Introduction to Carbon Markets in Mexico

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The Climate Action Reserve currently has four carbon offset protocols applicable for use in Mexico,[1] while a fifth, to incentivize boiler efficiency improvements, is currently under development. This memo aims to provide an introduction to carbon offsets and carbon markets, in general.

Introduction to Carbon Markets

Carbon markets around the world can be broken down into two groups: voluntary markets, such as currently exists in Mexico, and compliance markets, such as California's Cap-and-Trade Program or the European Union Emission Trading System (EU ETS).

Compliance markets are those with a government mandate in place which forces certain regulated entities to reduce their emissions. Under such programs, the requirement to reduce emissions can usually be met by internally reducing emissions, purchasing allowances (typically allowing the emission of 1 tCO_2e per allowance), or purchasing offsets (also equivalent to 1 tCO_2e per offset). Carbon offsets are voluntary emission reduction credits that are frequently included in such programs as a cost-effective mechanism for regulated entities to meet their reduction commitments. In compliance markets, the price for carbon offsets tends to be correlated with the price for emission allowances used by regulated entities to achieve compliance with the relevant climate change law. The price of internally reducing actual emissions is hard for the market to gauge. However, the price per allowance is typically set by the market, with regulated entities buying and selling allowances until the point that the price per allowance represents the marginal cost for compliance. The price of offsets is also set by the market, typically slightly lower than the cost for purchasing allowances (reflecting the potential risk that an offset will be subsequently found to have failed a regulatory requirement).

The Mexican offset market is currently a voluntary market. In the voluntary market for carbon offsets, government-mandated policy does not drive demand. Absent a government mandate, demand for offsets usually comes from large corporations or other stakeholders who are voluntarily reducing their carbon footprint, in part through the use (and retirement[2]) of offsets. Some well-known examples of voluntary offset buyers include Disney, Chevrolet, and Google, while many international airlines (such as United Airlines) offer customers the opportunity to pay a little extra with their flights to purchase offsets to cancel out the emissions from their particular flight. Due to the fact that offsets in the voluntary market are not used to meet any compliance obligation, the price for voluntary market offsets is thus more opaque, variable, and typically lower than for offsets sold into the compliance market.

[1] These Mexico protocols include Landfill, Livestock, and Destruction of Ozone Depleting Substances, while a Mexico Forestry protocol is currently approved for pilot projects only.

[2] When a carbon offset is purchased by a company or stakeholder, with the intent to "offset" its emissions, the carbon offset is "retired," meaning that the emission reduction has been claimed by that business and cannot be sold to anyone else.

Mandatory GHG Reporting in Mexico

A robust GHG reporting program is typically a critical capacity building precursor to an emission trading system (ETS), such as cap-and-trade, preparing both government and industry to develop the necessary GHG historical data and data gathering and reporting processes. All potential regulated entities develop a better understanding of their overall emissions and emission sources so that they can better manage their emissions moving forward. Mexico's General Law on Climate Change, passed in 2012, mandates a 30% reduction in emissions, below "business as usual", by 2020 and a 50% reduction below 2000 levels by 2050.[3] It also establishes a number of clean energy goals and a number of public policy instruments, including a mandatory GHG reporting system, the National Emission Register (RENE).[4] RENE imposes an obligation on companies or facilities emitting more than 25,000 tCO_2e/year, covering some 3000 companies from a variety of sectors, with 2015 being the first year all of these companies will have been required to report on their emissions from the previous year.[5] The RENE system is intended to be expanded in the future to include the voluntary registration of carbon offset projects based in Mexico, and later expanded further to the certification of such projects by SEMARNAT.[6]

The Mexican Carbon Market

The Supply of Mexican Offsets

Much of Mexico's carbon market experience to date has come from its participation in the Clean Development Mechanism (CDM), one of the market-based mechanisms included in the Kyoto Protocol. As of March 2015, Mexico was host to some 316 CDM projects, which have generated just short of 27 million offsets (called Certified Emission Reductions or CERs).[7] This makes Mexico the fifth highest CDM project host, behind China, India, South Korea and Brazil. Despite this very strong CDM presence, the future of CDM projects in Mexico is not clear. CDM offset prices globally crashed over the past few years, and have failed to recover, with a low volume of CER trading in the last couple of years. The CDM market is suffering for a variety of reasons, the most critical being the lack of a clear signal that the CDM market will continue beyond 2020. This historical information indicates that there may potentially be a significant supply of CDM offsets within the Mexican market, that could be generated and used for carbon tax (and any future ETS) liabilities, as discussed further below.

In addition to Mexico's robust CDM experience, a number of offset projects exist which have been implemented according to other voluntary standards applicable in Mexico. Plan Vivo, the Verified Carbon Standard (VCS), the Gold Standard, and the Climate Action Reserve all have registered and issued offsets to projects in Mexico implemented under each program's respective standards. These programs include project types ranging from reforestation, methane capture at landfill and livestock facilities, renewable energy, and destruction of ozone depleting substances. Though a lesser volume of offsets has been

[3] Camara de Diputados del H. Congresso de la Union (June 2012). "Ley General de Cambio Climatico." Estados Unidos Mexicanos. Available at: http://www.diputados.gob.mx/LeyesBiblio/pdf/LGCC_130515.pdf
[4] Camara de Diputados del H. Congresso de la Union (2012). "Ley General de Cambio Climatico."
[5] IETA (2015) Mexico: The Worlds Carbon Markets: A Case Study Guide to Emissions Trading, downloaded on 12/02/2015 from: https://www.edf.org/sites/default/files/mexico-case-study-may2015.pdf
[6] SEMARNAT 2015, *National Emissions Register: Mitigation Component*, downloaded on Nov 16th from: https://www.thepmr.org/sites/wbpmr/files/Mexico_RENE_PMR_240915.pdf.
[7] IETA (2015).

issued to these non-CDM programs, these projects have allowed for capacity building in Mexico, as well as additional offset supply.

The Demand for Mexican Offsets

Voluntary Market

In Mexico, a small, relatively nascent voluntary market exists, which since 2013 has been further supported by a carbon tax, which includes a use for offsets, as discussed further below. Similar to the international companies noted above who choose to voluntarily offset their carbon footprint, Mexican voluntary buyers include Banorte,[8] a Mexican banking and financial services company, as well as the Mexico-based airlines Aero Mexico[9] and Volaris.[10] These companies typically seek out Mexico-based offset projects for offsetting their emission.

Offsets to meet Carbon Tax Liabilities

Mexico has had a carbon tax in place since 2013 on fossil fuels, with some fuels (such as natural gas and coking coal) exempted from the tax. The amount of tax to be paid varies based on the emissions intensity of the fuel in question, relative to natural gas. The implicit price per tonne of CO_2, for most covered fuels, ranges between MXN40-50 (US$2.50-3).[11] The point of obligation (the entities in the economy that must directly pay the tax) is set right at the top of the supply chain, i.e. on fuel importers and processors. Applying an environmental tax at this level of the system can be an effective way to apply an environmental imposition on the whole economy, especially where there is a lack of robust GHG data for downstream entities.

The Mexican carbon tax legislation allows for the use of carbon offset credits generated from CDM projects (CERs) in Mexico to meet carbon tax liabilities. Instead of allowing offsets to be used to cover a fixed volume of carbon emission liabilities (as offsets are typically used in other emission trading systems), parties are allowed to use CERs to reduce their overall tax bill by an amount equivalent to the market value of the CERs at the time the tax is paid. At present it appears that these rules and valuation criteria have yet to be fully developed. As a result of this lack of clarity, further refinement of the law may be needed before the market embraces the use of offsets for carbon tax compliance. Market participants anticipate that it in future other certified offsets may be able to be used (in addition to CERs) to meet carbon tax liabilities.

[8] "Banorte firma convenio con la Plataforma Mexicana de Carbono, MÉXICO2 para compromiso ambiental," (26 August 2015) MÉXICO2. Available at: http://www.mexico2.com.mx/banorte-firma-convenio-con-la-plataforma-mexicana-de-carbono-mexico2-para-compromiso-ambiental/

[9] "Aeroméxico firma convenio con MÉXICO2 para invertir en proyectos de carbono," (30 September 2015) MÉXICO2. Available at: http://www.mexico2.com.mx/aeromexico-firma-convenio-con-la-plataforma-mexicana-de-carbono-mexico2-para-invertir-en-proyectos-de-carbono/

[10] "Volaris firma convenio con la Plataforma Mexicana de Carbono, MÉXICO2 para neutralizar emisiones de CO2," (2 June 2015) MÉXICO2. Available at: http://www.mexico2.com.mx/volaris-firma-convenio-con-la-plataforma-mexicana-de-carbono-mexico2-para-neutralizar-emisiones-de-co2/

[11] Ley del Impuesto Especial sobre Producción y Servicios, Artículo 2: Tasas del Impuesto. Current tax rates, effective 1 January 2015. http://www.aduanas-mexico.com.mx/claa/ctar/leyes/lieps.html#art2