Climate Bonds Initiative

MÉXICO2 Plataforma Mexicana de Carbono

MEXICAN EDITION

Prepared by Climate Bonds Initiative and MEXICO2

BONDS AND CLIMATE CHANGE 2016

THE STATE OF THE MARKET

Mexico: investment grade and the road to a low carbon economy

Mexico has been a leader in climate diplomacy. In 2012 it passed a comprehensive Climate Change Act and then an Energy Transition Act in 2015. It has adopted voluntary and mandatory greenhouse gas (GHG) emission reduction targets in both local and international frameworks. Mexico´s pathway is to reduce 50% of its GHG emissions by the year 2050, relative to a year 2000 baseline[1].

Investment will be required across the economy to ensure that Mexico achieves its emissions reductions targets.

Mexico's economic backdrop:

Mexico has seen sustained economic growth since the North American Free Trade Agreement with Canada and the United States came into force in 1994[2]. It is now Latin-America's largest exporter[3] and a relatively open economy with a broad network of free trade agreements[4].

The country has seen an extended period of macroeconomic and political stability[5], combined with low inflation[6] and a strong domestic market.

The banking system is profitable, liquid, well capitalized, and stress tests suggest that it is able to withstand severe shocks[7]. During the last few years, wide-ranging reforms have been introduced to deregulate markets and facilitate foreign investment.

What could a Mexican green bond market look like?

Large amounts of investment will be required to finance Mexico's transition to a low carbon economy, mostly in energy, clean transport, buildings, industry and waste and pollution control. $5bn[9] a year is needed for clean energy targets alone.

Until now, climate-aligned projects have largely been financed with federal and state budgets but as in every economy around the world, available government finance is insufficient. Mexico will need to mobilize private capital, especially from institutional investors. State and national governments and national development banks will need to move from direct funding to partnering with and leveraging private capital.

Recently, pension funds, investment funds, insurance companies and other investors have begun to recognize the need to incorporate a climate change risks into their investment analysis and, as a result, have become interested in green investment opportunities. One indicator of this change is that 18 key players in Mexico have submitted reports to CDP (the Carbon Disclosure Project).

A significant and growing amount of assets is managed by pension funds, $143.1 bn, totaling 13% of the country's GDP and with projections of strong growth for at least another decade. In light of changing attitudes towards sustainable finance, investors seek opportunities that offer attractive risk/yield requirements and also contribute to climate change solutions, promoting portfolio diversification through the inclusion of "green" assets.

There are $843.7bn of bonds outstanding in the fixed-income market, with a strong participation of sovereign and parastatal debt: the latter having an important part in future green bond issuance with attractive scale and focused mostly on energy efficiency. Development banks can also play two significant roles: as key issuers and as market makers.

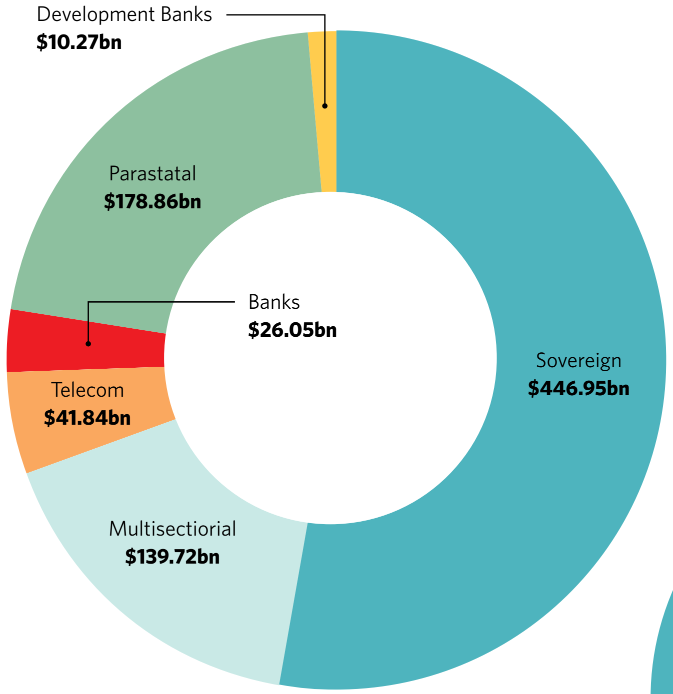
Corporate bonds with investment grade have a great potential to finance green projects in almost all sectors. This market reached $181.5bn bonds outstanding.

Mexico's climate-aligned bond market

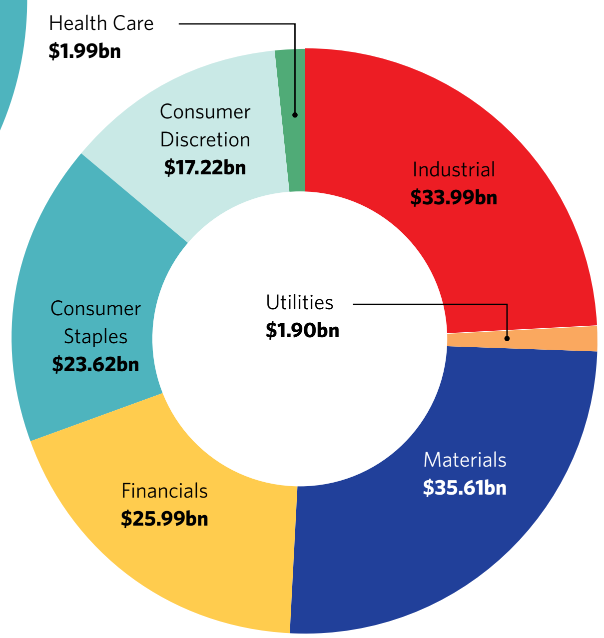
The headline figures in the State of the Market report captured just $1.3bn[8] outstanding of climate-aligned bonds issued by Mexican entities accounting for less that 0.5% of climate-aligned bond universe. This includes Mexico's only labelled green bond - a $500m bond issued by Mexico's development bank Nacional Financiera in November 2015. Other climate-aligned issuance comes from Oaxaca's wind project bond, Bio Pappel, an FSC certified paper and pulp company.

While climate-aligned issuance that we identified is small, if Mexico is to meet its climate targets, the opportunity for future issuance is huge.

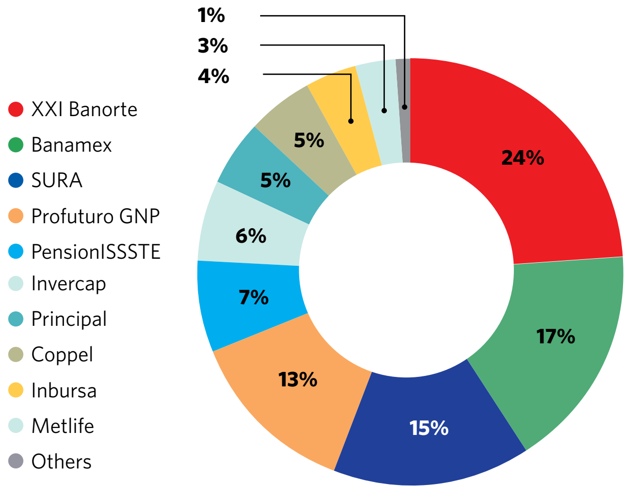
Fixed Income Market Distribution

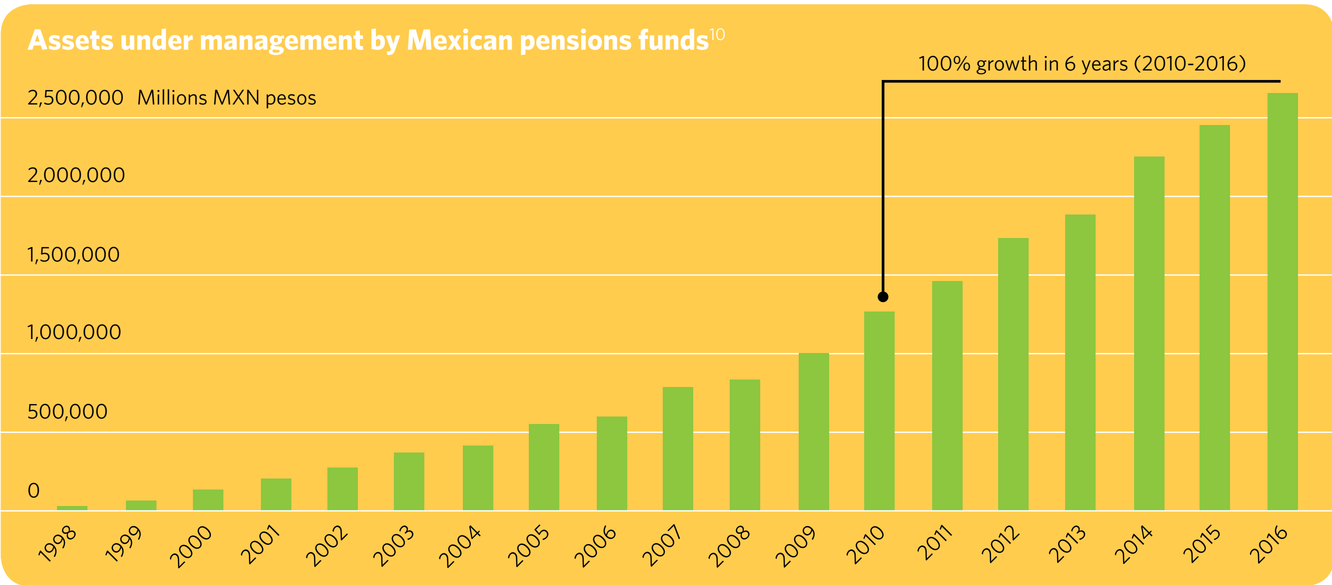


Multisectorial Fixed Income Distribution



Market share of Pension Funds





Barriers for the development of a green bond market in Mexico

Every green bond market around the world has started simply as a device to more easily match green investments with investors anxious about climate change risks. For example, leading insurers such as Axa and Zurich have stated publicly they are interested in investing in green bonds. The booming international market has grown purely on the back of the marketing benefits associated with the green theme, and we expect the Mexican domestic market to also be initiated this way.

But for green bonds to make a scale of contribution commensurate with the scale of Mexico's green financing needs, a number of issues will need to be addressed:

1 Creditworthiness

Many of the investments are large and involve technologies with minimal credit histories, such as industrial scale solar. As a result, lower credit ratings mean higher interest rates than in well-established fossil fuel systems, creating "capex" penalty. To achieve a viable cost of capital in the early stages of rapid change, pubic sector bodies will need to look to support measures.

We also believe that State and local governments will need to use bond markets to raise funds for green city infrastructure, as in the US. However, regulatory barriers and financial restrictions mean that most sub-national governments do not have adequate investment-grade credit ratings to issue bonds. This will be an important area of reform.

2 Incentives

To achieve the scale of investment needed to tackle climate change in the time frame required, public sector support will be needed. For example, tax and regulatory incentives will be needed. The challenge will be to design incentives that are fiscally efficient. An analysis of the most useful measures to introduce needs to be undertaken in the coming year; with an aim of seeing the government introduce them later in 2017.

3 Awareness:

There is still limited knowledge and understanding on behalf of both issuers and investors about the green bond market particularly regarding the issuance process and bond pricing.

Opportunities for green bond issuance

Addressing climate change will require investments in mitigation and adaptation across the whole Mexican economy: from agricultural improvements to coastal infrastructure and urban development. The largest areas of capital requirement are expected to be in energy, transport, buildings and water.

1. Energy

Mexico has enormous solar and wind resources, and investment has been moving quickly to exploit that: investment flows into the sector grew 105% in 2015, reaching $4bn.

The Mexican Congress has recently passed an energy reform bill that is expected to transfrom the country's energy system. It will turn the Federal Electricity Commission (CFE) into a state-owned productive enterprise, introduce more opportunities for competitive energy generation, and accelerate the expansion of transmission networks, opening up new areas for solar and wind projects that can be connected to the national grid.

A key aim of the energy reform is to broaden the mix of non-fossil fuel energy sources.

A total investment of $75bn will be needed (~$5bn annually) merely to comply with national and international commitments on clean energy generation and GHG emission reductions.

Green bond issuance in this sector could come from: developers including new energy players (encouraged as part of the country's energy reform), development banks and state-owned enterprises and entities.

2. Transport

Apart from the GHG emission impact, Mexico's history of being a car-dependent economy has contributed to dangerous levels of air pollution in many cities.

The country is in the early stages of shift to mass and low-carbon transport.

Mexico's 2013-2018 transport plan aims to develop Mexico into a hub for value-added logistics and transportation. The program involves more than 200 projects, a total investment of approximately $12bn, with $582m destined for transport infrastructure and $700m for communications.

22 cities throughout the country already have or are building Bus Rapid Transit (BRT) lines and 15 others are in the planning process[11].

Substantial rail projects are in development, including:

- Mexico-Toluca interurban train (under construction) with a budget of US$ 2.51bn. The project involves the construction of a 57.7km high-speed rail linking Toluca and Mexico City.

- A US$4bn extension of Mexico City's existing subway lines.
- New rail lines in Guadalajara and Monterrey, with a total investment of $920m and $440m respectively.
- Mexico City suburban train expansion to Huehuetoca: $350m

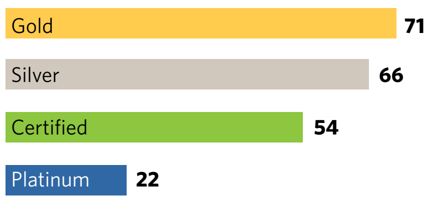
Projects are also being explored for interurban rail connections between Mexico City and Queretaro; Mexico City and Guadalajara; and Merida and Cancun (Yucatan Peninsula)[12].

However, a rapid transition to a low-carbon economy will require even greater ambition, and will require new models to achieve financial viability. For example, Mexico's cities could follow examples set by Hong Kong and Shenzhen in China and promote large-scale property development around rail stations. Here, the transport authorities capture a substantial part of that property value increase to finance the capital expenditure required for the rail lines.

3. Buildings & Industry

Mexican buildings have traditionally incorporated sustainable principles, such as the use of naturally insulating adobe, and courtyards with fountains to cool indoor spaces. That tradition has been put aside as cities of tower blocks have grown. However a slow shift to green buildings - some 213 buildings are LEED certified[13] in Mexico — opens up the opportunity for green bonds issued to finance energy efficient and low emission buildings.

LEED Achievement



LEED Summary

Type	Projects	Space
Certified	**213**	**3 sq m**
Registered	**556**	**13 sq m**
Total	**769**	**16 sq m**

In recent years, Mexico has seen the development of Real Estate Investment Trusts, (in Spanish FIBRAS, Fideicomiso de Inversión en Bienes Raíces)[14]; these have been driving investment into the commercial sector. Energy efficiency improvements in commercial buildings typically have very short payback periods, and cost-conscious FIBRAs are beginning to focus on building stock improvements. These should provide a ready stream of assets eligible for green bond issuance.

4. Water

Despite investments over the past 20 years that have begun to close the gap between urban and rural populations in terms of access to public services, intensifying water scarcity has reached critical levels in some river basins, warranting a whole new raft of water management investments.

The main drivers of this change are unregulated economic development and population growth, growing demand for water by agriculture and industry, pollution of surface water and groundwater, deforestation and soil erosion, and the emerging impacts of climate change.

Despite some successes, water management in Mexico still faces challenges of overexploitation of renewable groundwater, water quality decline, lack of financial resources for additional water-related investments, modernization of water supply and sanitation services, low efficiency of irrigation, strengthening of the legal status of water institutions, and adaptation to climate change impacts, especially droughts and floods.

An estimated $77bn is required by 2030[15] for water-related infrastructure[16], operation and maintenance to address the challenges the country is facing in managing its water resources sustainably. National water-related investments have increased, driven primarily by investments in water supply and sanitation, agriculture, and water resources policy and management.

5. Mexico City

Mexico City has some of the heaviest air pollution of any city worldwide. The City has developed a Climate Action Program 2014-2020 to both address pollution and climate change mitigation and adaptation

The plan addresses:

- The expansion of renewable energy
- Promotion of energy efficiency measures
- Integrated urban planning: mobility and transportation (BRTs, rail)
- Water consumption efficiency
- Pollution control and waste-to-energy processes

The city is exploring the use of green bonds as a financing instrument for the Climate Action Program.

Conclusion

Green bonds offer a unique tool to translate Mexico´s need for investment into concrete climate change related actions.

Mexico´s friendly investment environment, project pipeline and growth perspectives mean it has the potential to be LATAM's leader in the debt market.

1. México INDCs: http://www4.unfccc.int/Submissions/INDC/Published%20Documents/Mexico/1/MEXICO%20INDC%2003.30.2015.pdf
2. 3% 1994 – 2015 economic growth average. Source: World Bank http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?end=2015&locations=MX&start=1994
3. Mexico is largest Latin American exporter and ranks 12th world-wide, according to the World Fact book of the CIA: https://www.cia.gov/library/publications/the-world-factbook/
4. Foreign Trade Information System: http://www.sice.oas.org/ctyindex/MEX/MEXAgreements_e.asp
5. Global Competitiveness Report 2015 – 2016: http://www3.weforum.org/docs/gcr/2015-2016/Global_Competitiveness_Report_2015-2016.pdf
6. Inflation.eu http://www.inflation.eu/inflation-rates/mexico/historic-inflation/cpi-inflation-mexico.aspx
7. World Bank: http://documents.worldbank.org/curated/en/2013/03/18606001/mexico-financial-sector-assessment-program
8. Unless stated otherwise, all figures are in USD.
9. Estudio sobre las inversiones necesarias para que México cumpla con sus metas de energía limpia: https://www.pwc.com/mx/es/industrias/energia/archivo/20151018-gp-cespedes.pdf
10. Source: http://www.consar.gob.mx/SeriesTiempo/Enlace.aspx?md=2&nl=2
11. Programa de Apoyo Federal al Transporte Masivo http://www.banobras.gob.mx/centrodeinformacion/FormatosyDocumentaci%C3%B3n/Paginas/PROTRAM.aspx
12. Secretaría de Comunicaciones y Transporte http://www.sct.gob.mx/transporte-y-medicina-preventiva/transporte-ferroviario-y-multimodal/tren-de-alta-velocidad-mexico-queretaro/
13. (including 61 silver, 66 gold and 21 platinum certifications)
14. Currently, 10 FIBRAS are listed at the Mexican Stock Exchange. These instruments are commonly known as REITs in the US.
15. CONAGUA, 2011
16. Source: UN Water http://www.unwater.org/fileadmin/user_upload/unwater_new/docs/Publications/MEX_pagebypage.pdf

The Climate Bonds Initiative is an investor-focused not-for-profit, mobilizing debt capital markets for a rapid transition to a low-carbon economy.

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