tree cover in forestry farms							

Name of law	**Energy Act 2006**							
Date of entry into force	7 July 2007							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×					×
Driver for implementation	Energy supply and demand							
Summary of bill	Encompassing several laws related to energy, the Act has a very broad scope, covering all forms of energy, from fossil fuels to renewables. Regarding renewable energy, the Act mandates the government to promote the development and use of renewable energy, including biodiesel, bioethanol, biomass, solar, wind, hydro-power, biogas, charcoal, fuel-wood, tidal waver, municipal waste, among others. The Act elaborates on the responsibilities of the Ministry of Energy over renewables, which include the development of a national strategy of research in this field. However, the legislation fails to establish specific measures to reach the goal of promoting renewables, including policies/ financing. The Act establishes the creation of the Energy Regulatory Commission (ERC), in charge of regulating activities in the sector, including the production, distribution, supply and use of renewable energy.							
Targets	None specified							

Name of law	**Forest Act 2005**							
Date of entry into force	2 February 2007							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
				×				×
Driver for implementation	Forest management							
Summary of bill	The Forest Act was adopted by the government in 2005 and aimed at promoting the management of forests under a decentralised approach. The focal point of the Act is the involvement of local communities living in the adjacent forests, and other stakeholders, with actions to promote the sustainable use and conservation of forest. For this purposes it regulates human activity in forest areas under national control, setting up rights and duties for citizens operating/living within these areas.							

	Provides guidance for the implementation of the 2007 Forest Policy. Establishes mechanisms of incentive to promote conservation, sustainable use and management of forests. Reorganising the national institutional framework responsible for forest issues, the Act converted the Forest Department into the Kenya Forest Service. As a semi-autonomous authority, the Service: provides for management of all forests, formulates policies and guidelines regarding forest conservation, use and management; assists local communities, including Indigenous, on forest management; enforces legislation regulating forest use activities; among other competences.
Targets	None specified

Name of law	**The Environmental Management and Co-ordination Act 1999**							
Date of entry into force	14 January 2000							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
								×
Driver for implementation	Institutional setting							
Summary of bill	The Environmental Management and Co-ordination Act (EMCA) provides for the establishment of a comprehensive legal and institutional framework for the management of environmental related matters. The Act recognises the legal right of every Kenyan citizen to a healthy a clean environment; a right later endorsed by the 2010 Kenya Constitution. The Act establishes the National Environment Management Authority (NEMA), responsible for the safeguarding and enhancement of environmental quality through coordination, research, facilitation and enforcement. The NEMA is the main governmental instrument for the implementation of environmental policies. The EMCA sets up the National Environmental Council (“Council”), the authority directly associated with the Ministry of the Environment in charge of policy formulations concerning the Act, as well as the identifying of national goals and programs addressing environmental protection. Additionally, the EMCA creates the National Environment Action Plan Committee (“the Authority”), responsible for environmental planning activities, and the National Environment Tribunal.							

	To foment research in the field of the environment, the Act creates the National Environment Trust Fund, consisting of donations, grants, gifts, endowments or contributions of other sources specifically designated for the Fund. The Act sets the rules for environmental Impact Assessment (EIA), environmental audit and monitoring, and environmental standards. The National Environment Tribunal has the role of establishing order and direction regarding environmental issues in dispute. The Act established the "Trust Fund" to support activities on capacity building, environmental publications, scholarships and grants for projects in the field of the environment.
Targets	None specified

4.20 Mexico

4.20.1 Fact Box

Greenhouse Gas emissions incl. LULUCF ($MtCO_2e$) excl. LULUCF ($MtCO_2e$) Change from base year (1990)	 712 641 NA
Latest reporting year	2006
Importance as an emitter	Top 20
UNFCCC ratification status and date	Date of signature: 13 June 1992 Date of ratification: 11 March 1993 Date of entry into force: 21 March 1994
Kyoto Protocol ratification status and date	Date of signature: 9 June 1998 Date of ratification: 7 September 2000 Date of entry into force: 16 February 2005
2020 pledge	30% GHG emissions reduction with respect to business as usual scenario by 2020 (given adequate financial and technical support from developed countries)
Flagship legislation	**General Law on Climate Change (2012)**

4.20.2 Legislative Process

Mexico has a bicameral legislature and is constituted by the Chamber of Deputies and the Senate. For a bill to become law, both Chambers need to approve it, after which it is sent to the Executive for sanctioning and official publishing. The Senate addresses all matters concerning foreign policy, approves international agreements and confirms presidential appointments. The Chamber of Deputies addresses all matters pertaining to the government's budget and public expenditures.

4.20.3 Approach to Climate Change

Mexico's efforts to tackle climate change at the federal level amount to a series of strategies and programmes of action that have been successively implemented in the past seven years. Namely, the Inter-Secretariat Commission on Climate Change, launched in 2005 via presidential agreement, was the first initiative to address the issue directly. It was followed by the National Strategy on Climate Change, launched in 2007, and was concerned with putting forward a line of action to inform mitigation and adaptation efforts in Mexico. The National Development Plan 2007–2012, in turn, included an environmental sustainability axis concerned with addressing climate change. Finally, the Special Programme on Climate Change 2009–2012 is currently responsible for establishing goals, targets and actions necessary to promote climate change mitigation in the short term while securing Mexico's economic competitiveness and allowing time for the development of adaptation strategies. The government expects that full implementation of the latter should achieve a reduction in total annual emissions of 51 million tonnes of CO_2 by 2012 in relation to the business as usual scenario.

On the international front, Mexico has been one of the most active developing countries in relation to conducting and updating the UNFCCC's National Inventories on Greenhouse Emissions. It was the first developing country to submit the Fourth National Communication and is on the verge of presenting its Fifth National Communication. Additionally, Mexico's hosting of COP16 in 2010 created momentum in Mexico for addressing climate change as evidenced by the four draft laws put forward to Congress by the major political parties that eventually led to the approval of the General Law on Climate Change (GLCC).

The GLCC was published in the Official Diary of the Federation on 6 June 2012 and became official law on that day. This was a major advance in Mexico's actions to tackle climate change. After a long process of negotiation that lasted two years, the key breakthrough was a meeting in October 2011, convened by GLOBE International and addressed by former UK Deputy Prime Minister, Lord Prescott. At this meeting the legislators from different parties, who had proposed separate drafts of a climate change law, agreed to merge them into one single proposal.

The GLCC was voted on, and approved, in the Mexican Senate on 6 December 2011, coinciding with the UNFCCC COP17/CMP7 in Durban, South Africa. The news was warmly welcomed as it showed how different political parties could come together to tackle climate change. Details of the law can be found in the legislation tables later in this section.

Forests and land use

On 19 April 2012 the Mexican Congress passes a series of legal reforms on the Environmental Law (1988, last amended in 2010) and on the Sustainable Forest Development Law (2003), to facilitate the implementation of the REDD+ mechanism in Mexico. The amendments to these laws focus on harmonising the definitions of key terms, the development of economic instruments that benefit forest owners and users and the inclusion of REDD+ safeguards.

The development and passing of these legal reforms was led by the Mexico Programme of the GLOBE Legislators' Forest Initiative and highlight the beginning of a transition towards integrating REDD+ within national legal frameworks. Up to now the REDD+ mechanism has predominantly been discussed within the UNFCCC and the executive branch of governments. However, the example of the work of legislators in Mexico will surely be followed by other national legislatures where REDD+ is an important component of action on climate change.

Importantly, the legal reforms take a critical step towards ensuring that local communities who sustainably manage their forests receive economic benefits derived from any future carbon payment scheme.

The key aspects of the legal amendments are:

- The definition of environmental services is adapted to emphasise the relationship between the benefits and the functionality of the natural ecosystem and the individuals settled in the territory. In addition, it is recognised that environmental services are regulated by the Forest Sustainable Development Law (2003)

- The terms “deforestation” and “degradation” are defined
- The concept of forest management has been adjusted to encompass the notion of environmental services and recognise their economic value
- The national forest inventory is linked to the REDD+ MRV system, which will be created according to the latest UNFCCC developments
- All economic instruments will be considered as a means to promote environmental services, thus establishing a legal basis for new mechanisms that support the “who conserves is paid” principle
- Forest land owners will be the direct beneficiaries of the economic revenues generated by the sustainable management of their forests
- Eight socio-economic safeguards are established according to the decisions at the latest UNFCCC COP and the national REDD+ strategy of Mexico
- Finally, it urges the executive power to establish, over a period no longer than three years, a national system for monitoring, registering and verifying emissions reductions derived from actions to prevent deforestation and forest degradation.

Renewable energy and energy efficiency

Mexico has recently been active in developing legislation to promote the use of renewable energy and energy efficiency. In fact, some of its most recent and most comprehensive bills, the Law for the Use of Renewable Energies and for the Finance of the Energy Transition (LAERFTE) and the Law for Sustainable Energy Use (LASE) were passed on the same date, on 28 October 2008. In September 2009 a fund for renewable energy was created at the initial value of MXN 3 billion. In a similar vein, the Law of Bioenergy Promotion and Development was passed in late 2007 with the purpose of developing bioenergy in the country, thus contributing to energy diversification and sustainable development while supporting rural areas and promoting social inclusion. A common characteristic in the structure of these bills is that they all outline a broad framework for action and request the establishment of multiple bodies and funding mechanisms. In this sense, they represented the first step, a binding commitment of future action, which has been built on by the General Law on Climate Change.

Mexico: Flagship Legislation

Name of law	General Law on Climate Change							
Date of entry into force	6 June 2012							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
	×	×	×	×	×	×	×	×
Driver for implementation	Climate change							

Summary of bill

The approval of the GLCC gives certainty and continuity to climate policy in Mexico and sets the country on a path to a low carbon economy. It establishes the basis for the creation of institutions, legal frameworks and financing to move towards a low carbon economy. As a General Law, it specifies the different responsibilities of the Federation, Mexico's pledge under the Copenhagen Accord, in terms of committing the country to an emissions reduction target of 30% below Business As Usual (BAU) by 2020, subject to the availability of financial resources and technology transfer.

Institutionally, the Law transforms the National Institute of Ecology into the National Institute of Ecology and Climate Change (INECC). The INECC will be responsible for compiling the National Emissions Inventory, will collaborate in the development of strategies, plans, programmes, instruments and actions related to sustainable development, the environment and climate change, and will help in the evaluation of national climate change policy. Through the Law, the Inter-ministerial Commission on Climate Change (IMCC), initially created by presidential agreement, is now formally the institution in charge of coordinating climate change government actions and formulating and implementing national adaptation and mitigation policies. The GLCC also establishes the National Climate Change System, formed by the IMCC, the INECC, state and municipal governments and representatives of Congress. Its main responsibility will be to coordinate the efforts of the Federal Government, states and municipalities.

Taking into account Mexico's vulnerability to climate impacts, the Law puts a strong emphasis on adaptation measures. The objective is to reduce social and ecosystem vulnerability by strengthening the resilience of natural and human systems to reduce damage and risk. One of the tools to achieve this is the "Risk Atlas" which includes information about current and future vulnerability scenarios.

On mitigation, the GLCC states that the national mitigation policy should include diagnosis, planning, measurement, reporting, verification and assessment of national GHG emissions. The national mitigation strategy will be implemented gradually; initially promoting the strengthening of national capacities and subsequently beginning mitigation activities in the most cost-effective sectors – energy production, transport, agriculture, forests and other land use, waste and industrial processes.

	The GLCC also creates a climate change fund, which will channel public, private, national and international funding projects that simultaneously contribute to adaptation and mitigation actions, such as supporting state-level actions, research and innovation projects, technological development and transfer, and the purchase of Certified Emissions Reductions (CERs). Additionally, the Law establishes a voluntary market for emissions trading to promote GHG reductions in a cost-effective, verifiable, measurable and reportable manner. Regulations still need to be determined for the implementation of the Law, the details of which should be completed by mid-2013 with the new government already in office.
Targets	The General Law on Climate Change puts into law Mexico's Copenhagen Accord Commitment of reducing emissions to 30% below Business As Usual (BAU) by 2020.

Mexico: Other Relevant Legislation

Name of law	**Law for the Use of Renewable Energies and Funding the Energy Transition (LAERFTE)**							
Date of entry into force	28 November 2008							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×			×			×
Driver for implementation	Climate change, renewable energy, energy efficiency							
Summary of bill	Seeks to reduce Mexico's dependence on hydrocarbons as the primary source of energy. Promotes and regulates the use of renewable energy sources and clean technology for electricity generation through the Special Programme for Renewable Energy Use. Establishes the National Strategy for the Energy Transition and Sustainable Energy Use and the Energy Transition Fund charged with creating financial mechanisms to support the energy transition. The Secretary of Energy is responsible for the implementation of the Law. The law determines that the Federal Executive, in the context of the National Strategy for Energy Transition and Sustainable Energy Use, will design policies and measures to facilitate the inflow of resources from international mechanisms related to climate change mitigation. On energy, it promotes renewable energy generation including wind, solar, geothermal and hydropower. Charges the Regulatory Commission on Energy with creating methodologies to assess the contribution of renewable energy technologies to the National Electric System. In September 2009, a new regulation on the Law created a 14-member National Consultative Council for Renewable Energy. This new regulation charged the Secretariat of Energy with establishing a National Inventory of Renewable Energy and a methodology to value the externalities of renewable electricity generation vis-à-vis fossil fuels. In preparation for the Special Programme, the Secretariat of Energy is also meant to create an annual forecast on the penetration rate of renewable energy so as to establish targets for renewable electricity.							

	The regulatory instruments overseeing the services exchanged between energy suppliers and generators will be established by the Secretariat of Energy. The National Center for Energy Control will observe the adequacy of the rules and fulfilment of the Law.
Targets	None specified

Name of law	**Law for Sustainable Energy Use (LASE)**							
Date of entry into force	28 November 2008							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×		×			×
Driver for implementation	Energy efficiency							
Summary of bill	The Programme and the Commission shall promote scientific research related to sustainable energy use and shall design and implement permanent sustainable energy use programmes in all properties owned by the Federal Administration as well as apply sustainable use criteria in all acquired and rented properties or public works and services. In order to integrate and update the National Information Sub-system, Federal Administration entities and users with high energy consumption shall provide the Commission with information on production, exports, imports and consumption of all types of energy; energy efficiency in consumption; and measures implemented to save energy and its results. The Secretariat of Energy shall periodically revise the Programme and publish the results in the Federation's Official Gazette. The Consultative Council shall evaluate the fulfilment of the Programme's objectives. The National Commission shall request verification visits and information from those engaged in activities related to the sustainable use of energy. The Programme and the Commission shall promote scientific research related to sustainable energy use and shall design and implement permanent sustainable energy use programmes in all properties owned by the Federal Administration as well as apply sustainable use criteria in all acquired and rented properties or public works and services. In order to integrate and update the National Information Sub-system, Federal Administration entities and users with high energy consumption shall provide the Commission with information on production, exports, imports and consumption of all types of energy; energy efficiency in consumption, measures implemented to save energy and its results. The Secretariat of Energy shall periodically revise the Programme and publish the results in the Federation's Official Gazette. The Consultative Council shall evaluate the fulfilment of the Programme's objectives. The National Commission shall request verification visits and information from those engaged in activities related to the sustainable use of energy.							
Targets	None specified							

Name of law	**Law for Bioenergy Promotion and Development**							
Date of entry into force	13 December 2007							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×		×	×		×	
Driver for implementation	Renewable energy							
Summary of bill	This bill seeks to reduce GHG emissions as per the international instruments to which Mexico is a signatory. The Secretariat of Agriculture is charged with developing the Programme of Sustainable Input Production for Bioenergy and Scientific and Technological Development. The Inter-sectoral Commission for Bioenergy Development, in the context of the Development Plan, will promote the production and commercialisation of bioenergy inputs from activities in rural areas related to agriculture and animal husbandry, forests, seaweed, biotechnology and enzymatic processes. The Secretariat of Agriculture and the Secretariat of Energy shall support scientific and technological research for sustainable bioenergy production and use as well as capacity building in this area. The Commission for Bioenergy shall implement measures of this kind including, among other things, the creation of a National Network of Information and Research on Inputs. The Secretariat of Energy is responsible for defining coordination mechanisms between different sectors of the Public Administration, federal entities and municipalities as well as different productive sectors in the country. The Secretariat of Energy is also responsible for reviewing the annual budget and evaluating established programmes and their respective support instruments. It is also charged with monitoring the observance of environmental laws and measures, and of sanctioning infractions derived from the application of the bill.							
Targets	None specified							

Name of law	Inter-secretariat Commission on Climate Change							
Date of entry into force	25 April 2005							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×	×	×	×		×
Driver for implementation	Climate change							
Summary of bill	The permanent Inter-secretariat Commission on Climate Change was created by presidential agreement and is formed by the Secretariats of Foreign Relations, Social Development, Environment and Natural Resources, Energy, Economy, Agriculture and Communications and Transport. The Commission is responsible for coordinating national policies on climate change mitigation and adaptation as well as programmes and strategies for the fulfilment of Mexico's commitments under the Kyoto Protocol. The head of the Secretariat of Energy and Natural Resources will be the Commission's permanent head, and a Consultative Council on Climate Change will be formed including members of the public, private and academic sectors. The Commission will promote and develop Clean Development Mechanism (CDM) projects in the public and private sectors. To this end it will work with the permanent working group Mexican Committee for Greenhouse Gas Emission Reduction and Capture Projects. The Commission shall report progress on an annual basis.							
Targets	None specified							

Name of law	Accelerated Depreciation for Investments with Environmental Benefits							
Date of entry into force	2005							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						
Driver for implementation	Renewable energy, energy efficiency							
Summary of bill	The bill establishes that investments in environmentally friendly technologies, including renewable energy, could profit from accelerated depreciation. The information of the bill involves the Secretariat of Natural Resources and Environment as well as the Secretariat of Finance. The bill allows investors to deduct up to 100% of the investment in renewable energy projects from tax liability during the first year, in accordance with General Law for Ecological Equilibrium and Environmental Protection. Once the tax deduction is granted, the plant must remain active for at least 5 years.							
Targets	None specified							

Name of law	**General Law for Sustainable Forest Development**							
Date of entry into force	13 December 2002							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
				×			×	
Driver for implementation	Deforestation							
Summary of bill	The bill seeks to regulate and promote the conservation, protection, restoration, production, organisation, agricultural activity and management of Mexico's forests in order to secure sustainable forest development. To this end, it creates the National Forest Service, formed by different government authorities. It further creates the Mexican Forest Fund, charged with facilitating access to financial services and promoting payment for environmental services schemes. The bill also seeks to develop environmental goods and services in forests while preserving and enhancing biodiversity, and improving the social standards of forest peoples. For example, it includes, among other things, the creation of certification schemes in accordance with international practices. There is a strong focus on the creation of economic instruments for the development of forest activity such as fiscal stimulus, credit, funds and others. The National Forest Commission shall formulate and coordinate the National Programme for Forest Research and Technological Development, supported by national institutions dedicated to the theme and charged with promoting research, development, innovation and technological transfers for sustainable development.							
Targets	None specified							

Name of law	**General Law of Ecological Equilibrium and Environmental Protection**							
Date of entry into force	1 March 1998							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
Driver for implementation	Sustainable development							
Summary of bill	The bill seeks to promote the preservation and restoration of ecological balance and environmental protection in Mexico. The law sets guidelines to prevent and control air, water and soil pollution, including the establishment of official Mexican standards of environmental quality and of inventories of emissions sources. It puts forward provisions for the establishment and management of protected natural areas. It determines that the sustainable use, preservation and restoration of soil, water and other natural resources should be compatible with economic benefits and activities. The bill also promotes responsible participation of the people, individually or collectively, in the preservation and restoration of ecological balance and environmental protection. The bill charges the Secretariat of Environment and Natural Resources with issuing official Mexican standards of environmental quality according to the maximum permissible level of emissions of odours, gases and solid particles and liquid to the atmosphere. The Secretariat should also integrate and update the inventory of emissions sources of air pollutants and coordinate with local governments for the integration of national and regional inventories. Finally, the Secretariat is further responsible for the development and implementation of programmes to reduce emissions of pollutants in the atmosphere.							
Targets	None specified							

4.21 Mozambique

4.21.1 Fact Box

Greenhouse Gas emissions incl. LULUCF ($MtCO_2e$) excl. LULUCF ($MtCO_2e$) Change from base year (1990)	 16 8 NA
Latest reporting year	1994
Importance as an emitter	Below top 50
UNFCCC ratification status and date	Date of signature: 12 June 1992 Date of ratification: 25 August 1995 Date of entry into force: 23 November 1995
Kyoto Protocol ratification status and date	Date of signature: 18 January 2005 Date of ratification: 18 January 2005 Date of entry into force: 18 April 2005
2020 pledge	No pledge made
Flagship legislation	**None**

4.21.2 Legislative Process

As a unicameral system, the National Parliament of Mozambique (or Assembly of the Republic) holds the constitutional power over the legislative process, which also includes the participation of the Executive power and civil society.

The process starts with the submission of a law proposal to the President of the Parliament, who presents the Bill to the various working committees, most of them covering more than one thematic area. The committees circulate the proposal to the Members of the Parliament and promote a debate with representatives of the two political parties. The outcomes of these activities are summarised in the committee's report. Every "law proposal" (projecto de lei) is subjected to two readings in Parliament and must be approved by at least half of the MPs present in the Plenary in that session (Article 184 of the Constitution). Once passed, the President of the Parliament signs the Bill and then submits it to the President of the Republic.

With the possibility of referring to the Constitutional Council to verify the constitutionality of a law proposal, the President has 30 days to appreciate the Bill. Normally, this process leads to the approval of the text, confirmed by the signing and promulgation of the Law. Finally, with presidential assent, the Bill must be published in the Official Gazette to then come into force.

4.21.3 Approach to Climate Change

Even if the government has recognised the vulnerability of Mozambique to climate change over the past year, political efforts have not resulted in a significant amount of legislation. Nevertheless, over the past years climate change has acquired more prominence in the political agenda, suggesting an eventual increase in legislations and policies in this realm.

A great indicator of the rising concern with climate change is the inclusion of climate issues as one of the obstacles to the economic development of Mozambique, as stated by the National Poverty Plan (2011–2014). The Plan identifies the adoption of measures to reduce disaster risks and to adapt to climate change features among its top priorities. More specifically, these measures are clustered in five core sets of action, namely: 1) promote a strategy to reduce emissions from deforestation and forest degradation, to control wildfires and to promote reforestation; 2) promote conservation agriculture and diversification of income sources in areas prone to natural disasters; 3) establish, train and equip

local risk management committees in areas prone to natural disaster or vulnerable to climate change; 4) make the natural resource management committees operational; 5) promote a programme for reforestation and reducing emissions from deforestation and forest degradation and establishing carbon stocks (REDD+).

The need to adopt measures to tackle climate change was later endorsed by The Five-Year Government Plan (PQG – *Plano Quinquenal do Governo*), launched in 2010. Mitigation and adaptation to climate change are considered strategic objectives of the Plan, guiding governmental policies from 2010–2014. Again, climate change is approached in association with economic development and poverty reduction issues. Details on how to achieve this strategic objective are not presented in detail, but the Five-Year Plan points out a list of general measures to improve environmental protection and address climate change, such as the promotion of environmental management addressing forest fires, soil erosion and recovery of arid areas, all applying climate change adaptation technologies.

Furthermore, as a Least Developed Country (LDC) in the UNFCCC, Mozambique elaborated a National Adaptation Programme of Action (NAPA), in 2007. The document identifies the most critical and vulnerable areas to climate change and proposes immediate actions to promote adaptation to these urgent issues. The initiatives to tackle climate change are: 1) strengthening of an early warning system; 2) strengthening of capacities of agricultural producers to cope with climate change; 3) reduction of climate change impacts in coastal zones; and 4) management of water resources under climate change.

Under the environmental policy agenda, climate change related issues are anchored in the 1997 Environmental Act and the 1995 National Environmental Policy. Furthermore, sectorial policies addressing energy (biofuel) and forest and wildlife can be also considered as climate legislations/policies.

The environment

The 1997 Environmental Act regulates the use of natural resources, defines norms to ensure biodiversity conservation, as well as adopts rules regarding the disposal of polluting substances (including in the air).

Adopted in December 1995, The National Environmental Policy aims at the promotion of sustainable development in Mozambique, translated into the integrating environmental issues in socio-economic planning. Under this broad scope, the Policy proposes the adoption of sectorial policies in a wide range of areas. In associating deforestation with expansion of activities within the energy sector, the document draws attention to the importance of adopting an energy policy that

promotes the use of renewable energy and discourages the use of fossil fuels and biomass. In addition, it suggests the adoption of a forest management plan for areas close to urban spaces to increase supply of wood-based fuels.

Forest (REDD+)
The 1999 Forest and Wildlife Act regulates forest and wildlife management and conservation, legislating over illegal activities, such as illegal fires on forest areas.

Energy (biofuel)
On 31 March 2009 the Council of Ministers approved the National Biofuels Policy and Strategy. Published as a Resolution nearly two months later, on 31 May 2009, the instrument aims at contributing to energy security and sustainable socio-economic development and energy security, through the development of a biofuel sector. Moreover, the document provides a general framework and guidelines for increasing activities in the sector; the policy and strategy adopts several measures for the promotion of biofuel production, adopting sustainability criteria, as well as limits for land allocation to the be exploited by the sector. Proposing the adoption of the Biofuels Development National Programme, the Resolution establishes an institutional framework and a chronogram for the gradual increase of biofuel production and distribution.

Mozambique: Flagship Legislation

Mozambique currently has no federal flagship climate legislation.

Mozambique: Other Relevant Legislation

Name of law	**Biofuels Policy and Strategy**							
Date of entry into force	21 May 2009							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						×
Driver for implementation	Biofuels							

Summary of bill	The Biofuels Policy and Strategy aims to strengthen the production of biofuels in Mozambique, establishing general guidelines for the development of the sector. For that purpose, the document adopts an Action Plan, identifying specific measures to be taken in the first five years following the entry into force of the Policy/Strategy. The Plan calls for the institution of the Biofuels Development National Programme; the Biofuels Purchase Programme; and the Biofuels National Commission. A calendar for the gradual implementation of the Biofuel Policy and Strategy is also defined, consisting of three phases. The "pilot phase" should extend from 2009–2015 and foresees the first acquisitions of biofuels from national suppliers, on a small scale. The "operational phase" consists of the consolidation of activities within the sector, with prospects for expansion from 2015. Finally, the "expansion phase" expects to develop independent distribution networks for fuels with a high percentage of ethanol, and purely for biofuels. Finally, the document includes a budget for defining the allocation of resources for specific projects from 2009–2013.
Targets	None specified

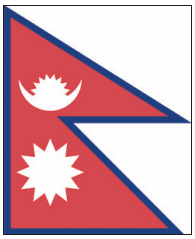
Name of law	**Forest and Wildlife Act**							
Date of entry into force	7 July 1999							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
				×				×
Driver for implementation	Forest and wildlife conservation							
Summary of bill	The Bill establishes the basic principles and norms for the protection, conservation and sustainable utilisation of forest and wildlife resources, defining different categories of forests/ protected area. Divided into 9 chapters, the Act regulates forest management and conservation, defining the responsibilities of the public and private sectors. It gives the public sector responsibility for reforestation for commercial, energy or industrial purposes, in addition to the creation of local councils to engage local communities with the management of forestry and wildlife resources. Regulating on illegal activities, the Act sets up penalties (imprisonment and/or fine) for offences to the law, with particular emphasis on illegal fires.							
Targets	None specified							

Name of law	Environmental Act							
Date of entry into force	1 October 1997							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
				×				×
Driver for implementation	Legal framework							
Summary of bill	The Environmental Act defines a legal basis for the use of natural resources and environmental management, with the ultimate goal to establish a sustainable development system in Mozambique. The 1997 Law defines the competences of the government on the execution of the Environmental Management National Plan, coordinated by the newly created Sustainable Development National Council. In terms of environmental protection, the Law forbids the import of hazardous waste and the disposal of polluting or toxic waste outside pre-established normative parameters. Regulating on the protection of the biodiversity, the Law condemns any activity that threatens to the conservation, reproduction, quality or quantity of biological resources, with particular attention to species under threat of extinction. In addition, it argues for the establishment of Areas of Permanent Protection. The Environmental Law defines the principles under which permits relating to land use will be issued, and proposes the adoption of norms and deadlines for the adaption of industrial and agricultural activities to strict environmental standards that reduces the disposal of potentially polluting substances. Other provisions set up rights and obligations of the citizens to access information, education, justice and legal obligations in regard to environmental protections and natural resource use management.							
Targets	None specified							

Name of law	National Environmental Policy							
Date of entry into force	3 August 1995							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
						×	×	×

Driver for implementation	Setting up an institutional and legal framework
Summary of bill	The National Environmental Policy was adopted by the Council of Ministers as a part of the implementation of the Five-Year Government Plan (1995–1999). The Policy provides guidance for the establishment of national environment plans and legislations, aiming at conciliating development with environment protection. Under this broad scope, the 1995 National Policy proposes a set of activities in the short and long term in the field of the environment. The Policy suggests the adoption of an Environment Law and regulations, followed by the creation of a Ministry for Coordination of Environmental Action, and an Environmental Monitoring Centre. General recommendation of the following issues: marine and coastal area protection; engagement of the private sector in environmental management; development of databases and research activities; investments in environmental education projects; the engagement of civil society with environmental protection; waste management; and international cooperation.
Targets	None specified

4.22 Nepal



4.22.1 Fact Box

Greenhouse Gas emissions incl. LULUCF ($MtCO_2e$) excl. LULUCF ($MtCO_2e$) Change from base year (1990)	 39 31 NA
Latest reporting year	1994
Importance as an emitter	Below top 50
UNFCCC ratification status and date	Date of signature: 12 June 1992 Date of ratification: 2 May 1994 Date of entry into force: 31 July 1994
Kyoto Protocol ratification status and date	Date of signature: 16 September 2005 Date of ratification: 16 September 2005 Date of entry into force: 12 December 2005
2020 pledge	No pledge made
Flagship legislation	**Climate Change Policy, 2011**

4.22.2 Legislative Process

The institutional structure of Nepal has been weakened through its recent experience of political instability. The king seized all power in 2005, which precipitated the mass demonstrations of the People's Movement (Jana Andolan), which sought a return to, and the further development of, democracy for Nepal. This occurred in parallel with the culmination of the Maoist insurgency which ended in 2006 under the Comprehensive Peace Agreement. At this point rebel leaders demanded a move to republicanism, and the convening of an assembly to draft a new constitution for the Himalayan state. These events heralded the beginnings of the constitutional reform process. Central to the facilitation of the reform is the Interim Constitution of Nepal, 2007, which replaces the 1990 Constitution of the Kingdom of Nepal. A President was elected in 2008.

Despite the transition to a republic, the basis of the parliamentary system remains. However, there is now no Second House, the members of which were merged into the one House of Representatives. As an interim document, the 2007 Constitution provides for the establishment of the Constituent Assembly and the preparation of the new constitution. However, a new constitution has yet to be promulgated. The failure to agree on a new constitution, which caused the Prime Minister to call fresh elections for November 2012, led to further public protest.

The Nepalese legal system is based on English Common Law. Despite adopting secularism as a key tenet of the constitution (and thereby declassifying the country as a "Hindu Kingdom"), Nepal retains Hindu legal concepts.

Prior to the abolition of the monarchy, Nepal ratified the United Nations Framework Convention on Climate Change (UNFCCC) in 1994 and signed the Kyoto Protocol in September 1995. The Government of Nepal identified the Ministry of Environment (MoE) as the Designated National Authority (DNA) for implementation of climate change policies.

4.22.3 Approach to Climate Change

Aside from the institutional challenges presented by the recent period of political instability, the geography and economic base of Nepal places its people under some severe risks from the impacts of climate change. Dependency on rain-fed agriculture (c. 86% of the population are dependent on agriculture for their livelihoods; and agriculture contributes c. 33% of GDP) means there is a high sensitivity to fluctuations in precipitation, while the mountainous topography makes the

land prone to flash floods. The severity of these is predicted to increase under climate change scenarios of more intense precipitation. Of particular concern are hazards associated with Glacier Lake Outburst Flood (GLOF) events. These relatively rare events have massive impacts. Temperature rises in mountain regions increase the amount of meltwater from the retreating glaciers, and glaciers in the Dudh Koshi basin are retreating at rates of 10m/yr to 60m/yr. This meltwater accumulates behind natural dams of rock and soil, called moraine. The moraine damns eventually break and release huge quantities of water with catastrophic consequences for people living in the valleys below.

Moreover, changes in Himalayan glaciers present a huge challenge to populations downstream who are dependent on steady supplies of meltwater feeding streams and rivers. These concerns are all the more pressing given that temperatures appear to be rising more quickly at higher elevations.

In its response to such risks, consultancy reports have highlighted the knowledge challenges for the development of climate change policy and actions for Nepal. That is, appropriate responses to climate change have been limited by the amount of research and evaluation of the local impacts of global climate models. This raised concerns that without fully understanding the projected impacts and vulnerability, particularly on agriculture and water supplies, it would be difficult to make appropriate policy.

Within the international arena, Nepal has showed its commitment to climate change by signing the United Nations Framework Convention on Climate Change (UNFCCC) in Rio de Janeiro on 12 June 1992, ratified on 2 May 1994 and entered into force on 31 July 1994. The Initial National Communication was prepared and shared with the Parties in 2004. The Government of Nepal (GoN) ratified the Kyoto protocol in 2005 and is promoting activities to benefit from the Clean Development Mechanism (CDM). Since 2007, Nepal is actively participating in climate negotiation under the UNFCCC process and as a result of Nepal's initiatives on climate change, Nepal is nominated as the Chair of the LDC Coordination Group for 2013 and 2014 under the UNFCCC process which will provide an opportunity to lead 48 LDCs, and enhance climate change activities in the country.

On the national level historic policy documents such as the Nepal Environment and Policy Action Plan made little reference to climate change. The last 10-year development plan does acknowledge the role of weather and climate in economic performance, but there is only brief mention of the development impacts of climate change. Policy on agriculture has not systematically taken account of the

expected impacts of climate change on the sector, and hence the majority of Nepal's population. More recently, however, this has been changing.

The three year plans which have been used to guide Nepal's development following the fall of the monarchy also open avenues to implement climate adaptation in particular and climate change activities in general. The Interim Plan (2010/11–2012/13) identifies the potential of the forestry sector to benefit from carbon trading and stresses the need of conservation of natural resources for livelihoods. More recently, GoN's new 3-Year Plan (for the period 2010/11–2012/13) provides a path to promote green development and "climate proof" development, mitigate the adverse impacts of climate change and promote adaptation.

The 2005 National Water Plan refers specifically to the need for research into the impacts of climate change on the environment, mandating the construction of a Himalayan Climate Change Study Centre. The 3-year interim plan of 2007 also refers to climate change; and several new government councils charged with tackling climate change have recently been created. Overall, the Ministry of Environment, Science and Technology (MoEST) is responsible for the coordination of climate change adaptation and mitigation. But a more targeted response comes from the 2009 establishment of the 25 member Climate Change Council (CCC), headed by the Prime Minister. In addition, to coordinate climate change activities and implement collaborative programmes, a multi-stakeholder Climate Change Initiatives Coordination Committee (MCCICC) has been formed with representation from relevant ministries and institutions, international and national non-government organisations, academia, private sector and donors. Similarly, with a policy to make the country's economy and infrastructure climate-resilient, the National Planning Commission (NPC) has emphasised the need to screen Nepal's development plans to make them climate resilient. Further, the GoN established the Climate Change Management Division in the Ministry of Environment (MoE) in 2010. In that same year, the CCC prepared a policy for tackling climate change (The Climate Change Policy) and approved the MoE's National Adaptation Programme of Action (NAPA). This was the first high level response to climate change, intended to mainstream adaptation to climate change within national policies and reduce vulnerability. The Climate Change Policy also encourages development sectors to incorporate climate change concerns into policies and other instruments of relevant sectors. The Policy equally emphasises development and utilisation of clean and renewable energies and knowledge generation to address impacts of climate change through adaptation and impact mitigation.

In addition to national activities, a National Framework on Local Adaptation Plans of Action (LAPAs) is being prepared. These will act as major guiding policy instruments for mainstreaming climate change activities in general, and climate change adaptation in particular. Other activities are "Strengthening Capacity for Managing Climate Change and the Environment", and implementation of the "Pilot Programme for Climate Resilience" (PPCR). MoEST is also preparing the Second National Communication (SNC) report and Technology Action Plan under its Technology Needs Assessment (TNA) Project for submission to UNFCCC, and between 2007 and 2009 prepared action plans for capacity building under the National Capacity Needs Self-Assessment Project. MoEST is now engaged in implementing NAPA prioritised projects with support from DFID and EU, and the LDC Fund. Similarly, the Climate and Development Knowledge Network (CDKN) has supported Nepal to implement knowledge generation and communication activities, climate negotiations and economic impact assessment of climate change in key sectors. These programmes, projects and activities support to implement NAPA, LAPA and Climate Change Policy in a broader sense. These developments and plans are largely in lieu of laws or legal instruments to implement them.

Forestry

The interim 3-year plan released in 2007 referred to climate change and forestry in particular, and the potential of REDD+ and carbon trading. There is anticipation that mitigation approaches through forestry can provide strong win-win outcomes, conferring watershed, biodiversity and soil conservation benefits. Moreover, there is expectation that REDD+ can contribute to government objectives of poverty reduction in the context of climate change. Given the high proportions of people dependent upon agriculture and natural resources including forests, there is a strong focus on community based forestry management under REDD+. However, there are concerns among forest users such as the Federation of Community Forest Users, Nepal (FeCoFUN) that REDD+ implementation involves too much recentralisation, and that too much revenue from collaborative forest management programmes will also be passed back to central government.

Institutionally, the Ministry of Forests and Soil Conservation (MoFSC) has taken the lead role in implementing REDD+ in Nepal, and has developed a REDD+ department (or "cell") in addition to declaring it a ministerial priority. The cell is responsible for coordinating REDD+ readiness processes under the World Bank's Forest Carbon Partnership Facility (FCPF) and other REDD projects including developing the REDD+ Preparedness Plan (RPP). The MoFSC intends to release the REDD Strategy in 2013.

Nepal: Flagship Legislation

Name of law	Climate Change Policy, 2011							
Date of entry into force	3 March 2011							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
						×	×	×
Driver for implementation	Adaptation; sustainable development							

Summary of bill

The Climate Change Policy is the centrepiece of Nepal's response to climate change. The Policy's preamble discusses a vision of sparing the impacts of climate change on Nepal, through environmental conservation and sustainable development. It further states that the mission of the policy is to address the adverse impacts of climate change and take opportunities to improve livelihoods and encourage climate-friendly change.

After summarising the significance of climate change to Nepal, the document sets out the condition and context of Nepal's institutional response, before moving on to the following policies which have been adopted:

- Climate adaptation and disaster risk reduction
- Low carbon development and climate resilience
- Access to financial resources and utilisation
- Peoples' participation
- Capacity building, peoples' participation and empowerment
- Study and research
- Technology development, transfer and utilisation
- Climate-friendly natural resources management

Targets

The policy document states that the following are the quantitative targets of the Climate Change Policy:

- Establishment of a Climate Change Centre within 1 year for conducting climate change research and monitoring, and regularly providing policy and technical advice to the Government of Nepal
- Initiation of community-based local adaptation actions as mentioned in the National Adaptation Programme of Action (NAPA) through managing financial resources by 2011

- Preparation of a national strategy for carbon trade in order to benefit from the Clean Development Mechanism by 2012
- Formulation and implementation of a low carbon economic development strategy that supports climate-resilient socio-economic development by 2014
- Assessment of losses and benefits from climate change in various geographical areas and development sectors by 2013
- Promotion of climate adaptation and adoption of effective measures to address adverse impacts of Climate change through technology development and transfer, public awareness raising, capacity building and access to financial resources

Nepal: Other Relevant Legislation

Name of law	**National Adaptation Programme of Action**							
Date of entry into force	Endorsed in 2010							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
						×	×	×
Driver for implementation	Adaptation							

Summary of bill

A NAPA constitutes a multidisciplinary process for least developed countries to identify priority activities that respond to their urgent and immediate needs for adapting to climate change. The production of a NAPA will enable Nepal to access and utilise various international adaptation funds which are allocated for the least developed countries.

Rather than concentrating on scenario modelling and national policy the NAPA was intended to be a participatory process focussing on vulnerability to current climate variability and extreme events, and on areas where risks would increase due to climate change. It focuses largely on identifying areas of impact; developing the adaptive potential of Nepal's communities; establishment of criteria for prioritising activities; and selecting prioritised short-listed activities by each development sector.

Climate change is anticipated to have major impacts on agriculture and food security; energy; disasters; forests and biodiversity; public health; and urban settlement and infrastructure. Across these there is a particular focus on the gender divide, whereby women are more exposed to climate-affected sectors.

Nepal's NAPA clustered these activities into nine groupings:

- Promotion of community-based adaptation through integrated management of agriculture, water, forests and biodiversity
- Building and enhancing the adaptive capacity of vulnerable communities through improved access to services for agricultural development

- Community based disaster management for facilitating climate adaptation
- Glacier Lake Flood monitoring and disaster risk reduction
- Forest and ecosystem management for supporting climate-led adaptation innovations
- Adapting to climate challenges in public health
- Ecosystem management for climate adaptation
- Empowering vulnerable communities through sustainable management of water resources and clean energy supplies
- promoting climate-smart urban development

Targets	None specified

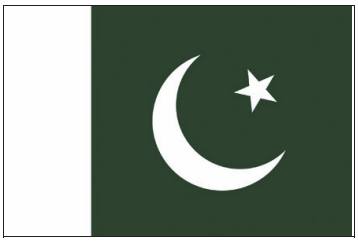
Name of law	**The National Water Plan**							
Date of entry into force	2005							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
						×	×	×
Driver for implementation	Adaptation, research (these are the drivers for the climate aspect of the legislation, but overall the emphasis is on ecosystem services provision)							
Summary of bill	The water policy is a comprehensive strategy document that addresses the major issues relevant to water use in Nepal, including agriculture, tourism, hydroelectric power production potential, and other ecosystem services such as fisheries. It is included in this study since importantly it mandates research into climate change and the creation of the Himalayan Climate Change Study and Research centre. It also sets out the need to conduct further research into the impacts of climate change in Nepal.							
Targets	The policy sets out many targets for its different work areas. Those below are a subset selected since they are relevant to climate change monitoring objectives. *By 2007*: • The existing DHM stations are rehabilitated and equipped and appropriate human and financial resources are allocated to retrieve quality data • The existing 47 hydrometric stations are expanded to 75 well-equipped stations • The existing sediment sampling stations are reviewed to enhance capabilities to collect river bed samples							

- The number of rainfall stations is increased to 370
- Sufficient number of stations is equipped with telemetry facility to assist weather and flood forecasting
- The Himalayan Climate Change Study and Research Centre is established within the DHM

By 2017:

- The DHM station network is expanded to meet the WMO standards
- The dissemination of relevant quality data is improved

4.23 Pakistan



4.23.1 Fact Box

Greenhouse Gas emissions incl. LULUCF ($MtCO_2e$) excl. LULUCF ($MtCO_2e$) Change from base year (1990)	 167 * 161 NA
Latest reporting year	1994
Importance as an emitter	Top 50
UNFCCC ratification status and date	Date of signature: 13 June 1992 Date of ratification: 1 June 1994 Date of entry into force: 30 August 1994
Kyoto Protocol ratification status and date	Date of signature: 11 January 2005 Date of ratification: 11 January 2005 Date of entry into force: 11 April 2005
2020 pledge	No pledge made
Flagship legislation	**National Climate Change Policy**

4.23.2 Legislative Process

The legislative branch of the democratic Islamic federal republic of Pakistan is integrated by a bicameral parliament or Majlis-e-Shoora consisting of the Senate (100 seats; members indirectly elected by provincial assemblies and the territories' representatives in the National Assembly to serve six-year terms; one half are elected every three years) and the National Assembly (342 seats; 272 members elected by popular vote; 60 seats reserved for women; 10 seats reserved for non-Muslims; members serve 5-year terms).

A bill relating to the Federal Legislative List can be originated in either House. If the House passes the Bill through majority vote, it is transmitted to the other House. If the other House passes it without amendment, it is presented to the President for assent.

If the Bill, transmitted to the other House, is not passed within 90 days or is rejected, it is considered in a joint sitting to be summoned by the President on the request of the House in which the Bill was originated. If the Bill is passed in the joint sitting, with or without amendments, by the votes of the majority of the members of the two Houses, it is presented to the President for assent.

If the Bill is presented to the President for assent, he will assent to the Bill within 10 days. If it is not a Money Bill, the President may return the Bill to the Majlis-e-Shoora with a message requesting that the Bill be reconsidered and that an amendment specified in the message be considered. The Majlis-e-Shoora will reconsider the Bill in a joint sitting. If the Bill is passed again, with or without amendment, by vote of the majority of the members present and voting, it is presented to the President for assent. The President makes a decision with 10 days. If after 10 days no statement of assent has been made, it is deemed to have been given.

Under the Constitution, the Parliament may also legislate for two or more Provinces by consent and request made by those Provinces. If the Federal Government proclaims a State of Emergency in any province, the power to legislate over that province is vested in the Parliament. However, Bills passed by the Parliament during a State of Emergency cease to be in force six months after the State of Emergency is lifted. Actions taken during a State of Emergency remain valid once the crisis has passed.

The President is elected by members of both Houses of the Parliament and the Provincial Assemblies. The Prime Minister, who heads the Cabinet and is meant to aid and advise the President in his functions, belongs to the National Assembly. Members of the Cabinet are appointed by the President on the advice of the Prime Minister. In the formation of the Cabinet the major portion (75%) are taken from the National Assembly while the rest (25%) are taken from the Senate.

4.23.3 Approach to Climate Change

Pakistan is a party of the UNFCCC since 1994 and of the Kyoto Protocol since 2005.

The report of the Pakistani Planning Commission's Task Force on Climate Change states that the draft of the National Climate Change Policy (NCCP) was published by the Ministry of Environment in April 2011. This was funded by the One-UN Joint Program on Environment (JPE). The NCCP was developed with extensive consultation with Pakistan's provinces, federal institutions and civil society, and was adopted by the Cabinet on 26 September 2012. Its goal is "*to ensure that climate change is mainstreamed in the economically and socially vulnerable sectors of the economy and to steer Pakistan towards climate-resilient development*". However, it is a living document and will be subject to regular reviews and updates. Notwithstanding any such reviews, the NCCP should help Pakistan to continue on a development path to achieve Pakistan's goals as envisioned in the Planning Commission's Vision 2030 document.

The main focus of this Vision 2030 document is adaptation, in view of Pakistan's high vulnerability to the impacts of climate change including, *inter alia*, degraded ecosystems and high levels of rural poverty, illiteracy and marginalisation of women. Nonetheless, mitigation measures for the sectors of energy efficiency and conservation, transport, forestry, industry, agriculture, livestock and town planning are also part of the Policy. As an example the Forestry Policy (described in more detail below) sets out to restore existing forests in addition to reforesting some deforested and degraded area. There is a strong focus on watershed reforestation which should confer benefits in terms of reduced downstream siltation; more stable river discharge; and benefits to hillside communities in terms of supplies of timber and non-timber products.

Institutional arrangements for climate governance

On 14 April 2012 the federal-level Ministry of National Disaster Management was renamed as the Ministry of Climate Change. Furthermore, the National Assembly has set up a 21-strong Standing Committee on Climate Change.

After the NCCP is adopted, institutional arrangements provide for an Action Plan to implement it. All relevant ministries, departments and agencies will devise plans and programmes to implement the policy provisions relating to their respective sectors and subsectors. Similarly, the provincial governments, AJK, Gilgit Baltistan, federally administrated territories and local governments will also devise their own strategies, plans and programs for implementation of the NCCP.

To ensure effective Policy and Action Plan implementation and to oversee the progress in this regard, Climate Change Policy Implementation Committees will be established at the federal and provincial levels.

One of the tasks of these committees will be the regular monitoring and upgrading of the National Climate Change Policy at an interval of five years. The federal level committees will be chaired by the Minister of Climate Change as the focal Ministry and will be integrated by the Secretaries of Ministries responsible for climate change: Planning and Development, Foreign Affairs, Industries and Production, Finance, Water and Power, Food and Agriculture, Health and Defense; additional Chief Secretaries of Provincial Planning and Development Departments; the Chairman of the NDMA Federal Flood Commission; Secretaries of Provincial AJK, GB, FATA and Environment Departments; Heads of PMD GCISC, Pak EPA, ENERCON; the Chief of the Environment, Planning and Development Division; three representatives from the corporate sector, Chambers of Commerce and industries; three eminent experts from the field; three representatives from civil society organisations and the Director General of the Climate Change Ministry who will serve as a Member and as the Secretary of the Committee.

The provincial Climate Change Policy Implementation Committees will be chaired by the provincial Minister for Environment and integrated by the Chairperson and the Additional Chiefs of the Secretary of Planning and Development Departments; Secretaries of Environment, Agriculture, Forest, Irrigation, Local Government and Public Health Departments; three representatives from the corporate sector, Chambers of Commerce and industries; three eminent experts from the field; three representatives from civil society organisations and the Director General of the Environmental Protection Agency who will serve as a Member and as the Secretary of the Committee.

The National and Provincial Climate Change Policy Implementation Committees will meet biannually. The Provincial Committees, which will be the key actors in the implementation of the proposed climate change agenda, will report the status of implementation of the Policy to the National Committee. The National Committee will report to the Prime Minister's Committee on Climate Change on a regular basis.

Pakistan: Flagship Legislation

Name of law	National Climate Change Policy							
Date of entry into force	September 2012							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×	×	×	×	×	×
Driver for implementation	Climate change; food, water and energy security; disaster preparedness; sustainable economic development							
Summary of bill	The Policy identifies the vulnerabilities to climate change in the sectors of water resources, agriculture, forestry, coastal areas, biodiversity and vulnerable ecosystems and spells out the appropriate adaptation measures to be adopted. It also puts forward appropriate measures concerning disaster preparedness, capacity building, institutional strengthening, technology transfer and international cooperation. The Policy provides a comprehensive framework for the National Action Plan for national efforts on adaptation and mitigation to be designed to implement the Policy. The objectives of the new policy are to pursue sustainable economic growth by : • appropriately addressing the challenges of climate change • integrating climate change policy with other interrelated national policies • focussing on pro-poor gender sensitive adaptation while also promoting mitigation to the extent possible in a cost effective manner • ensuring water, food and energy security of the country in the face of the challenge posed by climate change; and minimising the risks from the increased frequency and intensity of events like floods and droughts • facilitating an effective use of the opportunities, particularly financial, available nationally and internationally • fostering the development of appropriate economic incentives to encourage public and private sector investment in adaptation measures and promoting conservation of natural resources and long-term sustainability.							
Targets	None specified							

Pakistan: Other Relevant Legislation

Name of law	**The Pakistan Energy Efficiency and Conservation Act**							
Date of entry into force	2011							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×				×	×
Driver for implementation	Energy efficiency							

Summary of bill

The bill is a driver of institutional development to improve energy efficiency in Pakistan, specifically mandating the creation of:

- ENERCON, the National Energy Conservation Authority
- The Pakistan Energy Conservation Council
- The Fund of ENERCON

ENERCON will take multiple roles, including *inter alia*:

- serving as the sole focal federal authority for initiating, catalysing carrying out and coordinating the implementation of all energy conservation programs in all sectors of the economy
- Initiating research and development programmes in renewable energy

The roles of the *Energy Conservation Council* are as follows:

- to be custodian of national policy for energy conservation and ensure proper utilisation, planning and management of energy in all sectors of the national economy
- coordinate, supervise and carry out enforcement of the provisions of this Act
- create awareness and disseminate information related to efficient use of energy resources
- coordinate integration and inculcation of energy conservation concerns in national development plans and policies
- approve energy efficiency standards and ensure their enforcement and compliance
- direct the Authority in the conduct of research and development, and preparation and execution of demonstration projects and national programs on energy conservation

- recommend to the Federal Government the adoption of measures directly or indirectly conducive to energy conservation
- promote investment by the public and private sectors in energy conservation through partnership or otherwise
- encourage and facilitate import and local manufacture and Indigenous technologies for the promotion of energy conservation through all legal and policy support
- institute National energy conservation and management awards for various categories of energy consumers for the promotion and encouragement of energy conservation.

The *ENERCON fund* is to be used to meet the expenses incurred in promoting the objectives of the Act including payments of salaries etc., rather than the actual implementation of activities per se.

Targets	None specified

Name of law	**National Sustainable Development Strategy (NSDS): Pakistan's pathway to a sustainable and resilient future**							
Date of entry into force	May 2010							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
				×	×	×		
Driver for implementation	Sustainable development							

Summary of bill

The goal of the NSDS is "vibrant and equitable economic growth" for Pakistan that delivers benefits to all, particularly the poor and the vulnerable, in a way which does not lead to undue exploitation or degradation of natural resources.

The need for the NSDS is stark since the country faces a series of challenges, principally that:

- GDP growth rates are still coupled to resource and natural material use
- Water scarcity is increasing and storage capacity is low; water efficiency delivery is low
- Thermal efficiency in energy generation is low, and distribution losses in the system are high
- Strategic energy reserves are low

This is set against a backdrop of high poverty and illiteracy rates in addition to increased impacts of natural hazards, floods in particular.

	The three core programme areas addressed are: • Economic, comprising: a) Sustainable trade b) Cleaner Production c) Sustainable Consumption • Environment: a) Natural capital b) Biodiversity • Social a) Social protection b) Poverty alleviation c) Equal opportunity/human development Strategic goals of the programme are: • promote green investment and green jobs • Improve eco-efficiency by changing production and consumption systems • Internalisation of environmental costs into pricing • Develop sustainable infrastructure focussing on transport and communication • Develop demand for sustainable consumption among consumers through awareness raising • Account for depletion of natural resources in national accounts • Promote efficient use of energy and water, including through improved watershed management and reforestation • Improve biodiversity management and increase forest cover; prepare lists of endangered species • Deliver basic services of acceptably high quality to all citizens. These would cover 10 years of schooling, healthcare, food, water, shelter and energy • Ensuring preparedness for natural and human-made calamity and emergencies through mitigation and integration of disaster contingencies in broader development strategies
Targets	• Doubling of forest cover by 2030 as envisaged in Vision 2030 • Eliminate absolute poverty

Name of law	**National Forest Policy**							
Date of entry into force	2010							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
				×				×
Driver for implementation	Sustainable development of natural resource use							
Summary of bill	This policy (supported by caveats in the National Environment Policy) addresses the sustainable use of Pakistan's renewable natural resources. It acknowledges the multiple functions of Pakistan's forests, such as carbon storage for climate change mitigation. However, there is a particularly strong focus on forests' role in mountains where they provide protection of soil from erosion and reduction of downstream siltation; and crucially, watershed protection. It also notes the potential of forests to support local livelihoods in terms of provision of non-timber forest products (mushrooms, medicinal plants etc). Much of Pakistan's forests have now been cleared, increasing the importance of managing what remains under a framework of sustainable use. In particular the sustainable use should benefit marginalised groups such as women and children. Furthermore, use of existing resources should be complemented with forest restoration activities to attempt to regenerate forests in order to safeguard economic growth. Approaches to achieve the desired sustainable use of forests include *inter alia* the substitution of firewood and timber (and specifically discouraging the use of rare species in government buildings); the active prevention of encroachment on remaining forest lands through regulation of grazing. In order to finance the protection of watersheds and hence safeguard Pakistan's water supply, the forest policy stipulates the creation of a forest fund. The fund may also be used to finance the promotion of forestry research and education in Pakistan.							
Targets	None specified							

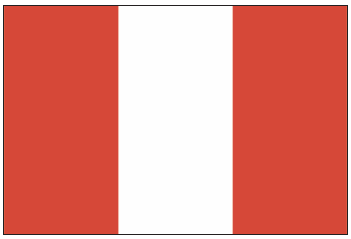
Name of law	**Alternative Energy Development Board Act**							
Date of entry into force	2010							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×					×	×
Driver for implementation	Development of alternative energy							

Summary of bill	The Act sets out to create an alternative and renewable energy development board for Pakistan. The text largely sets out the formal standing of the board, outlying its financial status and how to appoint members of the board etc. In terms of specifics, the functions of the board are to: • develop national strategy, policies and plans for utilisation of alternative and renewable energy resources to achieve the targets • act as a forum for evaluating, monitoring and certification of alternative or renewable energy projects and products: a) act as a coordination agency for commercial application of alternative or renewable technology b) facilitate *energy generation* through alternative or renewable energy resources, including: *inter alia* the promotion or development of renewable energy projects; and interacting with other agencies domestically and internationally for alternative energy production The Act also allows the board to establish an institute of renewable energy technologies.
Targets	None specified

Name of law	**The Pakistan Council of Renewable Energy Technologies Act**							
Date of entry into force	2010							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						×
Driver for implementation	Development of renewable energy capacity							
Summary of bill	The Bill legislates institutional development by mandating the establishment of the Pakistan Council of Renewable Energy Technologies. The council will be responsible for promoting the development, acquisition, propagation and dissemination of renewable energy technologies. Specifically named technologies are: solar/photovoltaic; thermal, hydrogen, biogas/biomass, mini and micro hydro power; and wind technologies. The council will also be responsible for the liaison with national and international organisations to promote technical co-operation in addition to assisting the government in the industrial production of renewable energy technologies.							
Targets	None specified							

Name of law	**Clean Development Mechanism (CDM) – National Operational Strategy**							
Date of entry into force	January 2006							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
						×		×
Driver for implementation	Climate change							
Summary of bill	The strategy describes the functions and powers of a Designated National Authority for CDM projects and the national project approval process.							
Targets	None specified							

4.24 Peru



4.24.1 Fact Box

Greenhouse Gas emissions incl. LULUCF ($MtCO_2e$) excl. LULUCF ($MtCO_2e$) Change from base year (1990)	 120 63 NA
Latest reporting year	2000
Importance as an emitter	Below top 50
UNFCCC ratification status and date	Date of signature: 12 June 1992 Date of ratification: 7 June 1993 Date of entry into force: 21 March 1994
Kyoto Protocol ratification status and date	Date of signature: 13 November 1998 Date of ratification: 12 September 2002 Date of entry into force: 16 February 2005
2020 pledge	Voluntary pledges: Reduce the net rate of deforestation (of primary forests) to zero. Increase use of alternative energy sources (hydrogen and biofuels) to represent at least 33% of national energy consumption. Reduce emissions caused by inadequate treatment of solid waste.
Flagship legislation	**National Strategy on Climate Change**

4.24.2 Legislative Process

Peru is a presidential republic made up of 25 administrative districts called regions. The federal legislature is a unicameral congress, composed of 130 representatives who are elected by popular vote for five-year terms. National legislation is proposed by the executive branch (the President, elected by popular vote for a five-year term, the Prime Minister, appointed by the President, and the council of ministers, also appointed by the President), members of Congress, the Judiciary, autonomous public bodies, municipalities or professional associations. Citizen groups and individuals are also constitutionally guaranteed the right to submit legislation to congress for consideration.

After bureaucratic filing and numbering, the Secretary General refers the proposed legislation to the corresponding congressional committee(s). The committees are formed of elected representatives from all parties and work to draft an evaluating report seeking unanimous, majority or minority consensus. If no such consensus is possible, or if the committee issues an "unfavourable report", the bill is rejected and filed in the Parliamentary Archives. If the committee issues a "favourable report", the bill is then scheduled for debate by the Executive Council in a full parliamentary session. If the bill is passed by Congress, the President may sign it into law within 15 days, or send it back to Congress for further review. Once promulgated by the President, the legislation is enacted and in force on the date of publication in the official congressional gazette, *El Peruano*.

Laws passed by Congress and signed by the President represent the strongest form of legislation in the Peruvian juridico-legal system. Supplemental legislation exist by the way of legislative resolutions, which are employed to ratify international treaties or specify and modify rules and regulations of existing legislation. Likewise the executive branch may issue a "supreme decree" (executive decree), which does not need congressional approval but does require the signature of at least one sitting cabinet minister. Much of the current legislation specific to climate change, including that which we have deemed Peru's "flagship legislation", is in the form of executive decrees.

The national government of Peru has championed decentralisation. In 2002 under President Toledo, Congress passed the *Decentralization Framework Law* (*Ley de Bases de la Descentralización–Ley No. 27783*), which, in accordance with complimentary laws passed shortly thereafter, seeks to decentralise fiscal planning from

the central government to the 25 regional governments. A federally supported proposal to consolidate the 25 regional administrative governments into five sub-national regions was a pillar of the plan for decentralisation; however, this proposal was rejected in a national plebiscite in 2005. Thus implementation of federal legislation (including environmental legislation concerning climate change) is left to each of the 25 regional governments, which are composed of a Regional President and a Council (both President and Council Members are elected for four-year terms). The Council debates and votes on legislation proposed by the Regional President. Elected mayors from sub-regional provinces form advisory Coordinating Councils that advise and consult on budgetary and planning issues but hold no legislative authority.

4.24.3 Approach to Climate Change

Peru ratified the UNFCCC in 1992 and created the National Commission on Climate Change (NCCC) in 1993. The NCCC's primary function is to coordinate the implementation of the UNFCCC. Over the next decade, Peru's national government focussed on synergising sustainable development, poverty reduction and environmental management; however, no significant legislation was enacted until after Peru ratified the Kyoto Protocol in 2002. That same year Congress passed legislation that obliged regional governments to formulate, coordinate and supervise the application of national strategies related to climate change. The work of the NCCC culminated in the National Strategy on Climate Change, which was passed by federal decree.

The National Strategy on Climate Change (NSCC) is a detailed accounting of 11 strategic focuses that prioritise scientific research, mitigating the disproportionate and inequitable suffering of the poor caused by climate change and developing mitigation and adaptation policies within the framework of the Mechanisms for Clean Development (MCD). Each of the strategic focuses is broken down into strategic objectives that are further detailed by specific, realisable aims. Although the NSCC is not congressional legislation, implementation by the regional governments is obligatory.

In 2010 the Ministry of Environment, under the direction of the vice-minister of strategic development of natural resources, published The Plan of Action for Adaption and Mitigation of Climate Change (or Plan CC). The document serves both as a report of ministerial projects and programs related to climate change as well

as a plan for future action between the years 2011 and 2021. Plan CC categorises present and future programs into seven thematic lines of actions, including reporting mechanisms on GHG emissions, mitigation, adaptation, research and development of technology of systems, financing and management, and public education. Plan CC also includes detailed budget information and analysis which indicate Peru's fiscal priorities pertaining to climate change. For example, of the 31 existing projects addressing climate change implemented by the Ministry of Environment, 19 are specific to adaption and absorb 57% of the total expenditure on climate change. Plan CC is the most comprehensive government report on climate change strategy to date and was passed by ministerial decree in April 2010; however, because it does not create new normative legal regulations, it is not considered a legislative approach for the purposes of the present study.

Decentralisation

As noted above, Peru has decentralised much of its governance structure over the past decade. National legislation, therefore, seeks to strike a balance between federal mandates and regionalised and localised strategies. The *Organic Law of Regional Governments* (*Ley Orgánica de Gobiernos Regionales, Ley N°27867*) establishes that responsibility for managing natural resources and the natural environment resides with the regional governments. Article 53 specifically delegates authority to strategically plan environmental projects, implement federal legislation, enact regionally specific environmental legislation, and monitor and evaluate both regionally and nationally enacted policy from the central government to the 23 regional governments.

However, because the natural environment and the processes of climate change are not determined by political borders, legislation regarding climate change has been driven at the national level, and legal and managerial authority still largely rests with the National Commission on Climate Change housed within the National Ministry of Environment. The *General Law for the Environment*, which acts as base of environmental legislation in Peru, states that the role of the regional governments is to formulate policies and coordinate strategic programs within the national framework (Articles 22 and 59). As such, regional governments must develop strategies for implementation of policy and project development, assisted by the National Strategic Planning Centre and additional corresponding national ministries and commissions.

Forest conservation

Peru has the fourth largest reserve of tropical forests in the world, a total of 72 million hectares. Deforestation, particularly in the Amazon, is a principal concern. According to the Peru's second national report to the UNFCCC, deforestation is the single largest source of green house gas emissions, accounting for 47% of national emissions in the year 2000. Accordingly, Peru's voluntary pledges on the international stage have prioritised forest conservation and reducing slash-and-burn agriculture practices. At the UNFCCC meeting in Poland in 2008, Peru pledged to conserve 54 million hectares of tropical forests; and in 2009 at the UNFCCC-Copenhagen the country pledged to reduce net deforestation of primary forests to zero by the end of 2020.

Peru: Flagship Legislation

Name of law	**National Strategy on Climate Change, Executive Decree No. 086-2003-PCM**							
Date of entry into force	27 October 2003							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×	×		×	×	×
Driver for implementation	Climate change							
Summary of bill	The National Strategy on Climate Change has the general objective of reducing the adverse impacts of climate change by conducting research that identifies vulnerability and development strategic action plans to mitigate climate change as well as adaption techniques. The decree acts as a national framework within which the regional and local governments can develop their own policies and action plans. The decree lists 11 strategic lines of action: • Promote and develop scientific, technological and socioeconomic research about vulnerability, adaptation and mitigation in regards to climate change in Peru • Promote policies, measurements (indicators) and projects to develop the capacity for adaptation to the effects of climate change and reduce vulnerability • Actively participate in the international negotiations about climate change in order to defend national interests of Peru and protect the global atmosphere • Develop policies and measurements orientated at the rational management of GHG emissions, other air contaminants and at the mitigation of climate change considering the mechanisms available in the Kyoto Protocol and other economic instruments • Diffusion of knowledge and information about climate change in Peru and aspects concerning vulnerability, adaptation and mitigation							

- Promotion of projects that have as primary objectives poverty alleviation, reduction of vulnerability and/or mitigation of GHGs
- Promotion of the use of technologies that are adequate and appropriate to adapt to climate change, mitigate green house gas emissions and atmospheric contamination
- Achieve the participation of the society in order to strengthen the capacity to adapt to climate change and mitigate green house gas emissions and atmospheric contamination
- Management of the forest ecosystems with the goal of mitigation the vulnerability to climate change and increase the absorption of carbon dioxide
- Explore the possibility of achieving just compensation for the adverse affects of climate change principally caused by industrialised countries
- Management of fragile ecosystems, especially mountainous ecosystems, in regards to reducing vulnerability to climate change

Each strategic point listed above is broken down by objectives and specific actions to be realised.

Targets	None specified

Peru: Other Relevant Legislation

Name of law	**National Plan for the Conservation of Forests to Mitigate Climate Change, Executive Decree No. 008-2010-MINAN**							
Date of entry into force	15 July 2010							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
				×				
Driver for implementation	Climate change							

Summary of bill

This Decree establishes a national programme to conserve tropical forests in Peru, the general objective of which is to protect 54 million ha of tropical forests as a contribution to the mitigation of climate change and to sustainable development. Specific objectives are:

- identify and map the areas to be conserved
- promote productive forms of income connected to forest conservation for those local populations most economically vulnerable
- strengthen the capacity to conserve forested areas at the regional gubernatorial level, as well as in Indigenous and peasant (campesino) communities

	The programme will be housed within the Ministry of Environment. These state interventions should be coordinated with the Ministry of Agriculture and the Ministry of International Trade and Tourism. Programme funds will be allocated from the existing budget of the Ministry of Environment and/or with international funds.
Targets	This legislation corresponds to pledges made by Peru to conserve 54 million ha of forests and halt slash-and-burn agriculture tactics (2008, UNFCCC-Poznan) and to reduce the rate of deforestation (of primary forests) to zero by 2020 (2009, UNFCCC Copenhagen).

Name of law	**Promotion of Investment for the Generation of Electricity from Renewable Energies, Legislative Decree No. 1002**							
Date of entry into force	1 May 2008							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×					×	
Driver for implementation	Climate change, energy diversification							
Summary of bill	This legislation declares the production of electricity from renewable sources of energy a national priority. It designates the Ministry of Energy and Mines as the implementing authority, which will establish goals specifying a percentage of electricity nationally consumed to be generated by renewable energy sources (excluding hydroelectric energy), in maximum increments of 5%. Renewable energy sources will have priority in the distribution of the energy grip and are defined as: biomass, wind, solar, geothermic, tidal, and hydropower when potential yield does not surpass 20 MW. The Decree sets out a number of ways in which the government will promote technological investigation and capacity, including the development of a National Plan for the Promotion of Renewal Energies and through coordination between regional governments, universities and technical schools, and the National Board of Science, Technology and Technological Innovation. Lastly, the Legislative Decree modifies existing laws and decrees that regulate energy use in order to further prioritise the consumption of renewable energy.							
Targets	None specified							

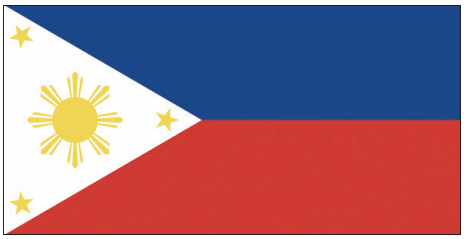
Name of law	**Law to Promote a Market of Biofules Fuels, Law No. 28054 and corresponding regulations specified in Federal Decree No. 013-2005-EM**							
Date of entry into force	15 July 2003 (Law No. 28054) 31 March 2005 (Federal Decree No. 013-2005-EM)							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×					×	
Driver for implementation	Climate change, energy diversification, war on drugs							
Summary of bill	Law No. 28054's primary objective is to incentivise the diversification of the fuel industry by promoting investment in the production of biofuels, defined as any chemical fuel type originating in agricultural products to a standard defined by the national government. The general policies defined in the legislation, to be implemented by the executive branch, are: to strengthen the scientific research system necessary to developing biofuels; to capacitate workers with knowledge related to innovative fuel technologies; to incentivise the application of biofuel technologies; to incentivise private capital investment in biofuel production; to incentivise the commercialisation of biofuels; and to promote the production of biofuels in rainforest regions within the framework of sustainable development. The Law also operates within the Peruvian anti-drug programs, so that national and international funds designated to The War on Drugs are used to incentivise farmers to cultivate crops designated for biofuels rather than illicit narcotics The legislation calls for the creation of a technical commission, which will create quality standards related to the production of various biofuels. The executive authority issued Federal Decree No. 013-2005-EM to regulate the above Law nearly two years after its promulgation. The Decree offers further legal definitions of terminology (such as biodiesel, denaturised chemical compounds etc.) as well as specifying the chemical make up of commercialised biodiesel (95% gasoline, 5% biodiesel) and ethanol fuel (92.2% gasoline, 7.8% ethanol). Additionally, the Decree identifies different funding streams to accomplish the legislative objectives established in Law No. 28054, including through the National Clean Development Mechanism, government-backed credits and funds designated for The War on Drugs.							
Targets	None specified							

Name of law	Organic Law of Regional Governments, Law No. 27867							
Date of entry into force	18 November 2002							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
								×
Driver for implementation	Decentralisation, climate change							
Summary of bill	This is broad legislation meant to decentralise governance in the country and is a pillar of the juridical-legal framework of contemporary Peru. As such, most of the legislation is unrelated to climate change or the natural environment. However, Article 53.C states that regional governments must formulate, coordinate, manage and supervise regional strategies to address climate change within the national framework (the National Strategy on Climate Change and additional legislation, executive decrees and ministerial resolutions).							
Targets	Not applicable							

Name of law	Law to Promote Efficient Use of Energy, Law No. 27345 and Executive Decree No. 053-2007-EM to Regulate Corresponding Law No. 27345							
Date of entry into force	8 September 2000 (Law No. 27345) 23 October 2007 (Executive Decree No. 053-2007-EM)							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×		×			
Driver for implementation	Energy efficiency, climate change							
Summary of bill	Law No. 27345 declares the promotion of energy efficiency a matter of national interest. The motivations listed in the bill are to ensure a stable energy supply, protect the consumer, improve competitiveness of the national market and to reduce environmental damage caused by energy consumption. The Law requires the Ministry of Energy and Mining to, among other objectives, promote a culture of energy efficiency and to design and fund energy efficiency projects. However, the legislation is vague on details and activities to be realised. The one exception is the labeling of electronic appliances and machines of energy consumption information within 90 days after the law has taken into affect. Executive Decree No. 053-2007-EM details how the Ministry of Energy and Mining is to realise the mandates of the corresponding law. In order to encourage a culture of energy efficiency, the Ministry is to coordinate education programs for the general public and in primary and secondary schools, as well as coordinate the establishment of undergraduate and graduate degree programs in energy efficiency. Additionally, 21 October is celebrated as National Energy Saving Day.							

	The Ministry will encourage energy efficiency in homes and residences with publicity campaigns meant to change consumption behaviour; promote the financing of energy efficient electrical systems appliances; and encourage the use of energy efficient technologies in remote areas. In the service and private industry sectors the Ministry will promote the creation of an "energy efficient market"; create standards of energy efficiency for private enterprises; create minimum standards of energy efficiency depending on the type of productive activity; coordinate the financing of small and medium enterprises to establish pilot projects meant to make energy use more efficient; and coordinate with the National Commission on Climate Change and the National Environmental Fund to facilitate international financing through the Clean Development Mechanisms. In the public sector the Ministry will audit the use of energy by public entities that use more than a pre-established amount of energy units; coordinate efficient lighting systems; and coordinate the conversion of public sector vehicles to run on natural gas. Concerning the transport sector, the Ministry will coordinate with the appropriate public entities to encourage efficient use of public transport systems and optimise traffic systems to mitigate idle use of fuels. The Ministry should coordinate the replication of successful projects at the Regional Government level.
Targets	None specified

4.25 Philippines



4.25.1 Fact Box

Greenhouse Gas emissions incl. LULUCF ($MtCO_2e$) excl. LULUCF ($MtCO_2e$) Change from base year (1990)	 101 101 NA
Latest reporting year	1994
Importance as an emitter	Below top 20
UNFCCC ratification status and date	Date of signature: 12 June 1992 Date of ratification: 2 August 1994 Date of entry into force: 31 October 1994
Kyoto Protocol ratification status and date	Date of signature: 15 April 1998 Date of ratification: 20 November 2003 Date of entry into force: 16 February 2005
2020 pledge	No pledge made
Flagship legislation	**Climate Change Act of 2009**

4.25.2 Legislative Process

The legal system of the Philippines is a unique combination of civil law and common law, together with Muslim (Islamic) law and indigenous law. The current constitution was enacted in 1987, and is the supreme law of the Philippines. It defines the Philippines as a "democratic and republican state", with the President heading the executive branch, the Congress as the legislative branch and the Supreme Court at the highest tier of the legislative branch.

Congress is bicameral, consisting of the House of Representatives (commonly known as the Lower House, but frequently referred to as the Congress), and the Senate (often referred to as the Upper House). The Senate is composed of 24 senators, who are elected by the entire electorate. Senators serve for 6 years each, with elections held every 3 years for half of them. Senators can serve for not more than two consecutive terms. The House of Representatives is composed of approximately 250 congressmen. These represent either geographical districts (provinces or cities) or different sectors. The latter represent no more than 20% of the House, and are referred to as party-list representatives. All members of the House are elected for periods of three years, and for a maximum of three consecutive terms.

Proposed laws are called bills and may be introduced by the Senate or by the House of Representatives. A bill goes through a first reading in which the number and title are read, after which it is referred to an appropriate committee, which prepares a committee report. It is then passed to the Rules committee, and returned for a second hearing, and is subject to debate and amendment before proceeding to the final third hearing. After passing in one House, the bill goes through the same process in the other House.

Major legislation is often introduced in both Houses in the form of companion (identical) bills, the purpose of which is to speed up the legislative process by encouraging both chambers to consider the measure simultaneously, and to emphasise the urgency or importance of the issue. After it has passed in both Houses and been signed by their respective leaders, it goes for final approval to the President. The President may sign the bill into a law, or veto all or part of it. A presidential veto can be overridden by a Congressional vote of two thirds of all its members.

Another form of legislation, equivalent to a bill, is a Joint Resolution, generally used when dealing with a single item or issue, such as a continuing or emergency appropriations bill. Joint resolutions are also used for proposing amendments to the Constitution.

4.25.3 Approach to Climate Change

The Philippines ratified the UNFCCC in 1994 and the Kyoto Protocol (as a non-Annex I country) in 2003. It has submitted its first communication to the UNFCCC in 2000, which included a national inventory of anthropogenic emissions by sources and removals by sinks of GHGs (updated to 1994), and a description of steps taken or planned to implement its commitment. The second communication to the UNFCCC is in the process of preparation.

Since the early 1990s, The Philippines' has taken various actions on sustainable development and climate change. As early as 1991, the Philippines established by presidential order the Inter-Agency Committee on Climate Change (IACCC) under the Environmental Management Bureau of the Department of Environment and Natural Resources (DENR). The IACCC's responsibilities are to serve as the national coordination mechanism and implementation mechanism of commitments towards the UNFCCC. A designated authority for managing the countries' CDM projects has been established by presidential executive order in June 2004, and up to date, 62 projects have been registered. The Clean Air Act of 1999 included a section on GHG emissions, and called for preparation of a national plan on GHGs.

The Philippines has acted towards integrating the United Nations Conference on Environment and Development Agenda 21 principles on sustainable development into development programmes and plans. This has been led by the Philippine Council for Sustainable Development (PCSD), which integrated priority actions into the Philippine Medium Term Development Plan of 1993–1998. A National agenda for integrating sustainable development (Philippines Agenda 21) was finalised in 1996. The Philippine Medium Term Development Plan of 2004–2010 (MTDP) identified climate change mitigation as a national priority. Adaptation was dealt with to the extent of disaster risk reduction.

The Climate Change Act of 2009, the Philippines' flagship climate change legislation, created a legal framework for mainstreaming climate change into all levels of decision making. The Act established the Climate Change Commission, which was required to create a National Framework strategy on climate change (framework for 2010–2022 was published in April 2010) and a National Climate Change Action

Plan (NCCAP, finalised in November 2011). The Action Plan identifies seven strategic priorities to address climate change effects between 2011 and 2028: food security; water sufficiency; environmental and ecological stability; human security; sustainable energy; climate-smart industries and services; and knowledge and capacity development. These priorities will be implemented by financing, valuation of natural resources, multi-stakeholder partnership, and capacity building.

The Climate Change Act emphasised the important frontline role of local governments, and mandated them to draft Local Climate Change Action Plans (LCCAP) which are consistent with the National Framework and the National Action Plan. The Climate Change Commission provides support to local governments in these efforts.

Energy – supply side

Since the 2006 Biofuels Act, a minimum percentage of biofuels and biodiesel must be included in the fuel mix. Other pieces of legislation, such as the Mini Hydro-electric Power Incentives Act (1990), has been adopted for energy security and energy independence reasons, but nevertheless contribute to the effort to change the country's energy mix.

Energy – demand side

The Department of Energy (DOE) has declared that it aims to save 50.9 million tonnes CO_2 equivalent by employing various energy efficiency and alternative fuels programs for the period 2005–2014.

Transportation

In 2002, the Department of Energy initiated the Natural Vehicle Program for Public Transport (NGVPPT). The programme included the reduction of Import duties on Compressed Gas Motor Vehicles and Natural Gas Vehicle Industry-Related Equipment, Parts and Components.

Adaptation

The Climate Change Commission has launched initiatives for climate resilient communities, under the Eco-Town Framework. Ten municipalities are in different stages of participating in demonstrating the Framework. The Commission also participates in several international adaptation initiatives, such as the Philippine Climate Change Adaptation Project (PhilCCAP), a five-year project funded by the Global Environment Facility (GEF) through the World Bank and co-financed by the Government of the Philippines.

REDD+

A national workshop on REDD+ was held in April 2009 by several NGOs, which later formed the CoDe REDD2 Philippines. By July 2010, A National REDD+ Strategy for the Philippines for 2008–2017 had been formulated, and has been included in the National Climate Change Action Plan.

In August 2012, the Department of Environment and Natural Resources (DENR) completed the delineation of the country's forests. Once the data are validated, steps will be taken towards anchoring forest boundaries in legislation. After 15 years of being filed in Congress, the House of Representatives approved the "Sustainable Management of Forest Act 2011" in March 2012. It has been pending Senate approval since then. The Bill provides for sustainable management of forests as well as for mitigation of climate change risks and reduction of poverty in forest areas.

Philippines: Flagship Legislation

Name of law	**Climate Change Act of 2009 (Republic Act No. 9729) (and Implementing Rules and Regulations [IRR] of the "Climate Change Act of 2009" [Administrative Order No. 2010–01])**							
Date of entry into force	27 July 2009 (IRR on 20 January 2010)							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×	×	×	×	×	×
Driver for implementation	Climate change, vulnerability							
Summary of bill	The Climate Change Act of 2009 acknowledges the Philippines' vulnerability to climate change and the need for appropriate adaptation, and creates a comprehensive framework for systematically integrating the concept of climate change, in synergy with disaster risk reduction, in various phases of policy formulation, development plans, poverty reduction strategies and other development tools and techniques. The Act states the main principles of the Philippines climate change policy: principle of common but differentiated responsibilities; the Precautionary Principle; UNFCCC objectives (GHG mitigation and adaptation), and the Hyogo Framework for Action addressing disaster risk reduction. It adopts a gender-sensitive, pro-children and pro-poor approach.							

The Act establishes the Climate Change Commission as the sole policy making body within government, which oversees, coordinates and evaluates climate change policies and plans. The commission is established under the office of the President (abolishing the Presidential Task Force on Climate Change which was established in 2007) and has a diverse advisory board composed of government ministries and agencies.

The Act requires the Commission to draft several policies:

- A National Climate Change Framework within 6 months, as a basis for research and action planning. This was finalised in April 2010
- A detailed National Climate Change Action Plan. This was finalised in August 2011
- A Local Climate Change Action Plan – guidelines developed by the Commission

Additional powers and functions include:

- Mainstreaming of climate change, in synergy with disaster risk reduction, into the national, sectorial and local development plans and programs and coordinating climate change programs of national government agencies
- Recommending legislation, policies, strategies, programmes on adaptation and mitigation
- Recommending key development investments in climate-sensitive sectors such as water resources, agriculture, forestry, coastal and marine resources, health and infrastructure
- Creating an enabling environment for the design of relevant and appropriate risk-sharing and risk-transfer instruments and promotion of broader multi-stakeholder participation and integrate climate change mitigation and adaptation
- Representing the Philippines in the climate change negotiations
- Formulating and implementing guidelines for determining vulnerability to climate change impacts and adaptation assessments
- Facilitating capacity building for local adaptation planning, implementation and monitoring of climate change initiatives in vulnerable communities and areas

Targets	None specified

Philippines: Other Relevant Legislation

Name of law	**Framework Strategy on Climate Change (2010)**							
Date of entry into force	Approved by the President on 16 December 2008							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×	×	×	×	×	×
Driver for implementation	Climate change, sustainable development							
Summary of bill	The National Framework Strategy sketches a clean development path, and serves as a roadmap for national and sub-national development and investment programmes, physical and land use programmes. Acknowledging the Philippines' vulnerability to climate change, the Framework's vision is "to build the adaptive capacity of communities and increase resilience of natural eco-systems to climate change, and optimize mitigation opportunities towards sustainable development". The mitigation pillar leans on managing *energy demand*, via energy efficiency and conservation programmes, and on *energy supply*, via utilisation of low-carbon and renewable energy resources, targeting a doubling of the renewable energy sources by 2030. It encourages low-carbon *transportation* modules (liquefied petroleum gas, bio-fuels, mass transport systems) and sustainable, energy-conserving infrastructure building. The infrastructure emphasises the importance of *REDD+ policies* as a measure to reduce emissions from deforestation and forest degradation. *Waste management* and methane collection are also included in mitigation priorities. The *Adaptation* pillar includes enhanced vulnerability and adaptation assessments, eco-system management (river basin management, coastal and marine systems, biodiversity); water management; climate-responsive agriculture; climate-responsive health sector; climate-proofing infrastructure; and disaster risk reduction. The synergy between mitigation and adaptation is emphasised, and cross-cutting strategies are portrayed, among others capacity building in all level of governance, knowledge management and education; research and development and technology transfer. The framework presents the Philippines' second GHG emission inventory (updated to 2000), which has been prepared for the second communication to the UNFCCC.							
Targets	Doubling renewable energy capacity from 4,500 MW to 9,000 MW in the next 20 years							

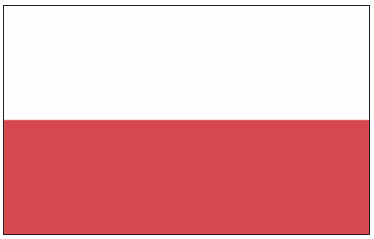
Name of law	**Renewable Energy Act (2008)**							
Date of entry into force	Approved by the President 16 December 2008							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						×
Driver for implementation	Energy independence, climate change, public health							
Summary of bill	This Act, overseen by the department of energy, employs various instruments to encourage the supply of electricity from renewable sources. The Act creates a Renewable Portfolio Standard for electricity generation from renewable sources, setting a minimum percentage of renewables supply for every electricity supplier. A feed-in tariff is introduced, which includes priority connection to the grid of all renewable sources, as well as priority purchase and transmission. Additional incentives are also offered to suppliers, manufacturers of equipment who are registered with the DOE, in order to encourage renewable energy projects. These include, among others, duty-free import of machinery, equipment and materials in the first 10 years of registration; tax caps of 15% on renewable energy equipment, accelerated depreciation scheme, cash incentives for missionary electrification, tax exemption of carbon credits and tax credit on domestic capital equipment services. The Act creates the National Renewable Energy Board (NREB) to facilitate implementation of the National Renewable Energy Programme.							
Targets	None specified							

Name of law	**Biofuels Act (2006)**							
Date of entry into force	12 January 2007							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×					×	×
Driver for implementation	Energy independence, public health, climate change, sustainable development							
Summary of bill	The Act introduces mandatory use of biofuels in the fuel mix of the Philippines, as follows: a minimum 5% of bioethanol in the gasoline mix sold and distributed within 2 years; a minimum of 10% within 4 years is required. There is priority for locally produced bioethanol, and only of in shortage may it be imported. The Act also requires a minimum of 1% of biodiesel in the diesel mix within 1 year, and a minimum of 2% within 2 years.							

	Incentives are introduced to encourage biofuel projects – no specific tax on local or imported biofuels; exemption of raw materials (such as coconut, Jatropha, Cassava, corn, sugarcane etc.) from VAT; exemption from wastewater charges on water effluents; financial assistance to biofuel activities which are certified by the DOE and at least 60% of which are held by Filipino citizens or entities. The DOE is required to prepare a National Biofuel Programme; a national biofuel board is created under the Act, to monitor and evaluate the Act and the National Programme's implementation. The supply and price stability of sugar are guaranteed under the Act. A Joint Administrative order, which was published in 2008, outlines Guidelines Governing the Biofuel Feedstocks Production, and Biofuels and Biofuel Blends Production, Distribution and Sale under the Biofuels Act.
Targets	None specified

Name of law	**Presidential executive order 320 (2004) – establishing the Designated National Authority (DNA) for CDM in the Philippines (2004)**							
Date of entry into force	25 June 2004							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
								×
Driver for implementation	Climate change, development							
Summary of bill	The Act establishes the Designated National Authority (DNA) for CDM, which is responsible for promoting, facilitating and supporting CDM projects. The DNA has the following mechanisms: • The CDM Secretariat, which serves as a focal point for all CDM projects • The CDM Helpdesk, which addresses inquiries and provides information and practical guidance, as well as interface with government agencies and among stakeholders • CDM Technical Evaluation Committees • The CDM Steering Committee							
Targets	None specified							

4.26 Poland



4.26.1 Fact Box

Greenhouse Gas emissions incl. LULUCF ($MtCO_2e$) excl. LULUCF ($MtCO_2e$) Change from base year (1990)	 358 401 -163
Latest reporting year	2010
Importance as an emitter	Below top 20
UNFCCC ratification status and date	Date of signature: 5 June 1992 Date of ratification: 28 July 1994 Date of entry into force: 26 October 1994
Kyoto Protocol ratification status and date	Date of signature: 15 July 1998 Date of ratification: 13 December 2002 Date of entry into force: 16 February 2005
2020 pledge	No pledge made
Flagship legislation	**Strategies for Greenhouse Gas Emission Reductions in Poland until 2020**

4.26.2 Legislative Process

Article 5 of the Polish Constitution establishes that "The Republic of Poland (...) shall ensure the protection of the natural environment pursuant to the principles of sustainable development".

Legislative procedure is governed by the Constitution (Articles 118-124) and the Rules of Procedure of Parliament (the Sejm) and the Senate.

The right to initiate legislation lies with the Cabinet, a group comprising at least 15 Members of Parliament, the Senate, the President of the Republic and a group comprising at least 100,000 citizens.

Bills are submitted to the Sejm, where they are dealt with in three readings. In the course of this process the Sejm examines the bill and transmits it to the appropriate parliamentary committees for amendment. The bill is then returned to the Sejm, which votes on the amendments and the bill as a whole. The Sejm approves the bill by a simple majority, subject to at least half of the statutory number of Members being present. Once it has been passed by the Sejm, the bill is transmitted to the Senate, which has one month in which to adopt it without amendment, amend it or throw it out. If a bill is amended or thrown out by the Senate, it must be re-examined by the Sejm. In this case the Sejm needs an absolute majority, subject to at least half of the statutory number of Members being present, in order to override a recommendation by the Senate.

If Parliament completes the legislative process, the bill is transmitted to the President, who should sign it within three weeks and order its publication in the Journal of Laws. Before signing a bill, the President can refer it to the Constitutional Court for constitutional review. If the Constitutional Court deems the bill to be compatible with the Constitution, the President may not refuse to sign it. The President also has the option of not referring a bill to the Constitutional Court but returning it to the Sejm for a further reading ("presidential veto"). However, the Sejm may reject a presidential veto by a majority of 3/5, subject to at least half of the statutory number of Members being present. If the bill is once again adopted by the Sejm, the President has one week in which to sign it and order its publication.

4.26.3 Approach to Climate Change

The base year for Poland under the UN Climate Change Convention is 1988 rather than 1990 as defined by decisions 9/CP.2 and 11/CP.4. Other EU Member States such as Bulgaria (1988), Hungary (average of 1985 to 1987), Romania (1989) and Slovenia (1986) with economies in transition were allowed to choose a base year other than 1990. For Poland, 1988 was the last year of the relatively normal functioning of the economy before the crisis, when the GHG emission levels were the highest in the decade.

Poland has reduced its greenhouse-gas (GHG) emissions substantially since its economic transformation started in 1990 and is on track to meet its international and European commitments. As elsewhere in Central and Eastern Europe, the economic collapse of the former Soviet bloc resulted in a considerable drop in domestic and foreign demand for the country's very energy- and carbon-intensive products. As a result of the structural shift towards less energy-intensive sectors, the country's overall GHG emissions fell by around 20% between 1988, the Kyoto base year, and 1994. Despite the economic catch-up that has subsequently taken place, a further decrease of more than 10% had occurred by 1999, reflecting mainly investment in more energy-efficient technologies. Since the early 2000s, annual GHG emissions have remained broadly stable, abstracting from cyclical movements. To date, in managing to cut its total GHG emissions by more than 30% between 1988 and 2009, Poland looks set to go well beyond its Kyoto commitment of a 6% reduction between 1988 and the average of 2008–2012 (Figure 1). It is also on track to meet the EU 2020 target for the sectors not included in the European Union's Emissions Trading System (EU-ETS), primarily the residential, transport and agriculture sectors.

The EU-wide goal of cutting emissions by 20% from 1990 levels by 2020 translates into a national target for Poland's non-EU-ETS sectors of a 14% increase by 2020 compared to 2005, whereas emissions actually declined slightly between 2005 and 2009. Given the country's 8% share in total EU27 GHG emissions, Poland's compliance with the 2020 non-ETS target is an important factor of the EU's ability to meet that objective.

Poland's *Strategies for Greenhouse Gas Emission Reductions in Poland until 2020* (Ministry of the Environment) were developed in relation to the obligation to take action preventing permanent global climate change stemming from the Kyoto Protocol. The document was adopted by the Council of Ministers on 4 November 2003. The document discusses the fundamental problems and determinants of the

climate policy of Poland, the country's international commitments in the area of climate change and the actions to be taken in each sector of the economy to counteract such changes, i.e., energy, industry, transport, agriculture, forestry, waste and sewage treatment as well as in the public utility, services and households sectors. It also contains a list of political instruments to aid climate protection, including emission reduction schemes laid down by the Kyoto Protocol.

Poland does not have specific climate change policy. The country's energy policy strategy, outlined in *Energy Policy of Poland until 2030, a.k.a. EPP 2030* (Ministry of Economy, November 2009) is mostly focused on improving energy security, efficiency and competitiveness, and implies a small reduction in overall GHG emissions by 2020 and then a 4% increase between 2020 and 2030. The document presents a sectoral strategy aiming to address the key challenges that the Polish power industry must face until 2030, including growing demand for energy, inadequate fuel and energy generation and transmission infrastructure, significant dependence on external supplies of natural gas and almost full dependence on external supplies of crude oil, as well as commitments in the field of environmental protection, including climate protection.

An Action Plan for the years 2009–2012 was also adopted as an annex to the EPP 2030. It focused on delivering the needed legislative changes, including the implementation of the Polish nuclear programme, supporting research and development on new technologies, developing investment financial engineering and beginning the investment projects.

The implementation of the successive Action Plans will be monitored by the Minister of Economy, who, in cooperation with competent ministers, will submit information about the energy policy implementation for the previous year to the Council of Minister by 31 March of each year, along with any proposed modifications of the measure implementation methods and adjustments.

Proposed energy supply measures (*EPP 2030* strategy document)
Cogeneration, Renewables, Grid Modernisation, Nuclear:

- Stimulating development of cogeneration

- Devising a path to increase the percentage of final energy consumption accounted for by renewable energy sources to 15% by 2020 and to 20% by 2030

- Retaining support mechanisms for producers of renewable power
- Boosting the share of biofuels in the transport fuels market to 10%, and increasing the use of second-generation biofuels while protecting forests against excessive exploitation for the purposes of obtaining biomass and to promote the balanced use of agricultural land for the purposes of renewable energy sources, including biofuels, so as to avoid creating a competition between renewable energy and agriculture
- Introducing additional support instruments for production of heat and cold from renewable energy sources; implementing the directions for building agricultural biogas plants, on the assumption that at least one biogas plant is set up in each commune by 2020
- Creating conditions to facilitate investment decisions on building off-shore wind farms; retaining exemption of energy from renewable sources from excise tax
- Direct support to building new renewable energy generation units and power grids that could be connected with the use of European funds and environmental protection funds
- Stimulating the development of manufacturers of renewable energy equipment
- Supporting the development of technologies and building installations to obtain renewable energy from biodegradable waste
- Evaluation of plausibility of using the existing damming structures owned by the State Treasury to generate power by way of taking their inventory, establishing their framework environmental impact and devising the rules of making them available
- Establishing an institutional basis for preparing and implementing the Polish nuclear power programme
- Preparing a draft of the Polish nuclear power programme to constitute the basis of public consultations; holding the consultations and submitting the Polish nuclear power programme for approval by the Council of Ministers
- Preparing and holding an informational and educational campaign on the Polish Nuclear Power Programme

- Location analyses for nuclear energy plants and a radioactive cemetery

- Preparing Polish industry's participation in the nuclear energy production programme and preparing plans for adapting the transmission grid to nuclear power plants

- Prospecting uranium deposits in the territory of Poland

Mitigation:

- Establishing a system to manage national emission caps of GHGs and other substances

- Introducing acceptable product emission rates for electricity and heat generation as a tool which allows reducing SO_2 and NOx emission levels and reaching the emissions cap set forth for Poland in the EU Accession Treaty

- Meeting the commitments for the power and heat sectors stemming from the new ETS Directive; using the income from auctions of CO_2 emission allowances to support measures aimed at reducing GHG emission volumes

- Introducing standards for building new power plants under the system of preparation for carbon capture and setting national capacity for geological CO2 storage

- Active participation in implementing the initiative of the European Commission to build large-scale demonstration facilities for carbon capture and storage (CCS) technologies

- Applying CCS technologies to support crude oil and natural gas extraction

- Intensifying research and development on the CCS technology and on new technologies which allow using captured CO_2 as a raw material by other industry branches

- Industrial use of waste coal

- Increasing the use of incineration by-products

- Using high-efficiency closed cooling cycles in power plants and in heat and power stations

Proposed energy demand measures (*EPP 2030* strategy document)

- Setting energy efficiency national objectives and introducing a systemic mechanism to support measures aimed at attaining them
- Using mandatory energy performance certificates for buildings and apartments upon their marketing or renting
- Determining energy intensity of devices and power-consuming products, introducing minimum standards for power-consuming products
- Committing the public sector to serve as a role model of economical energy usage
- Supporting investments in energy saving through preferential loans and grants from domestic and European funds, also under the Act on supporting thermomodernisation and renovations, the Operational Programme Infrastructure and Environment, and the National Fund for Environmental Protection and Water Management
- Applying Demand Side Management techniques

Proposed transportation measures (*EPP 2030* strategy document)

- Retaining the obligation to gradually increase the share of bio-components in transport fuels so as to meet planned objectives

Proposed R&D measures (*EPP 2030* strategy document)

- Supporting research and development on new solutions and technologies reducing energy consumption, in all kinds of its processing and use

Two energy efficiency programmes have been set up in order to deliver the energy efficiency objectives set by the EPP 2030. The *Energy Efficiency in Industry Programme* is implemented as the Priority Programme of the National Fund for Environmental Protection and Water Management with the aim to initiate and support energy efficiency investments in the most energy intensive enterprises. The total amount of the budget allocation for the period 2011–2015 is approximately 820 MPLN, which comes from substitute fees and penalties imposed on energy enterprises by relevant laws and regulations. The beneficiary of the Programme can be any company which consumed 50 GWh in the year preceding

the application. The support is provided by financing 70% of the energy audit cost and by soft loans for up to 70% of the investment costs.

The loan fund *Energy Loan for Energy Saving* of the Industrial Development Agency was set up in June 2010 to finance projects to improve energy efficiency. Micro, small- and medium-sized enterprises are eligible for loans with low interest rates, long-term repayment (up to 48 months), and low own contribution (min. 10% of the amount requested).

The *Polish Nuclear Power Programme* was adopted in January 2009. The objectives of the *Europe 2020 Strategy* adopted by the European Council on 17 June 2010 have been considered in the Programme. The strategy sets objectives in the area of employment and smart, sustainable and inclusive growth. The achievement of the 20-20-20 objective in the area of climate and energy is seen as especially important from the Programme perspective.

The Programme's objective is to reach a nuclear power installed capacity of at least 1,000 MW by 2020 and of at least 4,500 MW by 2030. The duration of the Programme is determined for 2011–2020 – to the end of construction first unit of the first Polish nuclear power plant, with the prospect of the year 2030 – with the Polish Energy Policy running until 2030. Programme costs were estimated to the end of the First Key Stage: commissioning of the first nuclear power plant.

The implementation of the Programme is monitored by continuous monitoring of each objective carried out by the Department of Nuclear Energy, Ministry of Economy. Any deviation from the implementation of an objective triggers a root cause analysis and results in taking corrective actions.

Monitoring results and Programme implementation status will be included in annual reports of the Government Commissioner for Nuclear Power submitted to the Chairman of the Council of Ministers by 31 March of the following year. The Programme is planned to be updated every four years. Outcomes of completed works will be considered in such updates.

Poland is in the process of formulating a national plan for reducing GHG emissions, the *National Programme for a Low-Emission Economy*, whose adoption is expected in 2013. It is also working on the transposition of the *EU Renewables Directive* of 2009 and of the *EU-ETS Directive as amended by the Directive 2009/29/EC* into national law.

Adaptation

The institutional structure of stakeholders responsible for decisions on the national adaptation strategy development was set up in 2010. It consists of a Steering Committee and seven thematic working groups, formulated by the representatives from all interested Ministries and their research institutes. Political inter-ministerial commitment was gained as a result of the adoption in March 2010 of the Government position on the EC White Paper on adaptation. The National Adaptation strategy is currently being developed and should be completed and adopted by the Council of Ministers in the first half of 2013.

It is foreseen that the National Adaptation Strategy will consist of two documents. The first document would propose the set of adaptation measures for vulnerable economy sectors and regions with the time horizon of 2030 and the second one with the time horizon of 2070.

The Strategy foresees the mainstreaming of the adaptation programme into sectoral policies, primarily those related to agriculture and forestry, biodiversity, ecosystems and water resources, coastal zones, infrastructure and, subsequently, the preparation of a draft programme for their implementation.

Climate change adaptation is also being mainstreamed simultaneously into the relevant national and sectoral strategies and policies such as:

- The Polish Long-term Development Strategy by 2030
- The Medium-term National Development Strategy by 2020
- The National Spatial Management Conception by 2030
- The Strategy for Economy Innovation and Effectiveness
- The Human Capital Development Strategy
- The Energy Security and Environment Strategy
- The National Strategy of Regional Development 2010–2020 for regions, cities and rural areas
- The Transport Development Strategy by 2020

- The Strategy for Sustainable Development of Rural Areas, Agriculture and Fisheries
- The Effective State Strategy 2011–2020
- The Social Capital Strategy
- The National Urban Policy

Flood management issues are foreseen as priority directions mainly in two strategies, i.e.: Energy Security and Environment Strategy (direction 1: Water management for flood, drought and water deficit protection) and Sustainable Development of Rural Areas, Agriculture and Fisheries Strategy (target 5: Protection of the Environment and adaptation to climate change on rural areas).

Poland: Flagship Legislation

Name of law	**Strategies for Greenhouse Gas Emission Reductions in Poland until 2020**							
Date of entry into force	4 November 2003							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×		×		×	×
Driver for implementation	Compliance with Kyoto Protocol							
Summary of bill	The document presents the fundamental problems and determinants of the climate policy of Poland, the country's international commitments in the area of climate change and the actions to be taken in each sector of the economy to counteract such changes, i.e., energy, industry, transport, agriculture, forestry, waste and sewage treatment as well as in the public utility, services and households sectors. It contains a list of political instruments to aid climate protection, including emission reduction schemes laid down by the Kyoto Protocol. *Energy Supply*: • Recommended the promotion, development and growth of the use of new and renewable energy sources, the technologies of CO_2 sequestration, as well as advanced and innovative, environmentally friendly technologies and the identification and elimination of barriers to their use • Recommended support for the restructuring processes in the economy promoting policies and measures adopted to limit or reduce GHG emissions, with priority given to the energy sector, energy intensive industrial sectors, transport and waste management							

Energy Demand:

- Recommended introduction of a system of incentives for enterprises encouraging energy saving investment projects
- Introduction of incentives for the public sector concerning the launch of investment projects leading to rational energy consumption

Research and Development:

- Conduct surveys on the use of energy and its production
- Continue surveys tracking climate change and climate variability
- Continue research on climate change scenarios for Poland, in relation to the growing concentrations of GHGs in the atmosphere, and on consequences of climate change and adaptation in Poland

Targets 6% GHG reduction by 2008–2012 with respect to 1988 levels (Kyoto baseline)

Poland: Other Relevant Legislation

Name of law **Energy Efficiency Act**

Date of entry into force April 2011

Categories

Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
	×	×					×

Driver for implementation Climate change, energy efficiency

Summary of bill Implementation of EU Directive 2006/32/EC of 5 April 2006 on energy *end-use* efficiency and energy services

The Law introduces a white certificate system, a mechanism providing incentives for energy saving solutions and enforcing them, as a means of implementation of the National Energy Efficiency Action Plan (NEEAP) which was submitted by the Polish Government to the European Commission as per the Directive above, which aimed to achieve the indicative target of 9% energy savings in 2016 (4.5 Mtoe) and an intermediate target of 2% in 2010.

A National Fund for Environmental Protection and Water Management and six regional ones are mandated to provide financial support for undertakings of a national or interregional scale. The funds are legal entities and independent decisions are taken to select the investments to be financed. The energy efficiency investment projects are being and will be supported from available EU funds.

Targets Planned energy savings will result primarily from the following measures:

- circa 0.7 Mtoe from Programmes of National Fund for Environmental Protection and Water Management
- circa 0.2 Mtoe from Thermomodernisation Law and Fund
- 1.5 Mtoe from soft measures, and 2 to 2.5 Mtoe from the white certificate system

Name of law	**Regulation of the Council of Ministers on types of programmes and projects to be implemented under the National Green Investment Scheme**							
Date of entry into force	3 November 2009							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×	×	×	×	×	×
Driver for implementation	Climate change							
Summary of bill	Implementation of Article 22(3) of the Act on the system to manage the emissions of GHGs and other substances of 17 July 2009 The regulation stipulates the types of programmes and projects to be implemented in the areas referred to in Article 22(2) of the Act on the system to manage the emissions of GHGs and other substances of 17 July 2009. The programmes and projects in the following areas shall be as follows: • Improvement of energy efficiency in various economy sectors • Improvement of coal use efficiency including that of clean coal technologies • Replacement of the fuel currently used with a low emission one • Avoidance or reduction of GHG emissions in the transportation sector • Use of renewable energy sources • Avoidance or reduction of methane emissions by its recycling and use in the mining industry, waste and waste-water disposal and in farming, as well as by use in power generation • Actions in relation with GHG sequestration • Other actions to reduce or avoid national emission of GHGs or to absorb carbon dioxide and adapt to climate change • Research and development works on the use of renewable energy sources and advanced and innovative environmentally friendly technologies • Educational activities, including training events in support of the national obligations							
Targets	None specified							

Name of law	**Energy Act**							
Date of entry into force	10 April 1997							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						×
Driver for implementation	Transposition of EU *acquis communautaire* and energy legislation							
Summary of bill	The purpose of the Act is to create the conditions for sustainable development of the country, ensure energy security, economical and rational use of fuels and energy, development of competition, counteracting adverse effects of natural monopolies, compliance with environmental protection requirements and commitments stemming from international agreements and for offsetting the interests of power utilities and consumers of fuels and energy. The Act lays down the principles for the development of the state's energy policy, the terms and conditions for the supply and use of fuels and energy, including heat, and the activity of power utilities, as well as determines the authorities competent in matters of fuel and energy management. The Act establishes a support mechanism for renewable energy imposing on energy companies selling electricity to end users to obtain and present for redemption to the energy regulator a specified number of certificates of origin of electricity generated from renewable energy sources and co-generation (CHP) or to pay a substitution charge, plus excise duty exemptions for electricity produced from such sources, simplified arrangements regarding connection and balancing in respect of certain types of renewable energy sources and support from special-purpose funds.							
Targets	The share of electricity purchased by energy suppliers from cogeneration sources connected to the grid shall not be lower than 23.2% by 2012.							

4.27 Russia

4.27.1 Fact Box

Greenhouse Gas emissions incl. LULUCF ($MtCO_2e$) excl. LULUCF ($MtCO_2e$) Change from base year (1990)	 1555 2208 -1142
Latest reporting year	2010
Importance as an emitter	Top 5
UNFCCC ratification status and date	Date of signature: 13 June 1992 Date of ratification: 28 December 1994 Date of entry into force: 28 March 1995
Kyoto Protocol ratification status and date	Date of signature: 11 March 1999 Date of ratification: 18 November 2004 Date of entry into force: 16 February 2005
2020 pledge	15–25% from 1990, dependent on 1) appropriate accounting of the potential of Russia's forestry and 2) undertaking by all major emitters of legally binding obligations
Flagship legislation	**Climate Doctrine of the Russian Federation**

4.27.2 Legislative Process

Russia has a bicameral system and the Federal Assembly consists of the State Duma (Lower Chamber) and the Federation Council, which have different powers and responsibilities. The Duma passes laws, which are then sent to the Council for confirmation and forwarded to the President of the Russian Federation for signing and publication. Federal laws have priority over regional laws and direct effect throughout the territory of Russia. Often, Russian laws are adopted in the form of a Code of Law. A Code is a complete collection of rules in an entire subject area.

Another source of law, yet graded lower in the hierarchy of laws, are the executive regulations (decrees and directives). Due to an absence of required laws, the President can pass decrees regarding all questions without any limits if a valid federal law does not regulate an issue except in cases when the Constitution directly says that the question requires the adoption of a federal law. Usually, Presidential decrees are aimed at implementing higher-level acts of law.

An additional group of legislation is comprised of normative acts of federal executive authorities. These acts are related to laws through Directives of the Government. They develop, add and consolidate existing legal norms. Although ministerial documents are acts of special jurisdiction and regulate activities of the subordinated persons and legal entities, sometimes they can be of interdepartmental or even general significance.

4.27.3 Approach to Climate Change

The ratification of the Kyoto Protocol (KP) by Russia in 2004 was crucial for the entry into force of the international treaty. Russia's main legislation on climate and emissions mitigation rests mainly on various laws on establishing the domestic compliance instruments as required by the KP as well as the recent *Climate Doctrine.* An important component of the KP's framework, the Joint Implementation mechanism (Art. 6 and 17), was adopted in Russian legislation in October 2009 (Government Decree No. 843). The original 2007 Joint Implementation legislation was considered too complicated so the responsibilities were redistributed by involving Sberbank, one of the Russian major state-owned banks, which fulfils the functions of the "carbon units' operator", and the approval system was re-established.

The *Climate Doctrine* was approved in December 2009. It marks a crucial step in Russia's recognition of the potential benefits of mitigation measures and its will to

engage with the international community. Although it is not legally binding, it has a strong declarational nature. It is meant to set strategic guidelines and targets and serves as a foundation for the development and implementation of future climate policy, covering issues related to climate change and its consequences. The doctrine will serve as a blueprint to harmonise domestic climate-related legislation with international standards, improve climate monitoring, stimulate the adoption of stronger environmental standards, the adoption of energy-efficiency and energy-saving measures, as well as greater use of alternative (including renewable) energy sources.

Although the doctrine recognises the potential of the vast Russian forests as a carbon sink and recommends its rational use, it does not set up any major forestry action. However, Russia's commitment under the Copenhagen Accord is conditioned to the "appropriate accounting of the potential of Russia's forestry in frame of contribution in meeting the obligations of the anthropogenic emissions reduction" (UNFCCC).

Energy efficiency

Russia is one of the main worldwide suppliers of gas and oil. In order to improve its energy conservation and efficiency, Russia has passed several laws and rules. They include the 2003 federal Thermal Performance of Buildings code and more particularly the 2009 Energy Efficiency legislation (Federal Law 261-F3), "On Saving Energy and Increasing Energy Efficiency Increase", which establishes basic principles for the regulation of energy consumption to increase its efficiency and to encourage energy saving, and provides for various amendments to existing legislation. There are various subsequent sub-laws to define the tasks and responsibilities. In addition, there are various federal or regional programmes on heating or building efficiency such as the 1998 Heat Efficiency Leveraging Programme (HELP) under the auspices of US AID, the Russian Investment Initiative and the US–Russian Commission on Scientific and Technological Cooperation.

Russia also elaborated several framework policies or energy strategies where the goals, objectives and main directions of long-term energy policy are set up. An important place is given to energy efficiency. These include the 2001 Federal Targeted Programme for an Energy Efficient Economy for the period 2002–2005, the 2003 Energy Strategy to 2020, and the 2009 Energy Strategy to 2030 where, by the end of the third stage, Russia was expected to have switched to highly efficient use of traditional energy and stood ready for the transition to alternative energy.

Legislation on renewable energies is less extensive. The main piece is the State Policy of Energy Efficiency Increase through Use of Renewables for the Period up to

2020 adopted in 2009 (guidelines approved by Government Decree No. 1-r). The guidelines establish targets for the share of electricity generation from renewable energy sources up to 2020, excluding large hydro (over 25 MW). The target is 1.5% in 2010, 2.5% in 2015 and 4.5% in 2020 and a series of measures are to be implemented and monitored to achieve this.

Russia has the world's largest emissions from flaring in the world. The World Bank estimates the reduction potential from flaring to be 70 Mt CO_2 with current gas prices (World Bank, 2007). In January 2009, a government decree was adopted that seeks to reduce emissions from gas flaring. A 5% limit for gas flaring has been set for the year 2012 and subsequent years with fines being imposed if this threshold is exceeded or there is no measurement equipment.

Russia: Flagship Legislation

Name of law	**Climate Doctrine of the Russian Federation**							
Date of entry into force	2009							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
								×
Driver for implementation	Climate change							
Summary of bill	The Doctrine has a declarational nature, sets strategic guidelines and serves as a foundation for the development and implementation of future climate policy, covering issues related to climate change and its consequences. It is not a binding bill. The Doctrine is based on fundamental and applied scientific knowledge, including various studies carried out within the Russian Federation, and is a political document recognising the challenges and issues surrounding climate change. The Doctrine will serve as a blueprint to harmonise domestic climate-related legislation with international standards, improve climate monitoring, stimulate the adoption of stronger environmental standards, the adoption of energy-efficiency and energy-saving measures, as well as greater use of alternative (including renewable) energy sources. It underlines three areas for climate policy going forward: improving research to better understand the climate system and assess future impacts and risks; developing and implementing short- and long-term measures for mitigation and adaption; and engagement with the international community. Participation in international efforts is recognised as crucial for a long-term solution to climate problems.							

	Putting a price on carbon: according to the Climate Doctrine, participation in international mechanisms facilitating the reduction of GHG emissions constitutes one of the most important priorities of Russian climate policy. *Energy – supply-side policies*: under the Doctrine Russia will aim to reduce the share of energy generated from natural gas to 46% or 47% by 2030 (from more than 50% currently) while doubling the capacity of nuclear power plants. It will also limit the burning of gas produced from oil wells, and increase the share of electricity produced from renewable energy sources to: 1.5% by 2010, 2.5% by 2015 and 4.5% by 2020. *Energy – demand-side policies*: in terms of mitigation, the Doctrine foresees the development and implementation of measures to enhance energy efficiency across the economy and expand the use of renewable and alternative energy sources. *Mainstreaming climate change*: the Doctrine states that climate policy will be implemented on the basis of action plans, at a federal, regional and sectoral level. Federal authorities will be responsible for fiscal and financial incentives for technology development and deployment, including energy-efficient and energy-saving technologies as well as renewable energy technologies, across various industrial and other sectors. It will also be responsible for developing a national GHG inventory along with regional authorities. Enterprises will be responsible for implementing measures to improve the energy efficiency of thermal and electric power, vehicles and buildings, as well as facilities. They will also implement measures to increase the share of alternative (including non-carbon) energy sources. Objective information coverage of the problems connected with climate change and its consequences, including climate change outreach programs (including in mass media), is among the priorities of the Russian Federation climate policy.
Adaptation	"Anticipatory adaptation to climatic change consequences is among the priorities of the Russian Federation climate policy… Climate change adaptation measures are regulated by state authorities' decisions, including decisions related to interaction of the Russian Federation with the international community."
Targets	None specified

Russia: Other Relevant Legislation

Name of law	**Energy Efficiency legislation (Federal Law 261-F3, "On Saving Energy and Increasing Energy Efficiency Increase and Amending Certain Legislative Acts of the Russian Federation")**							
Date of entry into force	2009							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×					

Driver for implementation	Energy efficiency
Summary of bill	The Law establishes basic principles for the regulation of energy consumption to increase its efficiency and, *inter alia*, to encourage energy saving, and provides for various amendments to existing legislation (on technical regulation, housing, town planning, taxation, etc.) to enforce energy-saving rules. The Law in essence is a framework act calling for a number of follow-up implementing by-laws. Various sub-laws to the 2009 Energy Efficiency legislation further define the tasks and responsibilities. Under the Law, all energy resources produced, transmitted, and consumed are subject to compulsory accounting by virtue of the respective meters. The Law contains energy efficiency rules for circulation of goods (energy efficiency classify-cation of goods, labelling, prohibition of non-efficient incandescent bulbs etc.). The Law establishes a general rule that buildings and other structures should meet applicable energy efficiency requirements both when being commissioned and during their subsequent operation. State construction supervisory authorities shall assign energy efficiency classes to apartment buildings. The Law sets the conditions for voluntary or mandatory energy audits. Encouragement of energy saving technologies including, but not limited to, the use of secondary energy resources and renewable energy sources. State programs aimed at energy savings and energy efficiency increases are expected to set such targets as the number of facilities relying on secondary energy resources or renewable energy sources for their energy supplies. *Instruments*: The tax incentives include, in particular, investment tax credits of up to 30% for companies investing in energy efficiency technologies, accelerated depreciation of assets belonging to the category of objects with high energy efficiency or sites classified in top energy efficiency classes and partial compensation of interest on loans granted by Russian banks for the purpose of investing in energy saving and increased energy efficiency technologies. According to the Explanatory Note attached to the Draft Law, 17 Decrees of application will be adopted by the Government (covering such issues as energy efficiency requirements for goods, including electric bulbs, buildings and constructions, energy efficiency classes of goods and apartment buildings, requirements for public procurements, requirements for regional and municipal programs in the sphere of EE1, etc.). In addition, plural by-laws and secondary legislation were required to be adopted by relevant federal ministries before 1 May 2010.
Targets	None specified

Name of law	**On the Measures of Implementing Article 6 of the Kyoto Protocol to the United Nations Framework Convention on Climate Change (Government Decree No. 844)**							
Date of entry into force	2009							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
								×
Driver for implementation	Climate change							
Summary of bill	Document providing for new opportunities for the realisation of Joint Implementation projects envisaged under the Kyoto Protocol (legislation establishing Articles 6 and 17 of the Protocol). Yet to be completed by the "Selection rules" regulating the three first stages of project approval. The Selection Rules were prepared and approved in the beginning of December 2009 and have been submitted for registration (legal expertise) at the Russian Ministry of Justice. Companies entitled to act as applicants for JI projects are energy, agriculture, forestry, waste products, industrial processes and use of solvents and other products. Application for the approval of a JI project is lodged to Sberbank (one of the Russian major state-owned banks), which fulfils the functions of the "carbon units' operator". This document expedited the procedure for JI projects' implementation, changed the state bodies involved in the project approval procedure, modified the eligibility criteria for JI projects and introduced some other major changes to Russian legislation in the sphere of Kyoto Protocol mechanisms.							
Targets	None specified							

Name of law	**Energy Strategy to 2030**							
Date of entry into force	2009							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						×
Driver for implementation	Energy framework							
Summary of bill	The strategy, approved until 2030, is aimed at increasing domestic oil and gas production. The main goal of the first stage is to eliminate the impact of the on-going economic crisis on the energy sector and pave the way for post-crisis development. The second stage will focus on improving energy efficiency. By the end of the third stage, Russia is expected to have switched to highly efficient use of traditional energy and stand ready for transition to alternative energy.							
Targets	None specified							

Name of law	**State Policy of Energy Efficiency Increase through Use of Renewables for the Period up to 2020 (guidelines approved by Government Decree No. 1-r)**							
Date of entry into force	2009							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×					×
Driver for implementation	Renewable energy							
Summary of bill	The state policy of energy efficiency increase through use of renewables constitutes a part of Russia's energy policy and sets objectives, directions and forms of efforts to be made by state authorities to develop the electric power industry through use of renewables. This document underlines the lack of renewable energy development in Russia, and identifies the barriers to be overcome. The guidelines mandate the Ministry of Energy to coordinate implementation and monitoring of the measures, and to monitor progress against the targets. To strengthen and improve state oversight for renewable energy the measures undertaken are to: • Improve targets and monitor progress towards meeting them; this may involve periodically updating targets based on evolving economic, energy and environmental priorities • Improve statistical reporting on renewable energy in electricity generation and consumption The guidelines outline measures to be taken in three broad areas: improving the state oversight system for renewable energy generation, levelling the playing field to make renewable energy more competitive, and improving renewable energy generation infrastructure. The guidelines establish targets for the share of electricity generation from renewable energy sources up to 2020, excluding large hydro (over 25 MW). The target is 1.5% in 2010, 2.5% in 2015 and 4.5% in 2020. At the time the policy passed, less than 1% of total electricity generation came from renewable energy sources, excluding large hydro. This policy will lead to the establishment of a system that provides consumers with incentives to purchase an increasing amount of renewable energy generated electricity. Improving research, development and deployment in renewable energy power generation, and developing domestic industry capacity in this sector.							
Targets	None specified							

Name of law	**Legislation on the limitations of associated gas flaring (Government Decree No. 7)**							
Date of entry into force	2009							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						
Driver for implementation	Energy efficiency							
Summary of bill	This Decree seeks to reduce emissions from gas flaring. A 5% limit for gas flaring has been set for the year 2012 and subsequent years, with fines being imposed if this threshold is exceeded or if there is no measurement equipment.							
Targets	None specified							

Name of law	**Thermal Performance of Buildings – Federal Code Revision**							
Date of entry into force	2003							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×					×
Driver for implementation	Building/energy efficiency							
Summary of bill	Announced in February 2003, the new federal Thermal Performance of Buildings code entirely replaced the federal building code, Thermal Engineering for Buildings, revised in 1995 and 1998. Effective 1 October 2003, the new code: • Establishes numerical values for required performance targets, corresponding to world levels • Classifies new and existing buildings according to their energy efficiency • Encourages buildings that are more efficient than required by code • Creates a mechanism for identifying low-performing existing buildings and mandating necessary upgrades • Develops design guidelines for both prescriptive and performance-based compliance paths • Develops methods for oversight and enforcement of compliance in terms of thermal performance and energy efficiency (energy passports), during design, construction and prospective operation phases							

	Between 1995 and 2004, 50 regions of the Russian Federation implemented their own building codes in accordance with federal building standards. Some local enforcement agencies offered incentives for exemplary performance, others mandated auditing. Regions established their own requirements for calculating a building's energy consumption and compliance with local code.
Targets	None specified

Name of law	**Energy Strategy to 2020**							
Date of entry into force	2003							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						×
Driver for implementation	Energy efficiency							
Summary of bill	Russia's Energy Strategy up to 2020 is a document detailing the goals, objectives and main directions of long-term energy policy. This strategy was released in August 2003. It calls for an increase in the share of renewable energy, the building of new hydro-energy stations and enaction of the bill "On Renewable Energy Sources". The strategy also states that it is possible to launch 1000 MW of electric power capacity and 1200 MW of heat power capacity based on renewables by 2010.							
Targets	None specified							

Name of law	**Programme for Energy Efficient Economy (Framework policy)**							
Date of entry into force	2001							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×					×
Driver for implementation	Energy efficiency							
Summary of bill	In 2001, Russia launched a Federal Targeted Programme for an Energy Efficient Economy for the period 2002–2005, with an outlook to 2010. It sets targets and outlines measures for energy efficiency improvements in different sectors of the economy. It was to be financed partially by the federal budget, partially by municipal/regional budgets and other sources.							
Targets	The key targets set in the 2001 programme were to reduce energy intensity by 13.4% (total final energy consumption/GDP) below 2000 levels by 2005, increasing to a 26% reduction below 2000 levels by 2010.							

4.28 Rwanda

4.28.1 Fact Box

Greenhouse Gas emissions incl. LULUCF ($MtCO_2e$) excl. LULUCF ($MtCO_2e$) Change from base year (1990)	 -2 6 NA
Latest reporting year	1994
Importance as an emitter	Below top 50
UNFCCC ratification status and date	Date of signature: 10 June 1992 Date of ratification: 18 August 1998 Date of entry into force: 16 November 1998
Kyoto Protocol ratification status and date	Date of signature: 22July 2004 Date of ratification: 22 July 2004 Date of entry into force: 16 February 2005
2020 pledge	No pledge made
Flagship legislation	**Green Growth and Climate Resilience – National Strategy on Climate Change and Low Carbon Development**

4.28.2 Legislative Process

Rwanda is a presidential republic, with a legal system based on German and Belgian civil law systems and customary law. The President is head of the government and head of the state. The Parliament is bi-cameral and comprises of the Senate and the Chamber of Deputies. The Senate has 26 members, some of which are appointed and some elected for an eight year term. The Chamber of Deputies has 80 members, which are elected for a five-year term. The current legislature periods of the Chamber of Deputies and the Senate are 2008–2013 and 2011–2019 respectively.

The constitution of 2003 is Rwanda's supreme law. International treaties ratified by Rwanda come second in the legislative hierarchy, followed by organic laws (which require a special majority), ordinary laws (requiring a regular majority) and decrees by the President, Prime Minister, Ministers and Councils.

The main legislative organ is the Parliament, although the President has legislative powers as well. Laws can be initiated by the Chamber of Deputies or by the government cabinet. The president of the Chamber of Deputies then passes the proposals to a permanent commission. Proposals are debated in detail in the plenary session and then voted on. The President has the authority to request a second examination by parliament of organic laws and ordinary laws after they have been voted on. If no re-examination is requested (or after it has been re-examined), the President promulgates the law within 30 days.

4.28.3 Approach to Climate Change

Rwanda ratified the UNFCCC and the Kyoto Protocol in 1998. In 2005 Rwanda submitted its initial report to the UNFCCC, and in June 2012 its second communication, including a stand-alone mitigation strategy, the Carbon Policy and an updated emissions inventory.

Rwanda completed its NAPA (National Adaptation Program of Action), which addressed issues of water shortage and effects on agricultural productivity, due to phenomena of flooding, landslides, heavy rain falls, extreme temperatures, heat waves and drought. Several districts have been selected to pilot adaptation measures.

In 2011 the Government published the National Climate Change and Low Carbon Development Strategy (NCCLCDS), in a collaborative effort between the Government of Rwanda, the Smith School of Enterprise and Environment (SSEE) at the University of Oxford and the donor institutes UK DFID-Rwanda and the Climate and Development Knowledge Network (CDKN). As a result, nine sectorial working papers have been produced – among others on the energy, forests and transport sectors.

Resource Efficient and Cleaner Production (RECP) is a Rwandan scheme intended to apply integrated preventive environmental strategy to processes, products and services to increase efficiency and reduce risks to humans and the environment. It was introduced by the Rwanda Environment Management Authority with the support of UNEP in 2005 and was later renamed the Rwanda Resource Efficient and Cleaner Production Programme. In 2008 the Rwanda National Cleaner Production Centre (Rwanda-NCPC) was established, and carried out various projects to raise awareness and promote resource and energy efficiency in industry and domestic environments.

The Action Plan for the Ministry of Natural Resources July 2011–June 2012 sets specific targets for reducing climate change vulnerability.

In May 2012, a law establishing a national fund for climate change financing (FONERWA) passed, and is expected to contribute approximately 20–30% to Rwanda's existing financing gap, which is estimated at approximately US$100 million per year. In November 2009, the Ministry of Natural Resources (MINIRENA), which oversaw environmental matters in Rwanda, was administratively split into the Ministry of Environment and Lands (MINELA) and the Ministry of Forestry and Mines. Acting under MINELA is the Rwanda Environment Management Authority (REMA), a non-sectorial institution mandated to facilitate the coordination and oversight of the implementation of the national environmental policy and the subsequent legislation. REMA has a key role to play towards the achievement of the national goal of sustainable development as set out in the National Development Vision 2020.

In 2009 a Climate Change and International Obligations Unit (CCIOU) was established within REMA overseeing its Designated National Authority (DNA) to coordinate carbon market activities. Rwanda's climate change efforts are supported by various donors, among others the Japanese government, the LDCF (Least Developed Countries Fund), the AAP (Adaptation in Africa Programme) and the Climate and Development Knowledge Network (CDKN).

Energy – supply side

Energy consumption in Rwanda is dominated by biomass consumption (wood-energy and agricultural residues), accounting for 86% of consumed energy, followed by petroleum products (11%) and electricity (3%), roughly half of which is generated from hydro sources and half from thermal power plants. Rwanda's Vision 2020 Programme aims to connect at least 35% of the population to electricity (up from the current 6%) by 2020, and to reduce consumption of wood to 40% of national energy consumption by 2020.

Land use

The second communication to the UNFCCC suggests the following measures to deal with emissions from land use change: afforestation, reforestation, forest management, reduced deforestation, management of timber products, use of forest products to replace oil (bio energy), improvement of tree species to increase biomass productivity and carbon sequestration, and improved technologies for remote sensing for the study of vegetation and soil, the potential for carbon sequestration and for mapping of land use and land use change.

Adaptation

In 2010, the Government of Rwanda, the Government of Japan, UNDP and UNEP launched two climate change adaptation programmes, one focusing on Reducing Vulnerability to Climate Change by Establishing Early Warning and Disaster Preparedness Systems and Support for Integrated Watershed Management in Flood Prone Areas (LDCF). This programme will be funded under the Global Environment Fund (GEF). The second focuses on building an integrated comprehensive national adaptation approach in Rwanda, and will be funded by the Government of Japan.

Rwanda: Flagship Legislation

Name of law	**Green Growth and Climate Resilience – National Strategy on Climate Change and Low Carbon Development**							
Date of entry into force	Published November 2011							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×	×	×	×	×	×
Driver for implementation	Sustainable development							

Summary of bill	The National Strategy on Climate Change and Low Carbon Development addresses concerns of mitigation and adaptation, seeking to meet development goals while reducing the country's vulnerability. The key *mitigation* "big-wins" identified by the strategy are geothermal power generation, with an estimated potential of 700 MW, which would supply all of Rwanda's demand if implemented by 2020; integrated soil fertility management, which would result in reduced use of inorganic fertilisers, improvement of soil structure and water retention capacity of soil; and high density walkable cities, fighting anticipated trends of energy-intensive urban sprawl on hilly terrain. In terms of *adaptation*, key elements which are sketched by the Strategy are irrigation infrastructure, which will mitigate some uncertainty regarding rainfall variation; a robust road network to mitigate loss of food during transport to markets and to ensure passability during extreme weather events; establishment of a centre for climate knowledge for development; and development of agroforestry. The strategy calls for using and leveraging existing programmes to make quick advances – using the Integrated Development Programme (IDP) to facilitate implementation of climate resilient low carbon development in rural areas; operationalising the National Fund for Climate and Environment (FONERWA) to facilitate access to international climate finance, especially Fast Start Finance for adaptation; implementing measuring and reporting of cross-sectorial energy use for planning and international reporting purposes; setting up an online Climate Portal to communicate the National Strategy to public and international community; etc. Nine working papers have been produced within the framework of this strategy: • Cities and the Built Environment Sector Working Paper • Water Sector Working Paper • Agriculture Sector Working Paper • Energy Sector Working Paper • Finance Sector Working Paper • Forests and Tree-based Systems Sector Working Paper • Land Sector Working Paper • Mining Sector Working Paper • Transport Sector Working Paper
Targets	None specified

Rwanda: Other Relevant Legislation

Name of law	Law No. 26 Determining the Organization, Functioning and Mission of the National Fund for Environment (FONERWA)							
Date of entry into force	22 May 2012							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×		×		×	×	×
Driver for implementation	Health, climate change							
Summary of bill	This Law determines organisation, functioning and mission of the National Fund for environment in Rwanda (FONERWA). The fund will serve as the primary instrument to channel, distribute and monitor international and national climate finance. FONERWA has four finance windows based on its targets: conservation and sustainable management of natural resources; facilitation and utilisation of R&D and technology transfer; streamlining of climate change issues into policies and programmes; and Environmental Impact Assessment (EIA) Monitoring & Enforcement. FONERWA is expected to contribute approximately 20–30% to Rwanda's existing financing gap, which is estimated at approximately US$100 million per year.							
Targets	None specified							

Name of law	Ministerial Order No. 003/16.01 of 15 July 2010 Preventing Activities that Pollute the Atmosphere							
Date of entry into force	15 July 2010							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						
Driver for implementation	Health, climate change							
Summary of bill	Annex A specifies emission standards for CO_2, along with other pollutants (such as NOx, SOx, PM10, lead and Ozone).							
Targets	None specified							

Name of law	**Organic Law 4/2005 determining the modalities of protection, conservation and promotion of environment in Rwanda**							
Date of entry into force	8 April 2005							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
								×
Driver for implementation	Sustainable development, environmental protection							
Summary of bill	Recalling, among other covenants, the UNFCCC, this law gives effect to The National Policy on Environment. It determines the modalities of protecting, conserving and promoting the environment in Rwanda. It defines the responsibilities of citizen and state. The law defines principles for using natural resources, such as air and water, protecting biodiversity etc. It orders an environmental impact assessment Article 27 states that "The use of substances that pollute the atmospher(e)…, that deplete the Ozone Layer or that may cause climatic changes is governed by an order of the Minister having environment in his or her attributions." The National Policy includes suggested policy statements on several areas, which can be used as an entry point for more elaborate policies. The Policy Statement on Atmosphere, Climate and Disasters declares two objectives: • To take part in the establishment of a framework for early warning and management of natural and/or human-made disasters • To contribute to the establishment of a policy and legislation aimed at monitoring regularly climatic change and reduce to a strict minimum substances which pollute the atmosphere The law provides for the establishment of a National Fund for Environment (FONERWA).							
Targets	None specified							

4.29 South Africa

4.29.1 Fact Box

Greenhouse Gas emissions incl. LULUCF ($MtCO_2e$) excl. LULUCF ($MtCO_2e$) Change from base year (1990)	 361 380 NA
Latest reporting year	1994
Importance as an emitter	Top 20
UNFCCC ratification status and date	Date of signature: 15 June 1993 Date of ratification: 29 August 1997 Date of entry into force: 27 November 1997
Kyoto Protocol ratification status and date	Date of signature: 31 July 2002 Date of ratification: 31 July 2002 Date of entry into force: 16 February 2005
2020 pledge	Nationally appropriate mitigation action for a 34% deviation from business as usual by 2020 and 42% by 2025
Flagship legislation	**National Climate Change Response Policy**

4.29.2 Legislative Process

The legislative authority in South Africa is centred on Parliament, which is constituted by two Houses, the National Assembly, which has 400 members, and the National Council of Provinces (NCOP), with 90 members. In order for a bill to become law, both Houses of Parliament must approve it. A bill can be introduced in Parliament by a Minister, a Deputy Minister, a parliamentary committee or an individual MP. However, most bills are drawn up by a government department under the direction of the relevant Minister or Deputy Minister. The majority of bills are introduced in the National Assembly, but certain bills that affect provinces may be introduced in the NCOP. The law-making process usually starts with the introduction of a Green Paper – a discussion document drafted by the Ministry or department concerned that is then subject to public consultation. The Green Paper may be followed by a White Paper, a more developed discussion document that broadly outlines government policy and may also be subject to review by interested parties. Once introduced, a bill is referred to the relevant committee, where it is debated in detail and, if necessary, amended. Then the House takes a decision on whether to pass the bill.

4.29.3 Approach to Climate Change

South Africa has almost exclusively dealt with climate change through policies, strategies and regulations rather than legislation. Through these measures South Africa is showing its commitment to tackling climate change, particularly in developing market-based mitigation mechanisms and promoting renewable energy and energy efficiency. Legislation on this issue has been rather scarce until recently, when a proposal on carbon tax has been introduced within the framework of the 2012/2013 budget.

The process of developing climate change legislation started with the National Climate Change Response Strategy developed in 2004, which represents the first direct recognition of the need for action on climate change. Two years later, the Cabinet commissioned the Long-Term Mitigation Scenario (LTMS) study, in an attempt to produce sound scientific analysis from which the government could derive a long-term climate policy. The LTMS produced a series of policy recommendations, which will be at the heart of South Africa's climate change legislation. In July 2008, the Vision, Strategic Direction and Framework for Climate Policy was announced by the Ministry of Environmental and Tourism Affairs. The Vision sets a framework for a long-term net zero-carbon electricity sector. It resulted from two and a half years of public consultation with members of government, civil society

and the private sector and is based on the LTMS process. The Framework establishes general guidelines for tackling climate change including the target of curbing the growth of GHG emissions by 2020–2025 at the latest; the introduction of a carbon tax, renewable energy feed-in tariffs and a carbon capture and storage system; and mandatory targets for renewable energy, energy efficiency and transport.

The current flagship policy in South Africa is the National Climate Change Response Policy (NCCRP), approved by Cabinet in October 2011. This policy replaces as the flagship legislation the 2008 Vision, Strategic Direction and Framework for Climate Policy, which was highlighted in this study's earlier versions.

The NCCRP started as a Green Paper on climate change and was gazetted for public comment in late 2010. The Department of Environmental Affairs conducted extensive public hearings on the Green Paper in all nine provinces in February 2011, while Parliament conducted a public hearing on the paper in mid-March 2011. Final comments were collected by the Department of Environmental Affairs, leading to the publication and adoption by the cabinet of the National Climate Change Response White Paper (which is the next legislative step after a Green Paper) in October 2011. In November 2011 and in June 2012 public hearings were held regarding the implementation of the White Paper. The NCCRP White Paper presents the South African Government's vision for an effective climate change response and the long-term, just transition to a climate-resilient and lower-carbon economy and society. It reflects a strategic approach referred to as "climate change resilient development", addressing both adaptation and mitigation, which makes use of the following time-bound planning horizons:

- Short-term – five years from date of publication of the policy
- Medium-term – twenty years from date of publication of the policy
- Long-term – a planning horizon that extends to 2050.

The White Paper outlines a risk based process to identify and prioritise adaptation strategies and interventions that have to be taken in the short and medium term, while reviewed every five years. Strategies are specified for the following areas: Water; Agriculture and Commercial Forestry; Health; Biodiversity and Ecosystems; Human Settlements – Urban, Rural and Coastal Settlements; and Disaster Risk Reduction and Management. Concerning mitigation, it includes proposals to set emission reduction outcomes for each significant sector and sub-sector of the economy based on an in-depth assessment of the mitigation potential, best available mitigation options, science, evidence and a full assessment of the costs

and benefits using a "carbon budgets" approach. It also proposed the deployment of a range of economic instruments, including the appropriate pricing of carbon and economic incentives, as well as the possible use of emissions offset or emission reduction trading mechanisms for those relevant sectors, sub-sectors, companies or entities where a carbon budget approach has been selected. The White Paper includes near term priority "flagship programmes", on Climate Change Response Public Works; renewable energy supply, energy efficiency and energy demand management, Water Conservation and Demand Management; waste management; transport, carbon capture and sequestration, and adaptation research.

The Taxation Law Amendment Bill of 2009 amends the 1962 Income Tax Act to include, among other things, income tax incentives for participation in Clean Development Mechanism (CDM) projects as well as for energy efficiency savings. The CDM projects are run by a designated national authority established under the Department of Energy, and governed by regulations published under the National Environmental Management Act 1998 (the CDM Regulations).

Pricing carbon

During the 2012–2013 budget discussions in February 2012, the Minister of Finance introduced a proposed carbon tax on annual emissions for all sectors, including electricity, petroleum, iron, steel and aluminium. The proposed design features a percentage-based emissions thresholds below which the tax will not be payable. The proposal includes a basic tax-free threshold of 60% (with additional concession for process emissions and for trade-exposed sectors) and a maximum offset percentages of 5 or 10% until 2019/20. A carbon tax at R120 (approx. US$ 14.50) per tonne of CO_2e above the suggested thresholds is proposed to take effect during 2013/14, with annual increases of 10% until 2019/20. The proposal includes a higher tax-free threshold for process emission, with consideration given to the limitations of the cement, iron and steel, aluminium and glass sectors to mitigate emissions over the near term. Additional relief for trade-exposed sectors s offered. The tax design suggests use of offsets by companies to reduce their carbon tax liability. In May 2012 a draft legislation was released for comments.

The budget proposal for 2012–2013 also includes an increase in the electricity levy generated from non-renewable sources (increase by 1c/kWh to 3.5c/kWh). The additional revenues will be used to fund energy-efficiency initiatives, for example the solar water heater programme. This arrangement will replace the current funding mechanism that is incorporated into the Eskom's (South Africa's largest public utility) annual tariff application. According to the budget proposal, the net impact on electricity tariffs should be neutral.

A number of institutional arrangements have been established to implement the policy: an Inter-governmental Committee on Climate Change; a National Committee on Climate Change; a Monitoring and Evaluation Task Team; a Technical Working Group on Adaptation and a Technical Working Group on Mitigation.

Energy supply

Despite the fact that renewable energy sources are still at an embryonic stage in South Africa, where most of the energy matrix is coal-based, the government has been investing heavily in the promotion of renewable energy and energy efficiency. Accordingly, the National Energy Act 2008 is, among other things, concerned with increasing the generation and consumption of renewable energy. The Act also creates the South African National Energy Development Institute, responsible for promoting efficient generation and consumption of energy and energy research and development. Besides, the bulk of government action in this domain is translated into policies, strategies and regulations. Namely, the White Paper on the Promotion of Renewable Energy and Clean Energy Development 2003; the Integrated Clean Household Energy Strategy 2003, the Implementation Strategy for the Control of Exhaust Emissions from Road-going Vehicles in South Africa 2003, the Renewable Energy Policy 2004, the Cleaner Production Strategy 2005, the Energy Efficiency Strategy 2005, the Biofuels Industrial Strategy 2007, and Renewable Energy Feed-in Tariffs 2009.

A national Integrated Resource Plan for 2010–2030 was published under the Electricity Regulation Act (2006) in 2010. The plan outlines a diversification of energy resources, including nuclear, coal, wind, solar photovoltaic, concentrated solar and other sources, balancing cost optimisation with constraints and risks, such as uncertainties, and key policy considerations, such as the need for emission reduction, creation of local employment resulting from renewables installations, and energy efficiency. The IRP is intended to be constantly revised and updated by the Department of Energy. The IRP's first revision was published in October 2010 and the second revision was released in March 2011.

While none of these regulations has the status of law, they set a series of meaningful national targets. For instance, the White Paper on Renewable Energy 2003 requires that 10,000 gigawatt hours (GWh) of energy be derived from renewable energy sources (mostly from biomass, wind, solar and small-scale hydro) by 2013. The IRP 2010 includes an emission constraint of 275 million tonnes of carbon dioxide per year after 2024, with 42% of total new GW installed derived from renewables.

In March 2009, the National Energy Regulator of South Africa (NERSA) announced the implementation of Renewable Energy Feed-in Tariffs (REFITS) set to produce 10 TWh of electricity per year by 2013 to be paid for over a period of 20 years; the selected technologies were wind, hydro, landfill gas and concentrated solar. In November 2009, REFITS Phase II was launched with tariffs approved for six new technologies. In August 2011, the feed in tariff system has been replaced by a bidding process to procure 3,725 MW of renewable electricity from independent power producers (IPP). The new scheme evaluates IPPs on bid price as well as on a set of pre-set qualifications, rather than setting a fixed tariff. The first bid has been finalised and contracts signed in July 2012. The second and third phase contracts are to be signed in February 2013 and July 2013 respectively.

Energy demand

The Energy Efficiency Strategy 2005 sets the target of a 12% energy efficiency improvement by 2015, with targets of 10% and 15% in the residential and commercial sectors respectively. These are to be met through economic and legislative means, efficiency labels and performance standards, energy management activities and energy audits, as well as the promotion of efficient practices. The plan includes sectorial plans for the industry and mining sector; commercial and public buildings sector; residential sector; transport sector; as well as references to cross-cutting issues such as integrated energy planning, renewable energy, cleaner fuel programmes and health. The Integrated Resource Plan 2010 also takes into account aspects of energy efficiency.

Transportation

One of the few legal instruments dealing *directly* with climate change in South Africa, is the CO_2 emissions tax on passenger vehicles. Introduced in the 2009–2010 budget, it levies a flat rate tax on CO_2 emissions above a certain threshold, although originally designed as an *ad valorem* tax. As mentioned above, there is a transport sector programme in the Energy Efficiency Strategy 2005, which aims to promote fuel efficiency labelling, fleet audits, programmes for encouraging public transportation development and use, and efficient vehicle technologies.

South Africa: Flagship Legislation

Name of law	National Climate Change Response Policy (NCCRP)							
Date of entry into force	Approved by cabinet on 18 October 2011							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
	×	×			×	×	×	×
Driver for implementation	Climate change, renewable energy, energy efficiency							

Summary of bill

The National Climate Change Response Policy is a comprehensive plan to address both mitigation and adaptation in South Africa in the short, medium and long term (up to 2050). Strategies are specified for the following areas:

- water
- agriculture and commercial forestry
- health
- biodiversity and ecosystems
- human settlements
- disaster risk reduction and management

Announced by the Ministry of Water and Environmental Affairs and approved by the Cabinet in October 2011, the policy has two main objectives: first, to manage inevitable climate change impacts through interventions that build and sustain South Africa's social, economic and environmental resilience and emergency response capacity. Secondly, to make a fair contribution to the global effort to stabilise GHG concentrations in the atmosphere.

The Policy specifies strategies for climate change adaptation and mitigation, making use of the short-, medium- and long-term planning horizons (up to 5 years from publication of policy, up to 20 years, up to 2050, respectively). The White Paper outlines a risk based process to identify and prioritise adaptation strategies and interventions that have to be taken in the short and medium term, while reviewed every five years.

Concerning *mitigation*, it includes proposals to set emission reduction outcomes for each significant sector and sub-sector of the economy based on an in-depth assessment of the mitigation potential, best available mitigation options and a full assessment of the costs and benefits using a "carbon budgets" approach. It also proposed the deployment of a range of economic instruments, including the appropriate pricing of carbon and economic incentives, as well as the possible use of emissions offset or emission reduction trading mechanisms for those relevant sectors, sub-sectors, companies or entities where a carbon budget approach has been selected.

	Energy Efficiency and *Energy and Demand Management* flagship programmes cover development and facilitation of an aggressive energy efficiency programme in industry, building on previous Demand Side Management programmes, and covering non-electricity energy efficiency as well. A structured programme will be established with appropriate initiatives, incentives and regulation, along with a well-resourced information collection and dissemination process. Local governments are encouraged to take an active part in demand-side management. There is a short-term *transport* flagship programme, which aims to facilitate the development of an enhanced public transport programme to promote lower-carbon mobility in five metros and in ten smaller cities and create an Efficient Vehicles Programme with interventions that result in measurable improvements in the average efficiency of the South African vehicle fleet by 2020. The planned rail re-capitalisation programme is considered an important component of this Flagship Programme due to its projected contribution to modal shifts of passengers and freight. The programme further introduces a Government Vehicle Efficiency Programme that will measurably improve the efficiency of the government vehicle fleet by 2020, by setting procurement objectives for efficient technology vehicles such as electric vehicles. In the medium term, the plan calls for significant up-scaling of *energy efficiency* applications in *transportation*; and for promoting transport-related interventions including transport modal shifts (road to rail, private to public transport) and switches to alternative vehicles (e.g. electric and hybrid vehicles) and lower-carbon fuels. The principles of the White Paper include prioritising cooperation and the promotion of *research*, investment in and/or acquisition of adaptation, lower-carbon and energy-efficient technologies, practices and processes for employment by existing or new sectors or sub-sectors. All fields and flagship programmes include a key element of research and development, data collection and analysis tools in their respective areas. *Adaptation* efforts are prioritised, acknowledging the vulnerability of the country. Adaptation efforts will require: early warning and forecasting for disaster risk reduction; medium-term (decade-scale) climate forecasting to identify potential resource challenges well in advance; and long-term climate projections that define the range of future climate conditions. Adaptation strategies are to be integrated into sectorial plans, including: The National Water Resource Strategy, as well as reconciliation strategies for particular catchments and water supply systems; The Strategic Plan for South African Agriculture; The National Biodiversity Strategy and Action Plan, as well as provincial biodiversity sector plans and local bioregional plans; The Department of Health Strategic Plan; The Comprehensive Plan for the Development of Sustainable Human Settlements; and the National Framework for Disaster Risk Management. In order to *monitor success* of measures, South Africa will, within two years of the publication of the Policy, design and publish a draft Climate Change Response Measurement and Evaluation System.
Targets	GHG emissions are set to stop increasing at the latest by 2020–2025, to stabilise for up to 10 years and then to decline in absolute terms.

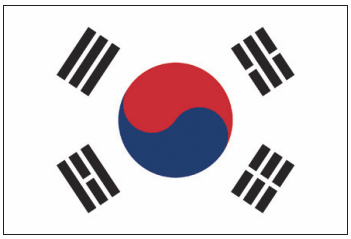
South Africa: Other Relevant Legislation

Name of law	Carbon Emissions Motor Vehicles tax (within 2009–2010 budget)							
Date of entry into force	September 2010							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
	×		×					
Driver for implementation	Climate change							
Summary of bill	The 2009 Budget introduced an *ad valorem* CO_2 emissions tax on new passenger motor vehicles. However, it was later recommended that the original tax proposal be converted into a flat rate CO_2 emissions tax, effective from 1 September 2010. The emissions tax has initially been applied to passenger cars, and extended to commercial vehicles once agreed CO_2 standards for these vehicles are set. New passenger cars will be taxed based on their certified CO_2 emissions at R75 (US$8.7) per g/km for each g/km above 120 g/km. This emissions tax will be in addition to the current *ad valorem* luxury tax on new vehicles.							
Targets	None specified							

Name of law	Taxation Laws Amendment Bill, 2009 – Sections 12K and 12L inserted in Act 58							
Date of entry into force	1 September 2009							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×					
Driver for implementation	Climate change, energy efficiency							
Summary of bill	Amends the 1962 Income Tax Act. Section 12K – "Exemption of certified emission reductions" – grants income tax exemption to the sale of certified emission reductions derived from Clean Development Mechanism (CDM) projects in the context of the Kyoto Protocol. The measure has been applied since February 2009. Section 12L grants income tax reductions for energy efficiency savings from certified baselines based on "energy efficiency savings certificates" issued by an organ determined by Regulations from the Ministry of Energy. These regulations are in tune with the National Energy Act, 2008. The measure applies to the taxable income of any persons in any year of assessment until 1 January 2020.							
Targets	None specified							

Name of law	**National Energy Act 2008**							
Date of entry into force	2008, last amended April 2012							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×				×	×
Driver for implementation	Renewable energy, energy efficiency							
Summary of bill	The bill seeks to ensure the availability of diverse energy resources to the economy while supporting economic growth and poverty alleviation. To this end, it intends to provide for energy planning, increased generation and consumption of renewable energies, contingency energy supply, energy feedstock and carriers, and energy infrastructure. It further establishes the South African National Energy Development Institute, responsible for promoting efficient generation and consumption of energy and energy research. The Minister of Minerals and Energy is charged with implementing the Integrated Energy Plan, dealing with all issues related to energy (supply, transformation, storage and demand) including plans related to GHG mitigation within the energy sector. The South African National Energy Development Institute is responsible for promoting energy research and development. This function includes, among other things, directing, monitoring, conducting and implementing energy research and technology development in all fields except nuclear energy; fostering innovation, by making grants to educational and scientific institutions.							
Targets	None specified							

4.30 South Korea



4.30.1 Fact Box

Greenhouse Gas emissions incl. LULUCF ($MtCO_2e$) excl. LULUCF ($MtCO_2e$) Change from base year (1990)	 508 543 NA
Latest reporting year	2001
Importance as an emitter	Top 20
UNFCCC ratification status and date	Date of signature: 13 June 1992 Date of ratification: 14 December 1993 Date of entry into force: 21 March 1994
Kyoto Protocol ratification status and date	Date of signature: 25 September 1998 Date of ratification: 8 November 2002 Date of entry into force: 16 February 2005
2020 pledge	Reduce national GHG emissions by 30% from business as usual by 2020
Flagship legislation	**Framework Act on Low Carbon Green Growth**

4.30.2 Legislative Process

The legal system of South Korea is a civil law system that has its basis in the Constitution of the Republic of Korea. It has written laws of various forms in a certain hierarchy with the Constitution standing at the pinnacle as the paramount law. Korea's Acts and Subordinate Statutes (Presidential Decree, Ordinance of Prime Minister and Ordinance of Ministry; International Laws, Laws for Self-rule of Local Governments, Emergency Executive Order, Internal Rules of Constitutional Bodies, and Administrative Rules) form a consolidated system as a whole that is designed to prevent contradictions or conflicts.

The Korean Constitution empowers the National Assembly to enact Acts and the Executive and other organs to enact subordinate statutes. This is a unicameral legislature. The power to enact Acts belongs exclusively to the National Assembly, and the lawmaking power held by the Executive, etc. for subordinate statutes is confined to matters delegated by Acts and other matters necessary to enforce Acts. Since such subordinate statutes are required to be in conformity with Acts, the National Assembly is the supreme lawmaking organ.

The lawmaking process is as follows: The relevant ministry (or national assembly representatives) drafts the legislative bill. It consults with other ministries and issues a public notice concerning the legislation. The bill is then reviewed by the Ministry of Legislation (MOLEG), which is an independent and specialised self-legislative control agency within the government in order to exercise overall control of and coordinate the government's legislative activities and to review whether individual bills contravene higher laws or conflict with relevant laws. The bill is then deliberated at the State Council and sent for presidential approval. After that it is submitted to the National Assembly for decision. After it is passed in the National Assembly, it returns to MOLEG and is finally promulgated. Presidential decrees are promulgated directly after their approval by the President and do not go through the National Assembly.

4.30.3 Approach to Climate Change

All climate change related legislation, policies and regulations should be in harmony with the basic principles for the promotion of "low carbon, green growth" under Korea's flagship legislation, the Framework Act and the national strategy for low carbon, green growth. The *Framework Act,* passed in December 2009, builds on Korea's "Green New Deal" stimulus package of January 2009 together with the

National Strategy for Green Growth announced in August 2008 and the Five-Year Plan for Green Growth released in July 2009. In April 2010, the government adopted the *Enforcement Decree of the Framework Act on Low Carbon* during the 15th Cabinet meeting. The Framework Act and the Enforcement Decree create the legislative framework for mid- and long-term emissions reduction targets, cap-and-trade, carbon tax, carbon labelling, carbon disclosure and the expansion of new and renewable energy. It includes a system of mandatory reporting of carbon emissions by all carbon- and energy-intensive industries and provides a basis for the creation of a carbon trading system. The law mandates a cap on emissions, but leaves out the operational structure, the method of allocation of emissions permits, the sectorial coverage, and other details for implementing laws to decide. The Framework Act takes precedence over other Acts in application to "low carbon, green growth" in Korea. Other related Acts include *Rational Energy Utilisation Act*, *Electricity Business Act*, the *Act on the Promotion of Purchase of Environment-friendly Products*, and *Energy Basic Law*. These Acts must conform to the purposes and basic principles of the Framework Act, and many of them emphasise the important role environmental technology has in Korea's economy.

Carbon pricing

In May 2012, the national assembly passed the *Act on the Allocation and Trade of Greenhouse Gas Emissions Rights*, establishing a domestic cap-and-trade emissions trading scheme (ETS). The act was passed with only three abstentions and no votes against. The establishment of the ETS follows a draft legislation released by the government in November 2010, which is closely modelled on the EU's Emissions Trading Scheme (EU ETS). The motivations to promote the ETS included development of green industry technologies and pushing green businesses ahead of other countries. A presidential decree detailing the scheme and its compliance rules are scheduled to be announced within six months.

The Korean government plans to finalise allocations 6 months before the launch of the scheme, which creates current uncertainty regarding the initial price of carbon. A "basic plan" for the first 10 years of the scheme is anticipated before the end of 2013.

Prior to the establishment of the cap-and-trade scheme, the government has set an aim to cut 8.3 million tonnes of CO_2 equivalent from projected industrial and power sector GHG emissions in 2012. Under the proposal, a combined 366 firms must cut emissions by 1.42% below their business as usual levels and firms that fail to meet their targets face a fine of up to a maximum of 10 million Won (US$8,485).

Energy supply and energy demand

Korea's Energy Vision 2030, a governmental plan launched in November 2006, sets an ambitious target of reducing energy intensity by 46% between 2007 and 2030. It leans on three pillars ("the 3 Es") to dictate the direction of the national energy policy until 2030: energy security, energy efficiency, and environment-friendly. It also sets a target of 11% renewable energy out of the production portfolio by 2030, and allows all households to access affordable energy.

Adaptation

The National Framework on Low Carbon Green Growth states (article 40), that the government shall establish and implement a basic plan every 5 years for coping with climate change for a planning period of 20 years. This spurred the generation of several national and local plans dealing with climate change adaptation. In August 2010, Korea established the "National Climate Change Adaptation Master Plan (NCCAMP)" for the years 2011–2015, and set up the National Government Adaptation Committee (NGAC) to implement the NCCAMP. The NGAC is composed of the representatives of 13 ministries. The Ministry of Environment (MOE) is in charge of the NGAC and also of supporting local governments.

The National Master Plan has 86 major projects, covering 10 sectors: Public health, disaster management and infrastructure, agriculture, forestry, marine and fisheries, water, eco-system, climate change monitoring and projection, adaptation business and industry, and publication, education and international cooperation. The Master Plan includes provisions for local action planning. The 1st Adaptation Action Plan by local governments is expected to be set up in 2012. The national climate change scenario has been updated recently, customised and adapted for the whole country, leading to a new vulnerability assessment and the publication of an updated NCCAMP in May 2012.

South Korea: Flagship Legislation

Name of law	Framework Act on Low Carbon Green Growth							
Date of entry into force	14 April 2010							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
	×	×	×	×	×	×	×	×
Driver for implementation	Green growth, climate change							
Summary of bill	South Korea's Framework Act on Low Carbon Green Growth creates the legislative framework for mid- and long-term emissions reduction targets, cap-and-trade, carbon tax, carbon labelling, carbon disclosure, and the expansion of new and renewable energy. The Framework Act requires the government to establish and implement national strategy, action plans, and a detailed 5-year plan for a planning period of 20 years, which will deal with various aspects of climate change mitigation and adaptation. The framework defines main principles for the materialisation of a green economy, among others green growth via the promotion of environmental technologies and industries, and the balance and synergy between environment and economy. A presidential committee on green growth is established according to the Framework, in order to deliberate on the State's major policies and plans related to low carbon green growth. The Framework declares that the Government will foster new green industries with high growth potential, by formulating means to transform traditional industries into green ones, setting targets and adapting infrastructure to an environmentally friendly structure; Green Investment companies shall be established and may be supported by the government; and the Framework also calls for facilitation of *research*, *development* and commercialisation of green technology. The Framework prescribes mandatory annual GHG emission reporting to the government, and the establishment of an Integrated Information Management System for Greenhouse Gases. A cap-and-trade system is introduced for *pricing carbon*. This is the basis for the South Korean ETS which was approved in May 2012. The Framework instructs the Government to prepare and enforce a basic plan for energy every 5 years for a planning period of 20 years. The plan should include aspects of energy security and independence, as well as targets for *energy supply* from renewable sources and *energy demand management* via saving and efficiency. The Framework calls for the preparation of *REDD/Land Use* policies and *transport policies* – including the establishment of standards for emissions from different classes of automobiles. The Framework Act prescribes an assessment of impacts of climate change and the implementation of measures for *adaptation*.							
Targets	None specified							

South Korea: Other Relevant Legislation

Name of law	The Enforcement Decree of the Framework Act on Low Carbon Green Growth							
Date of entry into force	April 2010. Some provisions (on financial support to green investment) entered into force in July 2011. Amended twice – in October 2010 (Presidential Decree No. 22449) and June 2011 (Decree No. 22977)							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
					×	×		×
Driver for implementation	Green growth, climate change							
Summary of bill	The Enforcement Decree is designed to provide for matters delegated by the Act and matters necessary for enforcement thereof including establishment of central and local action plans, operation of the Presidential Committee on Green Growth, establishment of and support for green industries investment companies and control of quantity of GHGs emitted and the quantity of energy consumed in each area including transport and architecture, etc. Regarding transportation policies, the Decree addresses the management of the standards for corporate-average energy consumption efficiency of automobiles and compatible corporate-average allowable exhaust emissions of GHGs from automobiles. The Decree deals with the establishment of green industries investment companies. It also provides that the Minister of Environment shall establish and implement, every 5 years, measures for adaptation to climate change based on consultation with the heads of the central administrative agencies concerned. The Decree establishes the national integrated information management system for GHGs.							
Targets	A reduction in total national GHG emissions in 2020 by 30% from the business-as-usual projection for 2020							

Name of law	Act on the allocation and trade of greenhouse gas emissions rights							
Date of entry into force	Passed 2 May 2012. Entry into force 6 months after promulgation							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
	×							×
Driver for implementation	Green growth, climate change							

Summary of bill	The first phase of the trading scheme is due to start in 2015, covering companies that emit 125,000 metric tonnes or more of carbon dioxide a year and factories, buildings and livestock farms that produce at least 25,000 tonnes of the gas annually. The basic plan for the emissions rights trading system shall be established every 5 years for a unit period of 10 years. An Emissions Rights Allocation Committee chaired by the Minister of Strategy and Finance will be established for deliberation and mediation of major issues regarding the emissions rights trading system. The competent authorities will allocate the total emissions rights for the unit period and for each year to relevant corporations. The emissions rights may be traded by means of buying and selling to others. Anyone who wants to trade their rights shall enter an account in the emissions rights register. The scheme determines that in the event that a corporation produces more GHG than its allotted amount, the excess will be subject to a penalty of up to three times the average market price of the year, within the range of 100,000 Won or less per one tonne of carbon dioxide. According to the Scheme, 95% or more of the total emissions rights to be allotted from 2015 to 2020 shall be given free of charge.
Targets	None specified

Name of law	**Act on the Creation and Facilitation of Use of Smart Grids**							
Date of entry into force	Came into force 24 November 2011							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×					×	
Driver for implementation	Climate change, green growth							
Summary of bill	The Act aims to create smart grids and to facilitate them to create green growth and to deal with climate change. The government is to develop and implement a 5-year plan for creating and facilitating the use of smart grids. Research and development resources are to be provided for. The Act also details requirements for establishment of smart grids, and deals with information use and protection. The Act is Supported by a presidential decree from November 2011 (Enforcement Decree of Act on the Creation and Facilitation of Use of Smart Grids)							
Targets	None specified							

Name of law	**Support for Environmental Technology and Environmental Industry Act**							
Date of entry into force	Wholly amended February 2000, last amended April 2011							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
							×	×
Driver for implementation	Green growth							
Summary of bill	The purpose of the Act is to promote the development of environmental technologies and industries, contributing to green growth and the sustainable development of Korea's economy. The Act requires the Minister of Environment to establish and implement plans for the development of environmental technologies and promotion of the relevant industry, including domestic and international technology outlooks and investment plans. The government may authorise institutions to carry out designated environmental technology development projects. It may award "new technologies certifications" to relevant technologies and projects, which may grant the developer subsidies and other forms of support. The Act establishes the Korea Environmental Technology and Industry Institute, which will serve for planning, evaluation and management of development projects, while carrying out functions of start-up support, research and development support, industry data collection and utilisation etc.							
Targets	None specified							

Name of law	**Act to Promote the Purchase of Environmentally Friendly Products**							
Date of entry into force	Wholly amended February 2010							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
								×
Driver for implementation	Green growth							
Summary of bill	The purpose of the Act is to promote the purchase of environmentally friendly products, as defined in other Acts (among others the Support for Environmental Technology and Environmental Industry Act). The Act obliges public institutions to purchase environmentally friendly products whenever possible to do so without jeopardising quality or without conflict with other specified prioritised matters. A data management system to provide information about environmentally friendly products will be set up. There is no specific reference to climate change in the Act.							
Targets	None specified							

Name of law	Sustainable Transportation Logistics Development Act							
Date of entry into force	December 2009							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
					×			
Driver for implementation	Climate change, energy crisis, sustainable development							
Summary of bill	This act, under the responsibility of the Ministry of Land, Transport and Maritime Affairs, promotes the development of a sustainable transportation logistics system, in accordance with several basic principles: promoting a low-carbon transportation logistics system by reducing emission of GHGs; promoting an environment-friendly, energy and resource saving transportation logistics system; improving the mobility, accessibility and safety of a transportation logistics system; securing a balance between modes of transportation, classes and regions; effectively connecting the use of land and a transportation logistics system. The state and the local authorities are to formulate basic plans (for 10 years) and implementation plans (annually) and to allocate necessary budgets for the development of a sustainable transportation logistics system. These plans should be consistent with South Korea's 2007 Sustainable Development Act (amended 2010). Necessary measures shall be taken by the state and local governments to reduce GHG emissions in order to implement the UNFCCC. The Ministry will develop a coefficient for calculating emissions per unit of transportation logistics, and utilise the data collected in policy development. Other provisions deal with calculation and management of socio-economic costs, traffic management, transportation sharing structures, promotion of mass transportation and carbon free transportation, development of environment friendly facilities and technology, linking with urban planning, education etc.							
Targets	None specified							

Name of law	Energy Act							
Date of entry into force	Entered into force September 2006, last amended July 2011							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×				×	×
Driver for implementation	Green growth, energy management							

Summary of bill	Under the Act, local governments must formulate and implement 5-year energy plans, which will include matters regarding stable supply of energy, measures for using renewable energy, rationalisation of energy use and reduction of GHG emissions, development of energy sources etc. A national energy supply contingency plan will be formulated, as well as Energy Technology Development Plans. An Energy Committee will be created to deliberate on matters concerning major energy policies and energy-related plans. The Act also establishes the Korea Institute of Energy Technology Evaluation and Planning, to efficiently support the planning, evaluation, management, etc. of the energy technology development-related projects. The Act includes provisions for the establishment of a state supported technology development fund.
Targets	None specified

Name of law	**Act on the Promotion of the Development, Use and Diffusion of New and Renewable Energy**							
Date of entry into force	2004, significantly amended April 2010, last amended March 2011							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						
Driver for implementation	Renewable energy							
Summary of bill	This purpose of this Act, under the responsibility of the Ministry of Knowledge Economy[1] is to diversify energy sources through the promotion of technological development, use and distribution of new energy and renewable energy, and the activation of the new energy industry and the renewable energy industry, and to promote the stable supply of energy, environment-friendly conversion of the energy structure, and the reduction of GHG emissions. Forms of renewable energy included are, among other solar, bio-energy, wind, water, fuel cells, hydrogen, marine, geothermal and other forms other than coal, nuclear or natural gas.							
Targets	None specified							

[1] The ministry is an integrated composition of former Ministries of Commerce, Industry and Energy; Information and Communication; and Science and Technology.

Name of law	**Act on the promotion of Development and Distribution of Environmentally Friendly Automobiles**							
Date of entry into force	2004, last amended May 2011							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×					
Driver for implementation	Energy efficiency, public health, green growth							
Summary of bill	The Minister of Knowledge Economy is to establish a master plan and implementation plans to promote the development and distribution of environmentally friendly automobiles (electric cars, solar powered cars, hybrid cars, fuel cell vehicles, natural gas vehicles or clean diesel vehicles). General provisions declare that the state may provide assistance to developers and consumers of environmentally friendly automobiles.							
Targets	None specified							

Name of law	**Energy Basic Law (Law No. 7860)**							
Date of entry into force	September 2006							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×					
Driver for implementation	Energy conservation							
Summary of bill	The Act aims to present long-term and comprehensive vision to clarify basic principles of energy basic policy: establishment of basic principles of energy policy; formulation of national basic energy plan; establishment of national energy committee; formulation of plan for energy technology development.							
Targets	None specified							

Name of law	**Integrated Energy Supply Act**							
Date of entry into force	1991, last amended April 2010							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						
Driver for implementation	Climate change, energy conservation							
Summary of bill	The Act's purpose is to promote energy conservation in line with the UNFCCC principles. It calls for the development of a master plan for integrated energy (heat or heat and electricity) supply, and prescribes the matters concerning the construction, operation and safety of integrated energy facilities.							
Targets	None specified							

Name of law	**Electricity Business Act**							
Date of entry into force	Wholly amended 1990, most recently amended 12 April 2010							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						×
Driver for implementation	Renewable energy							
Summary of bill	The Electricity Business Law mandates both the purchase and the fixed price of electricity generated from renewable sources. Any renewable energy generator that is connected to the grid is eligible to sell electricity to the grid at fixed prices. Korea Electric Power Corporation (KEPCO) is responsible for purchasing electricity from renewables. The government compensates for the difference between nuclear and renewable energy and fossil fuel generation prices. The Act requires the Ministry of Knowledge Economy (MKE) to prepare and announce the Basic Plan of Long-term Electricity Supply and Demand (BPE) on a biennial basis. The BPE stipulates electricity policy directions on supply and demand, long-term outlook, construction plans, Demand Side Management, etc. The 4th Basic Plan of Long-Term Electricity Supply and Demand (2008–2022) was announced in 2008.							
Targets	None specified							

Name of law	Energy Use Rationalization Act							
Date of entry into force	January 1980, wholly amended 2007, recently amended July 2011							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
	×	×	×					×
Driver for implementation	Climate change, energy security and energy efficiency							
Summary of bill	The purpose of this Act is to promote green growth while contributing to international efforts to tackle climate change. The Act requires the government to consider the measures to attain effectively the goal of the national energy policy on the stability of demand and supply of the energy required for the sound development of the national economy, the minimisation of the factors of environmental damage caused by energy consumption, and the rationalisation of the energy utilisation. According to the Act, the government is to establish and enforce a comprehensive GHG mitigation policy, and local governments are to establish local plans accordingly. A Basic National Energy Plan and the Basic Plan for Rational Use of Energy are to be drafted by the Minister of Knowledge and Economy, addressing *demand-side* and *supply-side* issues of *energy efficiency*, substitution between energy sources, measures to reduce GHG emissions by rational use of energy, education and publicity. The Plan should also include "matters concerning the implementation of the system for price indication for the rationalisation of energy use" (article 4). A national energy saving committee is formed under the provisions of the Act. Based on previous versions of the Act, the Government of Korea has provided long-term and low interest rate loans from the Fund for Rational Use of Energy for energy efficiency and conservation investments since 1980. Every fiscal year, a given amount from the Fund is allotted to the eligible loan applications from a government financial source named the Special Accounts for Energy and Resources. Based on the Act, Korea's energy conservation programmes and activities are planned and put into action by the Republic of Korea Energy Management Corporation (KEMCO), established in 1980 based on the Act. KEMCO functions as the national energy efficiency centre responsible for the implementation of the national energy efficiency and conservation programmes. The Act continues to detail issues which need to be addressed, such as standby-power standards, utilisation of waste heat, management of equipment, support to enterprises specialising in energy savings, etc.							
Targets	None specified							

4.31 United Kingdom

4.31.1 Fact Box

Greenhouse Gas emissions incl. LULUCF ($MtCO_2e$) excl. LULUCF ($MtCO_2e$) Change from base year (1990)	 590 594 -173
Latest reporting year	2010
Importance as an emitter	Top 10
UNFCCC ratification status and date	Date of signature: 12 June 1992 Date of ratification: 8 December 1993 Date of entry into force: 21 March 1994
Kyoto Protocol ratification status and date	Date of signature: 29 April 1998 Date of ratification: 31 May 2002 Date of entry into force: 16 February 2005
2020 pledge	20% rising to 30% under an international agreement, per the EU position. Statutory domestic target requires cuts of at least 34% in all GHGs by 2020 and at least 80% by 2050 (both from 1990 levels)
Flagship legislation	**Climate Change Act**

4.31.2 Legislative Process

Parliament is the centre of the political system in the United Kingdom. It is the supreme legislative body (i.e. there is parliamentary sovereignty), and Government is drawn from and answerable to Parliament. Parliament is bicameral, consisting of the House of Commons and the House of Lords.

Draft bills are issued for consultation before being formally introduced to Parliament. A bill is a proposal for a new law, or a proposal to change an existing law that is presented for debate before Parliament. Bills are introduced in either the House of Commons or House of Lords for examination, discussion and amendment. When both Houses have agreed on the content of a bill, it is then presented to the reigning monarch for approval (a process known as "Royal Assent"). Once Royal Assent is given, a bill becomes an Act of Parliament and is law. An Act of Parliament creates a new law or changes an existing law.

"White Papers" are documents produced by the Government setting out details of future policy on a particular subject. A White Paper will often be the basis for a bill to be put before Parliament. The White Paper allows the Government an opportunity to gather feedback before it formally presents the policies as a bill.

4.31.3 Approach to Climate Change

Since the early 2000s the UK has developed several instruments aimed at reducing emissions of GHGs. In 2001, it introduced a *Climate Change Levy* that applies to electricity, gas, solid fuel and liquefied gases used for lighting, heating and power in the business and public sectors. Complementing the levy, under the *Climate Change Agreements* that took effect in 2001, energy intensive business users are allowed to receive an 80% discount from the levy if they meet energy efficiency or carbon saving targets. This measure was extended in time and sectoral coverage in 2004 and 2007.

In 2006, the publication of the *Climate Change Programme* outlined all of the UK policies and programmes to tackle climate change, including several measures relating to energy efficiency. The 2006 Programme included a package of new and existing measures, which were projected to reduce CO_2 emissions to 15–18% below 1990 levels by 2010 and work towards the longer term goal to reduce CO_2 emissions by 60% by 2050, as set out in the Energy White Paper (2003). On 21 June 2006, the UK government also approved the *Climate Change and Sustainable*

Energy Act, which placed an obligation on the Department for Environment, Food and Rural Affairs (Defra) to report to parliament on GHG emissions in the UK and actions taken by government to reduce these emissions. The first report was put to the UK parliament on 26 July 2007. The legislation also establishes a scheme to promote national targets for micro-generation and provides for reporting on the energy efficiency of residential accommodation.

These policies, together with the elevation of climate change as a political issue after the 2005 Gleneagles G8 Summit, prepared the ground for the UK's flagship legislation on climate change – the 2008 *Climate Change Act*. This law, passed with the support of all major political parties, provides a long-term framework for improving carbon management, helps the transition to a low carbon economy and encourages investment in low carbon power generation, goods and services. It put the UK's emissions reduction target into legislation (toughened by parliament to "at least 80% below 1990 levels by 2050"), created 5-yearly "carbon budgets" to help ensure a credible trajectory towards the long-term goal, and set up the independent Committee on Climate Change to advise the government on the policies and measures needed to meet the targets. The 2009 UK Low Carbon Transition Plan is a White Paper outlining how the British economy will be transformed to ensure the UK meets its emission reduction targets and its first three 5-year carbon budgets that were set in law in May 2009.

Another important backbone of climate policy in the UK is the transposition in national legislation of EU Directives. Most notable is the *European Union Emission Trading Scheme* (EU Directive 2004/101/EC).

In March 2011, it was announced in the Government's "budget" that a Green Investment Bank would be set up with an initial capitalisation of GBP 3 billion. The Bank was officially launched in November 2012 and will have borrowing powers from 2015/16.

In June 2011, in line with the requirements set out in the Climate Change Act, the government proposed, and parliament approved, the level of the fourth carbon budget, running from 2023–2027. The level was set at 1,950 Mt CO_2e, in line with the Committee on Climate Change's recommendations, putting into law a target of a 50% reduction from 1990 levels by 2027 (in line with the target to reduce emissions by 60% from 1990 levels by 2030).

In 2011 the coalition government proposed an Energy Bill which received Royal Assent in October 2011. The *Energy Act 2011* has three principal objectives: tackling barriers to investment in energy efficiency (including via the new "Green Deal" that provides up-front finance for investments in energy efficiency in the home; enhancing energy security; and enabling investment in low carbon energy supplies.

In July 2011, the UK Government published a White Paper on Electricity Market Reform (EMR). The White Paper sets out key measures to attract investment, reduce the impact on consumer bills and create a secure mix of electricity sources including gas, new nuclear, renewables and carbon capture and storage. Key elements of the reform package include:

- A Carbon Price Floor (announced in the 2011 Budget) of GBP 16 per tonne from 2013 rising to GBP 30 per tonne in 2020 to reduce investor uncertainty, providing a stronger incentive to invest in low carbon generation now

- The introduction of new long-term contracts (Feed-in Tariff with Contracts for Difference) to provide stable financial incentives to invest in all forms of low carbon electricity generation. A contract for difference approach has been chosen over a less cost-effective premium feed-in tariff

- An Emissions Performance Standard (EPS) set at 450g CO_2/kWh to reinforce the requirement that no new coal-fired power stations are built without CCS, but also to ensure necessary short-term investment in gas can take place

- A Capacity Mechanism, including demand response as well as generation, is needed to ensure the future security of electricity supply

The Government intends to legislate for the key elements to reach the statute book by spring 2013, so the first low-carbon projects can be supported under its provisions around 2014. In that context, on 29 November 2012, the Secretary of State for Energy and Climate Change introduced a new draft Energy Bill. The main focus is on electricity market reform and is designed to put in place measures to attract the £110 billion investment which is needed to replace current generating capacity and upgrade the grid by 2020, and to cope with a rising demand for electricity. It includes:

- Contracts for Difference (CFD): long-term contracts to provide stable and predictable incentives for companies to invest in low carbon generation

- Capacity Market: to ensure the security of electricity supply

- Conflicts of Interest and Contingency Arrangements: to ensure the institution which will deliver these schemes is fit for purpose

- Investment Contracts: long-term contracts to enable early investment in advance of the CFD regime coming into force in 2014

- Access to Markets: This includes Power Purchase Agreements (PPAs), to ensure the availability of long-term contracts for independent renewable generators, and liquidity measures to enable the Government to take action to improve the liquidity of the electricity market, should it prove necessary

- Renewables Transitional: transition arrangements for investments under the Renewables Obligation scheme

- Emissions Performance Standard (EPS): to limit carbon dioxide emissions from new fossil fuel power stations

The Bill is expected to be passed in the first half of 2013, subject to amendments by the House of Commons and the House of Lords.

Energy efficiency

The UK has an extensive set of legislation and policies addressing energy efficiency and promoting a low carbon energy network. In 2001 the *Carbon Trust* was created, an independent, not-for-profit company set up by government to promote energy efficiency in non-domestic sectors. A year later, the *Energy Efficiency Commitment (EEC)* was introduced. This is a major policy to encourage consumers to make domestic energy efficient improvements and includes measures to promote insulation, energy efficient boilers, appliances and light bulbs. It places an obligation on the suppliers of gas and electricity to promote improvements in energy efficiency through measures provided to domestic consumers. Running until 2008, it was replaced by the *Carbon Emissions Reduction Target (CERT)* that puts an obligation on energy suppliers to achieve targets for promoting reductions in carbon emissions in the household sector. It marks a significant strengthening of efforts to reduce household carbon emissions – with a doubling of the level of activity of its predecessor Energy Efficiency Commitment (EEC) to deliver overall lifetime carbon dioxide savings of 154 $MtCO_2$.

In 2005, the UK government introduced a number of energy and cost-saving measures to make all buildings more efficient. The measures are being applied across all European Union countries and are in line with the *European Directive for the Energy Performance of Buildings (EPBD*). The *Community Energy Saving*

Programme (CESP) introduced in 2009 targets households across Great Britain, in areas of low income, to improve energy efficiency standards and reduce fuel bills. CESP is funded by an obligation on energy suppliers and electricity generators. The programme is delivered through the development of community-based partnerships between local authorities, community groups and energy companies, via a house-by-house, street-by-street approach.

In addition, enacted on 27 November 2008, the *Planning and Energy Act* enables local planning authorities in England and Wales to set out requirements for energy use and energy efficiency in local plans and to establish their own requirements for a proportion of energy used in development plans to come from renewable sources, to be low carbon or to comply with energy efficiency standards that exceed the requirements of existing building regulations. Several regional schemes also exist. They include for instance the *HEES Wales scheme* that was launched in 2000; it provides grants for heating and insulation improvements not only for owner-occupiers, but also for tenants.

The CRC Energy Efficiency Scheme (formerly known as the Carbon Reduction Commitment) is the UK's mandatory climate change and energy saving scheme. The scheme started in April 2010. The CRC is a mandatory energy efficiency scheme aimed at improving energy efficiency and cutting emissions in large public and private sector organisations. The scheme provides a financial incentive to reduce energy use by putting a price on carbon emissions from such use and also provides the opportunity for participants to make savings on energy bills through improved energy efficiency. In CRC, organisations buy allowances equal to their annual emissions. The overall emissions reductions achieved by the scheme will be determined by the emissions "cap" on the total allowances available to CRC participants. Within the overall limit, individual organisations can determine the most cost-effective way to reduce their emissions.

The *Energy Act 2011* includes several initiatives to break down barriers to energy efficiency, including a new "Green Deal" which will provide up-front financing to householders for investments in energy efficiency, the cost of which will need to be paid back only when the financial benefits are received via at least equivalent reductions in the customers' bills.

Renewable energy

The Renewables Obligation (RO) introduced in 2002 is the current main market-based mechanism for supporting large-scale generation of renewable electricity. Since its introduction, the RO has been subject to various reforms and improvements. The RO works by placing an obligation on licensed electricity suppliers to

source a specified and annually increasing proportion of their electricity sales from renewable sources, or pay a penalty. As of 1 April 2009, the reforms introduced mean that new generators joining the RO now receive different numbers of Renewable Obligation Certificates (ROCs), depending on their costs and potential for large-scale deployment.

The 2004 Energy Act is important in providing the framework for the development of offshore wind and other marine renewable energy sources outside territorial waters. The Act implemented a range of commitments made in the 2003 Energy White Paper, including those relating to energy efficiency, such as raising building and product standards, and creating an Energy Efficiency Action Plan for the UK. The *2008 Energy Act* goes further and strengthened the *Renewables Obligation* to increase the diversity of the UK's electricity mix. The Act also created the *Renewable Heat Incentive*: allowing the Secretary of State to establish a financial support programme for renewable heat generated anywhere, from large industrial sites to individual households The Act created regulation that enables private sector investment in carbon capture and storage projects. The *2010 Energy Act* complements these measures by including provisions on introducing a new CCS Incentive to support the construction of four commercial-scale CCS demonstration projects in the UK, and the retrofit of additional CCS capacity to these projects should it be required at a future point. It also requires the Government to prepare regular reports on the progress that has been made on the decarbonisation of electricity generation in Britain.

The UK Renewable Energy Strategy 2009 is a White Paper outlining how the UK will meet its legally binding target to ensure 15% of energy comes from renewable energy sources by 2020. The Strategy also creates an Office for Renewable Energy Deployment (ORED) within the Department of Energy & Climate Change (DECC) to take forward the commitments outlined in the Strategy. The Strategy comprises three primary 2020 targets, and introduces payment schemes to support the production of renewable heat and small-scale clean electricity generation by households, industry, businesses and communities. From 2010, the UK government offers *feed-in tariffs (FITs) for small-scale low-carbon electricity* produced from a variety of renewable energy technologies installed by householders, businesses and communities, even if the electricity is not fed back into the electricity grid but consumed on-site.

Several incentives exist to promote the production of biofuels. The *Bio-energy Capital Grants Scheme* supports biomass-fuelled heat, and combined heat and power projects in the industrial, commercial and community sectors in England. Six rounds of funding have been provided since the Scheme was launched in 2002.

Additionally, a *reduced excise duty rate* was introduced for biodiesel in July 2002 and bioethanol in 2005, set at GBP 0.20 lower than the rate applicable to diesel and unleaded petrol. Most recently, the 2008 *Renewable Transport Fuels Obligation (RTFO)* is a long-term mechanism requiring transport fuel suppliers to ensure a set percentage of their sales are from a renewable source. The Obligation also requires suppliers to publicly report on the carbon savings and sustainable production of biofuels supplied. It aligns with EU Directive 2003/30/EC on the promotion of biofuels and renewable fuels for transport. Regional schemes include the *Energy Crop Scheme England* introduced in 2000.

United Kingdom: Flagship Legislation

Name of law	**Climate Change Act**							
Date of entry into force	Royal Assent 26 November 2008 (most elements came into force with Royal Assent, with some coming into force on 1 January 2009)							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
	×	×	×		×	×	×	×
Driver for implementation	Climate change							
Summary of bill	The rationale behind the Climate Change Act is to provide a long-term framework for improving carbon management, to help the transition to a low carbon economy, encourage investment in low carbon goods and provide an international signal. It also creates 5-yearly "carbon budgets". In March 2009, the Climate Change Act Impact Assessment was updated to reflect the final contents of the Act. Report by Secretary of State on the policies implemented to meet carbon budgets and an annual report to Parliament on the status of UK emissions, with a debate led by the Secretary of State for Energy and Climate Change. The creation of the Committee on Climate Change (CCC) – a new independent, expert body to advise the Government on the level of carbon budgets and on where cost-effective savings can be made. The Committee submits annual reports to Parliament on the UK's progress towards targets and budgets. The Government must respond to these annual reports, ensuring transparency and accountability on an annual basis. The CCC is a Non-Departmental Public Body sponsored by the Department of Energy and Climate Change (DECC) and funded by DECC, the Department for Environment, Food and Rural Affairs (Defra) and the Devolved Administrations (DAs) in Scotland, Wales and Northern Ireland. It began operating as a Statutory Body on 1 December 2008							

	The key recommendations of the CCC in 2010 dealt with: electricity market reform, carbon price floor, the Emissions Performance Standard (EPS), delivery mechanisms and incentives to improve energy efficiency of buildings, new policies for the agriculture sector, encouraging a move to more carbon-efficient cars, including electric cars. The Government's response to the CCC's second annual progress report (which was published on 30 June 2010) was published on 14 October 2010. The Act sets up a carbon budgeting system which caps emissions over 5-year periods, with three budgets set at a time, to help the UK stay on track for its 2050 target. The first three carbon budgets run from 2008–2012, 2013–2017 and 2018–2022, and were set in law in May 2009. The fourth carbon budget, for the period 2023–2027 was approved by parliament in July 2011, putting into law a target to reduce emissions by 50% from 1990 levels by 2027. The Government must report to Parliament its policies and proposals to meet the budgets, and this requirement was fulfilled by the UK Low Carbon Transition Plan. The UK Low Carbon Transition Plan, published July 2009, outlines the policies and proposals that will be put in place to decarbonise the UK economy. The Government must set a limit on the purchase of carbon credits for each budgetary period – for the first budgetary period, a zero limit was set in May 2009, excluding units bought by UK participants in the EU Emissions Trading System. The Act also gives powers to introduce domestic emissions trading schemes more quickly and easily through secondary legislation – the first use has been to introduce the Carbon Reduction Commitment Energy Efficiency Scheme. A requirement for the Government to issue guidance by 1 October 2009 on the way companies should report their GHG emissions, and to review the contribution reporting could make to emissions reductions by 1 December 2010. The Act introduces measures on biofuels. Powers to introduce pilot financial incentive schemes in England for household waste. The inclusion of international aviation and shipping emissions in the Act or an explanation to Parliament why not – by 31 December 2012. A requirement for the Government to report at least every 5 years on the risks to the UK of climate change, and to publish a programme setting out how these will be addressed. The Act also introduces powers for Government to require public bodies and statutory undertakers to carry out their own risk assessment and make plans to address those risks. The Act introduces an Adaptation Sub-Committee of the Committee on Climate Change, providing advice to, and scrutiny of, the Government's adaptation work.
Targets	A legally binding target of at least an 80% cut in GHG emissions by 2050, to be achieved through action in the UK and abroad. Also a reduction in emissions of at least 34% by 2020. Both these targets are against a 1990 baseline

United Kingdom: Other Relevant Legislation

Name of law	**Energy Act 2011**							
Date of entry into force	Royal Assent received 18 October 2011, comes into effect 1 January 2012							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×					
Driver for implementation	Energy security							

Summary of bill

The Energy Act 2011 has three principal objectives: tackling barriers to energy efficiency; enhancing energy security; and enabling investment in low carbon energy supplies.

Requiring the Government to prepare regular reports on the progress that has been made on the decarbonisation of electricity generation in Britain and the development and use of CCS.

Includes measures to improve energy security and to enable low carbon technologies.

For example, the Act includes the consolidation of existing provisions, across four acts of parliament, for third party access to upstream oil and gas infrastructure and establishes powers to de-designate areas of the UK Continental Shelf in order to facilitate the signing of a comprehensive agreement with Ireland about maritime boundaries to enable the alignment of Exclusive Economic Zones and provide flexibility in managing the UK Continental Shelf resources (important for oil, gas and renewable energy supply).

On enabling low carbon technologies, the Act removes barriers to the reuse of existing capital assets for the purpose of carbon dioxide storage and transport where they are suitable; allows National Parks and Broads Authority to generate and sell renewable electricity within specific constraints; extends the Renewable Heat Incentive primary powers in the Energy Act 2008 to cover Northern Ireland enabling them to make their own regulations to incentivise renewable heat.

The Act Creates a new financing framework – "The Green Deal" – to enable the provision of fixed improvements to the energy efficiency of households and non-domestic properties, funded by a charge on energy bills that avoids the need for up-front costs.

It also includes provisions to ensure that, from April 2016, private residential landlords will be unable to refuse a tenants' reasonable request for consent to energy efficiency improvements, where a finance package, such as the Green Deal and/or Energy Company Obligation (ECO) is available. Provisions in the Act also provide for powers to ensure that, from 2018, it will be unlawful to rent out a residential or business premises that does not reach a minimum energy efficiency standard.

	The law also amends existing powers in the Gas Act 1986, Electricity Act 1989 and the Utilities Act 2000 to enable the Secretary of State to create a new Energy Company Obligation to take over from the existing obligations to reduce carbon emissions (the Carbon Emissions Reduction Target [CERT] and Community Energy Saving Programme [CESP]), which expires at the end of 2012, and to work alongside the Green Deal finance offer by targeting appropriate measures at those households which are likely to need additional support, including those on low incomes and hard to treat housing. In addition, the Act amends the smart meters powers in the Energy Act 2008 to allow Government to direct the approach to the rollout of Smart Meters until 2018 and to enable the Secretary of State to make changes to transmission licences to ensure the effective introduction of the new central data and communications arrangements to support all smart meters; amends the Energy Performance of Buildings Regulations 2007, to enable the removal of unnecessary restrictions on access to data; establishes powers for the Secretary of State to require energy companies to provide information on the cheapest tariff on energy bills.
Targets	None specified

Name of law	**Feed-in Tariffs for renewable electricity**							
Date of entry into force	1 April 2010 (the new Coalition government announced a review of this policy on 7 February 2011 with amendments coming into effect on 1 April and 1 August 2012)							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
	×	×	×	×	×	×	×	×
Driver for implementation	Renewable energy							
Summary of bill	The UK government offers feed-in tariffs (FITs) for small-scale low-carbon electricity produced from a variety of renewable energy technologies installed by householders, businesses and communities, even if the electricity is not fed back into the electricity grid but consumed on-site. Additional payment is provided for electricity fed into the grid. FITs vary according to technology, will last between 10 to 25 years and are adjusted for inflation. They apply to hydro, anaerobic digestion, wind and solar PV technologies under 5 MW, and a pilot scheme for micro Combined Heat and Power (CHP) has also been launched as part of the FIT. Generators with installations of 50kW or less must be installed and accredited by the Microgeneration Certification Scheme (MCS), an independent certification scheme which has support from the UK Department of Energy and Climate Change, industry and non-governmental groups. Installations with capacities greater than 50kW will need to contact Ofgem and seek accreditation through a similar process as exists under the Renewables Obligation (RO).							
Targets	None specified							

Name of law	**Carbon Reduction Commitment Energy Efficiency Scheme**							
Date of entry into force	April 2010							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
	×		×					×
Driver for implementation	Climate change							
Summary of bill	The CRC Energy Efficiency Scheme (formerly known as the Carbon Reduction Commitment) is the UK's mandatory climate change and energy saving scheme. The Scheme started in April 2010 and is aimed at improving energy efficiency and cutting emissions in large public and private sector organisations. These organisations are responsible for around 10% of the UK's emissions. Together with the financial and reputational considerations, the Scheme encourages organisations to develop energy management strategies that promote a better understanding of energy usage. The Scheme provides a financial incentive to reduce energy use by putting a price on carbon emissions from such use and also provides the opportunity for participants to make savings on energy bills through improved energy efficiency. In CRC, organisations buy allowances equal to their annual emissions. The overall emissions reductions achieved by the scheme will be determined by the emissions "cap" on the total allowances available to CRC participants. Within the overall limit, individual organisations can determine the most cost-effective way to reduce their emissions. This could be through buying extra allowances or investing in ways to decrease the number of allowances they need to buy. The scheme is administered by the Environment Agency. The Scheme features an annual performance league table that ranks participants on energy efficiency performance.							
Targets	None specified							

Name of law	**Energy Act 2010**							
Date of entry into force	Royal Assent 8 April 2010; entry into force 1 January 2011							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×					×	
Driver for implementation	Energy framework							
Summary of bill	It implements some of the key measures required to deliver DECC's low carbon agenda. The Act includes provisions on introducing a new CCS Incentive to support the construction of four commercial-scale CCS demonstration projects in the UK, and the retrofit of additional CCS capacity to these projects should it be required at a future point. Requiring the Government to prepare regular reports on the progress that has been made on the decarbonisation of electricity generation in Britain and the development and use of CCS.							
Targets	None specified							

Name of law	**Community Energy Saving Programme (CESP)**							
Date of entry into force	2009							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×					
Driver for implementation	Energy efficiency							
Summary of bill	CESP targets households across Great Britain, in areas of low income, to improve energy efficiency standards and reduce fuel bills. There are 4,500 areas eligible for CESP. CESP is funded by an obligation on energy suppliers and electricity generators. It is expected to deliver up to GBP 350m of efficiency measures. Around 100 schemes are expected, benefiting around 90,000 homes and saving nearly 2.9 million tonnes of CO_2 emissions. CESP promotes a "whole house" approach, i.e. a package of energy efficiency measures best suited to the individual property. CESP is expected to deliver annual average fuel bill savings for those households involved of up to GBP 300. The programme is delivered through the development of community-based partnerships between Local Authorities (LAs), community groups and energy companies, via a house-by-house, street-by-street approach.							
Targets	None specified							

Name of law	**Renewable Energy Strategy 2009**							
Date of entry into force	2009							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						
Driver for implementation	Renewable energy							
Summary of bill	The UK Renewable Energy Strategy 2009 is a White Paper outlining how the UK will meet its legally binding target to ensure 15% of energy comes from renewable energy sources by 2020. The government estimates that the Strategy will provide cumulative savings of 755 $MtCO_2$ between now and 2030, 535 $MtCO_2$ of which will help the UK meet EU Emissions Trading System (EU-ETS) caps, and 220 $MtCO_2$ will provide additional CO_2 reductions. Within the additional savings, 73 $MtCO_2$ will be saved over the third carbon budget period (2018–2022) and deliver about a sixth of the abatement needed to meet this third budget. The Strategy comprises three primary 2020 targets: over 30% of electricity to be generated from renewable energy sources, mostly from wind power, with biomass, hydro, wave and tidal power playing important roles; 12% of heat to be generated from renewable energy sources, from a large range of sources (biomass, biogas, solar, heat pumps); 10% of transport energy to come from renewable energy sources. Introducing payment schemes to support the production of renewable heat and small-scale clean electricity generation by households, industry, businesses and communities. New guaranteed payments will be provided through feed-in tariff schemes from 2010 onwards, and a Renewable Heat Incentive from 2011 onwards. Before the schemes take effect, GBP 45 million in grants have been committed. In addition, the Strategy sets out areas for action in four areas. The first aims to improve planning processes so that they are swifter and more strategic. The second outlines measures to strengthen the UK's renewable energy industry, including through greater investment and work with the financial sector. The third targets improvements and investments in the electricity grid, including improved grid access and more strategic investments (including in an offshore grid and a smarter grid). Finally, the government outlines commitments for sustainable bioenergy development and use. The Renewable Transport Fuel Obligation will be amended or replaced, taking into account sustainability issues, to ensure transport fuels contain a rising amount of renewable biofuels. The Strategy also creates an Office for Renewable Energy Deployment (ORED) within the Department of Energy & Climate Change (DECC) to take forward the commitments outlined in the Strategy.							
Targets	None specified							

Name of law	**Carbon Emissions Reduction Target (CERT)**							
Date of entry into force	2008, amended 2009 and 2010							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×					
Driver for implementation	Climate change							
Summary of bill	The Carbon Emissions Reduction Target (CERT) – which came into effect on 1 April 2008 – is an obligation on energy suppliers to achieve targets for promoting reductions in carbon emissions in the household sector. It is the principal driver of energy efficiency improvements in existing homes in Great Britain. The primary driver is to reduce carbon emissions and meet the target set up by the Climate Change Act. CERT will also help: reduce energy demand; enhance the UK's security of supply; reduce energy bills for those receiving measures; reduce fuel poverty; and, secure jobs in energy efficiency industries. The third supplier obligation phase was introduced in 2008. On 30 July 2010, CERT was extended from March 2011 to December 2012 with a new higher target and significantly refocused around supporting insulation. It marks a significant strengthening of efforts to reduce household carbon emissions – with a doubling of the level of activity of its predecessor Energy Efficiency Commitment (EEC). Energy suppliers are now required to deliver measures that will provide overall lifetime carbon dioxide savings of 293 $MtCO_2$ by December 2012, superseding the target of 185 $MtCO_2$ by March 2011. The Carbon Emissions Reduction Target (CERT) requires all domestic energy suppliers with a customer base in excess of 50,000 to make savings in the amount of CO_2 emitted by householders. Suppliers meet this target by promoting the uptake of low carbon energy solutions to household energy consumers, thereby assisting them to reduce the carbon footprint of their homes. At least two thirds of the increase in target (68%) must be delivered through professionally installed insulation measures. In combination with the exclusion of compact fluorescent lamps, this will refocus the scheme around supporting insulation measures that can help deliver deep and long-lived carbon and energy savings.							
Targets	None specified							

Name of law	**Low Carbon Transition Plan**							
Date of entry into force	2009							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
	×	×	×	×	×		×	
Driver for implementation	Climate change, energy security							

Summary of bill

The UK Low Carbon Transition Plan is a White Paper outlining how the British economy will be transformed to ensure the UK meets its emission reduction targets, secures its energy supplies for the future, maximises the economic opportunities for jobs, skills and investment as well as ensuring policies are fair to protect the most vulnerable in society. It sets out the Government's long-term strategy to radically cut the nation's carbon emissions by 2020 – 18% from 2008 levels (over 1/3 from 1990 levels) and meet its first three carbon budgets. The key steps set out in the Plan cover five sectors: power and heavy industry; transport; homes and communities workplaces and jobs; farming, land and waste.

The Plan aims to cut GHG emissions from power and heavy industry by 22% by 2020 from 2008 levels, and outlines how the UK will get 40% of its electricity from low carbon sources. This will be done in part through the European Union emissions trading system (EU-ETS), but also through complementary measures.

In the building sector (homes and communities), the Plan to 2020 will reduce emissions from homes by 29% from 2008 levels.

Emissions from workplaces will be reduced by 13% from 2008 levels by 2020 under the Plan, in part through inclusion of carbon-intensive industries in the EU-ETS, and various financial incentive and support schemes targeting businesses (Climate Change Levy, Climate Change Agreements, Carbon Reduction Commitment).

The government will also fund up to four demonstrations of carbon capture and storage from coal power plants, and facilitate the building of new nuclear power stations.

It also clarifies that climate change mitigation is part of the electricity regulator Ofgem's role.

In addition, the government will endorse plans for grid expansion, and develop a plan for delivering a smart grid.

In addition to the CERT, smart meters are to be rolled out in every home by 2020, and two financing schemes launched. The first will experiment with pay-as-you-save schemes, using savings on energy bills to pay for the upfront costs for energy efficiency improvements. The second is a cash-back scheme to pay individuals and businesses if they use low-carbon energy sources to generate heat or electricity. Vulnerable households will also be specifically targeted through an increase in the level of Warm Front grants, and a new community-based pilot approach to help deliver energy efficiency improvements to approximately 90,000 homes (the Community Energy Saving Programme).

Summary of bill	In the transport sector, the Plan will support a large-scale demonstration project for 340 electric vehicles, and in parallel reduce the cost of low-carbon vehicles by providing assistance of between GBP 2000–5000 per vehicle from 2011 onwards, and providing up to GBP 30 million to support the installation of electric vehicle charging stations in several cities. The government also commits to source 10% of transport fuels from sustainable renewable sources by 2020.
Targets	None specified

Name of law	**Energy Act 2008**							
Date of entry into force	2008							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×					
Driver for implementation	Energy framework							
Summary of bill	This Act implements the legislative aspects of the Energy White Paper 2007: "Meeting the energy challenge". The Energy Act updates energy legislation. The Act enables the introduction of Feed-in tariffs (FITs), meaning that the Government will offer financial support for low-carbon electricity generation in projects up to 5 MW. The aim is for generators to receive a guaranteed payment for generating low carbon electricity.							
Targets	None specified							

Name of law	**Low Carbon Transport Innovation Strategy**							
Date of entry into force	2007							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
	×		×		×		×	
Driver for implementation	Transport/research and development							
Summary of bill	The Low Carbon Transport Innovation Strategy (LCTIS), published in May 2007, sets out a wide range of actions that the UK is taking to encourage innovation and technology development in lower carbon transport technologies.							

	A key role for government will be to stimulate investment in a broad range of R&D activities. Essential to this will be the use of regulatory frameworks such as carbon pricing and energy efficiency, but also government funding aimed at accelerating the development and market penetration of new lower carbon technologies. To stimulate this shift towards low carbon transportation technologies, one major initiative is the Low Carbon Vehicles Innovation Platform (LCVIP), a GBP 100 million programme over 5 years supported by the Technology Strategy Board, the Engineering and Physical Sciences Research Council and Department for Transport, and funded through the Technology Strategy Board.
Targets	None specified

Name of law	**Climate Change and Sustainable Energy Act**							
Date of entry into force	2006							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×					×
Driver for implementation	Climate change/energy efficiency							
Summary of bill	On 21 June 2006, the UK government approved the Climate Change and Sustainable Energy Act. It contains several measures to monitor and promote energy efficiency. The legislation also establishes a scheme to promote national targets for micro-generation. Provides for a green certificate scheme for electricity from renewable sources (see Renewable Obligations). Provides for reporting on the energy efficiency of residential accommodation. The Act placed an obligation on Defra to report to parliament on GHG emissions in the UK and on action taken by the government to reduce these emissions. The first report was put to the UK parliament on 26 July 2007.							
Targets	None specified							

Name of law	**Climate Change Programme 2006**							
Date of entry into force	2006							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
	×	×	×		×			
Driver for implementation	Climate change							
Summary of bill	First published in 2000, the Government's UK Climate Change Programme outlined all of the UK policies and programmes in place to tackle climate change, including several measures on energy efficiency. A review launched in September 2004 resulted in the Climate Change Programme 2006, published in March 2006. The 2006 Programme includes a package of new and existing measures, which are projected to reduce carbon dioxide emissions to 15–18% below 1990 levels by 2010 and work towards the longer term goal to reduce carbon emissions by 60% by 2050, as set out in 2003's Energy White Paper. Energy Efficiency Measures include: • maintain a strong package of support, advice and information measures to help businesses improve their energy efficiency • continue to use the climate change levy and associated climate change agreements to encourage businesses to improve the efficiency with which they use energy • continue the significant improvements already made and update the Building Regulations in April 2006 to raise energy standards of new build and refurbished buildings • introduce the Code for Sustainable Homes On transport, the Programme will work strongly to achieve further commitments from vehicle manufacturers to improve fuel efficiency.							
Targets	None specified							

Name of law	**Code for Sustainable Homes**							
Date of entry into force	2006							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×					
Driver for implementation	Buildings/energy efficiency							
Summary of bill	Building on the recommendations of the Sustainable Buildings Task Group, the Code for Sustainable Homes has been developed to support a step change in the building of sustainable new homes. The Code provides a single national standard to guide industry in the design and construction of sustainable homes, considering energy among other aspects. Since April 2007 the developer of any new home in England can choose to be assessed against the Code. From 1 May 2008 it was mandatory for all new homes to be rated against the Code and to include a Code or nil-rated certificate within the Home Information Pack. Even though the requirement for the Home Information Pack for property sales was suspended with effect from 21 May 2010 by the incoming coalition government, an Energy Performance Certificate is still required. There are six levels of the Code, with mandatory minimum standards for energy efficiency at each level. For example, Code Level 1 represents a 10% improvement in energy efficiency over the 2006 Building Regulations. Code Level 6 would be a completely zero carbon home (heating, lighting, hot water and all appliances). Improvements in the energy efficiency of new homes of more than 25% compared to 2006 regulations (Level 3 of the code) would probably require some form of low or zero carbon energy generation, either by individual buildings (e.g. dedicated solar water heating) or by whole developments sharing a source of low carbon generation (e.g. wind turbines).							
Targets	None specified							

Name of law	**Energy Act**							
Date of entry into force	2004							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×					
Driver for implementation	Energy supply and climate change							
Summary of bill	This bill sets up the energy framework for the UK. Regarding climate change mitigation, the Act is important in providing the framework for the development of offshore wind and other marine renewable energy sources outside territorial waters. Such measures were expected to contribute to meeting the country's 10% renewable energy target by 2010.							

	The Offshore Production of the Energy part of the Energy Act 2004 puts in place a comprehensive legal framework for offshore renewable energy projects – wind, wave and tidal – beyond the UK's territorial waters. The Act establishes a Renewable Energy Zone (REZ), adjacent to the UK's territorial waters, within which renewable energy installations can be established. The Act enables the Crown Estate to award licences for wind farm sites in the REZ on much the same basis as it currently leases sites within territorial waters. The Act implemented a range of commitments made in the 2003 Energy White Paper, including those relating to energy efficiency, such as raising building and product standards, and creating an Energy Efficiency Action Plan for the UK.
Targets	None specified

Name of law	**Renewables Obligation**							
Date of entry into force	2002							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						
Driver for implementation	Renewable energy							
Summary of bill	The Renewables Obligation (RO) is the current main mechanism for supporting large-scale generation of renewable electricity. Since its introduction, the RO has been subject to various reforms and improvements. It is a market-based mechanism, designed to provide a substantial incentive for all eligible forms of renewable electricity. The RO works by placing an obligation on licensed electricity suppliers to source a specified and annually increasing proportion of their electricity sales from renewable sources, or pay a penalty. The obligation for 2009/10 is 9.7%, rising to 15.4% by 2015/6. Previously, one Renewable Obligation Certificate (ROC) was issued for each megawatt hour (MWh) of eligible generation, regardless of technology. As of 1 April 2009, the reforms introduced mean that new generators joining the RO now receive different numbers of ROCs, depending on their costs and potential for large-scale deployment. New projects in more expensive technologies like offshore wind now receive more support and those that are more economic, like landfill gas, receive less. Generators can sell their ROCs to electricity supply companies who use them to demonstrate compliance with the Obligation. This enables generators to receive a premium on top of the sale of the electricity.							

	In April 2010, further changes included the RO being extended from its current end date of 2027 to 2037 for new projects, in order to provide greater long-term certainty for investors, and an increase in support for offshore wind projects meeting certain criteria. The Office of Gas and Electricity Markets (Ofgem) is responsible for monitoring and enforcing compliance with the RO. Their functions include accrediting renewable generators and the issuing of ROCs.
Targets	None specified

Name of law	**Preferential Tax Regimes for Biofuels**							
Date of entry into force	2002							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
					×			
Driver for implementation	Biofuel							
Summary of bill	A reduced excise duty rate was introduced for biodiesel in July 2002 and bio-ethanol in 2005, set at GBP 0.20 lower than the rate applicable to diesel and unleaded petrol. Producers of bio-blend and bio-ethanol blend also benefit from the reduced rate of excise duty, as the proportion of biodiesel or bio-ethanol in the blend bears the lower rate of excise duty.							
Targets	None specified							

Name of law	**Bio-energy Capital Grants Scheme**							
Date of entry into force	2002							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×						
Driver for implementation	Biofuel/carbon reduction							
Summary of bill	The Bio-energy Capital Grants Scheme supports biomass-fuelled heat, and combined heat and power projects in the industrial, commercial and community sectors in England. Six rounds of funding have been provided since the Scheme was launched in 2002. Earlier rounds focused support on large-scale biomass power stations. The emphasis in later rounds has been to support small- and medium-sized projects.							

The Bio-energy Capital Grants Scheme promotes the efficient use of biomass for energy, and in particular the use of energy crops by stimulating the early deployment of biomass-fuelled heat and electricity generation projects. It awards capital grants towards the cost of installing equipment in complete biomass-fuelled projects in the industrial, commercial and community sectors.

The main policy aims of the Scheme are to:

- Deliver capacity on the ground to create an initial market for biomass fuel, installation equipment and services
- To stimulate the UK renewables industry
- Provide learning benefits that will accelerate the industry and achieve more efficient and cost effective use of biomass for heat and electricity

Targets	None specified

Name of law	**Company Car Tax Reform**							
Date of entry into force	2002							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×		×			
Driver for implementation	Transport/energy efficiency							
Summary of bill	In April 2002, the UK Company Car Tax system was revised to be carbon-based. All company cars first registered after January 1998 are taxed on a percentage of their list price according to one of 21 carbon dioxide emission bands, measured in grams per kilometre (g/km). The reform was intended to remove the perverse incentive in the existing system to reduce the tax due by driving unnecessary extra business miles and to provide a significant incentive to company cars drivers to choose more fuel-efficient vehicles. To further promote environmentally friendly vehicles, Budget 2006 announced that the threshold for the minimum percentage charge rate for calculating the company car tax benefit in kind would be reduced from 140g CO_2/km to 135g CO_2/km in 2008–2009. A new rate of 10% for cars of 120g CO_2 and below was introduced from 2008–2009.							
Targets	None specified							

Name of law	**Energy Efficiency Commitment (2002–2005)**							
Date of entry into force	2002 (ended, replaced by CERT)							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×					
Driver for implementation	Energy efficiency							
Summary of bill	The Energy Efficiency Commitment (EEC) is a major policy to encourage consumers to make domestic energy efficient improvements. This includes measures such as insulation, energy efficient boilers, appliances and light bulbs. It places an obligation on the suppliers of gas and electricity to promote improvements in energy efficiency through measures provided to domestic consumers. There is a focus on low-income consumers. In 2005, the new EEC included in the UK's Revised Climate Change Programme superseded the original EEC Standards of Performance. This EEC was slated to run until 2008. The overall target for EEC 2002–2005 improvements in energy efficiency was 62 fuel-standard terawatt (TWh) hours and was expected to save around 0.4 MtC per year by 2005. Together with other policies on household energy efficiency, the estimate of total savings is 2.6–3.7 MtC by 2010 and 4.5 MtC by 2020.							
Targets	None specified							

Name of law	**Climate Change Agreements**							
Date of entry into force	2001							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
	×	×	×	×	×	×	×	×
Driver for implementation	Climate change							
Summary of bill	Climate Change Agreements (CCAs) allow energy intensive business users to receive an 80% discount from the Climate Change Levy, in return for meeting energy efficiency or carbon saving targets. The first agreements took effect on 1 April 2001 and were to run until 31 March 2013. In 2004, the eligibility criteria for the UK's Climate Change Agreements (CCAs) were extended to cover other energy intensive sectors of industry not originally included within the arrangements for CCAs. Those sectors already eligible for CCAs were unaffected by the changes.							

	It was announced in PBR 2007 that the Climate Change Agreement scheme would be extended by 4 years to 2017, subject to state aid approval. This is to provide industry with greater certainty for the medium term, and enable CCAs to continue to contribute significantly to the UK's Climate Change Programme. CCAs have delivered substantial carbon savings. At the end of the third target period, in 2006, operators reduced their emissions by 4.5MtC when compared to the CCA base year. For the same period, it is estimated that businesses achieved energy savings worth around GBP 1,500 million against baselines.
Targets	None specified

Name of law	**Climate Change Levy**							
Date of entry into force	2001							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×					
Driver for implementation	Climate change							
Summary of bill	The Levy applies to electricity, gas, solid fuel and liquefied gases used for lighting, heating and power in the business and public sectors. The Levy was designed to be broadly revenue neutral in concept: at the time of introduction it formed part of a "Levy Package" where the revenue collected is recycled back to business through a 0.3% reduction in National Insurance Contributions and also a system of enhanced capital allowances for investments in energy saving technologies. Electricity produced from qualifying renewable sources and energy used and generated in approved combined heat and power schemes are exempt from the levy. There is also a reduced (20%) rate for energy-intensive businesses that enter into voluntary agreements to reduce their energy use and/or emissions.							
Targets	None specified							

4.32 United States

4.32.1 Fact Box

Greenhouse Gas emissions incl. LULUCF ($MtCO_2e$) excl. LULUCF ($MtCO_2e$) Change from base year (1990)	 5747 6802 641
Latest reporting year	2010
Importance as an emitter	Top 5
UNFCCC ratification status and date	Date of signature: 12 June 1992 Date of ratification: 15 October 1992 Date of entry into force: 21 March 1994
Kyoto Protocol ratification status and date	Date of signature: 12 November 1998 Not ratified
2020 pledge	In the range of 17% from 2005, in conformity with anticipated US energy and climate legislation
Flagship legislation	**Clean Air Act**

4.32.2 Legislative Process

The United States has a bicameral legislature or Congress composed of the Senate and the House of Representatives. Bills may be introduced by a member of either chamber. The first stage in the approval of a bill involves consideration by a Committee. If reported by the Committee, the bill reaches the floor of the full House. Once a bill is approved by one House, it is sent to the other, which may pass, reject or amend it. In order for a proposed bill to become law, both Houses must agree on identical versions of the bill and the President must sign. If the President vetoes a bill, the veto can be overturned if a two-thirds majority of both chambers vote to do so.

4.32.3 Approach to Climate Change

The United States' GHG emission reduction targets are relatively modest when compared with other advanced economies, as they amount to less than a 5% reduction by 2020 below 1990 levels. The country's current UNFCCC commitment of reducing emissions by 17% by 2020 in relation to 2005 levels is accompanied by the observation that the final target will be reported to the UNFCCC Secretariat in light of enacted legislation.

Although the passing of energy and climate change bills through Congress amounts to a time-consuming and complex process, US legislation tends to be rather comprehensive precise and with clear financial commitments and monitoring mechanisms. Additionally, US Members of Congress have been particularly active when it comes to proposing legislation on renewable energy and energy efficiency. The Senate Committee on Energy and Natural Resources saw over 30 bill proposals relevant to tackling climate change introduced for its consideration in 2009–2010. These proposals have tended to convey a preoccupation with securing American leadership in renewable energy and energy efficiency technologies, as well as with guaranteeing that climate provisions do not affect trade competitiveness vis-à-vis emerging markets, most notably China and India.

However, although there were a number of attempts to pass a comprehensive climate change bill in the 111th Congress – the most significant of which was the American Clean Energy and Security Bill (ACES) referred to as the "Waxman-Markey Bill", which passed the House of Representatives in June 2009 but was rejected by the Senate – all attempts have failed.

After the failure of the ACES Bill to secure Senate support, the Senate drafted several bills of its own. However, all of these also failed to generate enough support and never reached the Senate floor for a vote. As a result, Senate Majority Leader Harry Reid (Democrat) proposed a limited Energy Bill with a focus on the Gulf of Mexico oil spill, the promotion of natural gas vehicles, home energy renovations and financing for the Land and Water Conservation Fund. Even this attempt failed to generate support and, following the mid-term elections in November 2010 and the beginning of the 112th Congress, all of the draft bills expired and along with the ACES Bill, which was passed by the House of Representatives, were deleted from the statute books.

Although the Obama Administration and Environment Protection Agency (EPA) spokespersons have consistently said that they would prefer that Congress pass legislation to address climate change, the difficulties in securing support for comprehensive climate change legislation have meant that the regulatory approach has assumed greater importance. The EPA has therefore begun to develop regulations using its existing authority under the Clean Air Act.

On 15 December 2009, the agency finalised an "endangerment finding" under Section 202 of the Clean Air Act, which requires it to regulate pollutants for their effect as GHGs for the first time. Relying on this finding, EPA finalised GHG emission standards for cars and light trucks on 1 April 2010. The implementation of these standards, in turn, triggered permitting requirements and the imposition of Best Available Control Technology for new major stationary sources of GHGs as of 2 January 2011. In addition, on 13 May 2010 the EPA issued the final version of the "tailoring" rule for GHG emissions. The rule stated that, starting in January 2011, new or modified sources that were already subject to New Source Review requirements for other pollutants would be required also to meet these requirements for GHGs if they increased emissions by more than 75,000 tonnes of CO_2e annually. Then, on 1 July 2011, the requirements would apply to new sources that emit at least 100,000 tonnes of CO_2e annually and to major modifications of existing sources emitting 75,000 tonnes of CO_2e annually, even if they do not meet the threshold new source review requirements for other pollutants. In July 2012 the requirements began applying "Title V" operating permit requirements to existing sources not previously covered by "Title V" if they emit 100,000 tonnes of CO_2e annually. In March 2012 the EPA released a draft ruling limiting carbon pollution from new power plants. It held two public hearings on the proposed rule and almost 3 million comments were sent to the agency in favour of reducing carbon pollution from both new and existing power plants – a record for an EPA rule proposal. As of November 2012 the agency is finalising the rule.

The beginning of work to regulate GHG emissions under the Clean Air Act has raised some opposition in Congress: legislation was introduced in both the House of Representatives and the Senate in the 111th Congress—but not enacted—aimed at preventing the EPA from implementing these requirements, and similar legislation was introduced in the 112th, including the Energy Tax Prevention Act (H.R.910), Senator John Rockefeller's 2-year delay of EPA GHG regulations (S.231). The bills have taken several forms, including resolutions of disapproval for EPA regulatory actions under the Congressional Review Act, stand-alone legislation that would forestall specific EPA regulations and restrictions on the EPA's spending authority. However, the President made clear that he would veto any proposals that contained a prohibition on EPA action on GHGs and, given that the Senate rejected several amendments to legislation restricting the EPA's ability to regulate GHGs, the EPA's ability to regulate GHGs was not affected in the 112th Congress.

The early part of the 112th Congress was dominated by negotiations on federal spending. After wrangling that saw the US on the brink of default, agreement was reached to cut US$40 billion from federal spending. Although the EPA's authority to regulate GHGs was unscathed, funding for NOASS's Climate Service and the position of Assistant to President for Energy and Climate Change were eliminated and commitments to international climate finance were greatly reduced.

It was notable that in the 2012 campaign for the White House, which culminated in the re-election of Barack Obama for a second term in November, climate change was absent as an issue in the debate. It remains to be seen whether the Obama Administration will prioritise legislative action on climate change in its second term.

One of the first legislative acts in the Obama Administration's second term was on 27 November 2012 when President Barack Obama signed into law the "European Union Emissions Trading Scheme Prohibition Act". This law authorises the US secretary of transportation to bar US airlines from taking part in the EU's ETS. Shortly before, on 12 November, EU Climate Action Commissioner Connie Hedegaard announced her plan to suspend for a year application of the ETS to flights leaving and entering the EU in order to allow more time to broker a comprehensive international agreement through the International Civil Aviation Organisation (ICAO) to tackle emissions from aviation. Until the suspension, the European Commission had been due, in April 2013, to start collecting fees from airlines that overshot their allowances.

The law says that the US administration shall prohibit US carriers from taking part in the ETS if the transportation secretary determines this is in the "public interest". In making that determination, the secretary must take into account the impact prohibition would have on US carriers, consumers, the economy, environment, energy security and foreign relations. The secretary is also required to review any prohibition if the EU amends its ETS Directive, if there is a global agreement on aviation emissions or if the US adopts its own rules in this area. As for EU fines that carriers may face for non-compliance, the law stipulates that US airlines be "held harmless" from the ETS.

Finally, it is important to note that, although this project covers federal legislation only, there is a myriad of policies and legislation on climate change at the state level. For example, California is a leading state in this area with the *Global Warming Solutions Act (AB32)*, the *Pavley Law* and its stringent air quality targets for motor vehicles, and the *California Environmental Quality Act* with its GHG emissions provisions. California's "cap-and-trade" scheme came into effect on 1 January 2012 with an enforceable compliance obligation beginning in 2013 and aims to help deliver California's State-level target of reducing GHG emissions to 1990 levels by 2020 and to 80% below 1990 levels by 2050. The development of state-level climate legislation was particularly acute during the Bush presidency, corresponding with a relative lack of federal action.[1]

Renewable energy and energy efficiency

Efforts to include climate related measures in the American legislative process are by no means limited to climate change legislation. Measures related to renewable energy and energy efficiency are at the core of the US legislative response to climate change. They mostly include financial incentives and tax breaks for the development of clean energy technology and promotion of behavioural change among businesses and consumers.

In addition, there seems to be an underlying engagement with making a transition to a low carbon economy mirrored in different kinds of legislation that may not be directly concerned with climate related issues. For example, the US stimulus

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1 Gerrard, M.B., 2009. Comment on developing a comprehensive approach to climate change mitigation policy in the United States: Integrating levels of government and economic sectors. Environmental Law and Policy Annual Review, August 2009. [URL: http://www.law.columbia.edu/null/download?&exclusive=filemgr.download&file_id=162333].

package, known as the *American Recovery and Reinvestment Act 2009*, allocates a US$94 billion to renewable energy technologies, energy efficiency, low carbon vehicles, smart grids and mass transit. This trend is also observed in other legislation, namely, the energy provisions in the *Duncan Hunter National Defense Authorisation Act for Fiscal Year 2009* and the renewable energy provisions in the 2008 *Farm Bill*.

Furthermore, the US is continuously revising energy efficiency and renewable energy legislation. For instance, the *American Recovery and Reinvestment Act 2009* supersedes the tax provisions of the *Energy Improvement and Extension Act 2008*; the *Energy Storage and Technology Advancement Act 2007* partially supersedes the *Energy Policy Act 2005*; and *Executive Order (E.O.) 13514, 2009: Federal Leadership in Environmental, Energy, and Economic Performance* supersedes *E.O.13423, 2007: Strengthening Federal Environmental, Energy, and Transportation Management*.

In his 2011 State of the Union address and his *Blueprint for a Secure Energy Future*, President Obama proposed the adoption of a clean energy standard. Specifically, he called for 80% of American energy to come from clean sources by 2035. In the Senate, Energy and Natural Resources Committee Chair, Senator Jeff Bingaman, and Ranking Member Senator, Lisa Murkowski, announced a thorough study of the policy components of a standard and, on 1 March 2012, introduced a draft Bill – the CES Act of 2012. If passed, the bill would require electric utilities in the contiguous United States that sell at least two million MWh of energy to obtain at least 24% of their electricity from clean energy by 2015, with the minimum requirement increasing by three percentage points each year until it reaches 84% in 2035. The Bill is unlikely to pass in the 112th Congress but could be important in terms of setting the tone of the legislative response to climate change in the 113th Congress that begins on 3 January 2013.

United States: Flagship Legislation

Although the US does not have a comprehensive climate change law, on 15 December 2009, the Environment Protection Agency finalised an "endangerment finding" under Section 202 of the Clean Air Act, which requires it to regulate pollutants for their effect as GHGs for the first time. This means that the Clean Air Act is the legal basis for the EPA's regulation of GHGs.

Name of law	**Clean Air Act**							
Date of entry into force	17 December 1963							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×			×			×
Driver for implementation	Air pollution							
Summary of bill	The Clean Air Act is a federal law designed to control air pollution on a national level. It requires the Environmental Protection Agency (EPA) to develop and enforce regulations to protect the general public from exposure to airborne contaminants that are known to be hazardous to human health. The "endangerment finding" of 2009 means the EPA is required to take steps to substances according their GHG effect. Congress passed the first Clean Air Act in 1963, creating a research and regulatory program in the U.S. Public Health Service. The Act authorised development of emission standards for stationary sources. In the Clean Air Act Extension of 1970, Congress greatly expanded the federal mandate by requiring comprehensive federal and state regulations for both industrial and mobile sources. The law established four new regulatory programs: • National Ambient Air Quality Standards (NAAQS) – EPA was required to promulgate national standards for six criteria pollutants: carbon monoxide, nitrogen dioxide, sulphur dioxide, particulate matter, hydrocarbons and photochemical oxidants (some of the criteria pollutants were revised in subsequent legislation) • State Implementation Plans (SIPs) • New Source Performance Standards (NSPS) • National Emissions Standards for Hazardous Air Pollutants (NESHAPs)							

	The EPA was also created under the National Environmental Policy Act about the same time as these additions were passed, which was important to help implement the programs listed above. Since then, the Clean Air Act has been amended (in 1977 and 1990) to strengthen its effect, including adding regulations relating to acid deposition (to tackle acid rain) and stratospheric ozone protection. The 2009 "endangerment finding" means that the EPA must take steps to regulate substances for their effect as GHGs. The EPA began regulating GHGs from mobile and stationary sources of air pollution under the Clean Air Act for the first time on 2 January 2011. Standards for mobile sources have been established pursuant to Section 202 of the CAA, and GHGs from stationary sources are controlled under the authority of Part C of Title I of the Act. Further regulations to manage GHGs are being pursued (see covering text of US chapter).
Targets	There are no specific targets relating to GHGs. From a climate change perspective it is worth noting that about 54% of the US's GHG emissions are manageable under the Clean Air Act, including electricity generation, industry and large (non-agricultural) methane sources. All others are regulated independently, if at all.

United States: Other Relevant Legislation

Name of law	**American Recovery and Reinvestment Act**							
Date of entry into force	17 February 2009							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×		×		×	
Driver for implementation	Economic stimulus, climate change, renewable energy and energy efficiency							
Summary of bill	The Bill authorises a stimulus package that supports new and existing renewable energy and energy efficiency programmes. The bill supersedes the tax provisions of the *Energy Improvement and Extension Act 2008* as well as part of the *Emergency Economic Stabilisation Act 2008*. The Bill allocated US$16.8 billion to energy efficiency and renewable energy programmes. It foresaw the extension of credit for electricity produced from renewable sources. The limitation on the issuance of new clean renewable energy bonds was increased by US$1.6 billion. On completing the 2009 "National Electric Transmission Congestion Study", the Secretary of Energy shall include an analysis of renewable energy sources constrained by lack of adequate transmission capacity. The bill amends the *Energy Policy Act of 2005* to create the "Temporary Programme for Rapid Deployment of Renewable Energy and Electric Power Transmission Projects" that includes incremental hydropower and cutting edge biofuel projects. No limitation shall be placed on funding for the purchase and installation of energy efficiency and renewable energy equipment and materials.							

Under the Bill, US$2.7 billion was destined to the Department of Energy's "Energy Efficiency and Conservation Block Grant Program", created without funding by the *Energy Independence and Security Act 2007*, to finance energy efficiency and conservation projects and programmes through the concession of grants to states, territories, local governments and Native American tribes. An additional US$1 billion was allocated to state energy offices to support weatherisation of low-income homes. US$2 billion in grants was made available to US-based advanced battery manufacturing facilities.

US$400 million was allocated to state and local grant programs supporting advanced vehicles, and over US$80 billion was destined for clean energy research, development and deployment, US$50 billion of which was to be granted for direct appropriation and US$30 billion in the form of tax-based incentives. US$277 million was granted to Energy Frontier Research Centers to develop cost-effective alternative energy technologies and US$6 billion was allocated to the "Innovative Technologies Loan Guarantee Program", established by the *Energy Policy Act*, to accelerate the deployment of commercial clean energy technologies. US$2.5 billion was given for discretionary clean energy research and development managed by the Department of Energy's (DOE), including US$800 million for next generation biofuels and US$400 million for geothermal technologies, and support for several research projects. Grants over US$110 million were given to the US National Renewable Energy Laboratory for advancing wind energy technologies, building new energy efficient facilities and upgrading the Laboratory's Integrated Bio-refinery Research Facility.

The Bill also allocated US$500 million to a grant programme supporting clean energy workforce training managed by the Department of Labor and US$100 million to support more workforce training that is managed by the DOE Office of Electricity Delivery and Energy Reliability.

The Department of Energy's (DOE) Office of Energy Efficiency and Renewable Energy will monitor performance in accordance with Risk Mitigation Plans (RMPs). For large grant programs such as the Energy Efficiency and Conservation Block Grant (EECBG), weatherisation assistance and State Energy Programs (SEP), the DOE will provide assistance to national labs to help measure and verify results. Grant recipients must submit a plan of how they will use funds within 18 months and disburse funds within 36 months. The DOE will perform in-site monitoring annually in each state.

Targets	There are no specific climate-related targets in this law

Name of law	**Executive Order 13514: Federal Leadership in Environmental, Energy, and Economic Performance**							
Date of entry into force	5 October 2009							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
			×		×	×		×

Driver for implementation	Climate change, energy efficiency
Summary of bill	The E.O. aims to make GHG emission management a priority for federal agencies, thus establishing reporting requirements with detailed targets and deadlines. The focus is on transportation, overall energy use and procurement policies. All federal agencies are required to develop, implement and annually update a Strategic Sustainability Performance Plan that prioritises agency actions based on life-cycle return on investment. Section 16 also directs agencies to work on climate change adaptation. Supersedes *E.O.13423: Strengthening Federal Environmental, Energy, and Transportation Management.* The Executive Order requires all Federal agencies to: • Improve electronic product/service efficiency and stewardship as well as to follow pollution prevention and waste reduction requirements • Improve fleet and transportation management • Enhance efforts towards sustainable buildings and communities Section 16 directs government agencies to work on climate change adaptation, including: • The appointment of an Adaptation Specialist • Establishment of an Agency-wide Climate Change Adaptation Policy and Mandate by June 2011 • Participation in Climate Change Adaptation workshops and education of all employees throughout 2011 • Identification and analysis of climate vulnerabilities that would interfere with the Agency's mission (by March 2012) • Implementation of the Adaptation Plan by September 2012 Each federal agency must report a percentage GHG emissions reduction target for 2020 relative to a 2008 baseline to the White House's Council of Environment Quality (CEQ) Chair and Office of Management and Budget (OMB) Director. Additionally, each agency must produce an inventory of absolute GHG emissions on transportation, energy use and procurement for the fiscal year 2010 and then annually thereafter.
Targets	None specified

Name of law	**Duncan Hunter National Defense Authorisation Act for Fiscal Year 2009 – Energy Provisions**							
Date of entry into force	15 October 2008							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×				×	
Driver for implementation	Renewable energy, energy efficiency							
Summary of bill	Authorises defence spending for fiscal year 2009 and includes several provisions aimed at energy efficiency, renewable energy and use of alternative sources of energy in the armed forces. Section 333 of the bill requires the Department of Defense (DoD) to consider the use of wind and solar energy for expeditionary forces to reduce the need to deliver fuel to battle areas, where electricity is typically produced by engine-driven generators. A report examining the feasibility of solar and wind energy must be submitted 120 days following enactment. Section 334 requires the DoD to conduct a study on the use of alternatives to reduce the life-cycle emissions of alternative and synthetic fuels (including coal-to-liquid fuels).							
Targets	None specified							

Name of law	**Food, Conservation, and Energy Act of 2008 (2008 Farm Bill) – Title IX-Renewable Energy Provisions**							
Date of entry into force	18 June 2008							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×	×			×	
Driver for implementation	Renewable energy							
Summary of bill	Title IX includes provisions on agricultural subsidies, energy, conservation, nutrition and development. Expands the Biorefinery Assistance Programme by providing loan guarantees (2008–2010) of US$320 million for the creation of commercial-scale biorefineries as well as grants to build demonstration-scale biorefineries. Allocates US$55 million to support renewable biomass use in biorefineries instead of fossil fuels. Creates the Rural Energy for America Programme (REAP), which is worth US$285 million, and promotes the use of hydroelectric source technologies. Creates the Biomass Crop Assistance Programme to support crop conversion to bioenergy. Expands the Biobased Market Programme by allocating US$11 million to a federal procurement programme and a voluntary labelling program. Allocates US$345 million to the Bioenergy Programme for Advanced Fuels to support the production of advanced biofuels. Expands the Feedstock Flexibility Programme for Bioenergy Producers by subsidising the use of sugar for ethanol production through federal purchases of surplus sugar.							

	Authorises the Forest Service to conduct a comprehensive research and development programme on forest biomass for energy generation. Allocates US$258 million to the Biomass Research and Development Initiative to provide competitive grants, contracts and financial assistance to eligible entities to carry out research and development and demonstration of biofuels and biobased products. Provides US$1 million per year (2008–2012) to the Biodiesel Fuel Education Programme for the allocation of competitive grants to educate public and private actors operating vehicle fleets as well as the public at large about the benefits of biodiesel fuel use.
Targets	None specified

Name of law	**Energy Independence and Security Act of 2007**							
Date of entry into force	19 December 2007							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×		×		×	
Driver for implementation	Climate change, renewable energy, energy efficiency, energy security							
Summary of bill	Introduces measures to expand the production of renewable fuels, reduce US dependence on oil, increase energy security and address climate change. Sets a mandatory Renewable Fuel Standard (RFS) that requires fuel producers to use at least 36 billion gallons of biofuel by 2022, and provides incentives for the development of renewable energy technologies (solar, wind, geothermal, ocean, biomass or landfill gas). Includes provisions on lighting: phasing out the use of incandescent light bulbs by 2014, improving lighting efficiency by more than 70% by 2020, setting an energy efficient standard and promoting consumer education and lamp labelling. Also includes provisions for energy efficiency in appliances, buildings (i.e. ensuring that all new federal buildings are carbon neutral by 2030) and transport. Further establishes provisions for funding of research on carbon capture and storage and hydrogen technologies. Includes the first increase in fuel economy standards in 30 years. Automakers are required to boost fleet-wide fuel economy to 35 miles per gallon (14.8 km per litre) by 2020. This was superseded by an agreement brokered by the President to settle automakers' court cases against the State of California. The agreement established a standard of 35.5 miles per gallon by 2016.							

	Creates the Renewable Energy Innovation Manufacturing Partnership Programme to support research and development and deployment of renewable energy technologies (solar, wind, biomass, geothermal, energy storage and fuel cell systems). Requires all lighting in federal buildings to use Energy Star products or products designated under the Federal Energy Management Programme (FEMP) by the end of 2013; requires all Federal agencies to purchase devices that limit standby power use; requires the Department of Housing and Urban Development (HUD) to update energy efficiency standards for all public and assisted housing by applying the International Energy Conservation Code.
Targets	None specified

Name of law	**Executive Order 13423: Strengthening Federal Environmental, Energy, and Transportation Management**							
Date of entry into force	26 January 2007							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×		×			
Driver for implementation	Climate change, renewable energy, energy security							
Summary of bill	Demands federal agencies to conduct their transportation and energy-related activities in an environmentally, economically and fiscally sound and integrated way. Sets more demanding targets than the *Energy Policy Act 2005* and supersedes *E.O. 13123* and *E.O. 13149*. Promotes renewable energy generation projects in federal agencies and determines that each agency should ensure that half of the statutorily required renewable energy consumed in a fiscal year comes from new renewable sources. Determines that each federal agency should reduce energy intensity by 3% annually until the end of fiscal year 2015 or 30% by the end of fiscal year 2015, relative to energy use in 2003. Determines that if an agency operates a fleet of at least 20 motor vehicles it must ensure a 10% annual increase in total fuel consumption that is non-petroleum based relative to 2005. Each agency must equally ensure the use of plug-in hybrid (PIH) vehicles when these are commercially available at a reasonably comparable life-cycle cost to non-PIH vehicles. Requires each federal agency to: • improve energy efficiency and reduce GHG emissions • procure energy from new renewable sources • adhere to sustainable environmental practices (i.e. acquisition of biobased, environmentally preferable, energy-efficient, water-efficient and recycled-content products) • reduce the fleet's total consumption of petroleum products							
Targets	None specified							

Name of law	**Energy Policy Act 2005 (Energy Bill)**							
Date of entry into force	8 August 2005							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×		×		×	
Driver for implementation	Climate change, renewable energy, energy efficiency, air pollution							
Summary of bill	A statute that provides tax incentives and loan guarantees for energy production of various types. Supersedes the *National Energy Plan* and is partially superseded by the *Energy Independence and Security Act 2007*. Provides US$4.3 billion tax breaks for nuclear power; US$2.7 billion to extend the renewable electricity production credit; and US$1.6 billion in tax incentives for investment in clean coal facilities. Grants loan guarantees for innovative technologies such as advanced nuclear reactors and clean coal. Provides subsidies to wind energy, promotes the competitiveness of geothermal energy vis-à-vis fossil fuels and allocates US$50 million annually to a biomass grant programme. Includes ocean energy sources as separate renewable technologies. Provides tax credits for electricity generation from wind, closed-loop biomass, open-loop biomass, geothermal energy, solar energy, small irrigation power, municipal solid waste and refined coal. Regulates renewable energy development in the Outer Continental Shelf (OCS). Provides US$1.3 billion tax breaks for conservation and energy efficiency. Provides US$1.3 billion tax breaks for alternative motor vehicles and fuels (ethanol, methane, liquefied natural gas, propane). Provides up to US$3400 tax credit for hybrid vehicle owners. Requires Federal facilities to draw part of their energy from renewable sources. Provides tax breaks for those making energy conservation improvements to their homes. Requires that Federal Fleet vehicles capable of operating on alternative fuels use these fuels exclusively.							
Targets	None specified							

4.33 Vietnam

4.33.1 Fact Box

Greenhouse Gas emissions incl. LULUCF ($MtCO_2e$) excl. LULUCF ($MtCO_2e$) Change from base year (1990)	 151 136 NA
Latest reporting year	2000
Importance as an emitter	Below top 20
UNFCCC ratification status and date	Date of signature: 11 June 1992 Date of ratification: 16 November 1994 Date of entry into force: 14 February 1995
Kyoto Protocol ratification status and date	Date of signature: 3 December 1998 Date of ratification: 25 September 2002 Date of entry into force: 16 February 2005
2020 pledge	No pledge made
Flagship legislation	**The National Climate Change Strategy**

4.33.2 Legislative Process

Vietnam is a highly centralised state, whose constitution provides the fundamental and highest law. The majority of power resides at this central level with all laws and policies issued by the National Assembly and the Government. The former produces framework legislation, while the latter provides guidance on the implementation of legislation.

The National Assembly is a unicameral body which is elected for a 5-year term, and which in turn elects a President as Head of State, and a Prime Minister as Head of Government. This is Vietnam's legislative body, and the highest level representative body of the Vietnamese people. It has the responsibility of implementing state plans. The Communist Party of Vietnam has great influence over the executive and exercises control through the Central Committee. Members of the party hold all senior government positions.

4.33.3 Approach to Climate Change

Vietnam has the highest population density in Southeast Asia (excluding Singapore) with a national average of 232 people/km^2 and up to 1,000 people/km^2 in the Northern Delta. Since the country lies in the tropical cyclone belt, it is already vulnerable to hazards, suffering from floods, droughts, saltwater intrusion and landslides. Vietnam's National Climate Change Strategy states that between 2001 and 2010, damage caused by such disasters has led to 9,500 dead and missing people and the loss of about 1.5% of GDP each year.

Moreover the areas which are projected to suffer increased frequency and intensity of these events are largely those with already high levels of poverty. This led to the country being recognised at the 13th Conference of Parties to the United National Framework Convention on Climate Change in Bali (UNFCCC COP 13) as being one of the five countries likely to be most affected by climate change. Climate Change is therefore of great importance to the government whose DoiMoi socialist market economic goals and policies focus on poverty relief and economic development of rural areas as central objectives. Because of this, Vietnam's response is largely focussed on adaptation to climate change, and indeed the National Strategy on Climate Change states that adaptation is the priority in the initial phases of the plan. Mitigation actions seem to be those which are "no regret" in that they provide win-win solutions, such as REDD+ activities in areas suffering from erosion and landslides due to deforestation and land use change.

Indeed, even the National Strategy for Climate Change states that "to become a modern industrialised country by 2020, Vietnam will need to accelerate its production and consumption activities, especially in industry, transportation, and urban development, which may result in higher emissions of greenhouse gases".

Vietnam ratified the United Nations Framework Convention on Climate Change (UNFCCC) in 1992 and 1994, the Kyoto Protocol in 1998 and 2002 and the Hyogo Framework for Action (2005). It also ratified the Association of Southeast Asian Nations (ASEAN) Agreement on Disaster Management and Emergency Response (AADMER) in 2009. Vietnam's recognition of the importance of climate change is demonstrated not only by engagement with international processes: there has been a large strategic domestic response. This centres around the development of a series of national strategies and acts relating to natural disasters and climate change, supported largely by Decrees from the Prime Minister which enact and promulgate various aspects of the strategies. The strategies include the National Strategy on Climate Change; The National Action Plan on Climate Change; The National Strategy for Natural Disaster Prevention, Response and Mitigation to 2020; and The National Target Program to Response to Climate Change.

Probably the most important is the first of these, the National Strategy on Climate Change, approved by the Prime Minister in 2011. This sets out national programmes to address climate change. Otherwise, The National Target Program to Response to Climate Change (Issued by the Government of Vietnam [GoV] by the Decision 158/2008/QĐ-TTg, 2008) sets out, *inter alia*, to: Evaluate the impact of, and set up action plans to respond to, climate change in the short and long term; and to ensure the sustainable development of the country, developing a low carbon economy. In terms of further legislation, the program set out by 2010 the target of developing a framework of 1) legal documents, 2) mechanisms and 3) policies to respond to climate change, and by 2015 to promulgate, supplement and update all three of these.

With regards adaptation, the Action Plan for Adaptation to Climate Change in the Agriculture and Rural Development Sector (for 2008–2020; APF), was launched by the Ministry of Agriculture and Rural Development (ARD) in 2008 under Decision No. 2730/QĐ-BNN-KHCN, alongside Decision No. 2730/QĐ-BNN-KHCN. These are intended to improve climate change adaptation capabilities and ensure the sustainable development of agriculture and rural development.

While it doesn't refer specifically to climate change, The National Strategy for Natural Disaster Prevention, Response and Mitigation to 2020 (promulgated by

Decision No. 172/2007/QĐ-TTg) outlines Vietnam's approach for disaster mitigation and management, particularly floods, storms and droughts. The strategy is Vietnam's main disaster risk management framework and is one of the most important disaster management responses in Vietnam.

In terms of institutions in Vietnam focussed on climate change, The Ministry of Natural Resources and Environment Finance (MoNREF) seems to be the leading agency in climate change response. For instance it has mooted the creation of a national database on climate change, and is the authority for regulation of Clean Development Mechanism Projects. There are 56 registered CDM projects, with 6 million Certified Emissions Reductions (CERs) issued, and with a production of around 2.15 million CERs annually.

Finally, within the transport sector, it seems as though there will be more climate-change-specific legislation in the coming GLOBE reviews, since Decision No: 813/QĐ-BGTVT aims to establish an Action Plan Creation Board under the Ministry of Transportation, tasked specifically with responding to climate change.

Energy supply and renewable energy

Vietnam is one of the fastest growing economies in South East Asia and electricity demand is predicted to treble by 2020. Nuclear power is now expected to play a role in Vietnam's energy supply. A nuclear power development plan approved by the government in August 2007 set a target of 8000 MW from nuclear energy provided to the grid by 2025.

While it has made no formal commitments or pledges under the Copenhagen Accord, nor implemented any measures which are directly aimed at reducing GHGs, Vietnam has shown some commitment to ensuring that rising energy demand is supplied through renewable sources. Specifically the Renewable Energy Action Plan identifies hydro and solar power as the sources with the highest potential for development.

There is a great deal of scope for the expansion of renewable energy since aside from hydropower it currently represents only a small proportion of the energy mix. The government intends to increase renewables' contribution to the energy mix from 3% in 2010, 5% by 2020, further increasing to 11% by 2050. In order to achieve this, two key incentives introduced are The Regulation of Avoided Cost Tariff and Standardised Power Purchase Agreement for Small Renewable Energy Power Plants (SPPA Regulation) and the Avoided Cost Tariff for 2009 (ACT Regulation). Biofuels (ethanol and vegetable oil) only represent a small proportion of the mix, but the Government's goal is to increase their contribution to 1% of

petrol and oil by 2015, rising to 5% by 2025. In addition, energy efficiency is also being promoted, with US$2.25 million being allocated to energy efficiency projects in 2008 alone.

The above noted exception of hydro-electricity for renewable power is significant since it already provides 35% of Vietnam's energy. However, a major concern over hydroelectric power is that it has been developed in forested areas, causing deforestation and the loss of resources to local communities, thereby standing in direct contrast with goals of rural poverty alleviation, sustainable forest use and specifically with regards climate change policy, REDD+.

Deforestation and degradation of forests, and REDD+

Vietnam is one of 13 countries chosen by the United Nations Reducing Emissions from Deforestation and Degradation Programme (UN REDD), and has submitted a Readiness Preparation Proposal to the World Bank's Forest Carbon Partnership Facility.

In terms of protecting existing forest the Law on Mining prohibits mining activities in the areas of special-use forests, protection forests or areas planned for special-use forests or protection forests. This presents an opportunity at least for the implementation of REDD+, but mineral extraction is often given priority over forest conservation. Despite Article 114 of the Law on Environmental Protection which stipulates funds should be deposited by the miners to pay for forest restoration after cessation of mining, it is reported that this money is rarely collected.

On the restoration side the Government has issued a number of policies on developing watershed protection forest, such as the 5 Million Hectares Reforestation Programme (5MHRP), which was mandated largely to address the problems of deforestation caused by hydropower development mentioned above. Other schemes to increase forest cover include Program 135 (a poverty reduction programme) and the National Forest Development Strategy (NFDS). Directive No. 38/2005/CT-TTg directs localities to re-plan forests for the requirements of forest management which include, *inter alia*, the objectives of conservation and protection of forests. Nonetheless, the Government's plans to expand rubber plantations to 800,000 ha by 2020 includes expansion in areas of "natural poor forest". Without clarification of this term, continued planned clearance of natural forest may run against REDD+ principles.

Other actions in land use, land use change and forestry (LULUCF) include payments for ecosystem services (PES) in the forest sector: Vietnam has piloted PES in Lam Dong and Son La over a period of two years (from 2008–2010) under Decision

308/QĐ-TTg. This has the potential at least to reconcile the apparent conflicts between differing demands for land use, particularly hydropower and forest conservation. The national development of PES is formalised under Decree 99/2010/ND-CP on payment for ecosystem services, which crucially includes carbon as an ecosystem service.

Vietnam: Flagship Legislation

Name of law	**The National Climate Change Strategy and the No: 2139/QĐ-TTg Decision on Approval of the National Climate Change Strategy**							
Date of entry into force	1 December 2011							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×	×	×	×	×	×
Driver for implementation	Climate change							
Summary of bill	These two pieces of legislation establish and approve Vietnam's National Climate Change Strategy. Outcomes are that: • The Government of Vietnam approves the National Climate Change Strategy • The Minister of Natural Resources and Environment (MoNRE), other ministers, leaders of ministerial agencies, heads of governmental agencies, presidents of Provincial People's Committees are responsible for implementing this Decision The Strategy, approved by the Prime Minister of Vietnam, is a "multi-century vision" and is broad and multi-sectoral. Within the Strategy, the following specific objectives are set out: • Ensure food security, energy security, water security, poverty alleviation, gender equality, social security, public health; enhance living standards, conserve natural resources in the context of climate change • Consider low carbon economy and green growth as principles in achieving sustainable development; GHG emission reduction and removal to become a mandatory index in social and economic development • Raise awareness, involvement and coping capacity of stakeholders; strengthen scientific and technological potential and human resources; strengthen institutional arrangements to utilise financial assistance; enhance the economic competitiveness and status of Vietnam; take advantage of climate change opportunities for social and economic development; promote climate-friendly behaviours • Join forces with international communities in addressing climate change; increase international cooperation to address climate change effectively							

Targets	Targets to be achieved by 2020 (but some also refer to 2050, 2030 and 2015): *Agriculture and husbandry* • Complete basic system for pest and disease control for crops and livestock After every 10 years, reduce GHG emission from agriculture by 20%, while securing 20% of the sector growth and lowering the rate of poverty by 20% *LULUCF* • Basic completion of creation of management capacity, uniform planning and sustainable national development of water resources • Establish, manage, protect, sustainably develop and use 16.24 million ha of forest, increase forest coverage to 45%; manage 8.134 million ha of production forest; 5.842 million ha of protection forest and 2.271 million hectares of special-use forest *Energy and industry* • Hydropower plants' capacity reaches 20,000–22,000 MW • Increase the share of new and renewable energies by 5% of the total commercial primary energies (increase to 11% by 2050) • 90% of industrial facilities using cleaner production and reducing consumption of energy, fuel and materials • Raise the total contribution of industrial production using high technologies, ensuring added value in the total industrial production value by 42–45%; promote innovation towards high technologies • 20% of industry using high technologies and equipment (above 80% by 2015) • Take step-by-step actions to complete the establishment of sustainable and industrial zones resilient to climate change by 2030 • By 2015 establish a new price system for efficient use of energy • 90% of the urban household solid waste to be collected and treated, of which 85% to be recycled, reused and recovered for energy generation. *Transport* • The transportation system to meet societal needs (no figures provided; and by 2050 complete modernisation of domestic and international transportation network) • Accelerate the transformation to use of compressed natural gas and liquefied gas in buses and taxis, with 20% of buses and taxis by 2020 (and by 80% by 2050)

Institutional

- By 2015 issue climate change-risk adjusted sectoral and local socio-economic strategies and plans

Healthcare

- In the context of climate change challenges: by 2020 everyone has access to basic healthcare services (by 2030: full access to healthcare services)

Vietnam: Other Relevant Legislation

Name of law	**Decision No.799/QĐ-TTg. Approval of the national REDD+ action programme**							
Date of entry into force	1 June 2012							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
				×				
Driver for implementation	Climate change mitigation and co-benefits							
Summary of bill	Prime Minister's approval of the national REDD action programme in the 2011–2020 period. The document sets out the goals, objectives and tasks of Vietnam's REDD+ policy. Principally the legislation is designed to reduce emissions from LULUCF by setting out the legal framework for pilot REDD+ programmes and activities to be demonstrated.							
Targets	• Reduce 20% of the total emission in the agricultural sector by 2020 • Increase the national forest cover rate to 44–45% by 2020							

Name of law	**Decree 117/2010/ND-CP on The Implementation of the Law on Forest Protection and Development**							
Date of entry into force	2010							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
				×				
Driver for implementation	Natural resource management							

Summary of bill	This Decree provides for forest protection and development plans; forest assignment, lease and recovery, change of forest use purposes, exchange, transfer and donation; recognition, registration, sub-lease, mortgage, guarantee, capital contribution with, and bequeathal of, forest use rights or ownership rights over planted production forests; statistics, inventory and monitoring of changes in forest resources. Organisation of forest management, protection, development and use.
Targets	None specified

Name of law	**Decision No. 2730/QĐ-BNN-KHCN: Decision on Promulgation of the Climate Change Adaptation Framework Action**							
Date of entry into force	2008							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
						×	×	×
Driver for implementation	Building capacity in rural areas to mitigate and adapt to climate change							
Summary of bill	Overarching goals are to : • Maintain security and safety across the country but particularly in vulnerable mountainous and deltaic regions • Maintain stable agricultural production • Develop infrastructure protection (such as dykes) The document also sets out specific goals and tasks that should be completed in order to achieve these goals including, *inter alia*: • The development of human resources • Improved research capacity, including climate change forecasting • To build and strengthen policy frameworks • to develop and accelerate the dissemination of knowledge of climate change							
Targets	Guarantee 3.8 million ha for cultivating two rice crops a year.							

Name of law	**Approving the National Energy Development Strategy of Vietnam for the period up to 2020 with outlook to 2050. No. 1855/QĐ-TTg**							
Date of entry into force	2007							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×					
Driver for implementation	Energy security and autonomy							
Summary of bill	Approves the Strategy on National Energy Development Strategy of Vietnam for the period up to 2020, with outlook to 2050. The Strategy states that renewable energy forms are not yet sufficiently assessed in Vietnam and so provides a mandate for further research into potential for exploitation. It also specifically mentions use of propaganda on the use of renewable energy sources in remote areas of Vietnam. The Strategy also states the goal of integrating the use of renewable energies into energy saving programmes and other national target programmes, including programs of rural electrification, forest plantations, hunger eradication and poverty alleviation. Furthermore the strategy gives priority to development of renewable energy, bio-energy of and nuclear power.							
Targets	By 2050, nuclear electricity will account for about 15–20% of total commercial energy consumption of the whole country.							

Name of law	**Decision No. 147/2007/QĐ-TTg: On the Issuance of Production Forest Development Policy in the 2007–2015 Period**							
Date of entry into force	2007							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
				×				×
Driver for implementation	Environmental protection; increasing incomes in the forestry sector							
Summary of bill	The bill refers largely to the development of the forestry sector, but includes elements on reforestation that would be relevant to the development of REDD+ in Vietnam. For instance, Article 5 sets out government support for afforestation and extension exercises, such as meeting the surveying costs in reforestation projects; and providing support for the development of seed production centres and nurseries.							
Targets	To plant 2 million ha of production forest with an average of 250,000 ha per year (including the re-afforestation area after harvesting).							

Name of law	**Decision 177/2007/QĐ-TTg Approving the Scheme on Development of Biofuels up to 2015, with a Vision to 2025**							
Date of entry into force	1 November 2007							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×				×	×
Driver for implementation	Energy security and environmental protection							
Summary of bill	The Policy sets out to promote the production and use of biofuels in Vietnam, and to provide a legal and financial framework attractive and conducive to investment in the sector. This includes, *inter alia*, favourable tax mechanisms; concessional loans and (unspecified) land use rights to investors in biofuel production. Between 2007 and 2015, biofuels are classified as a eligible for special investment incentives, including tax exemption or reduction under Decree No. 24/2007/ND-CP. The Decision also encourages research and development in the field and the "mastery" and development of the relevant technologies within Vietnam. Specific activities to achieve this include technology transfer and sending scientific and technological personnel to countries with a developed biofuel production industry for professional training of 6–12 months. The final elements of the Decision refer to the institutional issues and assigns responsibilities for specific tasks involved in implementation and organisation to Ministries.							
Targets	By 2010 develop various models of trial production, specifically 100,000 tonnes of E5 and 50,000 tonnes of B5. By 2015 the output of ethanol and vegetable oils will reach 250,000 tonnes. The vision to 2025 is for Vietnam to have achieved advanced level technology in the sector and for ethanol and vegetable output to reach 1.8 million tonnes, c. 5% of Vietnam's gasoline and oil demand (unspecified whether current demand or projected level of demand).							

Name of law	**National Target Program on Efficient Use and Saving Energy (EUSE), approved by Decision 79/2006/QĐ-TTg**							
Date of entry into force	2006							
Categories	Carbon Pricing	Energy Supply	Energy Demand	REDD+ and LULUCF	Transportation	Adaptation	Research and development	Institutions / Administrative arrangements
		×	×		×			×
Driver for implementation	Energy efficiency							

Summary of bill	Sets out to approve the national programme on Energy Efficiency and Conservation for 2006–2015. The Programme itself has a series of groups of detailed programmes. The groups are: • Intensification of the state administration of energy efficiency and conservation, and organising state control systems • Awareness raising of energy efficiency (propaganda etc.) • Developing and popularising high efficiency and energy saving products • Energy efficiency and conservation in Industry • Energy conservation and efficiency in building • Energy conservation and efficiency in transportation
Targets	The targets of the Program are: • Saving 3–5% of the total national energy consumption in the period 2006–2010 • Saving 5–8% of the total national energy consumption in the period 2011–2015 • Establishing a model of efficient use and conservation of energy and applying this to 40% of enterprises in period 2006–2010, moving to 100% enterprises in 2011–2015 • Applying compulsory control of Energy Efficiency and Conservation in construction to 100% of buildings built from 2006 • Popularising high-efficiency equipment and reducing energy intensity of production • Minimising fuel consumption in equipment (presumably industrial plant)

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