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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 (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 also 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 certain different climate change and green energy bills in the US Congress, there has been some talk in Mexican academic and specialised circles as to the suitability (or lack thereof) of NAFTA and the NAAEC to favour emissions trading among Canada, the US and Mexico.

Finally, in April 2010 Mexico became part of the Global Gas Flaring Reduction alliance, which is a public-private partnership with the purpose of reducing flaring and venting, and instead using associated natural gas. Mexican Petroleum (PEMEX) is also a party to the foregoing alliance. Mexico has not enacted any legislation related to gas flaring and venting, although there are future plans to publish them.

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, tidal 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. The Mexican government requires that any constructions built after 7 April 2006 must heat water using solar power, as set forth in a local standard.

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 chapter will show, over the past decade Mexico has taken sustained actions, designed serious policies and enacted certain pieces of legislation aimed at reducing its overall GHG emissions far beyond what is legally required in the international context, and much more profoundly than many of its peers in the developing world. Moreover, a bill on climate change is currently being discussed at the Mexican Congress (see question 4).

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

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 objective that this plan identifies is 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);
- reducing energy intensity;
- adopting international standards for air emissions from mobile sources; and
- verifying compliance with the plan 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 (COMEGEI), which is a working group of the Mexican Inter-governmental 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 published in Mexico's Official Gazette on 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 in government procurement contacts). Under the PECC Mexico aspires to reduce, by 2050, its GHG emissions by 50 per cent using GHG emission levels in 2000 as a baseline (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 GHG emissions by 750MtCO_2e (million tonnes of CO_2 equivalent) and 830MtCO_2e. 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.

The Energy Sector's Programme

The Energy Sector's Programme was created in November 2007. This document derives from the National Development Plan and contains strategies, targets and lines of action for the federal government in relation to the energy sector to be followed from 2007 to 2012. Although the Plan contains a general outline of where the energy sector in Mexico is today, and targets for the future, it also contains specific provisions on the use of renewable energies, financing of these sources of energy, mitigation of GHGs, mitigation of climate change and promotion of the use of biofuels.

The National Programme for the Sustainable Use of Energy

The National Programme for the Sustainable Use of Energy was published in Mexico's Official Gazette on 27 November 2009. This document derives from the National Development Plan and contains strategies to promote the efficient use of energy in order for the country to develop in a sustainable way by means of the adoption of technologies that offer increased energy efficiency and savings for consumers. Compliance with the requirements set forth in this Programme is compulsory for ministries, agencies and entities comprising the federal public administration. The Programme outlines a strategy that proposes actions directed to final consumers of energy. Seven different areas are identified to increase energy efficiency in the medium and long term: transportation, illumination, household appliances, cogeneration, buildings and construction, industrial motors and water pumps. The Programme anticipates that, if the measures contained therein are successfully implemented, the final consumption of energy can be reduced by 18 per cent by 2030 and by 23 per cent by 2050.

Mexico City's Climate Action Programme

The Mexican government has prepared an action plan for adaptation and mitigation of climate change effects, was published on May 2008. Some of its goals include reducing 7MtCO_2e between 2008 and 2012. Many actions are included that are the jurisdiction of the local government, such as the reduction of GHG capture of biogas from municipal landfills, water-related measures (investment in pipes, the collection of methane emissions from septic tanks and in education for the rational use of water) and transportation, such as construction of additional metro stations and the mandatory use of school buses instead of using cars.

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 30MW), 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 (EIA) 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, parties who wish to make atmospheric emissions must previously request an operating or air emissions licence (or sole environmental licence) for such purpose.

The National Water Law

The National Water Law (NWL; published on 29 April 2004) sets out the general rules for using 'national water' from bodies of water. 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 (the 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 maize (corn), which may only be used when there is enough national production to satisfy nutritional needs in the country.

The Law on the Sustainable Use of Energy

The Law on the Sustainable Use of Energy (the LSUE; enacted on 28 November 2008) intends to incentivise 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 government 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 (the 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 Federal Commission of Electricity (FCE). Until 2009, 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 de-incorporated by means of a decree published on 11 October 2009 and was 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), the Law on National Property (relevant for projects intruding on federal zones, or using federal resources) and the Federal Law of the Sea (relevant for projects that involve infrastructure in the sea, such as those that generate tidal energy).

Finally, the bill on climate change that was being discussed at the Mexican Senate late last year has not yet been approved or published; for further information, please see the 'Update and trends' section.

The Law on Mitigation and Adaptation to Climate Change

On 16 June 2011, the Law on Mitigation and Adaptation to Climate Change was published in Mexico City's Official Gazette. Among the obligations included in this Law are:

- to work towards a 0 per cent deforestation rate in a maximum three-year period;
- to publicise the international and national carbon market;
- waste plants where solid wastes are selected and treated must install machinery to generate green and alternative energies; and
- energy efficiency in public lighting and sustainable buildings, inter alia. The creation of a local carbon market is a faculty granted to Mexico City's mayor. The Law provides that an environmental climate change fund must be created in order to hold enough funds to pay for the actions contained therein. The fund will be created with resources granted by the Mexican government, contributions for projects registered as CDMs, donations, utilities generated from the operation of the Mexico City Certified Emission Reductions programme.

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 were published last 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 (among other regulations on noise pollution, environmental audits, natural protected areas and ecological ordinance) including, most notably, 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 NWL, 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, 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 an 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 use (ie, washing machines, lightbulbs, refrigerators, air conditioning and water heaters). In addition, NOMs were also enacted to achieve energy efficiency in street lighting, exterior illumination and lighting of non-residential buildings (new and renewals thereof). According to Mexico's Fourth Communication to the UNFCCC (Fourth Communication) (published in November 2009), the enactment of energy efficiency NOMs has resulted in savings of 15,775GW, energy savings of 56.79PJ and an avoidance of the emission of 12.8MtCO_2e.

On 4 December 2009 the National Hydrocarbons Commission published a technical document to avoid or reduce gas flaring and venting through hydrocarbon exploration and exploitation works. This document provides that maximum permitted limits for gas flaring and venting will be created, but these limits have not yet been published.

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 maize.

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 and 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), 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), the Ministry of Social Development, 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).

The National Hydrocarbons Commission, whose main faculties include the revision of projects related to hydrocarbons in order to obtain higher utilities, is also responsible for protecting the environment and achieving sustainability with respect to oil extraction and exploitation and to reduce gas flaring and venting.

Finally, although not a national authority, by means of the Law on the Mitigation and Adaptation to Climate Change, an Inter-institutional Committee was created to verify the application of the Climate Action Programme. This Committee must annually report its activities to Mexico City's Congress.

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. Mexico's Fourth Governmental Report (2010) sets forth that a reduction of 19.5MtCO_2e has been achieved since the PECC was published. The Fourth Communication was prepared with estimates (Mexico had issued three prior National Communications to the UNFCCC in 1997, 2001 and 2007, and had created a National Strategy on Climate Change in 2007). The last Communications were published in November 2010, therefore all references are made to said document as the new Communication is not yet available. The National Institute of Ecology (NIE) gathered a group of experts who discussed information needs for each sector and requested information from the parties involved, which was provided voluntarily and under no legal obligation to disclose. The information contained below was obtained from the Fourth Communication.

Power generation

According to Mexico's Fourth Communication, the energy sector accounts for 60.7 per cent of Mexico's GHG emissions. During 2006 the following activities emitted within the energy sector:

- the energy industries (35 per cent of the emissions, 149,137 Giga grams (Gg));
- energy transportation (34 per cent of the emissions, 144,694Gg);
- the construction industry (13 per cent of the emissions, 56,832Gg);
- fugitive emissions (11 per cent of the emissions, 47,395Gg); and
- other sectors with 7 per cent of the emissions, 32,042Gg.

Other main GHG emitters

Following the energy sector, the following activities in Mexico are responsible for GHG emissions:

- the waste disposal sector, with 14.1 per cent (99,627.5Gg);
- land use, change of land use and forestry, with 9.9 per cent (70,202Gg);
- industrial processes, with 9 per cent (63,526Gg); and
- agriculture, with 6.4 per cent (45,552.1Gg).

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.

According to the Fourth Communication, until August 2009, 118 CDM projects were registered with the UNFCCC, 20 of which received certified emission reductions (or CERs as they are known under the Kyoto Protocol). According to the UNFCCC's website, Mexico, as a host country has obtained 10,078,009 CERs having registered 130 CDM projects. Until August 2009, 217 letters of approval had also been granted by the CICC. The foregoing numbers currently put Mexico in fourth place with respect to the number of projects registered with the UNFCCC, and fifth with respect to CERs expected to be issued and for volume of CERs.

As previously mentioned, 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 and Mexican Petroleum (PEMEX) (and formerly the CLC, which was de-incorporated on

11 October 2009 and subsequently liquidated), that has most CDM projects to reduce GHG emissions in the pipeline. According to SENER's Fourth Labour Report (September 2009 to August 2010), the FCE has created a portfolio of 27 potential projects that could qualify for CERs, however, as of August 2011, 35 potential projects have been identified with such potential. The original 27 projects planned to ensure an annual reduction of 6.5MtCO_2, however, the 36 new projects estimate to reduce 3.8MtCO_2e.

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 new wind power plants in the state of Oaxaca: Oaxaca I, the construction of which should have concluded on December 2010, and La Venta, the construction of which should have concluded on June 2011, which have a generation capacity of 101MW each. In addition, construction of wind projects called Oaxaca II, III and IV started in July 2010, with commercial operations scheduled to begin in 2012, all of which will have an installed capacity of 304MW. Their construction should be concluded by December 2011.

The FCE has already obtained letters of approval from the CICC for hydroelectric overhaul of the following facilities: Botello, Infiernillo, Tirio, Cubano, Jumatán, Plantanal, Cupatitzio, Villita, Zumpimito and General Manuel M Diéguez, all of which have a potential for the reduction of 296,000 tonnes of CO_2e. The estimated emission reductions starting in 2011 should account for 296,000 tonnes of carbon dioxide. Other projects related to renewable energies that also obtained letters of approval are: La Venta III, Oaxaca I, II, III and IV (all these on the wind power side), Vapour production with solar energy in Agua Prieta Central, the repotentiation of the Manzanillo 1 and 2 Thermoelectric complex.

According to the Fourth Governmental Report (2010), the Nuevo Pemex Cogeneration Plant will also be built in Tabasco. The construction period will take around 36 months and should start operations in October 2012. The project is in the process of being registered with the UNFCCC as a CDM.

According to PEMEX's 2010 Labour Report, by the end of 2010 it celebrated three ERPAs and two letters of intent on projects in different stages of being registered with the UNFCCC.

Mexico has discovered great potential in the generation of energy from waste. The CICC, as the designated national authority under the Kyoto Protocol, has a number of 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's web page, the Aguascalientes EcoMethane landfill gas-to-energy project received CERs for reductions of 162,593 tonnes of CO_2e per annum. The other parties involved in this project are the UK and Switzerland. The Landfill Gas Management Project Puerto Vallarta Landfill Site was also granted CERs for 52,267 tonnes CO_2e per annum.

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.

In September 2010, CONUEE published a Programme to Incentivise the Certification of Products, Processes and Services. This is a voluntary programme that organises the certification of energy-efficient products, buildings and industrial facilities. As a result of adhering to the programme, products that comply with energy-efficiency NOMs obtain the right to use a distinctive logo. Commercial buildings and the public administration's buildings may obtain an acknowledgement of compliance with energy-efficiency NOMs and for the use of efficient technologies. Finally, industrial facilities may also receive an acknowledgement for results on energy intensity and compliance with applicable NOMs (for more detail on existing NOMs on energy efficiency, see question 4). It is expected that consumers will prefer products manufactured by those companies which obtain the foregoing certifications or acknowledgments.

Under the Kyoto Protocol, Mexico can be a host country to CDM 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 National Inventory for GHGs (INEGEI). 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. 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 atmos-

pheric 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 Fourth 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. A target is also included in the Climate Change Bill, which is being discussed in Congress, as discussed in question 4. The Bill proposes that a cap-and-trade system is created and operated; however, no specific targets or participants are yet specified.

Although the measures and activities contained in the PECC and the proposed cap-and-trade system contained in the Climate Change Bill will most probably include actions to be undertaken by private parties, at present there is no emission allowance regime in force.

13 Registration

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

Mexico has the INEGEI, which is the national inventory of GHG emissions and which is run by the NIE. According to the Fourth 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.

14 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 (competence depends on the type of industry or sector). 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, 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 with the FCE as initial participant and which would be expanded in the future for private party participation. Private parties should be allowed entrance to the market in the future. In addition, the Climate Change Bill contains provisions on a cap-and-trade system to be created and operated in Mexico (without further detail).

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 (EU ETS), auctioned in the Chicago Voluntary Carbon Market, or could potentially be assessed by other emerging carbon markets (such as RGGI or WCI). A voluntary carbon market run by a local reputable conservation organisation, Pronatura, has encouraged the measurement of carbon footprints and the neutralisation of GHG emissions among certain Mexican corporate giants. In the past, PEMEX also created and operated an internal intra-company carbon market; however, it is no longer in use.

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 ETS. Please refer to question 26.

Sectoral regulation

17 Energy production, use and efficiency

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. Describe any obligations and applicable rules for limitation or reduction of energy use or for energy efficiency improvement that apply to your country and private parties in your country. Describe the main features and provisions of any scheme for registration of energy savings or energy efficiency improvements and for trade of related accounting units or credits in your country.

As discussed in question 4, Mexico enacted legislation to promote the sustainable use of energy and the transition to the generation of renewable energy, its use and the manufacture of biofuels. Mexico is currently relying on non-renewable sources for most of its power generation. According to SENER's Fourth Labour Report, between 1 January 2010 and 30 June 2010 Mexico's installed power capacity relied on the following sources: 73 per cent fossil fuels and 27 per cent clean energy; and according to SENER's Fifth Labour Report between 1 January and 30 June 2011 the capacity is almost the same, relying on 73.6 per cent fossil fuels and 26.4 on clean energies.

On 14 January 2010, the Ministry of Energy published a protocol of activities directed to energy efficiency to be implemented in the public federal administration's real estate, vehicles and electrical installations. This protocol has a short-term purpose to include good practices, but in the medium and long term the target is to substitute obsolete technology for innovative and high-efficiency technologies. This document provides maximum energy consumption levels in real estate (a larger figure of consumption is allowed if air conditioning is installed at the facility and levels are measured by regions). Each of the authorities has the obligation to reduce their energy consumption by 5 per cent. This would be measured against 2010 energy consumption levels. In addition, vehicles used by the federal public administration must annually reduce fuel consumption by 5 per cent, using 2010 fuel levels of consumption as a baseline. Under the protocol the federal public administration's entities must prepare a plan to reduce energy consumption and register their 2010 consumption

on a website, which was done this year for the first time. In addition, high-energy consumers must also register in the registry on energy consumption which is run by CONUEE (a federal public administration entity).

NOMs have been published on energy efficiency for various sectors (industrial and household). Although targets are not provided to individuals, household appliances and other types of equipment sold in Mexico are required to meet applicable energy efficiency NOMs. In addition, any new buildings or expansions must comply with NOMs enacted on energy efficiency for their illumination. In Mexico City new or completely renovated buildings must generate solar power to heat water, as set forth in a local standard. According to SENER's Fourth Labour Report, between 1 January and 30 June 2010 energy consumption fell by 12,356kWh, a reduction of 9.6 per cent with respect to energy consumption in the same period in the year 2009. During the same period in 2011, energy consumption dropped in 15,772kWh, 27.2 per cent more than in 2010.

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 launched two years ago and the Mexican government is in the process of implementing it. The PECC contains measures that are specific to avoid deforestation and changes of land use and related emissions (an activity that is 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. A National Forestry Commission certification programme pays those parties involved in preventing trees from being removed from their lots of land. Such payment is known as a 'payment for environmental services'.

Finally, energy efficiency is proving to be an important area where GHG emission reductions by final consumers of energy can be achieved.

Renewable energy and carbon capture

19 Renewable energy consumption, policy and general regulation

Give details of the production and consumption of renewable energy in your country. What is the policy on renewable energy? Describe any obligations and applicable rules for renewable energy production or use that apply to your country and private parties in your country. Describe the main features and provisions of any scheme for registration of renewable energy production and use and for trade of related accounting units or credits in your country.

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 power, geothermic energy, biomass and waste) are 100 per cent tax-deductible under the Income Tax Law. Another incentive is that power plants that generate half a megawatt and are used as a backup in houses, offices and large housing facilities and co-generation and self-generation facilities that generate less than 3MW do not require an EIA from Semarnat.

As outlined 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. 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 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.

A power generation permit from CRE is also necessary.

According to SENER's Fourth Labour Report, in 2010 three private wind power projects started operations in Oaxaca: Electrica de Valle de México, with an installed capacity of 67.5MW; Eurus, with an installed capacity of 250MW; and Bii Nee Stipa Energía Eólica, with an installed capacity of 26.35MW. In addition, the Oaxaca I, II, III and IV wind power projects will have an installed capacity of 101.4MW each, and they have already obtained letters of approval from the CICC. CDMs may be obtained for these projects by those who won the bids for each of the projects.

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.

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

Update and trends

According to the PECC, a cap-and-trade system would be available in 2012. We therefore anticipate changes in that field by the end of 2011. Also, under local legislation, Mexico City is seeking to create and operate its own carbon market, although there is no known date for when this will happen.

We anticipate that the rest of the Mexican states will follow Mexico City's efforts to abate and mitigate climate change. Mexico City is not the only state that has shown interest in this topic. What follows is a list of the states that have enacted legislation, policies or created authorities to attend this matter:

- Chiapas, which has its own climate change legislation;
- Guerrero has created a committee responsible for ecology and climate change that has urban development-related functions;
- Veracruz's efforts are remarkable: a programme on climate change has been created, there is a Ministry of the Environment and Climate Change, which takes care of general climate change matters and, in addition, has enacted legislation on mitigation and adaptation to climate change; and
- Yucatán has an Intersecretarial Commission on Climate Change, which addresses matters on planning, coordination and permanent communication between the governmental sector, the private sector and the civil society with respect to the potential effects of climate change.

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.

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 water, which is granted under the NWL by the National Water Commission. The generation of wave energy, if installed in the sea, may require a concession title from the federal government. 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's Fourth Labour Report, by 2010 Mexico's total installed capacity for hydropower generation is 11,174.9MW. Since the year 2007 and until now, the installed capacity of hydropower has increased by 0.88 per cent.

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 or more.

The Mexican government has identified a potential for the reduction of emissions from municipal landfills and some actions are included in its Climate Action Programme, as it has jurisdiction over the landfills.

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

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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 policy on and 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 from a change of forestry land use. Specifically, the Mexico City government has a target to reduce deforestation to 0 per cent within a three-year term, as set forth in the Law on the Mitigation and Adaptation to Climate Change and Sustainable Development for Mexico City. Currently, the General Law on Sustainable Forestry Development prohibits the change of forestry land use; permission 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 ERPAs, 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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