



# Climate Regulation

in 17 jurisdictions worldwide

Contributing editor: Per Vestergaard Pedersen

# 2009



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# Mexico

**Carlos de Icaza and Ximena Aguirre**

Creel, García-Cuéllar, Aiza y Enríquez

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## Main climate regulations, policies and authorities

### 1 International agreements

Do any international agreements or regulations on climate matters apply in your country?

Mexico is a signatory to the United Nations Framework Convention on Climate Change (the UNFCCC), executed on 13 June 1992 and to the Kyoto Protocol, signed on 9 June 1998 and ratified by the Mexican Senate on 29 April 2000.

Although not properly a 'climate change' or 'renewable energy' agreement, Mexico is part of the North American Agreement on Environmental Cooperation (NAAEC) signed in parallel to the North American Free Trade Agreement (NAFTA), which contemplates the harmonisation of environmental laws and policies among Canada, the US and Mexico, and which aspires to foster the sustainable development needed in the fight against climate change in the region. In light of the discussion of the Kerry-Boxer and Waxman-Markey climate change and green energy bills in the US Congress, there has been some limited talk in Mexican academic circles as to the suitability (or lack thereof) of NAFTA and the NAAEC, to favour emissions trading among Canada, the US and Mexico.

### 2 International regulations and national regulatory policies

How are the regulatory policies of your country affected by international regulations on climate matters?

Under the Kyoto Protocol, Mexico is a 'non-annex B' country (ie, a non-annex I country under the UNFCCC). It does not hold binding greenhouse gas (GHG) reduction targets. Under these circumstances, and to promote participation in the voluntary reduction of GHG emissions, the Mexican government has created incentives for the implementation of clean development mechanisms (CDMs), in the context of the Kyoto Protocol and the relevant UNFCCC rules.

Specifically, the acquisition of machines and equipment that generate energy from renewable resources (solar, wind, hydraulic waves, geothermic and biomass) is 100 per cent tax-deductible. Also, permits for self-generation of power where the source is a renewable resource are exempted from the payment of certain duties.

Mexico's public policies on the fight against climate change have certainly been influenced by its active participation in the UNFCCC and Kyoto. As we will explain further below, Mexico has taken a serious stance on climate change issues, admirable for a developing economy. As this article will show, over the past decade Mexico has taken sustained actions, designed serious policies and more recently enacted certain pieces of legislation aimed at reducing its overall GHG emissions far beyond what it is legally required in the international context and much more profoundly than many of its peers in the developing world.

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### 3 Main national regulatory policies

Outline recent government policy on climate matters.

Mexico has been recognised as one of the most proactive non-annex B countries with respect to climate change. The Mexican government has enacted the following policy documents, some of which are specifically driven towards climate change mitigation and adaptation.

#### The National Development Plan 2007-2012 (Plan Nacional de Desarrollo)

This plan was prepared by Mexico's executive power and contains a general guide for Mexico's development for a six-year period. Although it is not a document specifically related to climate change, it contains a chapter on sustainable development, which, inter alia, includes the objectives to be reached by Mexico between 2007 and 2012 on climate change mitigation and adaptation. The main objectives that this plan identifies are: reducing GHG emissions (no specific reduction targets are included) by means of:

- increasing the implementation of CDMs;
- creating incentives to use renewable energies (including a more favourable legal framework);
- reduce energy intensity;
- adopt international standards for air emissions from mobile sources; and
- verify compliance with such in all 31 states (eg, currently only a few states require vehicle owners to verify compliance with air emission standards such as Mexico City, State of Mexico, Morelos and Veracruz, among others).

#### CDM projects

On 27 October 2005 the Mexican government published the official proceedings and rules to obtain letters of approval for CDM projects. The letters of approval are granted by the Committee for Projects seeking Reduction of Emissions and Capture of Greenhouse Gases (COMEGEL), which is a working group of the Mexican Intergovernmental Commission for Climate Change (CICC), whose functions and creation are described in question 5.

#### The Special Programme on Climate Change

The Special Programme on Climate Change (PECC) was recently published in Mexico's Official Gazette (28 August 2009). This document derives from the National Development Plan and contains a specific list of targets to be reached in the fight against climate change and a series of proposed actions to achieve them. Compliance with the requirements set forth in the PECC is compulsory for the ministries, agencies and entities composing the federal public administration, but it does not yet contemplate any obligations for private parties (although through the Mexican government's implementation of the PECC, private parties will probably acquire contractual obligations in the near future, for example on the 'government procurement' side). Under the PECC Mexico aspires to reduce, by 2050, its GHG emissions by 50 per cent using as a baseline 2000 GHG emission

levels (long-term target). Based on studies prepared by the World Bank, McKinsey, Mexico's National University, the Centre for Clean Air Policy and Mr Gabriel Quadri (a renowned expert), the long-term target would mean that Mexico must cut between 750MtCO<sub>2</sub>e (million tonnes of CO<sub>2</sub> equivalent) and 830MtCO<sub>2</sub>e GHG emissions. Mexico's compliance with the foregoing long-term target is subject to industrialised countries supporting financially and technologically less industrialised countries (eg, by using the 'Green Fund' that Mexico has proposed), and a new post-Kyoto agreement on climate change taking into consideration 'common but differentiated responsibilities, and respective capacities'. If the foregoing conditions are not met, Mexico will probably reconsider its long-term target.

#### 4 Main national legislation

Identify the main national laws and regulations on climate matters.

##### Statutes

###### The Electric Power Utility Law

The Electric Power Utility Law (published on 22 December 1975 and amended in 1992 and on other occasions) divides the Mexican electricity sector into the electric power public utility service (generation, transmission, distribution and sale of power), which is exclusive to the Mexican government (Electric Power Public Utility Service), and power generation projects not included in the public service definition, in which private participation is allowed. These projects are: independent power production, self-supply, co-generation, small-scale production (projects with a maximum generation capacity of 30 megawatts), private power generation facilities, and energy export and import.

###### The General Law on Ecological Equilibrium and Environmental Protection

The General Law on Ecological Equilibrium and Environmental Protection (LGEEPA; published on 28 January 1988 and amended in 1996, 2000 and on other occasions) contains a general overview on how environmental matters will be regulated, including air emissions and environmental impact, among several others. The majority (if not all) of the activities related to the generation of energy (construction of power plants, distribution and transportation of fuels, etc) require (among other relevant approvals) prior environmental impact authorisation to be obtained from the Ministry of the Environment and Natural Resources (Semarnat), which is the federal governmental agency in charge of environmental matters. Based on this law, individuals who wish to make atmospheric emissions must previously request an operating or air emissions licence (or sole environmental licence) for such purpose.

###### The National Waters Law

The National Waters Law (NWL; published on 29 April 2004) sets out the general rules for using 'national water' from water bodies. It contains a chapter on the use of water for power generation. Among other requirements, prior to using water for hydroelectric generation, a concession title must be obtained for such purpose. Those who generate small-scale energy using this method are not required to obtain a concession title.

###### The Law on the Promotion and Development of Biofuels

The Law on the Promotion and Development of Biofuels (Law on Biofuels) was published on 1 February 2008. Its objective is to encourage energetic diversification and sustainable development. It contains provisions to promote the production of the materials needed for manufacturing biofuels without disregarding the importance of the availability of food for fulfilling the needs of the population. This law imposes restrictions on the use of certain raw materials for biofuels, such as 'maiz' (corn) which may only be used when there is enough national production to satisfy nutritional needs.

###### The Law on the Sustainable Use of Energy

The Law on the Sustainable Use of Energy (LSUE; enacted on 28 November 2008) intends to incentive the sustainable use of energy during all stages from generation to consumption. One of its main features is the creation of the National Programme on the Sustainable Use of Energy, which was published on 6 August 2009. Compliance with the requirements set forth in this Programme, just as with the PECC, is compulsory for the ministries, agencies and entities comprising the federal public administration. The Programme contains strategies to incorporate the use of renewable energies into the national power output and to engage governmental entities and private parties in the sustainable use of energy. A registry on the use of energy is created where governmental authorities and large energy consumers register their information. Additionally, manufacturers, importers, distributors and those who commercialise machines that for their use must be supplied with energy, must include information on their energy consumption (when operated, in standby mode and where applicable, the amount of product received per unit of energy used).

###### The Law on the Use of Renewable Energy and the Financing of the Energy Transition

The Law on the Use of Renewable Energy and the Financing of the Energy Transition (Law on Renewable Energies; published on 28 November 2008) provides that the Ministry of Tax and Public Credit (SHCP) will set the maximum payments from suppliers to generators. The law requires that the Energy Regulatory Commission (CRE) publishes the proposed form of interconnection to the national grid contract to be entered into by self-generators of power (whose source is renewable energies) and the supplier, which under Mexican legislation requirements will always be the FCE (Federal Commission of Electricity). Until very recently, power could also be sold to the Central Lighting Company (CLC), which supplied energy in Mexico City, the State of Mexico, Hidalgo, Puebla and Morelos; however, the CLC was recently de-incorporated by means of a decree published on 11 October 2009 and is in the process of being liquidated.

Other laws may have an indirect impact on climate change projects. These include the General Law on Sustainable Forestry Development (relevant for projects in forests) and the Law on National Property (relevant for projects intruding on federal zones, or using federal resources), for example.

##### Regulations

Regulations are issued by the executive power's administrative agency in charge of the sector. Each of the above-mentioned laws has its own regulations that contain a more thorough description of the contents of the law. Mexico is in the process of completing a suitable legal framework on climate change; relevant regulations have been published this year, such as LSUE's Regulation (on 11 September 2009); the Regulations for the Law on Renewable Energies (on 2 September 2009) and the Regulation on Biofuels (on 18 June 2009).

Under the LGEEPA, a series of regulations have been enacted, including (among other regulations on noise pollution, environmental audits, natural protected areas and ecological ordinance) one on the Registration of Emissions and Transfer of Contaminants (RETC), another on the Control of Atmospheric Contamination and one on Environmental Impact Evaluation.

The National Waters Law, the General Law on Sustainable Forestry Development and the Law on National Property have also been strengthened with regulations on relevant subjects.

##### Mexican official norms

On the atmospheric emission front, the Ministry of the Environment and Natural Resources (Semarnat) has enacted various Mexican official norms (NOMs) (eg, technical standards) that regulate maximum contamination limits for fixed and mobile sources. Contaminants

regulated include, but are not limited to: total hydrocarbons, carbon monoxide, sulphur dioxide and trioxide, nitrogen oxides, volatile organic compounds and solid particles. Specifically, there is a NOM that requires that biogas (methane and carbon dioxide) generated at landfills is captured, extracted, conducted and controlled. No maximum levels of biogas are set forth in such NOM. Finally, a NOM should be issued in the near future as a result of the PECC, for carbon dioxide emissions from new light vehicles, and fuel capacity. Atmospheric emissions regulated by NOMs should be annually reported by emitters to Semarnat via a format called COA (annual operation card), as required under the regulations of the RETC. This measure is intended to evaluate contaminating emission sources and their transfer in the environmental media (eg, from air to water to soil).

The Ministry of Energy (SENER) has published various NOMs to achieve energy and thermal efficiency in various products that are intended not only for industrial use (ie, motors used for pumping water from water wells, lighting services, transformers and boilers) but also for domestic uses (ie, washing machines, light bulbs, refrigerators and air conditioning).

## 5 National regulatory authorities

Identify the national regulatory authorities responsible for climate regulation and its implementation and administration. Outline their areas of competence.

The national regulatory authorities responsible for climate regulation and its implementation are described below along with a brief summary of their areas of competence with respect to climate change and renewable energy.

The Ministry of Agriculture, Livestock and Fisheries (Sagarpa) has jurisdiction to issue NOMs on sustainable production of raw materials used for manufacturing biofuels. Sagarpa grants the previous permits for biofuel production when the raw material in question is 'maiz' (corn).

With respect to biofuels, SENER grants the permits for their production, storage, transportation, distribution via pipelines and commercialisation. SENER is the competent authority to issue NOMs that contain the requisites, characteristics, safety measures, among other aspects related to the production, storage, transportation, distribution, commercialisation and efficient use of biofuels; and the quality and characteristics of bioenergetics for mixing with gasoline and diesel.

Semarnat evaluates and authorises the potential environmental impact of facilities for the production, storage, transportation, distribution and commercialisation of energy in general and biofuels. Also, to conduct 'highly risky activities', such as the storage of regulated materials and substances with flammable or explosive characteristics that may pose a threat to human health or the environment, a prior authorisation from Semarnat must be obtained. Semarnat is responsible for controlling and preventing atmospheric, water, soil and site contamination generated from various sources, including among others, from biofuel manufacture. Semarnat also chairs the Mexican COMEGEI (the Mexican Committee for Emissions Reduction and GHG Sequestration Projects), which was created on 25 April 2005 along with the CICC (the Inter-secretarial Commission on Climate Change, referred to below), and whose functions are described below. Semarnat is also responsible for maintaining the RETC and the national air emissions registry.

The National Water Commission is responsible for issuing concession titles for the use of national water in hydroelectric power plants.

The Commission on Biofuels comprises: Sagarpa, SENER, Semarnat, the Ministry of Economy and SHCP. Among its functions is to develop short, medium and long-term plans for production and commercialisation of raw materials used for biofuels and the production, storage, transportation, distribution, commercialisation and efficient use of biofuels. This Commission on Biofuels also promotes production, commercialisation and use of renewable energies.

The CICC was created on 25 April 2005, to act as the designated national authority. This commission is created by the heads of Semarnat, Sagarpa, the Ministry of Communications and Transport (SCT), SEDESOL, the Ministry of Economy, SENER and the Ministry of Foreign Relations. Within its functions, CICC's working group, COMEGEI, grants 'letters of approval' and decides which CDM projects Mexico will support for accreditation by the CDM Executive Board of the United Nations.

The COMEGEI was created to act as a permanent working group to facilitate, promote, evaluate and approve CDM projects. COMEGEI's members are Sagarpa, the SCT, the Ministry of Economy, SENER and Semarnat.

The National Commission for the Efficient Use of Energy (CONUEE), is responsible for issuing the methodologies for the calculation of GHG emissions related to use, production, transformation, distribution and exploitation of energy, and hence, their subsequent reductions. It is the responsible authority for sanctioning non-compliance with the LSUE, including failure by large energy consumers to provide information on their use of energy.

The CRE is the authority responsible for granting power generation permits for: independent power production, self-supply, co-generation, small-scale production, private power generation facilities and energy export and import (power generation permits).

## General national climate matters

### 6 National emissions and limits

What are the main sources of emissions of greenhouse gases (or other regulated emissions) in your country and the quantities of emissions from those sources? Describe any limitation or reduction obligations. Do they apply to private parties in your country?

Currently, there is no GHG reporting obligation for emitters in Mexico; therefore, Mexico's Third National Communication to the UNFCCC (Third Communication) (published in 2007) by the National Institute of Ecology (NIE) was prepared with estimates (it is worth noting that Mexico had issued two prior National Communications to the UNFCCC in 1997 and 2001, and had created a National Strategy on Climate Change in 2007). The NIE gathered a group of experts who discussed information needs for each sector and they requested information from the parties involved, which was provided voluntarily and under no legal obligation to do so. The information contained below was obtained from the Third Communication and the PECC, which presents data for 2006 contained in Mexico's National Inventory of GHG Emissions (INEGEI).

#### Power generation

According to Mexico's Third Communication, the energy sector accounts for 61 per cent of Mexico's GHG emissions. Within the energy sector, power generation GHG emissions were calculated in the INEGEI at 195.6MtCO<sub>2</sub>e, which constitutes 27 per cent of Mexico's total GHG emissions. The second branch of the power generation sector is natural gas and petroleum. The INEGEI's 2006 numbers show that this activity added up to 84MtCO<sub>2</sub>e, which is equivalent to 11.7 per cent of Mexico's total GHG emissions. Finally, the electricity sector's GHG emissions are estimated to be 112.5MtCO<sub>2</sub>e, which is almost 16 per cent of Mexico's total GHG emissions.

In addition, according to the PECC, in 2006 the transportation sector contributed 20 per cent of Mexico's total GHG emissions, which added up to 144.6MtCO<sub>2</sub>e. Also, based on the INEGEI's data, manufacture and construction industries emitted 110.1MtCO<sub>2</sub>e, which is equivalent to 21 per cent of Mexico's total GHG emissions.

#### Agriculture, forests and land use

This sector is the second major GHG emitter in Mexico, and in 2006 emitted 131.56MtCO<sub>2</sub>e, equivalent to 19 per cent of Mexico's total GHG emissions. The activities that contribute to this sector

are: agriculture, livestock, forests and changes of forestry land to other uses, including agricultural or for livestock.

## 7 National emission projects

Describe any major emission reduction projects implemented or to be implemented in your country. Describe any similar projects in other countries involving the participation of government authorities or private parties from your country.

As set forth in this chapter, Mexico's main GHG emitter is the energy sector. As energy is a monopoly of the government, it is the Mexican government, through the FCE, Mexican Petroleum (PEMEX) and formerly, the CLC (which was de-incorporated on 11 October 2009 and is currently in the process of being liquidated), who have most of the CDM projects in the pipeline to reduce GHG emissions. According to SENER's Third Labour Report (September 2008 to August 2009), the FCE has identified 28 potential projects that could qualify for certified emission reductions or CERs (as they are known under the Kyoto Protocol). These projects, if implemented, would ensure an annual reduction of 14 MtCO<sub>2</sub>e.

Some of the FCE's most relevant projects include:

- the overhaul of the Manzanillo thermoelectric complex to use natural gas that will be received in the Manzanillo Liquefied Natural Gas Terminal Project. There are plans to change the existing thermoelectric facility (currently operating in Manzanillo) to a combined cycle plant; and
- the construction and operation of four new wind power plants in the state of Oaxaca. The bid for their construction is yet to be published by the FCE.

The FCE has already obtained letters of approval from CICC for hydroelectric overhaul of the following facilities: Botello, Infiernillo, Tirio, Cubano, Jumatán, Plantanal, Cupatitzio, Villita and Zumpimito and Gral. The estimated emission reductions starting in 2011 should account for 296,000 tonnes of carbon dioxide.

According to SENER's Third Labour Report (September 2008 to August 2009), PEMEX has identified 41 projects that will be active during 2009 and throughout 2012, whereby it is estimated that 12,125 tonnes of carbon dioxide emissions will be prevented annually. Between January 2007 and June 2009, the CLC has started the commercial operation of 14 power plants in Mexico City with a total volume of 67,600 tonnes of CO<sub>2</sub>e per year. Given the recent de-incorporation of the CLC, SENER (probably through the FCE) will be responsible for continuing to perform the activities necessary to provide the Electric Power Public Utility Service in the cities where the CLC operated.

Mexico has discovered great potential in the generation of energy from waste. CICC, as the designated national authority under the Kyoto Protocol, has 14 waste-to-energy projects under review to obtain a letter of approval, five of which have been registered at the UNFCCC and one of which has already received certified emission reductions (the landfill in Aguascalientes). According to the UNFCCC web page, the Aguascalientes EcoMethane landfill gas-to-energy project received CERs for reductions of 162,593 tonnes of CO<sub>2</sub>e per annum. The other parties involved in this project are the UK and Switzerland.

## Domestic climate sector

### 8 Domestic climate sector

Describe the main commercial aspects of the climate sector in your country, including any related government policies.

Mexican tax legislation provides that the use of equipment or machines that generate power from renewable resources (including wind power, hydroelectric, ocean power, geothermic energy and power derived from biomass or waste) are 100 per cent tax-deductible under the Income Tax Law.

Under the Kyoto Protocol CDMs, Mexico can be a host country to projects that reduce GHG emissions. CERs can be obtained from the UNFCCC for these projects and sold through carbon markets. There are various opportunities in the mitigation of GHG emissions for companies that have binding reduction targets in annex B countries to compensate their emissions with projects in Mexico, and there are subsidiaries of companies that are resident in an annex B country that are dedicated to setting up projects in Mexico, obtaining the relevant CERs and placing them or selling them in foreign carbon markets.

## General emissions regulation

### 9 Regulation of emissions

Do any obligations for emission limitation, reduction or removal apply to your country and private parties in your country? If so, describe the main obligations.

As described in question 6, Mexico does not have any binding reduction targets under the Kyoto Protocol. In addition, Mexico has launched the PECC where it establishes the commitment to reduce emissions by 2050 by 50 per cent using GHG emission levels from 2000 as a baseline, subject to two conditions (see question 3). In either case, the responsible party for achieving these targets is the Mexican government through its secretaries of state, agencies and entities.

### 10 Emission permits or approvals

Are there any requirements for obtaining emission permits or approvals? If so, describe the main requirements.

Under LGEEPA, anyone who wishes to emit contaminating atmospheric emissions from fixed sources must obtain an operating or emissions licence (or an environmental sole licence) as well as report annually to the RETC the contaminants regulated under NOMs using the COA. As discussed above, the air contaminants that are currently regulated under Mexican law are total hydrocarbons, carbon monoxide, sulphur dioxide and trioxide, nitrogen oxides, volatile organic compounds and solid particles.

According to the PECC, a voluntary carbon market in the form of a cap-and-trade programme will be created in Mexico by 2012. Such market is intended to be compatible with the INEGI. According to prior versions of the PECC that were subject to public review, the voluntary market would be launched with the FCE and the CLC as the only participants. Given the recent de-incorporation of the CLC, the market will probably be operated with the FCE as the sole participant. Private parties would be allowed entry to the market in the future.

### 11 Oversight of emissions

How are emissions monitored, reported and verified?

Although under Mexican law there is a pollution registry that includes air emissions, there are no requirements to report the atmospheric emissions of any of the GHGs listed in annex A to the Kyoto Protocol. Therefore, any entity that has reported its GHG emissions has done it voluntarily. As described in question 6, the Third Communication contains data that was obtained voluntarily and under no legal disclosure obligation.

## Emission allowances (or similar emission instruments)

### 12 Regime

Is there an emission allowance regime (or similar regime) in your country? How does it operate?

Mexico has established the long-term target (referred to above) to be reached in 2050 of a 50 per cent reduction, using GHG emission levels from 2000 as a baseline. Note that this reduction target is

not binding, and as set forth in the PECC, compliance is subject to industrialised countries providing financial support to less developed countries, and that within the new obligations agreed upon, 'common but differentiated responsibilities' are recognised.

Although the measures and activities contained in the PECC will most probably include actions to be undertaken by private parties, at present there is no emission allowance regime in force.

### 13 Obtaining, possessing and using emission allowances

What are the requirements for obtaining emission allowances? How are allowances held, cancelled, surrendered and transferred?

For a fixed source or a mobile source to have atmospheric emissions, an operating or emissions licence should be obtained from Semarnat or the local environmental authority. Federal atmospheric sources include: chemical, petroleum and petrochemical industries, paint and ink, automotive, cellulose and paper, metallurgic, glass, energy, asbestos, and cement and hazardous waste treatment facilities. As described in question 4 (NOMs), Mexico only regulates the emission of certain gases or particles, which do not include those listed in the Kyoto Protocol; therefore there are no maximum emission allowances in place at present for GHG emissions.

Under the PECC, the Mexican government announced plans to create a voluntary carbon market, which would have as initial participants the FCE and the CLC, and would be expanded in the future for private party participation. However, given the recent de-incorporation of the CLC, in the short term the market will probably be operated with the FCE as the sole participant. Private parties should be allowed entrance to the market in the future.

### 14 Registration

Are there any emission allowance registries in your country? How are they administered?

Mexico has the INEGEL, which is the national inventory of GHG emissions, which is run by the NIE. According to the Third Communication, the information contained in this registry was provided voluntarily by those who are contributing to GHG emissions, as currently there is no legal obligation for private parties or the Mexican government to disclose such data.

### Trading of emission allowances (or similar emission instruments)

#### 15 Emission allowances trading

What emission trading systems or schemes are applied in your country?

Currently Mexico does not have a carbon market. When CERs are obtained for a project whose host country is Mexico, such certificates are typically sold in the European Union Emissions Trading Scheme (or EU ETS), or auctioned in the Chicago Voluntary Carbon Market, or assessed by other emerging carbon markets (potentially, such as RGGI or WCI). A voluntary carbon market run by a local reputable conservation organisation, Pronatura, has encouraged among certain Mexican corporate giants the measurement of carbon footprints, and the neutralisation of GHG emissions.

#### 16 Trading agreements

Are any standard agreements on emissions trading used in your country? If so, describe their main features and provisions.

There are no standard or regulated agreements on emissions trading used in Mexico. In practice, many emission reduction purchase agreements (ERPAs) used in Mexico for the sale of CERs or voluntary emission reductions tend to follow European models used for the EU Emission Trading Scheme. Please refer to question 26.

### Sectoral regulation

#### 17 Energy

Give details of (non-renewable) energy production and consumption in your country, including types and quantities of energy, and related emissions. Describe any regulations on emissions in this regard.

As discussed in question 4, Mexico has recently enacted legislation to promote the sustainable use of energy and the transition to renewable energy, the use of renewable energies and the manufacture of biofuels. Mexico is currently relying on non-renewable sources for most of its power generation. According to SENER's Third Labour Report, between 1 January 2007 and 30 June 2009 Mexico's installed power capacity relied on the following sources:

- fuels – 26 per cent;
- natural gas – 38 per cent;
- coal – 9 per cent;
- large hydroelectric – 19 per cent;
- small hydroelectric – 3 per cent;
- other renewables – 2 per cent; and
- nuclear power – 3 per cent.

Please refer to question 4 for a detailed explanation of how the Electric Power Utility Service works in Mexico, and opportunities for foreign investment in the electricity sector.

#### 18 Other sectors

Describe, in general terms, any regulation on emissions in connection with other sectors.

As set out in question 3, the PECC was recently launched and therefore the Mexican government has only begun its implementation. The PECC contains measures that are specific to avoid deforestation and changes of land use, and related emissions (an activity that accounts as the second largest GHG emitter in Mexico). Under the PECC, actions to avoid deforestation and to encourage carbon capture through reforestation are meant to be designed and implemented to take place between 2013 and 2030.

As detailed in question 25, many specific actions are planned by the Mexican government. The General Law on Sustainable Forestry Development and its regulation already contain provisions to protect forestry land from change to other types of use. A challenge in this area will be for the Mexican Congress to adapt the legal framework applicable to communal owners of agrarian lands (eg, *ejidos* and *ejidatarios*), which account for a substantial amount of forests in Mexico, to secure long-term reforestation projects, allow for GHG emission reductions or offsets, and provide certainty of the ownership of agrarian land to potential foreign investors.

### Renewable energy and carbon capture

#### 19 Renewable energy consumption and policy

Give details of the production and consumption of renewable energy in your country. What is the policy on renewable energy and carbon capture?

As described in more detail in question 17, Mexico is still relying on power generation from fossil fuels for the majority of its power needs. However, there are various renewable energy projects that are being built and will potentially start operations in 2012, specifically the Oaxaca wind power projects. This programme was launched by the FCE, SENER and CRE, where such authorities, with the help of private parties, intend to generate wind power to supply 4 per cent of the total energy demand of the country.

With respect to policy, Mexico is looking to increase power generation from renewable sources. Mexican tax legislation provides that the use of equipment or machines that generate power from renewable resources (including wind power, hydroelectric, ocean

### Update and trends

Mexico has shown strong and serious interest and willingness to issue public policies for the reduction of GHGs and for the promotion of renewable energies. It has also acted consistently over the past two decades in its efforts to fight climate change and in its corresponding stance in the foreign policy arena. Unfortunately however, the legislation that has been recently enacted for such purposes is still vague, general and difficult to apply. In addition, since Mexico's GHG generation is mostly monopolised by governmental activity, there are few incentives for private parties to participate. Also, most of the public policies designed to reduce GHG emissions are planned to be triggered in 2012 and therefore few efforts have recently been shown on the mitigation side.

For Mexico's long-term target to be met, the results of Copenhagen 2009 on future targets and on financing available for developing countries will be decisive. The preliminary conversations recently held in Bangkok, Thailand, which were to negotiate the post-2012 climate pact, did not have positive results on targets applicable to the 2013 to 2020 period, or on the financial aid available to developing countries. Therefore, Mexico may reconsider its long-term target (to reduce by 2050 its GHG emissions by 50 per cent based on 2000 GHG emission levels) if, as a result of Copenhagen 2009 there is no commitment by developed countries to support developing countries financially and technologically, and if there is no clarity on a new global post-Kyoto climate change agreement that would consider 'common but differentiated responsibilities, and respective capacities' among countries.

power, geothermic energy, biomass and waste) are 100 per cent tax-deductible under the Income Tax Law.

As detailed in question 4, the Electric Power Public Utility Service is exclusive to the Mexican government. Private parties may also participate in the generation and transmission of power (regardless of the source) when it is not considered a public service. In the event that they generate more energy than needed, they can market such output to the FCE (and, prior to its de-incorporation, also to the CLC). SENER has already published the model contracts for power production that must be entered into with the FCE for the interconnection with the national grid for small-scale power supplies generated from renewable resources in general, and solar power specifically.

As set forth in more detail in question 25, Mexico is still at a very early stage with respect to the development of research and legislation applicable to carbon capture.

### 20 Wind energy

Describe, in general terms, any regulation of wind energy.

Like any other project related to the energy sector that includes the construction and operation of a power plant (regardless of the source from which power is generated), or the construction of pipelines for fuel or gas transportation and distribution, wind energy projects need to obtain an EIA (environmental impact authorisation) from Semarnat. Depending on the amount of materials stored whose flammable or explosive characteristics may pose a threat, it is possible that in addition to an EIA, an environmental risk study and an accident prevention programme will be needed from Semarnat. In addition, land use certificates, construction permits and operation permits must be obtained from municipal authorities.

In addition, a power generation permit from CRE is also necessary.

According to SENER's Third Labour Report, at present CRE has granted four permits for self-generation of power for private projects using wind power. These projects will have a capacity to generate 688MW.

### 21 Solar energy

Describe, in general terms, any regulation of solar energy.

Like any other project related to the energy sector that includes the construction and operation of a power plant (regardless of the source from which power is generated), or the construction of pipelines for fuel or gas transportation and distribution, solar energy projects need to obtain an EIA from Semarnat. Depending on the amount of materials stored whose flammable or explosive characteristics may pose a threat, it is possible that in addition to an EIA, an environmental risk study and an accident prevention programme will be needed from Semarnat. In addition, land use certificates, construction permits and operation permits must be obtained from municipal authorities.

In addition, a power generation permit from CRE is also necessary.

Within the targets that the Mexican government has assumed in the PECC is the promotion of solar power, specifically for heating water, where 1.7 solar water heaters are intended to be installed and operated between 2008 and 2012, which will avoid the consumption of 635 million litres of liquefied gas during this period.

### 22 Hydropower, geothermal, wave and tidal energy

Describe, in general terms, any regulation of hydropower, geothermal, wave or tidal energy.

Like any other project related to the energy sector that includes the construction and operation of a power plant (regardless of the source from which power is generated), or the construction of pipelines for fuel or gas transportation and distribution, hydropower, geothermal, wave or tidal energy projects need to obtain an EIA from Semarnat. Depending on the amount of materials stored whose flammable or explosive characteristics may pose a threat, it is possible that in addition to an EIA, an environmental risk study and an accident prevention programme will be needed from Semarnat. In addition, land use certificates, construction permits and operation permits must be obtained from municipal authorities.

In addition, a power generation permit from CRE is also necessary.

The construction and operation of a hydropower, geothermal, wave or tidal energy plant specifically requires a concession title to use national waters, which is granted under the NWL by the National Water Commission. There are tax incentives applicable to the use of machines that generate power from renewable resources, which are more thoroughly discussed in question 19.

According to SENER, data gathered in 1997 showed that, of Mexico's total installed capacity for power generation, hydropower capacity was 28.8 per cent of the total installed capacity.

### 23 Waste to energy

Describe, in general terms, any regulation of production of energy based on waste.

The construction and operation of a landfill requires an EIA from Semarnat. In addition, any activities related to the construction and operation of pipelines to conduct fuels and hazardous materials and power plants (nuclear-electric, hydroelectric, carbo-electric, geothermal, wind or thermoelectric) must obtain an EIA from Semarnat. A power generation permit from CRE is also necessary.

Land use certificates, construction permits and operation permits must be obtained from municipal authorities. NOM-083-Semarnat-2003 sets forth a restriction whereby municipal landfills may not be built within 500 metres of a town whose population is 2,500 people or more.

**24 Biofuels**

Describe, in general terms, any regulation of biofuels.

The Law on Biofuels and its regulations require that anyone who wishes to manufacture, store, transport, distribute via pipelines or commercialise biofuels must previously obtain a permit from SENER.

Like any other project related to fuels or the energy sector, or the construction of pipelines for fuel or gas transportation and distribution, biofuel projects need to obtain an EIA from Semarnat. Depending on the amount of materials to be stored at the relevant site that have flammable or explosive characteristics and may pose a threat, it is possible that in addition to an EIA an environmental risk study authorisation and an accident prevention programme will be needed from Semarnat. In addition, land use certificates, construction permits and operation permits must be obtained from municipal authorities.

The manufacture and commercialisation of biofuels has already started in Mexico: one of the targets contained in the PECC is the future use of 300,000 hectares of land that are currently used for the cultivation of food for growing products that can be used as raw materials for the generation of biofuels.

**25 Carbon capture and storage**

Describe, in general terms, any regulation of carbon capture and storage.

Although Mexico has not yet developed any legislation specifically to encourage carbon capture and storage, certain legislation in force is applicable to the mitigation of carbon dioxide emissions. Mexico has recently identified the potential that the forestry sector has on carbon capture; therefore several measures are planned to be implemented by the Mexican government in the near future to avoid the consequences change of forestry land use. Currently, the General Law on Sustainable Forestry Development prohibits the change of forestry land use; it is only given by exception. Permits to set up a commercial forestry plantation may also be obtained. These last permits ensure that the land use will be kept as forestry, and only the permission holder will constantly plant and remove trees to commercialise them.

Additionally, the Law on Biofuels contains a provision that prohibits change of forestry land use to agricultural use for growing raw materials for the manufacture of biofuels. Finally, several national programmes to be developed in the near future are planned to encourage forestation and afforestation.

In 2010, Semarnat and Sagarpa will probably publish an estimate of carbon content and carbon capture for forestry and agricultural land in Mexico, specifying their types of vegetation and their carbon coefficients. The PECC anticipates that geologic carbon sequestration will play an important role in reducing GHG emissions from the energy sector. Mexico is currently at an early stage with respect to carbon capture and sequestration research and legislation.

As set out in question 18, it would be convenient for the Mexican Congress to amend legislation applicable to the ownership of agrarian lands (eg, *ejidos* and *ejidatarios*) and to agrarian landowners, to encourage foreign investment in GHG reduction emission projects from forestation, reforestation and afforestation.

**Climate matters in transactions****26 Climate matters in M&A transactions**

What are the main climate matters and regulations to consider in M&A transactions and other transactions?

As there are no set reduction targets in Mexico under the Kyoto Protocol, in M&A transactions climate matters are relevant mostly when one of the companies involved is the host party to a project or the annex B country (or company) that entered into a CDM. The type of responsibilities the acquirer or acquired could be involved in vary depending on the agreement executed, the type of activities that each of the parties must undertake and the term in which the acquired company is liable to perform the specified actions. Since Mexico does not have a mandatory carbon market, in our experience business transactions with a climate change or green energy component in Mexico have thus far typically involved the sale of CERs under ERPA or clauses or contractual arrangements with similar effects, typically targeted towards a European purchaser under the EU ETS framework, and often under EU laws.

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