

# Mexico

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

Last Updated: March, 2014

---

### Environmental Policy Overview:

While Mexico is not among countries bound by Annex I of the Kyoto Protocol, its climate policy structure has made advancements in recent years. In 2007, Mexico launched its 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 specifies a short-term emissions reduction target of 51 MtCO<sub>2</sub>e/year for the period 2009-2012, a medium-term target of 20% reduction below business-as-usual (BAU) by 2020,<sup>1, 2</sup> and a long-term target of 50% reductions below 2000 levels by 2050.<sup>3</sup> An updated ENACC was published in June 2013, and a new PECC will soon be published.<sup>4</sup>

More locally, Mexico's largest city, Mexico City, has passed a Climate Action Program that intends to reduce 7 MtCO<sub>2</sub> relative to 2008 levels during the 2008-2012 period.<sup>5</sup> As of July 2011, Mexico City had reduced 5.7 MtCO<sub>2</sub>, or 82% of its set target.<sup>6</sup>

In late 2008, the Mexican government passed the Law on Renewable Energy Use and Financing the Energy Transition (LAERFTE), which empowers the National Electricity Commission (CFE) to weigh environmental compatibility as a criterion for ordering its dispatch of power among competing generation sources.<sup>7</sup> 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.<sup>8</sup> Also in 2010, Chiapas, a state in Mexico, signed a memorandum of understanding (MOU) with Acre, a Brazilian state, and California to work towards exploring the establishment of REDD offset programs. Chiapas is currently developing a statewide REDD+ strategy that could be used as the basis for a link with California.<sup>9</sup> In January 2012, former President Calderón signed the *Mexico Global Climate Change Program*, which is a five-year, USD \$70 million U.S.-Mexico bilateral cooperative program that aims to advance Mexico towards a green economy by providing money for nascent programs geared towards reducing emissions and conserving forests.<sup>10</sup>

In April 2012, Mexico's Congress passed the General Climate Change Law by large majority votes in both houses, and former President Calderón signed it into law in June 2012. Among this new law's features are the establishment of a high-level climate commission that is authorized to create a domestic carbon market, and authorization for the Environmental Ministry to establish an emissions market that can include international transactions between Mexico and any countries with which it enters into emissions trading agreements. While this law presents the option to develop a domestic emissions trading system (ETS), such ETS development is not mandatory. In addition, the law establishes a national framework for addressing climate change mitigation and adaptation as well as very explicit,

though currently non-binding, goals for emissions reductions, renewable energy production and use, and reduced dependence on fossil fuels.<sup>11, 12</sup>

Mexico is the world's 13<sup>th</sup> largest GHG emitter (non-LULUCF)<sup>13</sup>, and it has the world's 11<sup>th</sup> largest economy. By 2050, however, it is expected to be the world's fifth largest economy.<sup>14</sup> Mexico will need to build a great deal of energy infrastructure to meet growing demand, so, to achieve its stated goals, it will likely seek significant international financial support.<sup>15</sup> One potential funding source is the Green Climate Fund, a prospective USD \$100 billion/year fund that transfers money from developed nations to developing countries that are looking to reduce emissions.

## Domestic Markets:

The General Climate Change Law creates a possible pathway for Mexico to implement a national emissions trading system that could help the country meet its mitigation goals in a highly economically efficient way. Mexico's **voluntary emissions reduction** targets are:<sup>16</sup>

1. **Cut GHG emissions 30% below BAU levels by 2020.** This goal equates to a 12% reduction in absolute emissions below 2005 levels. According to a 2012 Reuters report, this target would require Mexico to reduce emissions by 261 MtCO<sub>2</sub>e/year by 2020, relative to projected levels. Of these cuts, 80% would likely come from energy production, energy efficiency, and forestry measures.<sup>17</sup> The Mexican government's BAU projection contrasts that of PBL Netherlands Environmental Assessment Agency, which calculates Mexico's stated 2020 target as 21% reduction below BAU. See Figure 1.<sup>18</sup>
2. **Cut emissions 50% below 2000 levels by 2050.**
3. **Source 35% of electricity generation from clean energy by 2024.** The law advocates that the Ministry of Finance develop incentives, such as designing a subsidy system that favors renewable energy, to promote renewable energy.

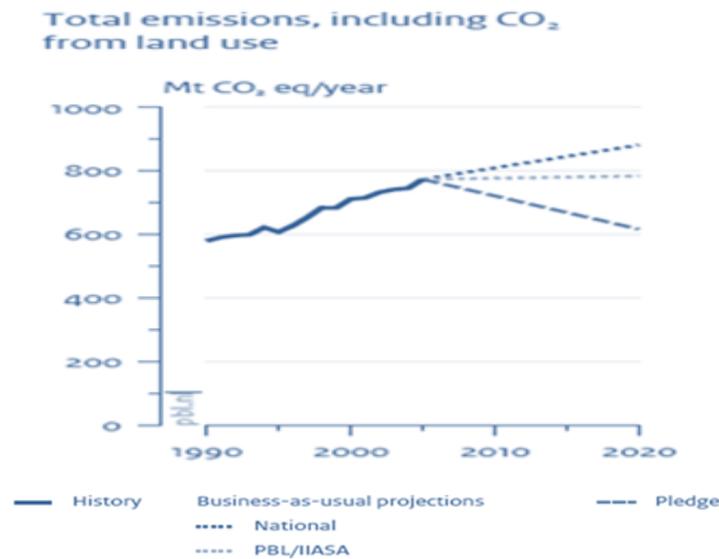


Figure 1: Mexico's Pledged 2020 Reductions Relative to Differing BAU Estimations

**The General Climate Change Law** neither mandates cap-and-trade, nor does it stipulate requirements for the potential program.<sup>19</sup> It has two articles, Articles 94 and 95, that focus on emissions trading. The English translations are as follows:<sup>20</sup>

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.<sup>21</sup>
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.<sup>22</sup>

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 21<sup>st</sup> 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.”<sup>23</sup>*

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.”<sup>24</sup>

In October 2013, as part of the fiscal reform package, Mexico President Enrique Peña Nieto put forward plans for a carbon tax on fossil fuel production. The Bill was approved by the House and Senate later in October, and also included an option for covered entities to use Mexican-based Certified Emissions Reductions (CERs) for compliance.<sup>25</sup> The initial tax would be set at MXN \$39.8 (USD 3) per ton of carbon dioxide from petrol, propane, butane, aviation fuel, diesel, heating oil, coke and coal.<sup>26</sup> Compliance began in January 2014. In November 2013, a voluntary carbon exchange, MexiCO<sub>2</sub>, was established to trade carbon credits, including the CDM credits potentially available for compliance of the carbon tax.<sup>27</sup>

GHG registry

## International Markets:

Because Mexico is a developing country, its international carbon market experience so far has come primarily via the **Clean Development Mechanism (CDM)**. According to a 2010 RFF report, Mexico has the fourth highest amount of registered CDM projects, behind China, India, and Brazil, as well as the fourth largest potential for CDM, behind China, Brazil, and Chile.<sup>28</sup> According to the UNFCCC, as of August 2012 Mexico’s expected annual average CERs from registered CDM projects was almost 13 million, 2.0% of global CERs.<sup>29</sup> As of June 2011, the country had 127 registered CDM projects and another 55 either at validation or undergoing the validation process; 92 of the registered projects, which are responsible for almost half the country’s CERs, derive from methane-avoidance. Other popular project types were landfill gas and wind energy (see Figure 2).<sup>30</sup> In 2009, the majority of Mexico’s CDM projects were focused on agriculture (47 percent) and biogas (21 percent) (see Figure 3). According to RFF 2010, there is significant room for expansion of CDM to the country’s oil and gas sectors, and the World Bank reported in 2009 that Mexico could produce 100 MtCO<sub>2</sub>e/year of emissions reductions through the energy sector, alone.<sup>31</sup> One factor that is likely to dampen the growth of Mexico’s CDM program is that, as of the beginning of 2013, the EU ETS now only allows

CERs from Least Developed Countries (LDCs), so CERs from Mexico will not be allowed in the EU if the CER derives from a project that receives CDM certification after 2012.<sup>32</sup>

A specific type of international offset that Mexico has made **progress towards becoming a leader in global supply is REDD+**. The state of Chiapas signed a MOU, in which it agrees to explore the technical challenges for establishing a REDD+ offsets program, with California and Acre, a heavily forested Brazilian state. Since 2010, the federal and state governments have taken action to create incentives for capacity building for forest management, sustainable agricultural practices, and conservation. Such action includes developing a statewide REDD+ strategy, as well as exploring the possible future link with California. In addition, Chiapas state authorities have created a climate action plan with REDD+ reference levels. Marking national progress on REDD+ development, 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.<sup>33</sup>

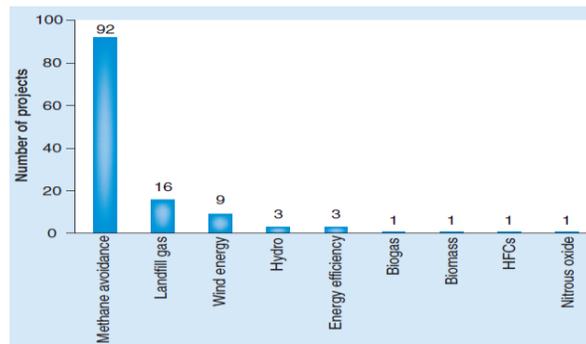


Figure 2: Mexico’s Clean Development Mechanism portfolio: registered projects as of June 2011<sup>34</sup>

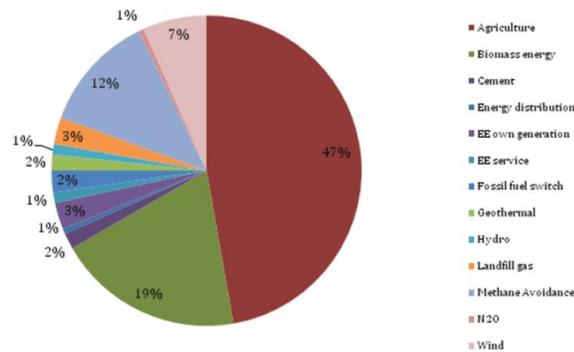


Figure 3: Distribution of Mexican CDM Project Types (2009)<sup>35</sup>

## Regulation and Oversight:

The 2012 General Climate Change Law mandates emissions reporting and requires the country to create a national, public **emissions registry** to which emitting sectors will report their emissions. **Sectors** subject to these reporting requirements will include power generation and usage, agriculture, industrial processes, waste, forestry and other land uses, and transportation.<sup>36</sup>

## Recent Environmental History:

Aside from enabling the potential development of a national-level ETS and setting aspirational targets, the 2012 **General Climate Change Law** creates an institutional framework for climate action, and mandates the development of national-level, plans, policies, and programs. The law creates an **inter-ministerial Commission on Climate Change**, which oversees national climate policy. Among other responsibilities, this Commission would approve climate change adaptation and mitigation projects, such as establishing the framework for an emissions trading system. Another requirement established by the General Climate Change Law is that Mexico set up a climate fund – the **Mexican Green Fund** – that channels resources towards GHG mitigation and climate change adaptation activities. The law also sets goals for reducing **deforestation**.<sup>37</sup>

As mentioned earlier, in 2008 Mexico adopted the **Special Program on Climate Change (PECC)**, which set short, medium, and long term climate change targets. The PECC set 303 aspirational goals, 95 of which entail GHG mitigation.<sup>38</sup> For 2009-2012, the PECC has achieved mitigation through several sectors: LULUCF, energy generation, energy usage, transport, and waste. For 2050, the goal is to reduce emissions from the projected 644 MtCO<sub>2</sub>e/year to 340 MtCO<sub>2</sub>e/year.<sup>39</sup> While the PECC targets are ambitious, they are conditional on an influx of international technical and financial support at unprecedented scale.<sup>40</sup>

Also passed in 2008, the **Law on Renewable Energy Use and Financing the Energy Transition (LAERFTE)** promotes the deployment of renewable energy and cogeneration and thereby facilitates the fulfillment of emissions reduction goals expressed in the PECC. LAERFTE regulates both the use of renewable energy and cogeneration activity not devoted to public supply, and it establishes the structure of a fund (Fondo para la Transición Energética y el Aprovechamiento Sustentable de la Energía) with an inter-ministerial technical committee to promote renewable energy and energy efficiency. Furthermore, it creates the ability to incentivize growth of private investment in renewable energy by empowering CFE to pay higher prices for energy from renewable sources. LAERFTE's Article 15 requires CFE to include direct and indirect positive effects and relative risks of renewable generation in the context of energy transition as a criterion when determining dispatch order across sources to meet demand. Such a system could lead to the dispatch of renewable energy ahead of sources that have a lower price when environmental damages are not included as part of the cost, and creates both authority and another powerful incentive for CFE to experiment with market-like mechanisms that incorporate carbon emissions into internal decision-making procedures. Before LAERFTE, CFE was legally obligated to dispatch the lowest-cost, stable, high-quality option without consideration of potential environmental effects.<sup>41</sup>

In December, 2013, Mexico's congress passed constitutional reforms that restructure Mexico's federal energy monopolies in electricity and petroleum to foreign investment – a major goal being to boost the country's oil and gas production, as well as modernization and diversification of its electricity generation (including, potentially, from renewables).

## CHALLENGES:

1. Mexico's current policy relies heavily on the expectation of **international funding** to achieve its targets.
2. Passing laws, such as the 2012 General Law on Climate Change, which stipulate 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.
3. Currently GHG emissions reduction targets are not mandatory. Under the new law, energy generation emitters may, in the future, be obligated to compensate for emissions in excess of emissions of natural gas plants (a kind of carbon tax); however, Congress must pass a secondary regulation for this to become a reality. Setting other **mandatory caps** would require additional legislation.

4. 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.

#### UNIQUE ISSUES:

1. Mexico's **General Climate Change Law enables, but does not mandate, the implementation of an emissions trading system**. 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 developing such systems.
2. Between today and 2050, Mexico has been projected to jump from the world's 11<sup>th</sup> largest economy to the 5<sup>th</sup> largest economy. Infrastructural implementation will be necessary for facilitating this growth. 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 **'lock-in' of carbon-intensive infrastructure**.
3. The recent overhaul of Mexico's federal oil and electricity monopolies through constitutional reform is a potentially significant prospect for making the energy sector cleaner.
4. 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 (in tons) can be purchased either for the voluntary market, or in lieu of paying the carbon tax for those tons. As of now, it is still unclear what the scale and rules around offsets under the tax law will be, but the platform could mean developing key precursors to a future emissions-trading system.

#### Author Acknowledgements:

If you have any comments or suggestions for this case study, please do not hesitate to contact lead authors:

*EDF co-author:* Peter Sopher

*EDF contact:* Daniel Francis ([dfrancis@edf.org](mailto:dfrancis@edf.org))

Environmental Defense Fund (EDF)

1875 Connecticut Ave NW Ste. 600

Washington, DC

*IETA co-author:* Anthony Mansell

Amanda Mardiney

*IETA contact:* Robin Fraser ([fraser@ieta.org](mailto:fraser@ieta.org))

International Emissions Trading Association (IETA)

20 F St NW Suite 700

Washington, DC

EDF and IETA would like to thank Ruben Lubowski, Christina McCain, Danae Azuara, Jennifer Andreassen, Joe Billick, Clayton Munnings, and Rodrigo Gallegos (Mexican Institute for Competitiveness) for very helpful comments and information for this case study. We take full responsibility for any remaining errors.

**Disclaimer:** The authors encourage readers to please contact the 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

<sup>1</sup> This commitment is conditional upon industrialized countries providing funding and technological support.

- <sup>2</sup> Comisión Intersecretarial de Cambio Climático. “Programa Especial de Cambio Climático 2009-2012.” August 28, 2009. [http://www.dof.gob.mx/nota\\_detalle.php?codigo=5107404&fecha=28/08/2009](http://www.dof.gob.mx/nota_detalle.php?codigo=5107404&fecha=28/08/2009)
- <sup>3</sup> Sterk, Wolfgang and Florian Mersmann (August 2011). “Domestic Emission Trading Systems in Developing Countries—State of Play and Future Prospects.” Wuppertal Institute for Climate, Environment, and Energy. JIKO Policy Paper 2/2011. Available at <http://www.jiko-bmu.de/files/basisinformationen/application/pdf/pp-ets-developing-countries.pdf>
- <sup>4</sup> <http://www.encc.gob.mx/en/index.html>
- <sup>5</sup> Casaubon, Marcelo, Martha Delgado Peralta, Adolfo Mejía Ponce de León (May 2008). “Mexico City Climate Action Program 2008-2012 Summary.” Secretaría del Medio Ambiente, Gobierno del Distrito Federal. Available at [http://www.sma.df.gob.mx/sma/links/download/archivos/paccm\\_summary.pdf](http://www.sma.df.gob.mx/sma/links/download/archivos/paccm_summary.pdf)
- <sup>6</sup> Ministry of Environment, Government of Mexico City. “Mexico City Reducing Greenhouse Gas Emissions.” Available at [http://www.mexicocityexperience.com/documents/Mexico\\_City\\_GHG\\_Graphic.pdf](http://www.mexicocityexperience.com/documents/Mexico_City_GHG_Graphic.pdf)
- <sup>7</sup> Cámara de Diputados, H. Congreso de la Unión (January 2012). “Ley para el Aprovechamiento de Energías Renovables y el Financiamiento de la Transición Energética.” Estados Unidos Mexicanos. LXII Legislatura. Available at <http://www.diputados.gob.mx/LeyesBiblio/ref/laerfte.htm>
- <sup>8</sup> Federal Government of Mexico (2010). “Visión de México Sobre REDD+: Hacia una Estrategia Nacional.” SEMARNAT and CONAFOR. Available at [http://www.conafor.gob.mx:8080/documentos/docs/7/1393Visi%C3%B3n%20de%20M%C3%A9xico%20sobre%20REDD\\_.pdf](http://www.conafor.gob.mx:8080/documentos/docs/7/1393Visi%C3%B3n%20de%20M%C3%A9xico%20sobre%20REDD_.pdf)
- <sup>9</sup> Diamant, Adam (October 2012). “Linking Offsets from Mexico into California’s Greenhouse Gas Cap and Trade Program.” Electric Power Research Institute (EPRI). Available at [http://globalclimate.epri.com/doc/adiamant\\_mexico.pdf](http://globalclimate.epri.com/doc/adiamant_mexico.pdf)
- <sup>10</sup> Embassy of the United States (2012). “U.S. and Mexican Governments Announce United Effort to Combat Climate Change.” Available at <http://mexico.usembassy.gov/press-releases/us-and-mexican-governments-announce-united-effort-to-combat-climate-change.html>
- <sup>11</sup> Cámara de Diputados del H. Congreso de la Unión (June 2012). “Ley General de Cambio Climático.” Estados Unidos Mexicanos. Available at <http://www.diputados.gob.mx/LeyesBiblio/pdf/LGCC.pdf>
- <sup>12</sup> McCain, Christina (July 2012). “Mexico’s historic climate law: an analysis.” Environmental Defense Fund (EDF). Available at <http://blogs.edf.org/climatetalks/2012/07/16/mexico-climate-law-analysis/>
- <sup>13</sup> United Nations Statistics Division. “Carbon dioxide emissions (CO<sub>2</sub>), thousand metric tons of CO<sub>2</sub> (CDIAC).” Millennium Development Goals Indicators. Available at <http://mdgs.un.org/unsd/mdg/SeriesDetail.aspx?srid=749&crd=>
- <sup>14</sup> Hein, Jayni Foley (April 2012). “Follow the Sun: Mexico on Target to Pass National Climate Change Law.” <http://legalplanet.wordpress.com/2012/04/16/follow-the-sun-mexico-on-target-to-pass-national-climate-change-law/>
- <sup>15</sup> Johnson, Todd M., Claudio Alatorre, Zayra Romo, and Feng Liu (2009). “Low Carbon Development for Mexico.” The International Bank for Reconstruction and Development/The World Bank.
- <sup>16</sup> *Supra*, Note 10.
- <sup>17</sup> Volcovi, Valerie (May 2012). “Mexico’s CO<sub>2</sub> goals more “ambitious” than South Korea’s: HSBC.” Thomas Reuters Point Carbon. <http://www.pointcarbon.com/news/1.1854099>
- <sup>18</sup> den Elzen, Michel, Mark Roelfsema, Andries Hof, Hannes Bottcher, and Giacomo Grassi (2012). “Analysing the emission gap between pledged emission reductions under the Cancun Agreements and the 2°C climate target.” PBL Netherlands Environmental Assessment Agency (PBL). Available at <http://www.sustainableguernsey.info/blog/wp-content/uploads/2012/05/2012-M04-290412-pbl-2012-analysing-the-emission-gap-between-pledged-emission-reductions-500114021.pdf>
- <sup>19</sup> *Supra*, Note 11.
- <sup>20</sup> Environmental Defense Fund (EDF) (July 2012). “Mexico’s climate law: selections on emissions trading, emissions reductions targets.” Available at <http://blogs.edf.org/climatetalks/mexicos-climate-law-selections-on-emissions-trading-emissions-reductions-targets/>
- <sup>21</sup> *Supra*, Note 19.
- <sup>22</sup> *Supra*, Note 19.
- <sup>23</sup> *Supra*, Note 11.
- <sup>24</sup> Murray, James (April 2012). “Mexico Senate approves historic climate change bill.” Business Green. Available at <http://www.businessgreen.com/bg/news/2169177/mexico-senate-approves-historic-climate-change>
- <sup>25</sup> <http://www.pointcarbon.com/news/1.2714871>
- <sup>26</sup> <https://www.pointcarbon.com/news/1.2566400>
- <sup>27</sup> <http://www.mexico2.com.mx/>
- <sup>28</sup> Burtraw, Dallas, Ray Kopp, Richard Morgenstern, Daniel Morris, and Elizabeth Topping (July 2010). “Feasibility Assessment of a Carbon Cap-and-Trade System for Mexico.” Resources For the Future. Available at <http://www.rff.org/rff/documents/rff-rpt-mexicowb.pdf>
- <sup>29</sup> UNFCCC (2012). “Expected average annual CERs from registered projects by host party.” Available at <http://cdm.unfccc.int/Statistics/Registration/AmountOfReductRegisteredProjPieChart.html>
- <sup>30</sup> Corbera, Esteve, and Noelia Jover (2012). “The undelivered promises of the Clean Development Mechanism: insights from three projects in Mexico.” *Carbon Management* 3(1), 39-54. Available at [http://estevacorbera.files.wordpress.com/2010/08/cdm\\_mexico\\_corberamolero.pdf](http://estevacorbera.files.wordpress.com/2010/08/cdm_mexico_corberamolero.pdf)
- <sup>31</sup> *Supra*, Note 24.
- <sup>32</sup> Aldy, Joseph and Robert Stavins (May 2012). “Post-Durban Climate Policy Architecture Based on Linkage of Cap-and-Trade Systems.” *The Chicago Journal of International Law*.
- <sup>33</sup> *Supra*, Note 8.
- <sup>34</sup> *Supra*, Note 26.
- <sup>35</sup> *Supra*, Note 24.
- <sup>36</sup> *Supra*, Note 10.
- <sup>37</sup> *Supra*, Note 10.
- <sup>38</sup> *Supra*, Note 24.
- <sup>39</sup> Fernandez, Julia Martinez (June 2009). “Mexico’s Special Program for Climate Change (PECC). National Institute for Ecology. INE. SEMARNAT. Available at <http://www.oecd.org/dataoecd/4/25/42998840.pdf>
- <sup>40</sup> *Supra*, Note 23.
- <sup>41</sup> *Supra*, Note 6.