



MEXICO: AN EMISSIONS TRADING CASE STUDY



Mexico

The World's Carbon Markets: A Case Study Guide to Emissions Trading

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Year	Event
2007	Launch of National Strategy on Climate Change (ENACC)
2008	Law on Renewable Energy use and Financing the Energy Transition (LAERFTE)
2009	First Special Program on Climate Change 2009-12 begins
2012	General Climate Change Law passed
2013	National Strategy on Climate Change 10, 20 & 40 years
2013	Voluntary Carbon exchange MexiCO ₂ established
2014	Carbon tax compliance begins
2014	Second Special Program on Climate Change 2014- 18 begins
2014	Electricity Industry Law passed; Clean Energy Certificates market to begin operating in 2018
2015	National Emissions Registry (RENE) operation begins
2015	Mexico submits unconditional iNDC target to the UNFCCC

Table 1: Key Dates

Environmental Policy Overview

Mexico is the world's thirteenth-largest GHG emitter (excluding LULUCF)¹ and is expected to be the world's fifth-largest economy in 2050.² In an attempt to decouple emissions growth from economic growth, the 2012 General Climate Change Law mandates that Mexico cuts emissions by 50% by 2050, relative to a 2000 baseline.³ In order to achieve this, Mexico aim to source 25% of electricity from clean energy sources by 2018, rising to 35% by 2024.⁴ Mexico will need a great deal of energy infrastructure to meet growing demand.

While Mexico is not among the countries bound by Annex I of the Kyoto Protocol, and accounts for only 1.6% of global emissions, its climate policy structure has made significant advancements in recent years. In 2007, Mexico launched its first National Strategy on Climate Change (ENACC), a document recognizing climate change as a major world challenge and specifying climate change adaptation and mitigation measures. Soon after launching ENACC, Mexico developed the **Special Program on Climate Change** (PECC), which specified a short-term emissions reduction

target of 51 million tCO₂e/year for the period 2009-12, a medium-term target to reduce CO₂e 320% below business-as-usual (BAU) by 2020,⁴ and a long-term target of 50% reductions below 2000 levels by 2050.⁵ In 2011, after a PECC evaluation, it was said that the program would have cut emissions by 29.5 million tCO₂e by the end of 2012 however no final data is available on the programs performance.⁶

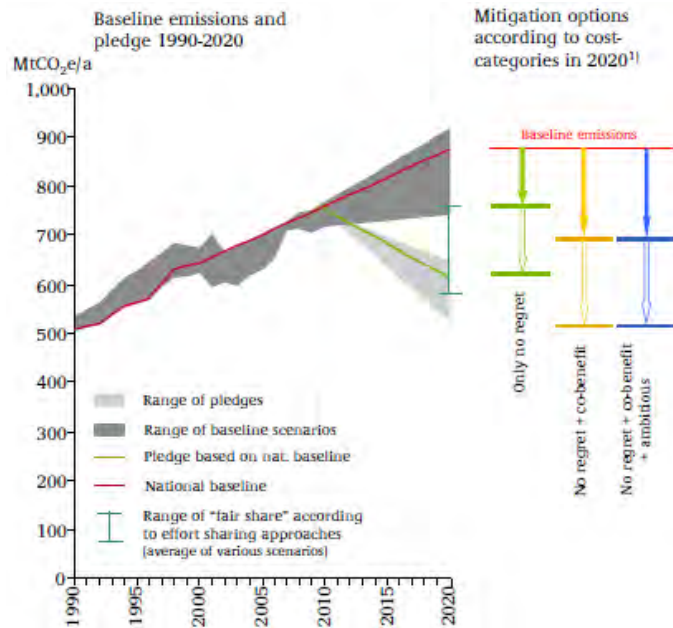


Figure 1: Mexico Emission trajectories and targets 1990-2020^b

Source: Umwelt Bundesamt, 2013. Available at: umweltbundesamt.de pg.11

In late 2008, the Mexican government passed the Law on Renewable Energy Use and Financing the Energy Transition (LAERFTE), which empowered the National Electricity Commission (CFE) to weigh environmental compatibility as a criterion for ordering its dispatch of power among competing generation sources.⁷ LAERFTE promoted the deployment of renewable energy and cogeneration, to help meet emissions reduction goals expressed in the First Special Program on Climate Change, which covered 2009-12. This was a significant development because, before LAERFTE was passed, the CFE was legally obliged to dispatch the lowest-cost, stable, high-quality option without consideration of potential environmental effects.⁸

In April 2012, Mexico's Congress passed the **General Climate Change Law**,⁹ which was signed into law in June 2012. The law sets the target for a 30% reduction in emissions, below business as usual, by 2020 and a 50% reduction below 2000 levels by 2050, as well as the aforementioned clean energy goals. While these targets are ambitious, they were stated as being conditional on an influx of international technical and financial support at an unprecedented scale.¹⁰

The law also established a high-level **inter-ministerial Commission on Climate Change** that is authorized to create a domestic carbon market, and authorizes the Environmental Ministry to establish an emissions market that can include international transactions. It presents the option of, but does not mandate, a domestic emissions trading system (ETS).^{11,12} Among other responsibilities, this commission would approve climate change adaptation and mitigation

^a This commitment is conditional upon industrialized countries providing funding and technological support.

^b Mitigation potential includes only a sub set of all potential measure. Total mitigation potential can be higher. The horizontal lines show the maximum and the minimum of remaining emissions according to different sources after step-by-step implementation of the analysed measures of different cost categories, starting with lowest cost options.

projects. The General Climate Change Law also requires that Mexico set up a climate fund – the **Mexican Green Fund** – that channels resources towards GHG mitigation and climate change adaptation.

Additionally, the General Climate Change Law set goals for **reducing deforestation**. In 2010, the Mexican government published a document that focused on its vision for Reducing Emissions from Deforestation and Forest Degradation (REDD) within the country, a process that is set to be finalized this year. Mexico has since been integrated as one of the countries to conduct pay-for-performance REDD+ pilots under the World Bank Carbon Fund program. In 2010, the State of Chiapas signed a memorandum of understanding (MOU) with the Brazilian state of Acre and California to work towards exploring the establishment of REDD offset programs. This could be used as the basis for a potential link with California's carbon market.

The current administration has the task of implementing the mandates of the General Climate Change Law of 2012. The updated National Climate Change Strategy¹³ and Second Special Program on Climate Change (2014-18)¹⁴ were published in June 2013 and April 2014 respectively. This program outlines the government's contribution towards the General Climate Change Law targets. The Second Special Program on Climate Change outlines five objectives supported with practical strategies to meet them:¹⁵

- **Objective 1:** Reduce the vulnerability of the population and productive sectors by increasing resilience through strategic infrastructure.
- **Objective 2:** Sustainably conserve, restore and manage ecosystems through mitigation and adaptation to climate change, so as to protect environmental services.
- **Objective 3:** Reduce greenhouse gas emissions to transition into and develop a competitive economy with low-emissions.
- **Objective 4:** Reduce emissions of short-lived climate pollutants, which improve health and wellbeing.
- **Objective 5:** Consolidate national climate policy through the use of effective policy instruments and through coordinative efforts with state entities; societies, municipalities and legislative authorities.

The mitigation strategies in the Second Special Program on Climate Change offer specific mitigation measures to meet an 83.2 million tonnes of carbon dioxide equivalent (tCO₂e) reduction in emissions by 2018 compared to the baseline, but specific additional reduction measures were not identified at the time of release.

Being that energy production and consumption are the largest source of emissions, the deep energy reform that Mexico is implementing could have a tremendous impact on the country's carbon footprint. In December 2013, Mexico's congress passed constitutional reforms that restructure Mexico's federal energy monopolies in electricity and petroleum to allow for increased foreign investment, with the goals of boosting the country's oil and gas production, and modernizing and diversifying its electricity generation (potentially including renewables). During 2014, secondary reforms to energy laws were passed, including a new Electric Industry Law that includes the mandate to create a clean energy certificates market. The Energy Transition bill had already passed in the lower house the senate is expected to revisit the issue in at the next session beginning in September 2015.

In March 2015, the government submitted its Intended Nationally Determined Contribution (INDC) for the Paris 2015 climate agreement to the UN Framework Convention on Climate Change secretariat. The key difference between this commitment and the targets previously stated by Mexico under the 2009 Copenhagen Accord and the 2012 General Climate Change Law is that the 25% reduction target compared with 2013 levels is mandatory and the commitment is to reach it without additional assistance from other countries. It spells out that the additional mitigation that Mexico could achieve, up to 40%, is conditional on international technology transfers and resources via international market mechanisms.

The key difference between this commitment and the targets previously stated by Mexico under the 2009 Copenhagen Accord and the 2012 General Climate Change Law is that the 25% reduction target by 2030 compared with 2013 levels is mandatory, and the commitment is to reach it without additional assistance from other countries. Additional mitigation that Mexico could achieve, up to 40%, is conditional on international technology transfers and resources via market mechanisms.

Domestic Markets

In October 2013, as part of the fiscal reform package, President Enrique Peña Nieto put forward plans for a **carbon tax** on fossil fuel production. The Bill was approved that October, and also included an option for covered entities to use certified emissions reduction (CER) credits from Mexican projects for compliance. In November 2013, a voluntary carbon exchange, MexiCO₂, was established to trade carbon credits, including CERs, as a potential means to comply with the carbon tax.¹⁶ The initial tax was set at MXN\$39.80 (US\$3.50) per tCO₂e of fossil fuels, excluding natural gas.¹⁷ The tax rate was capped at 3% of the sales price of fuel, and is expected to collect approximately US\$1 billion a year.¹⁸ Compliance began in January 2014; however, the rules to use CERs have not yet been developed.

TAX			
FOSSIL FUEL	Initial Proposal	Final Proposal	Difference (%)
Natural gas	11.94 ¢/m ³	0	
Propane	10.50 ¢/l	5.91 ¢/l	43.7
Butane	12.86 ¢/l	7.76 ¢/l	39.7
Gas (Regular & Premium)	16.21 ¢/l	10.38 ¢/l	36
Jet Fuel	16.21 ¢/l	10.38 ¢/l	36
Turbosine & other Kerosene	18.71 ¢/l	12.40 ¢/l	33.7
Diesel	19.17 ¢/l	12.59 ¢/l	34.3
Fuel Oil (Heavy & Regular 15)	20.74 ¢/l	13.45 ¢/l	35.1
Oil Coke	\$189.85/ton	\$15.60/ton	91.8
Mineral Carbon	\$178.33/ton	\$27.54/ton	84.6

Table 2: Mexico carbon tax rates (MXN\$)

Source: Partnership for Market Readiness, 2014. Available at: thepmr.org

The General Climate Change Law mandated the creation of the National Emissions Registry, which is comprised of two main features: an emissions registry for mandatory compliance and the voluntary emission reduction registry, both programs could, in future inform and provide the basis for the development of an ETS in Mexico.

In 2015, for the first time, all entities emitting more than 25,000 tCO₂e/year must report their emissions of carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulphur hexafluoride (SF₆), perfluorocarbons (PFCs), hydrochlorofluorocarbons (HCFCs), nitrogen trifluoride (NF₃) and black carbon. The scope of the inventory extends to direct and indirect emissions from both stationary and mobile sources. Roughly 3,000 companies from a variety of sectors including energy, transport, agriculture, services, industry, construction, tourism and government will be subject to annual reporting obligations which will be verified every three years.¹⁹ This program can potentially inform the development and implementation of an ETS in the future.

While the General Law on Climate Change neither mandates cap and trade nor stipulates requirements for the development of a voluntary program,²⁰ Articles 94 and 95 focus on emissions trading. The English translations are as follows:²¹

- 1. Article 94:** The Secretary, with the participation of the Commission and the Council, will be able to establish a voluntary system of emissions trading with the objective of promoting emissions reductions that can be accomplished at the lowest cost possible, in a measurable, reportable and verifiable way.²²
- 2. Article 95:** Those interested in participating in a voluntary manner in emissions trading will be able to carry out operations and transactions that link the emissions trading in other countries or that can be utilized in international carbon markets under the terms provided by applicable legal provisions.²³

According to EDF (July 2012),

“The new General Law on Climate Change allows Mexico to deploy economically efficient mechanisms (like the development of emissions trading) that offer enormous opportunities for reducing the country’s greenhouse gas emissions and could truly transform Mexico into a 21st century, clean energy economy... president-elect Enrique Peña Nieto and his administration will hold a great deal of power in making this a reality... While the law is landmark in many ways, some key elements – such as its national targets for reducing emissions and the option to develop a domestic emissions trading system – are not mandatory, nor does it spell out specific sanctions for meeting those targets.”²⁴

According to Business Green (April 2012),

“The bill paves the way for a voluntary emissions trading system that carbon intensive businesses will be invited to partake in, and which could integrate with other international carbon markets.”²⁵

Within the energy sector, a market for Clean Energy Certificates will be put in place to help meet the renewable energy targets (25% by 2018 and 35% by 2024) as well as to reduce GHG emissions. On 31 March 2015, the government published in its Official Federal Gazette the requirements that entities must meet to obtain clean energy certificates, which can be used for compliance from 2018. These certificates will provide evidence to the Mexican Energy Regulatory Commission that an entity has generated a specific amount of energy from clean energy sources.

International Markets

Mexico’s international carbon market experience so far has come primarily via the **Clean Development Mechanism (CDM)**. Mexico is currently host to the fifth-highest amount of registered CDM projects, behind China, India, South Korea and Brazil, and has the most significant potential for expanding its CDM project base. As of March 2015, projects in the country have been issued 26.8 million CERs from 316 CDM Projects, which is a 1.7% of the share of the total issuance of CERs. The majority of projects are derived from methane-avoidance; other popular project types are landfill gas and wind energy (see Figure 2).

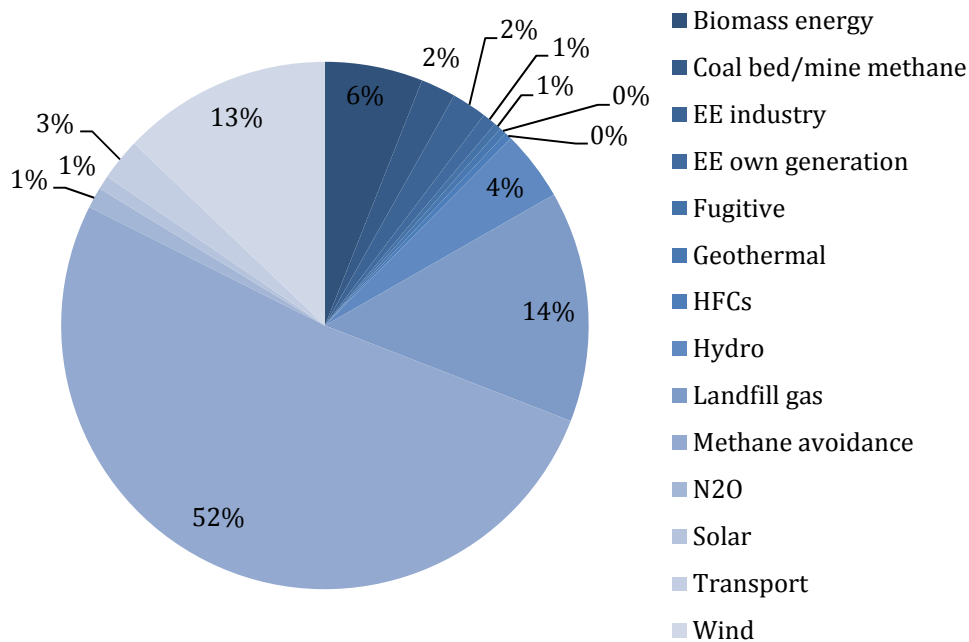


Figure 2: Distribution of Active CDM Projects in Mexico by type (as of March 2015)

Source: CDM Pipeline, 2015. Available at: cdmpipeline.org

One factor that is likely to dampen the growth of the CDM in Mexico, as well as several other host countries, is that, as of 2013, the only newly-registered projects that can supply CERs to the EU ETS are those based in least-developed countries (LDCs).²⁶

Mexico's Potential in million tCO ₂ e	Accepted Sectors for Offsets in North American Markets
2.83	CDM manure management
8.6	Forestry Mexican REDD+
2.58	CDM Ozone depleting substances
TBD	Soil restoration in cattle farms from NAMAs
3.07	CDM waste management
2.2	End using energy efficiency from Housing NAMAs
19.28	Total from CDM and NAMAs

Table 3: Mexico's potential capability as an offset provider for North American markets

Source: Secretaria de medio ambiente y recursos naturales 2014. Available at: thepmr.org

Mexico has made **progress towards becoming a leader in global supply for jurisdictional REDD+ credits**. The MOU between Chiapas, Acre and California is to explore the technical challenges for establishing a REDD+ offsets program. Since 2010, the federal and state governments have taken action to create incentives and build capacity for forest management, sustainable agricultural practices, and conservation. Such action includes developing statewide

REDD+ strategies, as well as exploring a possible future link with California. The 2012 General Climate Change Law recognizes state authority to implement state REDD+ programs. While progress has been made, significant REDD+ development challenges still remain for Chiapas and other states.²⁷

What Distinguishes This Policy?

UNIQUE ISSUES

1. Mexico's **General Climate Change Law enables, but does not mandate, the implementation of an ETS**. It does not advocate for or against implementing a program with a mandatory cap; however emphasis in the law on cost-benefit analysis and economic efficiency of mitigation measures may favor such systems.
2. Mexico's INDC includes an unconditional commitment to cut GHG emissions to 25% below BAU baseline using 2013 emissions by 2030, and explicitly mentions the development of international carbon markets as a mechanism to achieve deeper reductions.
3. By 2050, Mexico is projected to jump from the world's eleventh-largest economy to the fifth. Such growth will require large infrastructural development. Green measures in the short-term could steer the country towards clean development, whereas an inability to achieve the country's ambitious environmental targets could lead to **a lock-in of carbon-intensive infrastructure**.
4. The overhaul of Mexico's federal oil and electricity monopolies through constitutional and secondary law reforms, the implementation of the Clean Energy Certificates starting in 2018, and the passage, specific content and implementation of the Energy Transition Bill currently being discussed are significant prospects for making the energy sector cleaner.
5. The passage of the new carbon tax coincided with the announcement of a new offset trading platform on the Mexican stock exchange where credits for carbon emissions reductions can be purchased either for the voluntary market, or in lieu of paying the carbon tax. It is still unclear what the scale and rules around offsets under the tax law will be, but the platform could be a key precursor to a future ETS.

CHALLENGES

1. In order to reach more ambitious conditional targets, Mexico will need international funding. Legislation such as the 2012 General Law on Climate Change, which stipulates environmentally focused targets, is a critical first step, but **implementation and enforcement** will determine whether such laws are ultimately effective. Increased technical and financial capacity is key to Mexico's achievement of its climate targets.
2. The successful implementation of the Clean Energy Certificate market is crucial to help meet both clean energy and emission reduction targets. These targets need to be borne in mind as the rules are developed.
3. The details of recent sweeping energy reform are still under development. The extent to which Mexico takes advantage of the intersection between these reforms and low-carbon development opportunities, particularly through the development of cap and trade, is not yet clear.
4. Mexico's renewable energy targets for 2018 were reduced from 8.2% to a 5% share of renewable electricity generation, and a 2024 target to increase the share of renewables to 35%. This would require a substantial increase in renewable energy generation in a six-year period.
5. While the initial National Strategy on Climate Change provided very general guidance, and the Special Programs on Climate Change provide more specific information, there are still gaps as to how exactly the 2020 targets will be achieved.

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Disclaimer: The authors encourage readers to please contact the CDC Climat Research, EDF and IETA Contacts with any corrections, additions, revisions, or any other comments, including any relevant citations. This will be invaluable in strengthening and updating the case studies and ensuring they are as correct and informative as possible

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