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MEXICO

FINANCING PROGRAM FOR INVESTMENT AND RISK MANAGEMENT IN GAS AND CLEAN ENERGY PROJECTS

(ME-L1172)

LOAN PROPOSAL

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ELECTRONIC LINKS

REQUIRED

1. Monitoring and Evaluation Plan
2. Environmental and Social Management Report

OPTIONAL

1. Cost-benefit analysis
2. National Development Plan 2013-2018. Government of the Republic
3. Report on renewable energy's share of power generation in Mexico
4. Article IV. Consultation on Mexico. IMF 2013.
5. The Age of Productivity: Transforming Economies from the Bottom Up
6. Support to SMEs and Financial Access/Supervision Sector Framework Document
7. National Energy Strategy
8. Energy Reform
9. Secondary Laws to the Energy Reform
10. Quarterly Report (Apr/May/Jun) Comisión Nacional del Sistema de Ahorro para el Retiro [National Commission for the Retirement Savings System] (2014).
11. Financial Reform
12. The Development Banking System
13. Financial Sector Assessment Program, 2012
14. World Economic Forum 2012-2013

ABBREVIATIONS

BANCOMEXT	Banco Nacional de Comercio Exterior, S.N.C. [National Bank for Foreign Trade]
BPD	Banca Pública de Desarrollo [Public development banking system]
CFE	Comisión Federal de Electricidad [Federal Electricity Commission]
CO_2	Carbon dioxide
CONUEE	Comisión Nacional para el Uso Eficiente de la Energía [National Commission for Efficient Energy Use]
CRE	Comisión Reguladora de la Energía [Energy Regulatory Commission]
ENE	Estrategia Nacional de Energía [National Energy Strategy]
GHG	Greenhouse gas
GTZ	German Agency for Technical Cooperation
GW	Gigawatts
IMF	International Monetary Fund
LIBOR	London Interbank Offered Rate
MW	Megawatts
OECD	Organisation for Economic Cooperation and Development
SENER	Department of Energy
SHCP	Department of Finance and Public Credit
SME	Small and medium-sized enterprises

PROJECT SUMMARY

MEXICO
FINANCING PROGRAM FOR INVESTMENT AND RISK MANAGEMENT IN GAS AND CLEAN ENERGY PROJECTS
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Financial Terms and Conditions				
Borrower: Banco Nacional de Comercio Exterior, S.N.C. (BANCOMEXT)			**Flexible Financing Facility[a]**	
			Amortization period:	25 years
Guarantor: United Mexican States			**Original WAL:**	15.25 years
Executing agency: BANCOMEXT			**Disbursement period:**	5 years
Source	**Amount (US$)**	**%**	**Grace period:**	5.5 years
IDB (Ordinary Capital)	200,000,000	100	**Inspection and supervision fee:**	[b]
Local	0		**Interest rate:**	LIBOR-based
Total	200,000,000	100	**Credit fee:**	[b]
			Approval currency:	U.S. dollars from the Ordinary Capital

Project at a Glance
Project objective and description: The program's objective is to increase private investment in gas and clean power generation infrastructure projects so as to help boost the efficiency of the energy sector and reduce greenhouse gas emissions in Mexico. To this end, the program will offer financial instruments tailored to the needs of projects of this kind, channeling resources through the public development banking system.
Special contractual conditions precedent to the first disbursement: Entry into force of the Operating Regulations, with the Bank's prior approval (paragraph 3.3).
Exceptions to Bank policies: None.
Project qualifies as:[c] SV ☐ PE ☐ CC ☑ CI ☐

[a] Under the terms of the Flexible Financing Facility (document FN-655-1), the borrower has the option of requesting changes to the amortization schedule, as well as currency and interest rate conversions. The Bank will take operational and risk management considerations into account when reviewing such requests.

[b] The credit fee and inspection and supervision fee will be established periodically by the Board of Executive Directors as part of its review of the Bank's lending charges, in accordance with the applicable policies.

[c] SV (Small and Vulnerable Countries); PE (Poverty Reduction and Equity Enhancement); CC (Climate Change, Sustainable Energy, and Environmental Sustainability); CI (Regional Cooperation and Integration).

I. DESCRIPTION AND RESULTS MONITORING

A. Background, problem, and rationale

1.1 **Macroeconomic setting and reforms.** After dropping in 2013 to a rate of 1.4% (versus 3.9% and 4.0% in 2011 and 2012, respectively), Mexico's economic growth showed a recovery in 2014, rising to a rate of 2.6%.[1] At the same time, the government has been pursuing over the last two years a broad agenda of structural reforms intended to alleviate constraints on competition and to improve the functioning of markets, thereby enhancing the country's medium-term growth prospects.[2] These reforms have helped to improve risk management in a global climate of uncertainty, characterized by lower oil prices and the expected return of U.S. monetary policy to a normal stance. In 2015, GDP growth is projected to revive to rates of between 2% and 3%.[3]

1.2 **Financial and energy policy challenges.** Among the most important thrusts of the structural reforms pursued by the Mexican government are the reforms to the financial system and energy sector.[4] The financial reform is intended to improve access to credit through changes in the guarantees system, capital markets, and the organization of the public development banking (BPD) system. The Energy Reform, for its part, has the general objective of enhancing competitiveness throughout the entire value chain in the energy sector, by reducing barriers to private participation, introducing greater competition, and strengthening companies and public regulators (see Energy Reform). These reforms are key to addressing the country's lack of financial depth as well as its structural energy deficit.[5] These two areas of reform are mutually complementary in their objective to reduce constraints that are holding back the private sector from making key investments for the country's development and competitiveness.

1.3 **Rationale for the intervention.** The level of development of Mexico's financial system and the existence of market failures when it comes to the financing of clean energy projects have meant that projects of this kind are underfinanced, a situation that has serious consequences for greenhouse gas (GHG) emissions and for the efficiency of the country's energy mix. For this reason, the National Infrastructure Program (PNI) and the National Energy Strategy (ENE) contain provisions for promoting clean energy, cogeneration and the transportation of natural gas as pillars of the country's development, by boosting competitiveness and resource efficiency, and meeting the GHG emissions reduction targets. These plans are

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1 Figures from the National Institute of Statistics and Geography.

2 The International Monetary Fund estimates that these reforms, taken together, could lead to a half percentage point increase in Mexico's annual growth (Article IV Consultation on Mexico, 2013).

3 World Bank; IMF World Economic Outlook.

4 The Department of Finance and Public Credit (SHCP) estimates that the financial sector reform could boost economic growth by 0.3 percentage points a year between 2015 and 2018, while the energy reform, as a whole, could contribute between 0.3 and 1 percentage point.

5 Between 2000 and 2011, average annual growth in energy consumption in Mexico exceeded that of GDP by 0.3 percentage points (2.08% versus 1.82%), while primary energy output declined by 0.3%. If these trends were to continue, Mexico would be an energy-deficit country by 2020, unable to meet energy demand that is expected to grow by more than 50% between 2011 and 2021. National Energy Strategy (ENE) 2013-2027, 2014.

backed by rigorous impact studies, at both the global and national level,[6] and they go hand-in-hand with policy reforms intended to reduce regulatory barriers and create the institutional framework needed for enhancing the energy sector's contribution to Mexico's development. As discussed in greater detail below, however, the new market scheme promoted by the Mexican government, and led by the senior oversight bodies—the Department of Energy (SENER) and the Energy Regulatory Commission (CRE)—faces some significant additional challenges for the financing and development of clean energy. For this reason, the program will provide financial instruments suited to the needs of this kind of project, channeling resources through the BPD (see paragraphs 1.10 and 1.11).

1.4 **Clean energy.** Mexico ranks 13th in the world by volume of GHG emissions, and is the second-largest emitter of carbon dioxide (CO_2) in Latin America. Given this situation, the government has made a commitment to achieve a 30% reduction in GHG emissions by 2020, and it intends to raise the proportion of electric power generated from clean energy sources to 35% by 2024 (Law for the Development of Renewable Energy and the Financing of the Energy Transition). This is an ambitious but feasible goal for a country that has enormous natural resource potential and an energy mix that relies heavily on fossil fuels.[7]

1.5 At the present time, the share of clean energy in Mexico's power generation is around 17%. This includes large-scale hydroelectric plants, without which that share would drop to about 6%. It is estimated that in order to achieve the 35% goal proposed for 2024, it will be necessary to install between 10,000 MW and 20,000 MW of electrical generating capacity based on non-fossil fuels. In recent years, clean energy's share has risen from 4.7% of total energy output in 2010 to 6.4% in 2013,[8] due primarily to increased wind energy generating capacity on the part of independent power producers, which went from 0 MW in 2010 to 510 MW in 2013.[9] Lower costs for wind generators and photovoltaic cells have opened the way to further development of clean energy in the country's energy mix.

1.6 **Cogeneration and gas.** Notwithstanding its obvious value from an environmental perspective, clean energy cannot by itself guarantee the scale, reliability, continuity, and efficiency needed to cover the country's energy needs efficiently, especially in the industrial sectors, which account for nearly 60% of total consumption and where demand for heating and electric power is high. Natural gas—which is the cleanest fossil fuel,[10] offers high thermal capacity and is attractively priced—is thus regarded as an ideal resource for making the transition from a more traditional power generating system to one that is greener, without

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[6] International Energy Agency (2008), *Combined Heat and Power, Evaluating the Benefits of Greater Global Investment*, Organisation for Economic Cooperation and Development OECD/IEA 2008, Bazán G., Elizalde A. and J. Eibenschutz (2007), *Strategies of Diversification in Regulated Energy Markets: The Natural Gas and Electric Power Industries in Mexico*. Proceedings of the *20th World Energy Congress*, Rome, Italy, 2007; and Government of Mexico, National Climate Change Strategy, Vision 10-20-40, 2013.

[7] The current energy mix is 81% fossil fuels and only 19% non-fossil fuels. National Energy Balance Sheet 2012, SENER, 2013.

[8] This growth does not take hydroelectricity into account. SENER, Electricity Sector Outlook 2013-2027, 2013.

[9] SENER, Electricity Sector Outlook 2013-2027, 2013.

[10] Natural gas emits up to 60% less carbon dioxide than does fuel oil in power generation (*The Outlook for Energy: A View to 2040*. ExxonMobil, 2012).

sacrificing adequate energy supply for productive purposes. Gas accounts for 63% of the fuel used in the industrial sector, and allows the use of technologies such as combined-cycle and cogeneration.[11] These offer important advantages in terms of efficiency and environmental considerations: (i) they are more efficient than conventional power plants in converting gas into energy, as they make use of waste heat and they also save fuel (they are around 40% more efficient); and (ii) they reduce transmission losses because they generate power close to centers of consumption.

1.7 The cogeneration share in the country's energy mix is still very low, with installed capacity (at 2,878 MW in 2011) corresponding to less than 7% of the power capacity of the national power system as a whole.[12] Although that capacity has grown over the last decade, thanks to steady improvements in regulation and the efforts at promotion and dissemination made by SENER through the National Commission for Efficient Energy Use and other agencies, it currently amounts to only 28% of its potential nationwide, and total authorized cogeneration capacity is concentrated primarily in the oil and petrochemicals industry (CRE, 2012). It is estimated that the realistic potential for cogeneration in the industry would be at least 850 MW (CONUEE, CRE, GTZ, 2009).

1.8 To make it feasible to expand generating capacity based on natural gas[13] will require investment in the plants themselves, as well as steps to overcome the constraints inherent in the size and scope of gas transportation infrastructure in order to ensure supply. The growth in demand for this fuel over the last 20 years has not been accompanied by an increase in production and in transportation and distribution infrastructure with the necessary speed and size, and as a result there have been supply shortages in recent years.[14] Current demand already exceeds transportation capacity across the country, saturating the National Gas Pipeline System with use levels of 85% (ENE 2013-2027). This situation reflects a lack of investment in new infrastructure for production, transportation and distribution, which in turn can be hindered by uncertainties in the regulatory framework that have, for example, limited third-party access to the pipelines.[15] This is not only holding back the development of cogeneration and combined-cycle plants, but has

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[11] Combined cycle and cogeneration are among the most efficient technologies for power generation with reduced environmental impact. Cogeneration is defined as the simultaneous production of electrical energy and useful thermal energy (heat) using the same fuel or primary energy source. Combined cycle technology combines the direct potential of combustion with that of the steam that results from the reuse of residual gases from that combustion.

[12] SENER/PwC, 2012. The most successful cases of cogeneration are to be found outside the region, in countries such as Denmark (50% of national power generation) and the Netherlands (30%) (International Energy Agency, *Combined Heat and Power*, 2008).

[13] Cogeneration in industry represents one of the greatest opportunities for improving energy efficiency, as it is 40% more efficient than conventional generation technologies.

[14] Between 2000 and 2011, national production grew on average by 3.9%, while demand rose by 5.7%. The deficit was covered with imports, growth of which averaged 18.1% a year (ENE 2013-2027).

[15] The reform process, now well advanced, addresses gas market regulation issues that are still pending: the new system to be implemented in the context of the energy reform will be spelled out in rules that are more conducive to investment in expanding the gas transportation and distribution network. However, the high financial costs of investment in logistics infrastructure in a market such as that for natural gas (characterized by economies of scale and of network) still pose a barrier to investment; it is this specific barrier that the program seeks to address.

also resulted in power generation shortages in some parts of the country and has led to supply disruptions for industrial consumers. Consequently, there is an urgent need to speed up investment in the trunk and distribution pipelines, especially in the industrial regions outside of the capital.[16]

1.9 **The problems associated with financing energy and clean energy infrastructure.** The long-term financing needed for infrastructure development has historically been provided by the public sector.[17] Yet it is essential to increase the share of private investment if the goals set forth in the National Infrastructure Program and those of the ENE are to be met.[18] This need is even more pressing in light of the major fiscal constraints resulting from the recent sharp drop in oil prices. The difficulties in accessing long-term financing in Mexico are compounded by the problems inherent in financing clean energy and energy infrastructure, which have their own externalities and risks (technical, regulatory, market, and other project risks) that the commercial banking sector has not been accustomed to analyzing and managing. As discussed below, the long-term financing situation in Mexico, the new financial risks introduced by the organization of the power market in Mexico, and the characteristics of energy projects themselves mean that funding through the BPD will be a very important vehicle for supporting private sector financing of clean energy projects and energy infrastructure.

1.10 **Financing constraints in Mexico.** In Mexico, access to financing is low, and long-term financing is particularly scarce and costly. At the end of 2013, domestic credit to the private sector stood at only 30.6% of GDP, far less than in comparable middle-income countries such as Brazil (70.7%), Turkey (70.2%), and South Africa (149.5%).[19] At the same time, the net banking intermediation spread (which averaged 3.46% in the period 2010-2013) was higher than in more advanced economies (2.62% for the same period). Moreover, less than 40% of lending by the banking sector had a maturity of more than one year, a figure that falls far short of those for other countries in the region such as Brazil (57%) and Chile (60%). The lower efficiency of banking intermediation in Mexico is the result of a number of factors, including: (i) the low level and scant leveraging of bank deposits; (ii) high transaction costs, attributable to a productive structure dominated by small and medium-sized firms, where transaction costs and information asymmetries tend to be greater; and (iii) a relatively greater lag in institutional development, which makes it difficult to mitigate market failures in the financial system.[20] On this last point, the Doing Business report for 2015 ranks Mexico 57th and 62nd out of 189 countries in terms of enforcing contracts and protecting investors, respectively. Together with the lower efficiency of the banking system, the Mexican capital market is underdeveloped, with stock market capitalization amounting to only 40%

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[16] The Energy Reform will allow private firms to participate in transportation and distribution.

[17] During the period 2007-2009, 82% (US$77 billion) of investment in infrastructure was financed with public funds, while only 18% (US$17 billion) was financed by the private sector. Of the government share, 76% came from the federal budget, 4% from the National Infrastructure Fund and 3% in loans granted by BANOBRAS, according to data from the SHCP.

[18] SHCP, 2014.

[19] World Bank and International Monetary Fund, Article IV Report 2012 and Mexico Financial Sector Assessment Program 2012.

[20] See for example OECD, *Getting it Right: Strategic Agenda for Reforms in Mexico*, 2013; and OECD *Studies on SMEs and Entrepreneurship. Mexico: Key Issues and Policies*, 2013.

of GDP, lower than the 50% average for countries of the Organisation for Economic Cooperation and Development (OECD). Development of the capital market in Mexico is being held back by such factors as the smaller size of the market, higher transaction costs, less participation by institutional investors, and weaker institutional development.[21] Financial constraints have a particularly heavy impact on investment in infrastructure, including gas transport and power generation projects, which require financial conditions and instruments suitable for long-term investment.[22]

1.11 Beyond the general conditions prevailing on the financial market, as described above, the present high liquidity levels in the banking market have the effect of curtailing loan maturities,[23] thereby restricting financing for energy infrastructure and other large-scale projects that require long amortization periods. This problem is compounded by the scarcity of long-term U.S. dollar availabilities in the banking systems of all countries in the region, including Mexico,[24] the virtual nonexistence of cash flow-based project finance, and the growing aversion on the part of foreign banks to investing in large-scale projects with long terms to maturity.[25] As a consequence, infrastructure financing is particularly scarce: in June 2014, the commercial banking system was channeling into this type of investment only around 0.5% of total lending to businesses,[26] while capital markets were dedicating 1.7% of total administered funds.[27] In this situation, it is crucially important to develop mechanisms that will facilitate long-term financing for infrastructure projects. On the regulatory side, the Government of Mexico has been introducing reforms to the Public-Private Partnership Law[28] to improve the clarity and the structure of private participation in projects of this kind, and thus encourage the development of private involvement in infrastructure financing.

1.12 **The Energy Reform, its consequences and market challenges.** The elimination of entry barriers to the power generation market is bound to bring benefits in the form of a better-functioning system and use of cleaner energy sources. In August 2014, a decree was approved creating the National Energy Control Center as a decentralized State body responsible for guaranteeing open and nondiscriminatory access to power transmission and distribution networks, as well

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[21] *Asociación Mexicana de Intermediarios Bursátiles* [Mexican Brokers' Association], General diagnosis of problems in the primary capital market in Mexico, 2013.

[22] Mexico has introduced major reforms to facilitate long-term investment, in particular by relaxing the limits on variable-income investment and developing instruments such as development capital certificates. This could help significantly in financing energy projects that require maturities of up to 15 years.

[23] In January 2015, the average loan term in the system was around three years (data from the National Banking and Securities Commission, CNBV).

[24] Financing in foreign currency is particularly low: its share of total financing fell from 3.2% in 2000 to 1.9% in 2014.

[25] The emphasis placed by international rules (Basel III) on assuring short-term liquidity and solvency means that banks are less inclined to grant long-term credit, and/or it can increase financing costs. This affects sectors with long-term capital requirements.

[26] Data to April 2014, according to the National Banking and Securities Commission (CNBV).

[27] National Commission for the Retirement Savings System (2014, Quarterly Report (April/May/June).

[28] The main advantage of the law is its flexibility, as it permits projects that include all operations covered in other laws (purchase, construction, lease and/or operation) and potentially broadens the scope of government projects to include any other form of operation.

as managing and operating the new wholesale market in a competitive manner. The reform has liberalized the generation and marketing of power, while transmission and distribution activities will remain the purview of the State through the Federal Electricity Commission (CFE), whose technical and institutional independence has been strengthened. The CFE will also continue to supply basic electricity service for residential customers, as well as for small and medium-sized users under a system of regulated rates. In the wake of this reform, qualified users[29] whose consumption falls below the minimum established by SENER will be able to buy power directly from private generators, from the CFE, or through an independent marketer, in a market organized and driven by the laws of supply and demand.[30] Thus, for example, independent power producers (who account for 21% of the generation market) will be able to sell their surpluses on a market where competition prevails, and will no longer have to sell exclusively to the CFE. Entities meeting their power needs through self-supply (9% of the market) will also be able to sell their surpluses on the wholesale market.

1.13 Despite these developments, the new competition framework also introduces some significant challenges. On one hand, uncertainty about post-reform price trends poses an additional barrier to the development of clean energy projects, by increasing the risk that revenues will shrink because of a fall in prices on the organized market. Second, the power market is expected to see an increase in the number of qualified users ("off-takers"), and this introduces a greater risk with respect to those users' capacity to honor their energy purchase commitments to the power producers. There is no doubt that the variability in prices and in the quality of the off-takers poses incremental risks that further inhibit project financing under suitable conditions, and could affect the incentives for such investments, which face important risks inherent in the very nature of the projects (climatic variability, construction and operating risks, etc.).

1.14 **The role of the BPD in financing energy infrastructure investments.** Due to the financing constraints described above, the financial reform sponsored by the government in 2013 recognizes the essential role of the BPD as an instrument for promoting long-term financing, especially in the energy and other sectors currently underserved by commercial banks (due to such factors as lack of experience and the learning curve that must be traversed for managing the technical and financial risks of specific projects or the externalities inherent in renewable energy projects). On the basis of this mandate, and in contrast to the commercial banks, lending by the BPD has grown in recent years from a low level of 6% of total credit to

[29] The concept of "qualified user" is defined in the Electric Industry Law and refers to end users registered with the Energy Regulatory Commission (CRE), who are entitled to purchase electricity as a participant in the market or through a direct arrangement with generating entities. The reform also expands the number of those qualified users. At the present time, qualified users are primarily large industrial and commercial concerns (for example in the cement industry, agrifood, or wholesale marketing) and medium-scale industrial firms. With the reform in place, it is expected that many more medium-sized firms (especially in the medium-low segment) will be able to participate as qualified users.

[30] SENER will be responsible for regulating the market, while the CRE will issue licenses to participate in the wholesale power market and will establish the basic power service rates and the general conditions governing participants in the market, as well as issuing model interconnection contracts and administering clean energy certificates.

businesses, reaching 10% in 2012.[31] The BPD's role is perhaps even more important given the challenges of covering the risks inherent in the energy reform. The development banking sector is an important player in infrastructure financing, having recorded growth of 55% over the last three years in its investment in highway projects, and electric power and water treatment plants (US$8 billion to June 2014).[32] The BPD is thus in a position to help round out energy markets both by financing new projects under appropriate terms and conditions and by developing new instruments to mitigate the sector's incremental financial risks in the context of the reform now under way. The Bank has provided significant backing for this challenge through its various programs to the main public development banks involved in financing energy infrastructure, namely NAFIN, BANOBRAS, and BANCOMEXT. This effort, together with the technical cooperation actions on regulation of the clean energy sector also undertaken by the Bank, is aimed at facilitating and accelerating the transition to a more efficient and environmentally responsible energy model. In turn, the actions of various public development banks make it possible to exploit to a greater extent the complementarities and synergies between projects,[33] and to draw on the lessons learned, which are listed below, and increase their use.

1.15 **Lessons learned.** The Bank's previous experience in designing financial solutions for infrastructure projects, particularly in energy, has demonstrated its feasibility and effectiveness in a number of operations in Mexico.[34] Among the main lessons learned are the following: (i) the importance of moving steadily along the learning curve and developing greater institutional capacity and experience in managing energy efficiency and clean energy projects through cooperation and complementary technical support that will improve project design while enhancing the BPD's capacities to complement credit markets; and (ii) the importance of developing tools and techniques to standardize loan operations and to structure new financing schemes, mobilizing funds from other, third-party sources and sensitizing developers and financiers through projects to mitigate the impact of climate change. As well, this operation takes into account the lessons learned regarding the importance of socioenvironmental management and the need to

[31] To date, US$250 million has been disbursed in programs to finance clean energy projects through the BPD in Mexico: their outcomes include US$5.371 billion of investment in electric generation based on clean energy sources, and the mobilization of US$440 million in third-party financing.

[32] Data provided by Banco de México.

[33] For example, the inclusion of instruments to mitigate these risks represents value added and complements other operations (see CCLIP ME-X1023 with Banobras now in preparation, as well as execution of CCLIP ME-X1010 with Nacional Financiera and operation ME-L1160, now in preparation, also with Nacional Financiera), where the executing agencies may also be beneficiaries as a result of the improvement in risk management technology proposed in the present operation.

[34] CCLIP ME-X1023 now in preparation with Banobras, and its individual operation ME-L1158, as well as CCLIP ME-X1010 now in execution with Nacional Financiera, under which various operations have been implemented (loans 2226/OC-ME, 2671/OC-ME, 2843/OC-ME and 3178/OC-ME) in support of investment in the energy sector and individual operations (loans 3237/OC-ME and 2631/TC-ME) in the gas, cogeneration, and clean energy markets. Operation ME-L1160 now in preparation with Nacional Financiera is also designed to strengthen clean energy and energy efficiency. All of these operations will serve to consolidate best international practices in public development banks activities, in terms of strengthening their institutional framework, risk management policies, the development of new instruments, and the definition of a mission geared to complementing the private market, especially in long-term and/or countercyclical financing (see World Bank, Global Financial Development Report 2014).

monitor and evaluate impacts, as demonstrated during implementation of the operations cited earlier and in technical cooperation projects ATN/FI-13401-RG and ATN/FI-14376-RG.

1.16 **Strategic alignment.** The program will contribute to the lending priority identified in the report on the Ninth General Increase in the Resources of the Inter-American Development Bank (document AB-2764) (GCI-9), which calls for lending in support of initiatives relating to climate change, clean energy and environmental sustainability. The provision of financing to private developers will serve to promote clean energy and cogeneration and gas projects that will foster energy efficiency and facilitate the transition towards a more sustainable development model. The program will also contribute to the regional targets relating to: (i) the percentage of firms using banks to finance their investments, and (ii) stabilizing CO_2 equivalent emissions, as well as the output relating to power generation from low-carbon sources as a percentage of total generating capacity funded by the IDB, as defined in the Results Matrix.

1.17 The program is aligned with the Country Strategy with Mexico 2013-2018 (document GN-2749), in the priority area of promoting productivity growth and in the expected outcome of greater bank financing to the nonfinancial private sector through the development banking system. As well, it is aligned with the priorities of the Support to SMEs and Financial Access/Supervision Sector Framework Document (document GN-2768-3), by boosting productivity in Mexico through access to financing for productive projects, and with the Sustainable Infrastructure for Competitiveness and Inclusive Growth Strategy (document GN-2710-5), by promoting mechanisms to finance private sector participation in infrastructure and supporting construction of environmentally and socially sustainable infrastructure.

B. Objective, components, and cost

1.18 The program's objective is to increase private investment in gas and clean power generation infrastructure projects so as to help boost the efficiency of the energy sector and reduce greenhouse gas emissions in Mexico. To this end, the program will offer financial instruments tailored to the needs of projects of this kind, channeling resources through the BPD. IDB financing will in this way enhance the BPD's capacity to lend with longer terms so that the projects, which by their nature entail high costs and risks, can achieve cash flows and rates of return that will guarantee their proper implementation.

1.19 The program will be implemented through a single credit component of US$200 million to support the financing of: (i) private power-generating projects based on clean energy;[35] (ii) cogeneration and combined-cycle systems (license holders);[36] and/or (iii) projects to expand the natural gas transportation system (gas pipelines). The National Bank for Foreign Trade, S.N.C. (BANCOMEXT), as a public development banking institution, will channel the financing to eligible projects in any of the three areas described, in the form of direct loans and contingent loans to cover market risks (including the price and off-taker risks, see

[35] Clean energy projects are expected to involve primarily wind and solar power.

[36] Any cogeneration system with capacity greater than 0.5 GW requires issuance of a license from the CRE, and this involves, among other aspects, meeting the criteria and guidelines of the National Energy Policy and interconnection contracts with the Federal Electricity Commission.

paragraph 1.12, which translate into potential shortfalls in their expected cash flow due to unforeseen market developments),[37] in the case of clean energy, cogeneration, and combined-cycle projects.[38]

1.20 **Magnitude of the shortfall to be addressed and the demand for funds.** It is estimated that Mexico has the potential for installing a capacity of more than 18 GW in clean energy (including photovoltaic, mini-hydro, biomass, wind, and geothermal sources) and cogeneration through 2018, and that this figure could rise to as much as 29 GW when international financing is taken into account (PwC, 2013). The SENER is projecting an installed clean energy capacity of 18 GW by 2025, including public utilities, self-supply, and distributed generation. With investment needs varying according to the type of clean technology (PwC studies suggest US$2 million to US$4 million per megawatt (MW) for nonconventional clean energy sources and US$1 million to US$1.4 million per MW for a cogeneration system that reduces energy expenditure by 30% to 50% and generates surpluses for the grid), it can be estimated by way of illustration that the minimum investment required to address this gap would amount to US$18 billion. The program seeks to finance 450 MW of additional capacity (clean energy, cogeneration, and/or combined-cycle) by the end of execution, contributing thereby to the leveraging of investment of at least US$450 million, which would represent 2.5% of the total estimated demand. The program will have a significant catalytic effect, thanks to the leveraging of third-party resources that it will generate, and the demonstration effect that new approaches to financing these projects should bring about in a market that is undergoing a complete transformation. In addition, the relative contribution of this operation to the energy challenge described will be complementary to the similar previous operations in the country with other development banking institutions (see paragraph 1.15 and footnote 31).

1.21 The direct beneficiaries of the loan will be approximately eight private developers of energy infrastructure projects in any of the three typologies described in paragraph 1.19, who will have an optimal financing structure provided by BANCOMEXT for carrying out their works. In addition, power generation from clean sources will have positive impacts on air pollution, on biodiversity, and on climate issues that will benefit the population living close to the plants. The program will finance projects that are deemed eligible against a series of conditions established in the program Operating Regulations. Those conditions will

[37] The contingent line operates as insurance against price and market risks that could affect the project's economic viability. The contingent line is triggered if the price falls below a certain minimum. This minimum price will guarantee the economic and financial viability of the project, i.e. recovery of the investment and servicing of the debt. To determine the likelihood that the market price will be above this minimum price (and thereby render the project nonviable), the price trend in the new wholesale market will be estimated with a model that considers the total short-term costs of the power system based on the price of gas and oil in the futures market, the installed capacity mix, and the forecast demand. Demand will be estimated from nominal GDP growth forecasts of the Bank of Mexico. The combination of the minimum price for project profitability and the trend in prices will make for a more robust assessment of the project's economic viability and of the contingent line price. Another element to be taken into account will be the creditworthiness of the off-takers, and the probability of their default as buyers of the energy will also influence the price of the contingent line. The operating details of the line (information flow and triggers) are included in the program Operating Regulations.

[38] The coverage and conditions (interest rates, fees, and term) of the lines will be determined using mechanisms structured for each project in light of project risk and type.

include a maximum amount to be committed per project in relation to its total cost and as a function of the BANCOMEXT pipeline, among others. BANCOMEXT will select a portfolio of projects that meet these conditions and will finance them as a function of demand.

C. Key outcome indicators

1.22 The output indicators will measure: (i) the number of loans granted to clean energy-based generating projects; and (ii) the number of cogeneration projects financed through the program. The outcome indicators will measure: (i) the total value of the investment leveraged with program funds; (ii) the net electric power generated by clean energy and gas cogeneration projects financed under the program as they come on stream; the percentage of planned investment in clean energy; and (iii) GHG emissions avoided and reduced through clean energy projects financed under the program. The impact analysis will measure: (i) the reduction in total GHG emissions for the energy sector; (ii) CO_2 emissions (kilograms) per dollar of GDP (at purchasing power parity); and (iii) energy intensity. These measures are presented in greater detail in Annex II, Results Matrix.

1.23 An economic analysis was performed to assess the program's viability and to quantify ex ante the monetary value of its expected benefits. The resulting benefits are determined by comparing the energies used vis-à-vis other fossil fuels or clean sources, and the reduction in GHG. The benefits were assessed at US$357.89 million (using a discount rate of 12%). A sensitivity analysis was also performed, based on variations in unit prices and costs for gas generation and for wind and solar generation, the efficiency of cogeneration, and the non-materialization of different combinations of gas, cogeneration, and wind projects. The project responds in a highly satisfactory manner to the sensitivity analysis, demonstrating a robustness that will guarantee its success.

II. Financing Structure and Principal Risks

A. Financing instrument

2.1 The program will be implemented through a global credit loan from the Bank that will provide BANCOMEXT with a source of long-term funds in U.S. dollars to diversify funding and meet financing needs for private investment in infrastructure in Mexico. BANCOMEXT is a public development bank that extends credit and guarantees, directly and indirectly through the commercial banking system, with a view to enhancing the productivity of the country's firms. Its strategic lines include support for external trade, firms that export industrial goods and services, as well as clean energy and energy infrastructure.[39] BANCOMEXT is a healthy banking institution, with overdue loans that amount to barely 1% of the loan portfolio and loan reserves that cover that portfolio 1.5 times. The outstanding loan portfolio grew by 68% between 2012 and 2014. In the first half of 2015, the loan portfolio grew by 40%, reaching US$15 billion. The portfolio in the energy sector tripled in 2015, rising to US$700 million, thanks primarily to greater demand for clean energy.

[39] For further details on the institution, see Institutional Program 2013-2018.

B. Environmental and social risks

2.2 According to Directive B.13 of the Environment and Safeguards Compliance Policy (document GN-2208-20 and Manual OP-703), this program does not require classification, as it is a financial intermediation operation. However, to ensure proper environmental management it has been agreed to fine-tune the environmental and social management system as part of the Operating Regulations, and to include the tools, procedures and requirements necessary to guarantee appropriate environmental management of the projects financed by BANCOMEXT, in accordance with national legislation and the IDB safeguards policy. Additional information on the environmental and social aspects may be found in the Environmental and Social Management Report. The operation entails the risk that some investments in clean energy plants will be classed as posing a high social or environmental risk, and accordingly the IDB will establish an Environmental and Social Management Framework that will identify the potential risks associated with eligible projects and ensure that beneficiaries of the financing will take evaluation, prevention and mitigation measures consistent with national legislation and with IDB safeguards policies. As well, BANCOMEXT has expertise and has been cooperating technically with KfW Development Bank to update its internal manual on environmental and social analysis and management, and this has improved its capacity to manage those aspects.

C. Fiduciary risks

2.3 The institutional analysis of BANCOMEXT conducted during preparation of this proposal, using the IDB's Institutional Capacity Assessment System, produced a weighted average rating of 100%, indicating a satisfactory level of development and a low risk to project implementation. This level of development of its fiduciary systems was confirmed during the meetings held with BANCOMEXT in preparation of this operation. In light of the foregoing, the supporting documentation for disbursement requests will be reviewed ex post.

D. Other project risks

2.4 **Development risk.** There is a medium risk of delays in implementation of the works associated with the projects financed by the program, due to the nature of those projects. The size of the investment associated with these projects, their scope and implementation times imply risks that could include late submission of the financial and technical reports and the environmental studies needed to obtain permits for these works, as well as risks relating to local community opposition to construction, the cost and availability of labor, transportation, land, etc. To mitigate this risk, the status of the project pipeline will be constantly monitored, jointly with the executing agency. Moreover, it is expected that execution of the environmental and social management system will make provision for delays associated with community opposition and/or problems of an environmental nature. Lastly, there is a low risk that program development will be affected by a rising cost of credit due to international macrofinancial volatility and uncertainty.

2.5 **Sustainability.** BANCOMEXT will seek to ensure that the projects financed under the program are financially sustainable. The program Operating Regulations also make provision for financial sustainability analysis of the projects. In the context of the energy reform, the program will contribute to: (i) greater public access to

electricity and natural gas services; (ii) greater quality and reliability of the services; and (iii) lower-cost supply of electricity and natural gas (see also 1.23).

2.6 The remaining program risks are considered low, given the experience of BANCOMEXT and its ample capacity for infrastructure development. A potential deterioration in economic conditions could have an adverse impact on investment in power generating projects and on the creditworthiness of existing projects. There is also a possibility of delays or uncertainties with respect to the necessary conditions in the regulatory reforms in the energy sector. Macroeconomic conditions, and energy reform conditions in particular, will be closely monitored.

III. IMPLEMENTATION AND MANAGEMENT PLAN

A. Summary of implementation arrangements

3.1 The borrower and executing agency will be BANCOMEXT, with the guarantee of the United Mexican States.[40] BANCOMEXT will implement the program under its existing mandate and organizational structure, without the need to make any significant changes in its operations. BANCOMEXT will assume management of the program, including functions relating to planning, origination, promotion, structuring, negotiation, formalization, monitoring and evaluation, legal follow-up, accounting and financial control, and any other functions necessary for sound management of the program.

3.2 This operation is based on an implementation scheme similar to that of previous operations undertaken by the BPD and the Bank in Mexico. The Bank will approve the present loan operation to support the financing of productive infrastructure projects. It will make disbursements to BANCOMEXT, which in turn will extend subloans in accordance with the conditions and mechanisms indicated in the following paragraphs.

3.3 The program execution standards and eligibility criteria will be established in the Operating Regulations, to be agreed on between BANCOMEXT and the Bank, within the framework of BANCOMEXT and IDB standards and policies and Mexican legislation and financial practices. The Operating Regulations will define in detail the internal approval process, the eligibility criteria, eligible financing operations, disbursement mechanics, and the monitoring and evaluation requirements. In addition to the conditions stipulated in Article 4.1 of the General Conditions of the loan contract, **entry into force of the Operating Regulations, with the Bank's prior agreement, will be a special contractual condition precedent to the first disbursement of the loan.**

3.4 **Procurement of goods and services.** The procurement procedures used in this operation will ultimately conform to Bank policies. As this is a financial intermediation program that will be demand-driven, the works, goods, consulting or other services that will enter into its execution have not yet been identified. Consequently, the proposal does not include an execution plan or a procurement plan. Any procurement of consulting or other services that may be required as part

[40] The BANCOMEXT Organic Law expressly stipulates that BANCOMEXT operations are backed by the guarantee of the United Mexican States. A guarantee contract will nonetheless be signed between the United Mexican States and the Bank.

of program administration and/or evaluation must comply with the procurement policies established in documents GN-2349-9 and GN-2350-9.

3.5 **Disbursements, execution period, and retroactive financing.** Program resources will be disbursed over a period of 60 months following the date the loan contract takes effect. The Bank may finance retroactively,[41] as a charge to the program, eligible expenditures made by the borrower on or after 1 May 2015, the date of approval of the project profile, until the date of approval of this operation by the Bank's Board of Executive Directors, in an amount equivalent to 20% of the approved amount, provided requirements substantially similar to those established in the loan contract were met. In no case will expenditures be recognized if they were made more than 18 months prior to the date of loan approval.

3.6 **Disbursement mechanism and use of recoveries.** Disbursements will be made as a function of the effective demand for financing from BANCOMEXT. The Bank will disperse the funds to BANCOMEXT to finance direct loans in accordance with the Bank's normal practice, on the basis of a projected portfolio (advances) or the portfolio actually held by BANCOMEXT. Disbursements will be verified ex post, subject to the on-site review of the subloans granted. Recoveries under the program (payments, prepayments, cancellations or terminations of subloans) that accumulate in excess of the amounts needed to service the loan during five years from the date of the last disbursement will be used to finance new operations consistent with the objectives of this program.

3.7 **Financial statements, auditing, and information.** The financial statements for the program will be audited in accordance with a procedure agreed on in advance with the Bank. Within 120 days of the close of each fiscal year, and during the disbursement period, BANCOMEXT will present audited financial statements for the program, certified by an independent audit firm acceptable to the Bank and designated by the Civil Service Department. The last of these reports will be presented within 120 days after expiry of the disbursement period. BANCOMEXT will compile and maintain all information, indicators and parameters, including the annual plans, the midterm review and the final evaluation, as necessary for preparing the Project Completion Report and the ex post evaluation that will be performed by the Bank, in accordance with applicable rules.

B. Summary of arrangements for monitoring results

3.8 **Monitoring**. The general procedures established by the Bank for monitoring and evaluating investment operations will be applied to this program, based on the indicators in the Results Matrix (Annex II), agreed between BANCOMEXT and the Bank, and on the Monitoring and Evaluation Plan. The program will be monitored by means of the periodic reports prepared by BANCOMEXT, which will be responsible for program supervision and administration. The Bank will conduct periodic visits to assist and monitor program execution.

3.9 **Evaluation.** The proposed evaluation method takes as its basis an ex post cost-benefit analysis of the program, in terms of expansion of the natural gas distribution network and the scale of power generation achieved using gas

[41] BANCOMEXT, as the program executing agency, is working to develop a portfolio of eligible projects that could be ready for financing in the short term.

(cogeneration and combined-cycle) and clean energy at the national level. With this methodology it will be possible to analyze the program's impact on reducing the cost of power generation (see the Monitoring and Evaluation Plan).

Development Effectiveness Matrix			
Summary			
I. Strategic Alignment			
1. IDB Strategic Development Objectives	Aligned		
Lending Program	-Lending to support climate change initiatives, renewable energy and environmental sustainability		
Regional Development Goals	-CO2 emissions (kilograms) per $1 GDP (PPP)		
Bank Output Contribution (as defined in Results Framework of IDB-9)			
2. Country Strategy Development Objectives	Aligned		
Country Strategy Results Matrix	GN-2749	Increase the level of financing to the real economy.	
Country Program Results Matrix	GN-2805	The intervention is included in the 2015 Operational Program.	
Relevance of this project to country development challenges (If not aligned to country strategy or country program)			
II. Development Outcomes - Evaluability	Evaluable	Weight	Maximum Score
	8.3		10
3. Evidence-based Assessment & Solution	9.1	33.33%	10
3.1 Program Diagnosis	3.0		
3.2 Proposed Interventions or Solutions	3.6		
3.3 Results Matrix Quality	2.5		
4. Ex ante Economic Analysis	8.5	33.33%	10
4.1 The program has an ERR/NPV, a Cost-Effectiveness Analysis or a General Economic Analysis	4.0		
4.2 Identified and Quantified Benefits	1.5		
4.3 Identified and Quantified Costs	1.5		
4.4 Reasonable Assumptions	0.0		
4.5 Sensitivity Analysis	1.5		
5. Monitoring and Evaluation	7.4	33.33%	10
5.1 Monitoring Mechanisms	2.5		
5.2 Evaluation Plan	4.9		
III. Risks & Mitigation Monitoring Matrix			
Overall risks rate = magnitude of risks*likelihood	Low		
Identified risks have been rated for magnitude and likelihood	Yes		
Mitigation measures have been identified for major risks	Yes		
Mitigation measures have indicators for tracking their implementation			
Environmental & social risk classification	B.13		
IV. IDB´s Role - Additionality			
The project relies on the use of country systems			
Fiduciary (VPC/FMP Criteria)	Yes	Financial Management: Budget, Treasury, Accounting and Reporting, External control, Internal Audit. Procurement: Information System, Shopping Method, Contracting individual consultant, National Public Bidding.	
Non-Fiduciary			
The IDB's involvement promotes additional improvements of the intended beneficiaries and/or public sector entity in the following dimensions:			
Gender Equality			
Labor			
Environment			
Additional (to project preparation) technical assistance was provided to the public sector entity prior to approval to increase the likelihood of success of the project			
The ex-post impact evaluation of the project will produce evidence to close knowledge gaps in the sector that were identified in the project document and/or in the evaluation plan			

The Financial Program for the Investment and Risk Management in Gas and Renewable Energy Projects is a $200MM operation, with the objective of increasing private investment in infrastructure for gas and generation from renewable energy, to contribute to increase the efficiency of the energetic system, reducing the emission of greenhouse gases (GHG) in Mexico. The diagnosis presents evidence of large investment gaps in clean energy and large financing gaps for this type of infrastructure in Mexico. The vertical logic suggests that the provision of credit (canalized through BANCOMEXT) can help in closing the aforementioned gaps. With this aim, the program includes a single component: support to finance (i) private developments of electricity generation though renewable energy (ER); and (ii) systems of co-generation and combined cycles.

The methodology used for the ex-ante economic analysis is technically solid. The definition of the counterfactual considers the trends that would occurr in the absence of the project (based on projections from the government about its strategies and the expected investments in the energy sector). This corresponds to a counterfactual referred to as "do-minimum", rather than only a before and after comparison (though this approach is less credible than relying on parameters from an impact evaluation). The benefits for ER arise from the reduction of greenhouse gases and savings in operation and maintenance costs (O&M). The benefits for co-generation arise from the increase in energetic efficiency. For both types of projects the main variables that affect the results are the O&M costs and the price of energy. The net present value (NPV) of ER becomes negative when the price of energy drops by 25%; in contrast, the investment in co-generation remains robust in all scenarios presented.

The Monitoring & Evaluation plan proposes to evaluate the ex-post effectiveness and efficiency of the project based on two different methodologies: difference in difference impact evaluation and ex post economic analysis. The first of these methodologies presents some limitations. It is proposed to use the Programs of Works and Investment in the Energy Sector (POISE) to identify a control group and conduct a difference-in-difference analysis. Nevertheless, it is not clear that it will be possible to implement this methodology, given that it is likely that there will not be sufficient pre-program data to identify electric plants that are similar to the treated ones, but did not benefit from the program. The lack of a valid counterfactual affects also the results indicators, for which there will be limitations to conduct an attribution analysis at the end of the project. The second methodology is solid and relies on an ex post economic analysis, following the same approach as the ex ante economic analysis. Additionally, the program provides sufficient means for monitoring the products and results, and to measure effectiveness relying on a before and after comparison.

Finally, the risk analysis of the project suggests that there are some implementation risks identified as "low" and some as "medium". However, the proposal does not fully develop indicators regarding the mitigation mechanisms for all identified risks.

RESULTS MATRIX

Program objective:	The program's objective is to increase private investment in gas and clean power generation infrastructure projects so as to help boost the efficiency of the energy sector and reduce greenhouse gas emissions in Mexico. To this end, the program will offer financial instruments tailored to the needs of projects of this kind, channeling resources through the public development banking system.

Indicator	Unit	Baseline	Year 1	Year 2	Year 3	Year 4	Target	Description / Source of verification
OUTPUTS								
Loans granted with program funds to clean power generation projects.	Number of loans granted	0	2	1	0	0	3	Records loans for clean energy projects financed with program funds, where construction has begun. **Source:** Periodic program reports from BANCOMEXT. (Annual)[1]
Loans granted with program funds to cogeneration projects.	Number of loans granted	0	2	1	2	0	5	Records loans for cogeneration projects cofinanced with program funds, where installation has begun. **Source:** Program report from BANCOMEXT. (Annual)
OUTCOMES								
Total value of investment leveraged with program funds.	Millions of US$	-	427	204	200	-	831	Measures the total value of investment (cofinancing plus investor capital) leveraged with program funds. Estimates based on total average investment in clean energy and cogeneration projects. **Source:** Program report from BANCOMEXT. (Annual)

[1] Annual: means that the indicators are measured on an annual basis, i.e. it measures results for that year.

<table>
<tr><th>Indicator</th><th>Unit</th><th>Baseline</th><th>Year 1</th><th>Year 2</th><th>Year 3</th><th>Year 4</th><th>Target</th><th>Description / Source of verification</th></tr>
<tr><td>Increase in the net electric power generated by clean energy and gas cogeneration projects that come on stream, financed with program funds.</td><td>GWh/year</td><td>68,912[2]</td><td>68,912</td><td>70,008</td><td>70,600</td><td>71,344</td><td>71,344</td><td>Records the net generating capacity of the plants. Net capacity is equivalent to the power of the unit determined by environmental conditions and the physical state of the facilities, less own use. Until completion of construction of each plant, the installed power will be calculated as the energy capacity that can be generated under average plant factors. The averages for calculation are:
<table>
<tr><th>Type of energy</th><th>Plant factor</th><th>Total installed capacity</th></tr>
<tr><td>Wind energy</td><td>0.375</td><td>134 MW</td></tr>
<tr><td>Solar energy</td><td>0.25</td><td>60 MW</td></tr>
<tr><td>Cogeneration</td><td>0.85</td><td>250 MW</td></tr>
</table>
Source: Program report from BANCOMEXT. As the program is implemented, the values can be verified with information from the CRE, the CFE, and the SENER Energy Information System (SIE).
(Cumulative flow)</td></tr>
<tr><td>GHG emissions avoided and reduced with clean energy projects financed with program funds.[3]</td><td>Thousands of metric tons CO_2e / year</td><td>-</td><td>0</td><td>495.8</td><td>736.6</td><td>1,094.4</td><td>1,094.4</td><td>Indicator constructed on the basis of additional generation or savings in consumption generated with clean energy projects cofinanced by the program, and conversion factors and average emissions in Mexico for renewable energy.
Source: Program report from BANCOMEXT and conversion factors and GHG emissions in Mexico
(Cumulative flow)</td></tr>
</table>

[2] The baseline is taken as clean power generation (hydroelectric (60,304), wind (2,296), solar photovoltaic (13) and geothermal (6,299)) in May 2015 and estimated cogeneration (30,153) at the end of 2013. Energy Information System by the project team based on installed capacity and plant factors of the technologies considered. See description of the indicator.

[3] Technical Paper. Electricity-specific emission factors for grid electricity.

Indicator	Unit	Baseline	Year 1	Year 2	Year 3	Year 4	Target	Description / Source of verification
IMPACTS								
Reduction in total GHG emissions from the energy sector.	Tg CO_2e	490.4[4]					443.3	IDB estimates of the reduction in GHG. The baseline is taken from the National Energy Balance Sheet 2012. One Tg CO_2e = 1,000,000 tons of CO_2 equivalent. **Source:** SENER, National Energy Balance Sheet or the National Emissions Registry, if it is operational
CO_2 emissions (kilograms) per US$1 GDP (Purchasing Power Parity, PPP).	kg CO_2/US$	0.205					0.1899	This indicator is aligned with the Bank's Regional Development Indicators. The base year consists of CO_2 according to the International Energy Agency (453.8 $MtCO_2$) divided by Mexico's GDP (PPP) in 2014 according to the World Bank. The target is calculated on the basis of the Intended Nationally Determined Contribution whereby Mexico committed itself in March 2015 to a 22% reduction in GHG emissions by 2030. **Source:** Estimated on the basis of data published by the International Energy Agency and the World Bank
Reduction in energy intensity.	KJ/$ of GDP	671.3[5]					625	Measures the amount of energy required to produce one Mex$ of gross domestic product. Energy Information System 2013. **Source:** Estimate based on data from the International Monetary Fund, SENER, and the National Energy Balance Sheet. The SENER Energy Information System will also be used.

[4] The baseline value corresponds to 2012, the latest figure published in the National Energy Balance Sheet, SENER, 2013.

[5] The baseline value corresponds to 2012, the latest figure published in the National Energy Balance Sheet, SENER, 2013.

FIDUCIARY AGREEMENTS AND REQUIREMENTS

Country:	Mexico
Project number:	ME-L1172
Name:	Financing Program for Investment and Risk Management in Gas and Clean Energy Projects
Executing agency:	Banco Nacional de Comercio Exterior, S.N.C. [National Bank for Foreign Trade] (BANCOMEXT)
Fiduciary Team:	Gloria Coronel, Fiduciary Financial Management Lead Specialist, Víctor Hugo Escala, Fiduciary Procurement Lead Specialist, and Adriana Corredor, Fiduciary Sector Consultant

I. EXECUTIVE SUMMARY

1.1 Banco Nacional de Comercio Exterior, S.N.C. (BANCOMEXT) is a development finance institution of the federal government that is responsible for fostering the international competitiveness of Mexican firms and promoting Mexico's foreign trade, as well as attracting foreign investment to the country and handling conversions with firms and agencies of other countries. Its objective is to contribute to development and job creation in Mexico, through the financing of Mexico's foreign trade.

1.2 BANCOMEXT has been the borrower and executing agency under previous Bank projects, and has experience in working with IDB financing. The last loan approved was in 2006, 1877/OC-ME (ME0240), Financing Program for Small and Medium-Sized Exporters, in which it demonstrated administrative and operational capacity.

II. THE EXECUTING AGENCY'S FIDUCIARY CONTEXT

2.1 The program will consist of a global credit loan and will be implemented through a single credit component of US$200 million to support financing of: (i) private power-generating projects based on clean energy; (ii) cogeneration and combined-cycle systems (license holders); and/or (iii) projects to expand the natural gas transportation system (gas pipelines). BANCOMEXT, as a public development banking institution, will channel the financing to eligible projects in any of the three areas described, in the form of direct loans and contingent loans to cover market risks (including the price and off-taker risks).

III. FIDUCIARY RISK EVALUATION AND MITIGATION ACTIONS

3.1 As more than six years have elapsed since the Bank has worked with BANCOMEXT, an Institutional Capacity Assessment (ICAS) was performed in May 2015, as part of program preparation activities. The findings are outlined below:

Table 1. Institutional Capacity Assessment - Summary of results

Executing agency:	**Banco Nacional de Comercio Exterior S.N.C. (BANCOMEXT)**					
Audit firm:	**To be designated**					
Period evaluated:	**2015**					
Capacity	**System**	**Quantification**			**Development (ND, ID, MD, SD)**	**Level of risk (HR, SR, MR, LR)**
		Rating %	**IR %**	**Weighted %**		
CPO	SPA	100.00	50	50.00	SD	LR
	SOA	100.00	50	50.00	SD	LR
TOTAL				**100.00**	**SD**	**LR**
CE	SAP	100.00	30	30.00	SD	LR
	SABS	96.55	30	28.97	SD	LR
	SAF	100.00	40	40.00	SD	LR
TOTAL				**98.97**	**SD**	**LR**
CC	SCI	100.00	80	80.00	SD	LR
	SCE	100.00	20	20.00	SD	LR
TOTAL				**100.00**	**SD**	**LR**

As a result of the ICAS, the Bank confirmed that BANCOMEXT has a good control environment, systems, processes, and records for executing operations and identifying the expenses financed with IDB resources.

IV. CONSIDERATIONS FOR THE SPECIAL PROVISIONS OF CONTRACTS

4.1 In order to streamline the project team's contract negotiations, and in particular those of the Legal Department, the following agreements and requirements must be considered in the special provisions of the loan contract:

4.2 **Conditions precedent to the first disbursement.** Entry into force of the program Operating Regulations, previously approved by the Bank.

4.3 **Retroactive financing.** The Bank may finance retroactively, as a charge to the program, eligible expenditures made by the borrower on or after 1 May 2015, the date of approval of the project profile, until the date of approval of this operation by the Bank's Board of Executive Directors, in an amount equivalent to up to 20%

of the approved amount, provided requirements substantially similar to those established in the loan contract have been met. In no case will expenditures be recognized if they were made more than 18 months prior to the date of loan approval.

4.4 The exchange rate agreed on with the executing agency for rendering accounts will be the exchange rate on the payment date recorded in the financial and accounting systems of BANCOMEXT, in accordance with the Mexican government's standards, this being the exchange rate in force in the borrower's country on the effective date of the payment.

4.5 **Audited financial statements.** BANCOMEXT will present audited financial statements annually during the execution period within 120 days after the end of the accounting period, and a final audited financial statement 120 days after the last disbursement. These statements will be audited by firms acceptable to the Bank, with terms of reference agreed on with the Civil Service Department (SFP) and the Bank.

4.6 **Semiannual financial reports.** BANCOMEXT will present semiannual reports on the financial progress of the program in a format agreed on with the SFP and the Bank. These reports will be presented before 30 August with a closing date of 30 June of the same financial year, and 28 February with a closing date of 31 December of the previous financial year.

V. AGREEMENTS AND REQUIREMENTS FOR PROCUREMENT EXECUTION

5.1 As this is a financial intermediation program, no procurement of works, goods, consulting or other services is planned as part of program execution, and consequently the program does not include a procurement plan. If any procurements are to be made, they will comply with the provisions of the Policies for the procurement of works and goods financed by the IDB (document GN-2349-9) and the Policies for the selection and contracting of consultants financed by the IDB (document GN-2350-9), in the following terms.

5.2 If the borrowers or beneficiaries under the line of credit are individuals, private sector firms, small or medium-sized enterprises, or autonomous commercial enterprises of the public sector, procurement will follow current private sector or commercial practices acceptable to the Bank, pursuant to Appendices IV of the Bank's Procurement Policies. Due regard must also be paid, as pertinent, to Section 3.12, Procurement in Loans to Financial Intermediaries, in document GN-2349-9, as well as the provisions of Section 3.14, Commercial Practices, of document GN-2350-9.

5.3 When the borrowers or beneficiaries under the line of credit are entities of the national, state and municipal public sector, procurement will be conducted in accordance with the following arrangements:

a. **Procurement execution: Procurement of works, goods and nonconsulting services.** Contracts for works, goods, and nonconsulting services[1] generated under the project and subject to international competitive

[1] Policies for the Procurement of Works and Goods Financed by the Inter-American Development Bank (document GN-2349-9) paragraph 1.1: Nonconsulting services will be treated as goods.

bidding (ICB) or national competitive bidding (NCB) will be executed using bidding documents harmonized between the SFP and the Bank. These are available online at: (http://www.funcionpublica.gob.mx). The review of the technical specifications for procurement during the preparation of selection processes will be the responsibility of the project's sector specialist.

b. **Selection and contracting of consulting firms:** Contracts for consulting services to be provided by consulting firms financed with project proceeds will be executed using the standard request for proposals agreed on by the Bank and the SFP, which may be consulted at the link shown in the previous paragraph. The review of the terms of reference for contracting consulting services is the responsibility of the project's sector specialist.

c. **Selection of individual consultants:** Contracts for consulting services with individual consultants will be executed using the model contract for individual consultants agreed on with the Bank, which may be consulted at the link shown in paragraph 5.3.1.

5.4 **Procurement supervision.** In view of the low risk rating determined in the institutional assessment, any procurements would be reviewed ex post, except for those specific cases where ex ante review is expressly established.

5.5 **Special provisions.** Measures to reduce the likelihood of corruption. The executing agency will diligently observe the provisions on fraud and corruption established in the Bank's procurement policies.

5.6 **Records and archives.** The basic original documentation for the substantiation of expenses with the Bank will be held by BANCOMEXT. FN's international affairs unit will be responsible for consolidating the financial and program procurement information and will handle liaison with the Bank.

VI. FINANCIAL MANAGEMENT

6.1 **Programming and budget.** Resources from the Bank loan will be channeled to BANCOMEXT through the Federal Expenditure Budget, which is approved each year by the national Congress. Consequently, the use of program funds must be integrated into the accountability system normally used for the compilation and annual closing of the public accounts for the sector.

6.2 The financial area's staff have the necessary profile for their roles and have experience with IDB operations.

6.3 BANCOMEXT is audited annually by (a) the Federal Audit Office (ASF); (b) the National Banking and Securities Commission (CNBV); and (c) an external audit firm. Under the IDB's policy, BANCOMEXT will deliver audited financial statements annually, within 120 days, during the disbursement period, on the use of the proceeds from the Bank's loan.

6.4 **Disbursements and cash flow (in coordination with the use or not of the National Treasury System).** Program resources will be deposited in a special or program-specific bank account.

6.5 The Single Credit System (SUC) will be used to record and control all loan portfolio transactions. This application maintains an interface with the accounting

system for the daily recording of all movements in the loan portfolio. The accounting system, for its part, applies various filters and validations to the information received through that interface, and when errors are detected it makes the necessary corrections to ensure that the daily accounting record is complete. Each day there is an automatically generated comparison of balances between the two systems, in order to detect and correct any discrepancies. At the end of the month, the Director of Banking Operations and the Director of Finance perform a formal reconciliation of operating and accounting figures.

6.6 Disbursements under the Bank loan may be made in the form of: (1) advances of funds or (2) reimbursement of expenditures. Recognized expenditures will be for: (a) payments made to intermediaries or beneficiaries for eligible activities. Considering the institutional capacity of BANCOMEXT, the documentation substantiating requests for disbursement in recognition of expenditures paid by BANCOMEXT will be reviewed ex post. BANCOMEXT may request that disbursements be made in local currency, by currency conversion, or in U.S. dollars.

6.7 **Internal control and internal audit.** The Internal Control System applicable to entities and agencies of the federal government is overseen in Mexico by the SFP. In the case of BANCOMEXT, as a public development banking institution, in addition to observing the regular provisions with respect to internal control of public entities, it must also conform to the guidelines issued by the CNBV, which is the regulatory agency for the sector, as contained in the Single Banking Circular published in the Official Gazette of the Federation in 2005, and its various subsequent updates.

6.8 Primary responsibility for internal control in BANCOMEXT lies with the board of directors, while the General Directorate and the Administrative Units are responsible for its design, implementation, supervision, and evaluation. In support of this task, the executing agency has specialized administrative units such as the Internal Comptroller's Office and the Risk Management Office.

6.9 **External control and reports.** Pursuant to the Federal Law on Semipublic Entities, BANCOMEXT employs the services of a firm of independent auditors designated by the Civil Service Department, which audits the institution's economic operations and issues an opinion on the financial statements as a whole. BANCOMEXT’s financial statements, audited by a firm acceptable to the Bank and with terms of reference agreed on with the SFP, will be delivered annually to the Bank within 120 days.

Table 2. Financial supervision plan

Supervision activity	Supervision plan			
	Nature and scope	Frequency	Party responsible	
			Bank	Third party
Operational	Review of: (a) technical progress of eligible credit activities; and (b) backing of disbursement requests	Annual	Technical and Fiduciary/ Financial team	(b) External auditor
Financial	Visit to review/validate control processes for the proper recording and financial supervision of eligible activities.	Annual	Fiduciary/ Financial team	External auditor
	Ex post review of disbursements and financial audit	Annual		External auditor
	Review of disbursement requests and attached financial reports	Periodic	Fiduciary/ Financial team	
Reports and conditions precedent	Delivery of audited financial statements	Annual	Fiduciary/ Financial and technical team	Executing agency/ external auditor
	Conditions precedent to the first disbursement	Once	Technical and Fiduciary/ Financial Team	

6.10 **Execution mechanism.** The technical and financial execution mechanism will be centralized in BANCOMEXT; the commitments and payments chargeable to the operation will be made by the respective technical and financial areas responsible. Coordination with the IDB will be handled by the International Affairs Office, which also acts as the financial agent for operations with the Mexican federal government.

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-___/15

Mexico. Loan ____/OC-ME to Banco Nacional de Comercio Exterior, S.N.C. (BANCOMEXT), Institución de Banca de Desarrollo
Financing Program for Investment and Risk Management
in Gas and Clean Energy Projects

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with Banco Nacional de Comercio Exterior, S.N.C. (BANCOMEXT), Institución de Banca de Desarrollo, as Borrower, and with the United Mexican States, as Guarantor, for the purpose of granting the Borrower a financing aimed at cooperating in the execution of a financial program for investment and risk management in gas and clean energy projects. Such financing will be in the amount of up to US$200,000,000, from the resources of the Bank's Ordinary Capital, and will be subject to the Financial Terms and Conditions and the Special Contractual Conditions of the Project Summary of the Loan Proposal.

(Adopted on ___ _____ 2015)

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