DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

BRAZIL

CONDITIONAL CREDIT LINE FOR INVESTMENT PROJECTS (CCLIP) FOR FINANCING PRODUCTIVE AND SUSTAINABLE INVESTMENTS

(BR-O0001)

FIRST PROGRAM UNDER THE CCLIP: FINANCING PROGRAM FOR SUSTAINABLE ENERGY

(BR-L1442)

LOAN PROPOSAL

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ABBREVIATIONS	
ANEEL	*Agência Nacional de Energia Elétrica*
ARE	Alternative Renewable Energy
BNDES	*Banco Nacional de Desenvolvimento Econômico e Social*
BRIC	Brazil, Russia, India and China
CCLIP	Conditional Credit Line for Investment Projects
CEF	*Caixa Econômica Federal*
CGU	*Controladoria Geral da União*
CO_2	Carbon Dioxide
CONPET	National Program for the Rationalization of the Use of Oil Products and Natural Gas
COP21	21st Conference of the Parties
EE	Energy Efficiency
EPE	*Empresa de Pesquisa Energética*
ESMR	Environmental and Social Management Report
FI	Financial Institution
FINEP	*Financiadora de Estudos e Projetos*
FSAP	Financial Sector Assessment Program
GDP	Gross Domestic Product
GHG	Greenhouse Gas
IDB	Inter-American Development Bank
IMF	International Monetary Fund
IEA	International Energy Agency
iNDC	Intended Nationally Determined Contribution
IPCA	*Índice Nacional de Preços ao Consumidor Amplo*
IPEA	*Instituto de Pesquisa Econômica Aplicada*
kWh/MWh/GWh	Kilowatt-hour/Megawatt-hour/Gigawatt-hour
LAC	Latin America and the Caribbean
Mt	Mega ton (millions of tons)
$MtCO_2e$	Mega ton of Carbon Dioxide Equivalent
MW/GW	Megawatt/Gigawatt
MWe/GWe	Megawatt equivalent/Gigawatt equivalent
NDB	National Development Bank
NDC	Nationally Determined Contribution
OC	Ordinary Capital
OECD	Organisation for Economic Co-operation and Development
OR	Operating Regulations
PDE	*Plano Decenal de Expansão de Energia 2024*
PIEE	*Programa de Investimento em Energia Elétrica*
PNMC	*Política Nacional sobre Mudança do Clima*
PPA	Power Purchase Agreement
PROESCO	Program to Support Energy Service Companies

PROCEL	National Electricity Conservation Program
PUP	Public Utilities Policy
RE	Renewable Energy
SELIC	*Sistema Especial de Liquidação e de Custódia*
SME	Small and Medium Enterprise
tCO_2	Ton of Carbon Dioxide
tCO_2e	Ton of Carbon Dioxide Equivalent
TFP	Total Factor Productivity
TWh	Terawatt hours
US	United States

PROJECT SUMMARY
BRAZIL
CONDITIONAL CREDIT LINE FOR INVESTMENT PROJECTS (CCLIP) FOR FINANCING PRODUCTIVE AND SUSTAINABLE INVESTMENTS
(BR-O001)
FIRST PROGRAM UNDER THE CCLIP: FINANCING PROGRAM FOR SUSTAINABLE ENERGY
(BR-L1442)

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[a] Under the Flexible Financing Facility (FN-655-1), the borrower has the option to request modifications to the amortization schedule as well as currency and interest rate conversions. In considering such requests, the Bank will take into account operational and risk management considerations.

[b] The original Weighted Average Life (WAL) of the loan and the grace period may be less, depending on the actual signature date of the contract.

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

[d] SI (Social Inclusion and Equality); PI (Productivity and Innovation); and EI (Economic Integration).

[e] GD (Gender Equality and Diversity); CC (Climate Change and Environmental Sustainability); and IC (Institutional Capacity and Rule of Law).

I. DESCRIPTION AND RESULTS MONITORING

A. Background, Problem Addressed and Justification

1.1 **Economic context.** The Brazilian economy is facing recession with the growth of Gross Domestic Product (GDP) expected to be below -3% in 2016, a rising rate of unemployment and inflation that remains above target yet growth expectations for 2016 and 2017 have been recently revised positively given encouraging developments in exports and in business confidence.

1.2 **The government has proposed a new fiscal regime.** Starting in 2017, the spending from the central government will be capped by the official inflation (Índice Nacional de Preços ao Consumidor Amplo - IPCA) of the previous year. The government expects that the spending cap will significantly improve the fiscal outlook in Brazil as the economy regains growth momentum. The spending ceiling requires approval of a constitutional amendment by Congress (qualified majority of 2/3), given the actual political situation, and there is the risk that the measures might be delayed or diluted. In addition, the spending cap must be followed by supporting legislation that addresses specific areas of spending that may otherwise continue to grow very strongly, including the area of pensions and social security.

1.3 **There are risks to economic activity that lie outside the control of the government.** Externally, further declines in commodity prices due to slower than projected growth in China or in the advanced economies, and a more aggressive monetary normalization than expected in the United States (US) might lead to higher risk aversion and a capital outflow that will impact negatively the Brazilian economy.

1.4 Brazil remains remarkably resilient due to its high level of international reserves, low level of foreign-currency denominated public sector debt, relatively diversified economy and robust financial system. Recent signs of economic stabilization in combination with improvements in the policy framework are conducive to further progress on taming macroeconomic imbalances, which boost the effectiveness of measures designed to boost productivity, investment, and growth potential.[1]

1.5 **Productivity and growth.** Since 2000, average productivity growth in Latin America and the Caribbean (LAC) region has declined yearly by 0.04%. In South America, where the trend has been more positive, Brazil and Uruguay have been the exception with productivity declines of over 1% annually.[2] In 1960, while productivity in Brazil was close to 90% of that in Europe and Central Asia, it was only 43% in 2011. Even during the economic boom (2003-2008), productivity

[1] The government successfully approved, in a first round vote in the lower chamber, the constitutional amendment that imposes a cap to public spending growth. The approval did not involve any major change in the original proposal. According to the established process for amending the constitution, a second round vote shall take place and then amendment will be sent to the Senate. The government expects the process in Congress to be completed by the end of the year.

[2] Grazzi, M., Pietrobelli C., et al., Firm Innovation and Productivity in Latin America and the Caribbean. The Engine of Economic Development. IDB, 2016.

did not grow more than 2% yearly.[3] As a result, several studies conclude that these trends are not enough to sustain long-term growth in Brazil.

1.6 Ellery Jr.[4] uses different methods to calculate the Total Factor Productivity (TFP) in Brazil for the period 1970-2011. In all of them, the conclusion is that growth in productivity has been insignificant during the period. Productivity measured in terms of labor (a ratio of GDP divided by working population) was 1.09% between 1999 and 2001 and 1.17% between 2001 and 2009. During the 90's, productivity and GDP per capita behaved similarly in terms of growth, while the first decade of the 2000's saw these two indicators diverge, with increases in GDP significantly outpacing the advance of productivity levels. The difference was mainly explained by the high numbers of labor added over this period (2001 to 2009), with the resulting reduction in unemployment ratios explaining most of the GDP per capita growth. However, during the following years and particularly after 2014, have shown a weak evolution in the labor markets, thus requiring increasing productivity in order to sustain and foster economic growth.[5]

1.7 **Relevant intervention areas for growth and productivity.** The structural nature of the problem makes it difficult to search for an optimal economic structure to attempt to resolve the productivity problem across all activities of the economy. A more sensible approach would be to determine productivity growth opportunities in specific high-potential sectors. In this sense, following are three distinct but related issues that have deserved particular attention in the existing literature when assessing opportunities to improve productivity levels in Brazil.[6]

1.8 Firstly, the state of infrastructure and the productivity of firms is a well-documented relationship. Analyzing data by mesoregions in Brazil, Schettini and Azzoni[7] show how improvements in regional coverage of road infrastructure and urban infrastructure can produce increases in the regional efficiencies, productivity and industrial output. Over the past three decades, infrastructure investments in Brazil have ranged between 2% and 2.5% of GDP, dropping significantly from an average of 5.2% in the early 1980s and lagging behind other BRIC[8] countries where the average has been at least double. Private investment in infrastructure can help reduce pressure on public finances by allocating resources to projects that can fill infrastructure gaps, bringing skills and efficiency gains, and enabling better risk assignment. From the perspective of economic growth, infrastructure enables development, contributes to improve competitiveness across sectors, and can be an attractive investment opportunity in itself.[9] However, there are barriers that inhibit the expansion of private

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[3] De Negri, F., Cavalcante, L. R., *Produtividade no Brasil: desempenho e determinantes. Brasília*, *Instituto de Pesquisa Econômica Aplicada* (IPEA), 2014.

[4] Ellery Jr., *Desafios para o cálculo da produtividade total dos fatores*. In: De Negri, F., Cavalcante, L. R., *Produtividade no Brasil: desempenho e determinantes*. Brasília, IPEA, 2014.

[5] See Productivity and Economic Growth.

[6] See Productivity and Economic Growth.

[7] Schettini, D., Azzoni, C, *Determinantes regionais da produtividade industrial: o papel da infraestrutura*. De Negri, F., Cavalcante, L. R. *Produtividade no Brasil: desempenho e determinantes. Brasília*, IPEA, 2015 v. 2.

[8] Brasil, Russia, India and China.

[9] Fostering Investment in Infrastructure. Organisation for Economic Co-Operation and Development (OECD). 2015; Garcia-Escribano, M., Goes, C., and Karpowicz, I., Filling the Gap: Infrastructure Investment in Brazil. International Monetary Fund (IMF) Working Paper, 2015.

financing in infrastructure. Given the extended construction period and the time that a project takes to start generating income, long-term financing is needed to ensure it is viable. In Brazil, the banking sector has not been able to deliver suitable infrastructure financing in recent years, due to capital regulations and asset quality deterioration. In addition, project finance structures are not sufficiently developed to increase private participation in the sector. At the same time, capital markets have not progressed enough, also explained by the adverse investment climate. Not surprisingly, almost every large infrastructure project in Brazil currently depends on financing from *Banco Nacional de Desenvolvimento Econômico e Social* (BNDES) to be viable.[10]

1.9 Secondly, energy plays a key role in the economic development of countries.[11] As an input necessary for economic production, the way in which energy is produced, managed and consumed has significant effects on productivity. As such, innovations in the use of fuels and efficient use of energy (particularly electricity) can contribute to productivity gains.[12]

1.10 The functioning of an economy depends on an adequate, secure and sustainable electricity supply, for the development of its productive activity, its residential consumption, and provision of public services. In the 1990s and 2000s, Brazil suffered from a discrepancy between the increase of electricity demand and the increase in installed capacity (greater economic development, which requires higher electricity consumption, was not accompanied by an adequate increase in electricity supply), thus resulting in higher electricity costs, and impacting its levels of productivity.[13] In addition, as the electricity matrix depends mainly on hydropower (60%),[14] it has limitations of geographic expansion (regions with potential for new plants are limited and new plants require extensive environmental and social risk management and licensing), technology maturity and presents vulnerabilities, particularly to draughts[15] and oil and gas prices (as

[10] Frischtak, C., Noronha, J., *O Financiamento do Investimento em Infraestrutura no Brasil: Uma Agenda para sua Expansão Sustentada.* CNI, Brasilia, 2016. See also Development Financing.

[11] The long-term relationship between energy consumption and GDP has been widely evidenced in literature. See Asafu-Adjaye, J., 2000, The relationship between energy consumption, energy prices and economic growth: Time series evidence from Asian developing countries; Barreto and Campo, 2012, *Relación a largo plazo entre consumo de energía y PIB en América Latina: Una evaluación empírica con datos panel*; Soytas and Sari, 2003, Energy consumption and GDP: causality relationship in G-7 countries and emerging markets; Lee, Ch., 2006, The causality relationship between energy consumption and GDP in G-11 countries revisited.

[12] Stern, D. The Role of Energy in Economic Growth. Centre for Climate Economics & Policy. Working paper 3.10. 2010.

[13] The World Economic Forum (2015) ranks Brazil 122 out of 144 in Quality of Electricity Infrastructure. In Brazil, especially in those that are energy intensive, energy costs can be as high as 44% of total production costs. Partially, the costs are high because of the high reliance in large hydropower in Brazil that is concentrated in some geographic areas far from the economic centers and hence resulting in high distribution costs and potential technical losses (see Financing of ARE in Brazil).

[14] According to the *Plano Decenal de Expansão de Energia* 2024 (PDE) share of hydro was 62% in 2014.

[15] The discrepancies between the growth of demand for electricity and installed capacity – due to shortcomings in the planning and operation of the system, as well as the absence of public and private investment in new generation capacity – have been observed since the 90's. The situation worsened in 2001, when critical hydrological conditions led to increasing default rates in the wholesale market. These factors led to power rationing in all regions of Brazil, except the south. The rationing lasted until February 2002.

thermal power generation is used to complement hydropower generation).[16] In response to these challenges, the Brazilian Government started aggressively supporting the sector, with three main steps: (i) adapting the regulatory framework, in order to increase the competitiveness of the generation sector (via yearly generation auctions), to guarantee that future energy demand is fully covered; (ii) encouraging private sector investments in Alternative Renewable Energy (ARE),[17] in order to increase installed capacity, while diversifying the electricity matrix with cleaner and more competitive sources; and (iii) promoting Energy Efficiency (EE) for businesses and consumers, which fosters productivity via the use of less energy to produce more.[18] Support for the continuance for the latter two steps is especially necessary under the current macroeconomic conditions.

1.11 Private sector participation has been and will continue to be crucial to guarantee ARE and EE investments, and to support the sustainable growth of the electricity sector.[19] ARE and EE projects are capital intensive, with high initial capital investment and relatively low operation and maintenance costs, characteristics that affect the availability of funding, as returns on the investments are received during the lifetime of the project, once these start operation. Two issues are relevant to making financing viable in the Brazilian market: (i) tenor; and (ii) rates and terms of financing. Because the majority of the resources are necessary during the preoperational stage, the pace of development of these projects is highly dependent on the availability of long-term financing to match their cash flow profile.[20]

1.12 Thirdly, the potential for inclusive productivity gains may be largest among Small and Medium Enterprises (SME). SMEs in Brazil contribute up to 20% of the country's GDP, which is less than half the OECD average,[21] and reflects the large productivity gaps between large and small enterprises. In Brazil's industry sector, SMEs represent 90% of businesses and 30% of employment, but they generate only 11% of value added on the entire sector. Their productivity can be

[16] Electricity consumption in the grid is expected to grow at a compound annual growth rate of 3.9% per year, reaching 692 TWh of demand in 2024. To cover this demand, total installed capacity in the grid should increase from 133 Gigawatts (GW) to 206 GW. The types of technologies to be installed in this period are determined by a power expansion optimization, based on two conditions: (i) least cost expansion; and (ii) a security condition in which the deficit risk shall not be superior to 5% of the inflow scenarios. The optimization process considers only power plant projects likely to start operational phase in the ten-year horizon (given their technical, economic and environmental characteristics). This limits the reliance in large-hydro, as its planned expansion heavily depends on the Environmental Pre-License Process, given that each future hydro power plant needs its Environmental Pre-License to be eligible to take part in the power auctions.

[17] The concept of ARE used in this document includes wind, solar, biomass and small hydropower (up to 30 Megawatts (MW)). Medium and large hydropower plants (more than 30 MW of capacity) are not included in this category. For the purpose of the first program of the CCLIP, small hydro power will not be eligible.

[18] This includes an auction process for ARE that provides additional security to offtakers and power producers and dedicated financing lines through BNDES. BNDES has also a number of EE financing programs, such as Program to Support Energy Service Companies (PROESCO) and *Micro, Pequena e Media Empresa Inovadora* (Energy Efficiency Market Report. Market Trends and Medium Term Prospects. International Energy Agency (IEA), 2015). For further information on detailed incentives for the sector see Financing of ARE in Brazil.

[19] In 2014, 55% of total investment in electricity infrastructure was made by the private sector (Frischtak and Noronha, op. cit.).

[20] See Financing of ARE in Brazil.

[21] Pires, J. et al., A Comparative Analysis of IDB Approaches Supporting SMEs: Assessing Results in the Brazilian Manufacturing Sector. IDB, 2014.

up to four times lower than large enterprises.[22] A variety of market and institutional failures restrict the expansion of SMEs and their opportunities to enhance their productivity, at the core is access to finance. While existing literature on the impact of credit access on SME productivity is limited, studies have broadly demonstrated the relationship between a higher level of credit to the private sector and an increase in productivity.[23] In the specific case of Brazil, an analysis of various interventions of the Inter-American Development Bank (IDB) on SMEs shows that credit support has the highest impact overall, with the most positive impact on employment and wages, also improving their performance on other outcomes, such as exports and innovation.[24]

1.13 **Lack of long-term financing is one of the main aspects slowing down productive investments in Brazil.[25]** Low investment rates are the result of a combination of elements including expectations, regulation, investment climate and long-term financing. Over the last decades, several factors have contributed to failures in the long-term financial markets in Brazil.[26] High inflation has limited the capacity of markets to provide long-term confidence and perceived risks have hampered the banking and capital markets. This legacy, mixed with the low level of domestic savings and high intermediation spreads, have resulted high interest rates (well above those in comparable countries)[27] and short durations.

1.14 Domestic credit to the private sector reached 67.9% of GDP in 2015, increasing steadily since 2003 when the indicator was 27.7%.[28] Government-owned banks, which represent 40% of total assets, heavily influence credit to private sector. Access to external credit by corporates has suffered since early 2015 and credit supply has tightened domestically. Even though the banking system is well capitalized, liquid and profitable, the IMF estimates that deteriorating macroeconomic conditions since 2014 might impose the need for banks in Brazil to raise provisions and capital by up to a combined 2.25% of GDP.[29]

1.15 Capital markets financing to the private sector is limited and the market in general lacks liquidity. Fixed income instruments are relatively low at 2.5% of GDP and all issuances are short to medium-term. Moreover, in the fixed income market, public instruments are predominant (54% of total in 2011). Corporate bonds represent just 0.5% of GDP in Brazil, compared to 14.6% in Chile and 3.4% in Mexico. New instruments promoted by the government have still not

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[22] SME firms are those with 500 or less workers, while large enterprises have over 500 workers (see Productivity and Economic Growth).

[23] *Desarrollo en las Américas, "La era de la productividad: Cómo transformar las economías desde sus cimientos".* IDB, 2010; Eslava, M. et al., The Impact of Credit Markets on Productivity Behavior in Colombia. IDB, 2009.

[24] Office of Evaluation and Oversight (OVE). A Comparative Analysis of IDB Approaches Supporting SMEs: Assessing Results in the Brazilian Manufacturing. BID: Washington, 2014

[25] See Brazil: Financial Sector Assessment Program (FSAP), IMF, 2012; the World Bank Indicators; and the Regional Economic Outlook: Western Hemisphere, IMF, 2016.

[26] See Development Financing.

[27] As of 2015, short-term policy rate in Brazil was 14.25% (up from 11.75% in 2014 and 10% in 2013). In Mexico, this rate is 3.25%. Bank for International Settlements, 2016.

[28] As a reference, these are the 2015 values for other large economies in the region: Chile 111.2%, Colombia 47.1%, Mexico 34%, and Peru 37% (data from the World Bank).

[29] Regional Economic Outlook: Western Hemisphere, IMF, 2016.

sufficiently attracted investors[30] (when compared with standard government bonds, corporate instruments have less liquidity and pay lower premiums).[31] Meanwhile, regulatory requirements, high transaction costs and lack of scale, make it unviable for SMEs to access capital markets. Credit to SMEs represents only 12.2% of the banking system in Brazil, similar to the average in LAC (12.39%) but less than half of OECD countries (25.54%).[32]

1.16 Across LAC, and particularly in Brazil, National Development Banks (NDB) have progressively increased their role to fill major financing gaps and promote long-term financing. NDBs provide counter-cyclical finance to promote investments when economies weaken, mobilize funding from private sources to capital-intensive industries and can create mechanisms to promote capital markets.[33] In Brazil, NDB long-term financing – mainly BNDES and the *Caixa Econômica Federal* (CEF) – has been the mostly used government source of funding to support infrastructure development (62% of investments in 2014). Nonetheless, the current conditions in the country have constrained NDB financing to infrastructure[34] and additional support is needed to underpin sustained investment. Under these circumstances, BNDES has been working to revamp its strategy and operational policies to provide solutions to foster and scale investments in innovation, infrastructure, Renewable Energy (RE), SMEs, leveraging its funding and capital market mechanisms to generate positive externalities and social impact.[35]

1.17 **The challenge.** The problem that the CCLIP aims to address is the lack of adequate financing for those private investments more likely to stimulate productivity and sustainability in Brazil. By increasing access to medium and long-term financing, the CCLIP would enable firms to increase their investment,[36] with focus on the three areas described above (infrastructure investments, sustainable energy investments and productive investment of SMEs), where a counter-cyclical intervention can contribute significantly to long-term growth.[37] Given the current economic environment and changes in banking and financial

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[30] Fiscal benefits and the creation of liquidity funds have been put in place so as to promote the development of both the primary and secondary markets. *Financiamento das corporações: perspectivas do desenvolvimento brasileiro*. IPEA, 2013.

[31] See Development Financing.

[32] Evidence at the firm level shows that Brazilian firms are credit constrained and show that compared to larger firms, "smaller and younger firms are disadvantaged when it comes to securing bank credit." See references for this evidence in Pires, op.cit. Also Makler, H. et al., Inequalities in Firms' Access to Credit in Latin America. Global Economic Journal 13 (3–4), 2013.

[33] De Olloqui, F., *Bancos públicos de desarrollo: ¿Hacia un nuevo paradigma?* IDB, 2013; Deason, J., Varadarajan, U., and Levi, P., Getting the most from your green: An approach to using public money effectively through green banks and other low-carbon financing. Climate Policy Initiative, 2015.

[34] Frischtak, C., Noronha, J., *O Financiamento do Investimento em Infraestrutura no Brasil: Uma Agenda para sua Expansão Sustentada.* CNI, Brasilia, 2016.

[35] See *Politica Operacional* in 1st semester 2016, Manager Report. Also, Lima, M.A. *O Desenvolvimento Inacabado do Brasil: O BNDES e a Convenção do Crescimento de 1952 a 1978*. BNDES, 2009; Sousa, F.L. (Org.). *BNDES 60 anos: Perspectivas Setoriais.* BNDES, 2012

[36] *Documento de Marco Sectorial de Respaldo para Pequeña y Mediana Empresa, Acceso y Supervisión Financieros,* GN-2768-3. IDB, 2014.

[37] As mentioned, in the case of green energy investments, Brazil is complementing the long-term financing available from BNDES with infrastructure bonds, which are also expected to contribute to further deepening the private fixed-income market.

markets, NDBs in Brazil are critical to counter financial instability in the coming years. The CCLIP will provide BNDES with an effective instrument for the preparation and approval of suitable long-term loans to promote private investments in infrastructure, particularly sustainable energy projects, and in productive SME projects.

1.18 **First program under the CCLIP.** The CCLIP is conceived as a flexible instrument with the general goal of promoting productive and sustainable investment in Brazil by channeling long-term financing for private projects in different sectors. The first program under the CCLIP will focus entirely on sustainable energy investments, including ARE and EE (see ¶1.10 and ¶1.35). The program will provide financing in suitable conditions through existing financing lines of the BNDES to promote the investments needed for accelerated, sustainable development based on two fundamental approaches: (i) increase ARE installed capacity to promote generation from cleaner sources, helping to ensure a more diversified energy supply; and (ii) expand the use of EE technologies in sectors identified as having high potential to increase efficient use of energy in the short term, and promote the take-off of these technologies over the medium and long term.

1.19 The *Plano Decenal de Expansão de Energia 2024* (PDE) is the sector's ten-year expansion plan for 2015-2024, which seeks to diversify the energy matrix with a larger share of ARE sources. Through the PDE, the country expects to reach the Greenhouse Gas (GHG) emissions targets set in the *Política Nacional sobre Mudança do Clima* (PNMC) as well as international agreements on climate.[38] The national decree 7.390/10 regulates the PNMC and establishes that the PDE will define the plan for climate change mitigation and adaptation in the energy sector in alignment with the PNMC objectives.

1.20 The PDE defines the mitigation actions that will contribute to fulfill the country's emissions objectives, including increasing the installed capacity in ARE and scaling up EE projects, by stating that "the expansion of electricity generation for the ten-year horizon should be carried out in a sustainable way, considering economic criteria and security of supply for the electric power system." Based on PDE projections, the total installed capacity is expected to reach 74 GW by 2024, although in the short term (by 2018) large hydroelectric have more precedence than ARE.[39]

1.21 Although water is a renewable source, large hydroelectric power plants (more than 60% of the Brazilian electricity matrix) make the system vulnerable to climate change, and can also present high risks due to a strict environmental and licensing process associated to their size. To guarantee the security of the electric system in the future, the planned expansion emphasizes diversification and seeks to complement large hydroelectric projects with ARE and thermal sources (see also ¶1.10). As a result, the revised PDE 2024, particularly from

[38] Brazil's commitment through its intended National Determined Contribution (iNDC) presented in 2015 at the COP21 in Paris was to reduce emissions in 37% by 2025 and 43% by 2030 (relative to emissions in 2005). Brazil has ratified the Paris Agreement on 21 September 2016 and its NDC has become part of an international legally binding agreement which Brazil is formally part of.

[39] *Empresa de Pesquisa Energética* (EPE) and PDE.

2019 onwards, prioritizes ARE, with an annual average of 10% increase in capacity.

1.22 A key component in ARE expansion and diversification is wind energy, in which Brazil has great potential. In 2001, the wind power potential was estimated in 143 GW (*Atlas do Potencial Eólico*), however considering more recent technological advances, the potential is now considered to be 500 GW (75% of which in the northeast region). Brazil has a comparative advantage in terms of wind quality (speed, direction and stability), which can provide the country an attractive average production factor with respect to other large producers of wind power (38% in 2015, compared to 18% in China, 33% in the US and 24% in Spain). Wind generation has become very active in the country's power auctions since 2009, achieving more competitive prices over time. These initial milestones provide momentum for continued improvements in local value chains and lower production costs.[40] By 2024, the Brazilian Government expects to have 24 GW of wind capacity installed (11.6% of the country's energy matrix and a 240% increase with respect to current installed capacity).

1.23 While solar power capacity is still not representative in Brazil (27 MW), efforts have been made since 2014 through auctions to incentivize its development. The winning bids of these auctions are expected to secure financing in 2017-2018, to fulfill their contractual obligations to begin operations. The development of these projects is expected to have a positive effect on the local market, in terms of value chain (similarly to wind) to improve conditions so that the sponsors can mitigate exchange rate risk and reduce one of their biggest investment constraints. By 2024, solar capacity is expected to be 7 GW. Other ARE (including small hydro power plants and biomass) are also expected to gain more relevance in the power generation matrix, increasing to 27% of total capacity by 2024 compared to 16% in 2014 (PDE 2024).

1.24 Brazil has a long history of promoting energy efficiency at the end user level;[41] despite these efforts, the energy intensity in the Brazilian economy has remained relatively stable since the 1970's, showing a clear opportunity to promote more decisively the efficiency in energy and electricity use. According to the PDE, gains in energy efficiency should reach 5.3% of electricity consumption in 2024, representing 44 TWh of energy savings that year. In the industrial sector, energy savings are expected to be 3.6% compared to expected electricity demand for 2024, representing 13 TWh. In total, during the 2015-2024 period, the expected energy savings in the electricity sector are expected to be 226 TWh.

1.25 **Regulatory framework for RE and EE.** The electric sector is regulated by the Electricity Law of 2004 (Law 10.848), which redesigned the original electricity market launched in 2000 following the 2001 electricity crisis (see ¶1.10), and established a regulated market for distribution companies providing public services to residential consumers, alongside a market for free customers (defined as having a peak load larger than 3 MW). Under this framework,

[40] See Financing of ARE in Brazil.
[41] Government initiatives include, in particular: (i) the Brazilian Labeling Program; (ii) the National Electricity Conservation Program (PROCEL); and (iii) the National Program for the Rationalization of the Use of Oil Products and Natural Gas (CONPET).

distribution companies must guarantee their projected demand via public auctions for short, medium and long-term Power Purchase Agreements (PPA) organized by the Brazilian Electricity Regulatory Agency, the *Agência Nacional de Energia Elétrica* (ANEEL). For every auction, *Empresa de Pesquisa Energética* (EPE) determines the total demand and technologies to be auctioned, and the specific details such as PPA duration, ceiling prices, connection requirements, etc. Grid access regulations include transmission and distribution tariff discounts of at least 50%, for solar and wind power plants up to 30 MW. Environmental impact assessments are required for all power stations of 10 MW or more regardless of energy source. The Energy Efficiency Program institutes the use of 0.5% of distribution net operational revenue in energy efficiency programs and the Energy Efficiency Law 10.295 (2001) establishes compulsory levels of energy efficiency and power consumption levels for equipment and machinery. Moreover, the National Energy Efficiency Plan, launched in 2011, stipulates specific guidelines, and targets by sector, in order to reach 10% energy savings by 2030. The Brazilian Nationally Determined Contribution (NDC) presented at the 21st Conference of the Parties (COP21) (a United Nations Sustainable Innovation Forum 2015) and legally ratified by the Government of Brazil committed to: (i) increasing the share of renewables (other than hydropower) in the power supply to at least 23% by 2030, including by raising the share of wind, biomass and solar; and (ii) achieving 10% efficiency gains in the electricity sector by 2030 (see ¶1.19).

1.26 **Financing alternatives for ARE and EE.** A major hindrance of the consolidation of ARE technology across LAC is the lack of adequate financing. Particularly in Brazil, historically high interest rates make it impossible for private developers to finance their projects in the private banking system. Relatively high inflation rates imply that SELIC[42] rates are not expected to fall in the short term (see ¶1.13 to ¶1.16). While these projects normally require longer amortization periods to be profitable, the Brazilian market is not able to supply financing at the appropriate tenor. Long-term financing via debentures (project bonds) is relatively small (since 2010, only US$1.3 billion are reported to have financed renewables) and its structuring still depends widely on the availability of guarantees by the issuer. The current economic and political context have reduced even more the incentives for international investors to participate in the Brazilian market, as there is too much uncertainty when it comes to long-term previsions. External debt financing can be expensive, as the financing needs to incorporate the costs of the swap to borrow in Reais (the project receives income in Reais and the perception of risk is too high if it has to pay back the loans in US Dollars). Local commercial banks' participation in the sector is limited to bridge loans or complementing BNDES financing via the provision of guarantees required during construction phase or indirect financing (on-lending BNDES funds).

1.27 BNDES has become the main source of financing for ARE projects. From 2003 to 2014, over 50% of financing for investments in the electricity sector in Brazil –including generation, transmission and distribution– was provided by

[42] Overnight market interest rates guaranteed by government bond negotiated in *Sistema Especial de Liquidação e de Custódia* (SELIC).

BNDES. Only in wind projects, between 2012 and 2015 the average share of BNDES in its financing was 57%. In terms of installed capacity, this represents 7,272 MW. The institution has been the only one able to provide annual rates in the range of 9.7% – 11.6% and maturities of up to 16 years, supplying financing for the sector that adds up to about US$8 billion since 2005. However, the recent recession and potential further externalities may reduce the country's ability to supply the necessary funding. Market volumes of private equity, venture capital, project finance and capital markets are not sufficient and have been affected by current market conditions. With support from IDB, BNDES will continue to play a critical role in this context to fill the long-term financing gap, providing necessary support to ARE investment projects unable to obtain suitable financing in the current market and generating a demonstration effect for private financing sources to follow suit when overall market conditions improve[43] (see ¶1.16 and Financing of ARE in Brazil).

1.28 As explored in Brunnschweiler (2010),[44] there is an intrinsic link between the level of investments in RE and the availability of financing. The relevance of the argument is put forward when the study concludes that energy firms in less developed economies are largely dependent on external financing to realize new projects; in turn, external financing in these countries relies on the banking sector, as stock markets and venture capitalism are not well enough established to provide large-scale funding. However, the underdevelopment of the banking sector, in addition to specific RE-sector problems such as high up-front and information costs and long lead times, hamper the emergence of ARE entrepreneurs. It should be clear that these conclusions are largely supported by the data in Brunnschweiler (2010): financial intermediation has a significant positive effect on the amount of RE produced, and the impact is especially large when we consider non-hydropower ARE such as wind, solar, geothermal and biomass. In 2009, a study was carried out to understand the impact of the global financial crisis on the ARE sector by determining "changes and trends in investment flows for these technologies and companies as the cost of capital rises and access to credit becomes more difficult."[45] The survey reaffirmed how developers underwent a downward adjustment of their business planning, anticipating that capital will remain in short supply and access to finance will be difficult and costly, due to reduced liquidity in the midst of the crisis. While energy policies such as long-term carbon prices, subsidies and tax credits were considered important for institutional investors, the majority of survey participants thought governments could best help them through the crisis with financial incentives and loans.

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[43] The program encourages leverage from other sources of debt and capital through: (i) minimum requirement of capital in projects financed by BNDES; (ii) caps per individual credit (OR establishes a maximum of US$100 million), requiring larger projects to seek alternatives to complement its financing with other sources; and (iii) the possibility to work with FIs that may complement financing with their own resources and get more involved in financing the sector, which encourages their participation in the future.

[44] Brunnschweiler, Christa N. Finance for RE: an empirical analysis of developing and transition economies. Environment and Development Economics 15.03 (2010): 241-274, 2010.

[45] The global financial crisis and its impact on RE finance. UNEP, 2009. The results are based on survey-based empirical research and transaction-based data analysis.

1.29 **Magnitude of resources needed for the first program.** According to the PDE for 2015-2024, new capacity to be added to the generation matrix is estimated to require investments of over US$80 billion until 2024. From these, US$50 billion will be in ARE. More specifically, from 2015 to 2024, PDE estimations of investment requirements for wind and solar are US$24 billion and US$9 billion, respectively. In the shorter term, the *Programa de Investimento em Energia Elétrica* (PIEE),[46] released by the federal government in August 2015, estimates that additional investments to develop some 6 GW to 9 GW of new wind and solar power would be needed between 2015 and 2018, which could represent total investments between US$10.5 billion – US$15.5 billion. More concretely, projects already awarded in ARE auctions by August 2016 are estimated to require US$5.5 billion in investments distributed along the next five years. If we assume that at least 30% of the investment will be funded with capital from developers/investors, the minimum estimated amount of financing needed for the next five years is US$3.85 billion. Based on these figures, and an analysis of demand for finance for ARE projects,[47] IDB and BNDES resources for the program expected to be used in ARE projects (US$840 million) would represent 22% of total needed financing for ARE in the next 5 years[48] or 1.2% to 5% of financing needed for achieving Brazil's ARE and EE NDC goals.[49] Similarly, the expected savings in EE in the electricity sector 2015-2024 (226 TWh) are equivalent to an investment of US$4.2 billion.[50] Based on this figure and extrapolating for a 5-year period, we can estimate that the resources from the program expected to finance EE projects (US$60 million) would represent about 3% of financing required to achieve EE savings expected in the next five years. Following the same logic, if total investment produced by the program (including program resources and additional funds leveraged, regardless of the source) is considered, the contribution of the program to closing the investment gap would be around 23% and 3% for ARE and EE projects, respectively.

1.30 **Program alignment.** The operation was included in the Bank's Operational program OPR-2016 (GN-2849) and is aligned with the first pillar (increase of productivity and competiveness) of the Country Strategy for Brazil 2016-2018 (GN-2850) (see *Alineación a la Estrategia Pais Brasil 2016-2018*). Additionally, it is aligned with the development challenge of the Updated IDB Institutional Strategy 2010-2020 (AB-3008) of productivity and innovation by promoting and supporting the use of modern, efficient, and sustainable technologies for energy generation and the crosscutting issue of climate change

[46] The PIEE establishes the goal of expanding energy supply by strengthening its production and transmission capacities, so as to provide energy at competitive prices using cleaner sources. This program seeks to diversify the generation matrix with the expansion of sources such as biomass, solar and wind.

[47] See Financing of ARE in Brazil.

[48] As explained in ¶1.27 without the IDB and BNDES financing, over 20% of the total financing needed for ARE installation in the short term would not occur, resulting in thermal power generation investments (as a short-term solution) or lack of sufficient supply to cover the projected demand. The lack of financing would also affect the overall ARE investments in the medium term, as the supply chain of ARE technology providers would be affected by the lack of investment, and less investors in ARE projects would be attracted to the market.

[49] Estimated based on current studies being developed by IDB with support of technical cooperation ATN/OC-14867-BR.

[50] Considering a cost of US$18.5 per avoided MWh (*Associação Brasileira das Empresas de Serviços de Conservação de Energia*, 2015).

and environmental sustainability through the use of Corporate Results Framework indicators, given the expected reduction in GHG and increased energy supply meeting economic growth consumption needs from increased ARE generation in the electricity matrix. The program is also consistent with Bank's priorities as set out in its Integrated Strategy for Climate Change Adaptation and Mitigation, as total project funds correspond to climate change mitigation, Sustainable and RE (see paragraphs 1.3, 2.9 and 3.14 of document GN-2609-1), the Sustainable Infrastructure for Competitiveness and Inclusive Growth Strategy (GN-2710-5) and the Institutions for Growth and Social Welfare Strategy (GN-2587-2). It is consistent with the SMEs and Financial Access/Supervision Sector Framework Document (GN-2768-3), by promoting financial access; and with the Climate Change Sector Framework Document (GN-2835-3) and the Energy Sector Framework Document (GN-2830-3), by supporting GHG emissions reductions from ARE and EE.

1.31 **Consistency with Bank's Public Utilities Policy (GN-2716-6).** The program is also consistent with the IDB Public Utilities Policy (GN-2716-6) as: (i) the tariff structure of the power sector guarantees that all the costs of the service are covered, while seeking to deliver the service at the least possible cost; (ii) there is regulatory framework and institutions to promote the reliability, quality and efficiency of the electricity service, including a mechanism to ensure that generation projects are selected based on least cost, in a transparent manner; (iii) the program promotes environmental sustainability in the power sector, by diversifying the energy matrix with ARE; and (iv) as shown in the Environmental and Social Management Report (ESMR), it is expected to have small environmental and social impacts and will have a dedicated strategy to manage environmental and social risks (see Assessment of compliance with the IDB Public Utilities Policy (PUP – GN-2716-6)). Moreover, the program complies with the conditions of the PUP by ensuring that the program: (i) is financially viable, as it will be operated through a public financial institution that requires as an eligibility criteria that each subproject is financially sustainable; and (ii) has economic viability, as demonstrated in the economic analysis of the program.

1.32 **Lessons learned.** A number of existing case studies, as well as the Bank's previous experience in the development of long-term financing solutions for sustainable energy projects via public development banks have proven viable and effective with a number of operations in the region, including Mexico, Uruguay and Colombia.[51] All of these had objectives related to the support of private sector investment in sustainable power generation and energy efficiency, with strong focus on maximizing the leverage of public and donor resources where applicable. This previous experience with NDBs, has led the Bank to identify the need to improve the environmental and social management of sustainable energy projects, among both developers and lenders, not only to comply with Bank requirements but also to maximize their positive impact and

[51] In Mexico, see loans under the CCLIP ME-X1010 with *Nacional Financiera,* loan 3563/OC-ME with *Banco Nacional de Comercio Exterior* (BANCOMEXT), as well as the CCLIP ME-X1023 with *Banco Nacional de Obras y Servicios Públicos S.N.C* (BANOBRAS). In Uruguay see operation 3396/OC-UR. In Colombia, see the recently approved GRT/TC-15613-CO with *Banco de Comercio Exterior de Colombia S.A.* (BANCOLDEX).

minimize conflicts. In this sense, NDBs should be supported in assessing their subprojects, including the allocation of funds and efforts to ensure projects compliance with international environmental and social standards. That is why a detailed ESMS for the program was developed with the BNDES and includes the support of an external consultant. Moreover, the Bank's experience with financial intermediaries in the energy sector can be useful to better define the CCLIP and first program's eligibility criteria, by applying its experience in the sector, its experience with the country's environmental and social standards and the proposed portfolio of projects, towards a focused strategy that will set up better marketing and procedures. From its own perspective, BNDES has accumulated significant experience in the financing of Brazilian energy infrastructure (see ¶1.27) and continuing these efforts may improve its ability to execute and develop more innovative and efficient structures. Finally, the long-standing previous experience from IDB[52] in providing long-term financing through BNDES to SMEs has shown the potential to improve terms and maturities offered by the local financial markets allowing the scale up of private investments in technology innovation and productivity gains.[53] Given the program's proposed mechanism (financial intermediation), its sectorial scope (sustainable energy) and its implications to GHG emission reductions and compliance with NDC of Brazil, the preparation and supervision of the program is being developed through multisector cooperation to ensure success in achieving the expected results.

B. Objectives, Components and Cost

1.33 The objective of the CCLIP is to promote Brazilian productivity by providing firms access to medium and long-term finance, in particular to promote higher participation of private investments in infrastructure financing, investments in sustainable energy projects and investments by SME productive projects.

1.34 The objective of the first program under the CCLIP is to promote investments in sustainable energy projects so as to contribute to meet Brazil's goal of diversifying its energy matrix and efficient use of energy, minimizing GHG emissions in Brazil.

1.35 The program will consist of a single component through which the BNDES will use IDB funding along with its own resources to provide long-term finance through its existing financing lines to private developers of sustainable energy projects through direct and indirect (second tier) subloans (see operational flow chart). The projects to be financed include: (i) ARE investment projects;[54] and

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[52] BNDES and IDB have been partners in strategic projects since 1965, when they jointly supported the creation of the *Financiadora de Estudos e Projetos* (FINEP) (Brazilian Innovation Agency), further during the decade of 2000, under two CCLIPs agreements, the BNDES supported over US$8 billion to SMEs long-term finance.

[53] OVE. A Comparative Analysis of IDB Approaches Supporting SMEs: Assessing Results in the Brazilian Manufacturing. BID: Washington, 2014. And OVE. Evaluation of IDB Group's Work Through Financial Intermediaries. BID: Washington, 2016; and evaluations (Project Completion Report) of Projects #1608/OC-BR, 1860/OC-BR, 2023/OC-BR and 2236/OC-BR under the CCLIPs Agreements BR-X1001 and BR-X1016.

[54] Eligible ARE projects will include new wind power parks equal or less than 50 MW, solar power generation equal or less than 100 MW and biomass generation from waste and biogas. It is expected that ARE projects in the portfolio will mainly use wind and solar technologies. While mini hydro power is considered a ARE, the program will not cover this technology given that the demand for financing was considered limited. Given the expected average size of the projects it is expected that the program could finance around 24 ARE projects.

(ii) medium to large EE investment projects.[55] Although the program does not preestablish specific amounts to be allocated for each type of project (ARE or EE), it is expected that the majority of the resources will be used in ARE projects (around 90%) while the remaining funds (10%) will go to EE projects. Due to the different nature of these two types of projects, the indicative resource distribution is used to estimate the contributions of the program to financing and investment needs for ARE and EE in Brazil (see ¶1.29), as well as for assumptions associated to the Economic Analysis (see ¶1.40). Indirect subloans will be provided to subborrowers through BNDES accredited Financial Institutions (FI)[56] and seek to complement financing from the program with FI resources encouraging their participation in the future investments (see ¶1.27).

1.36 The eligibility criteria for projects , including the legal, financial, environmental, social and technical requirements for each individual subproject, , are described in the Operational Regulations (OR) (see ¶3.2).[57]

1.37 The program shall provide a financial instrument that is adequate to the needs of the characteristics of the projects. By channeling IDB resources, BNDES will increase its ability to provide a longer tenor consistent with the projects' costs, risks and cash flow profile, as well as the expected returns to make these ventures successful.[58]

1.38 **Subborrowers and Beneficiaries.** The subborrowers of the first program will be private developers[59] of ARE and EE projects, as described in ¶1.35. The beneficiaries will be end users of electricity infrastructure added to the system, be them firms or households, who will also benefit from a more secured and diversified provision of the service. In addition, Brazilian population will indirectly benefit from positive externalities associated with the environmental and economic impacts of the program, such as reduction in water consumption, job creation and increased local revenues in particular poor geographic areas.[60]

C. Key Results Indicators

1.39 At the output level, the indicators that will be measured are: (i) installed ARE capacity financed; and (ii) number of EE projects financed. The outcome indicators are: (i) financing from third parties mobilized by the program; (ii) electricity generation from ARE sources by projects financed; (iii) energy savings from EE projects financed; and (iv) GHG emissions reductions. At the

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[55] Eligible EE projects are expected to be efficiency improvements in industrial processes and co-generation. Given the expected average size of the projects it is expected that the program could finance around four EE projects.

[56] The eligibility criteria for accredited FIs is detailed in *Gestão e controle de riscos em operações indiretas no BNDES*.

[57] The same criteria and conditions will apply to direct and indirect operations.

[58] The program increase the availability of long term financing in the market, as it will increase the ability of BNDES to provide long term financing lines which offer financing with 16 year tenor, as compared to the market average tenor of 10 years. See: Financing of ARE in Brazil.

[59] Private developers investing in ARE and EE correspond to legal entities, such as, among others, national and international utilities, independent generators, investment funds, etc. See: Financing of ARE in Brazil.

[60] It is estimated that new ARE investments could result in a reduction in water consumption in 2024 equivalent of 0,4% of total national water industrial consumption, in about 15 new jobs for every MW of new installed capacity and increase revenue regions classified as most vulnerable in Brazil. See Financing of ARE in Brazil.

impact level, indicators are: (i) power generation from ARE sources in Brazil (%); and (ii) energy intensity to GDP (see Annex II).

1.40 **Economic evaluation.** The proposal is supported by an economic analysis, which quantifies ex ante the net economic benefits of the program. Costs and benefits are quantified for the scenarios with and without the program, using an assumed portfolio of ARE and EE projects incorporated to the system via support from BNDES, and a counterfactual scenario that maintains the current electricity mix of energy sources without such ARE and EE projects deployed. Environmental externalities are also accounted for based on a valuation of GHG emission reductions. In addition, a sensitivity analysis is carried out on several key criteria, including price of electricity, generation costs and different scenarios of unsuccessful development of some of the potential projects. Using a 12% discount rate, the program shows a positive net present value of US$496.26 million and an IRR of 18.3% and remains robust when stressing some important variables in the sensitivity tests (see Economic Analysis).

II. Financing Structure and Main Risks

A. Financing Instruments

2.1 The borrower and Executing Agency (EA) will be BNDES. The guarantee of the Federative Republic of Brazil will be limited to BNDES' financial obligations under the loan (including repayment of principal, payment of interest and other financial charges); and will not cover the performance obligations and local counterpart contributions;[61] therefore it is proposed that a partial waiver to the Bank's policy on guarantees required from the Borrower (document GP-104-2) be approved by the Board of Executive Directors.

2.2 The amount of the proposed CCLIP is US$2.4 billion drawn from the IDB's Ordinary Capital (OC). The CCLIP will be available during a 10-year period, under which 4 to 5 global credit loan operations are expected to be carried out. The first program under the CCLIP consists of a global credit loan operation for US$750 million, which will be cofinanced with a local counterpart of US$150 million from BNDES. BNDES will use the IDB resources to diversify and lengthen its funding sources, thus better responding to the financing needs of private investors in sustainable energy infrastructure in Brazil. The total amount of resources from the IDB will be channeled to end users by BNDES directly, or indirectly, through the intermediation of its accredited FIs[62] (second tier transactions). Resources will ultimately be used to provide direct loans to finance new ARE or EE projects (see ¶1.35).

2.3 **Eligibility of the CCLIP.** In compliance with the Bank's policy for CCLIPs (document GN-2246-7), it should be noted that: (i) the executing agency for the proposed operation, BNDES, has satisfactorily executed at least one similar

[61] It should be noted that this practice has been carried out for all previous lending operations of IDB with the BNDES, including loans 1608/OC-BR, 1860/OC-BR, 2023/OC-BR and 2236/OC-BR.BNDES is a solvent and financially autonomous entity with broad financial and execution capacity in relation to the obligations it assumes vis-à-vis the Bank. This waiver will not affect the risk profile of the operation, as it relates only to project execution obligations..

[62] *Gestão e controle de riscos em operações indiretas no BNDES*.

project with the Bank[63] over the last five years; (ii) in both projects: (a) the overall performance of execution and the achievement of expected outcomes were satisfactory; (b) BNDES fulfilled the conditions of the loan contracts; and (c) the financial and operations reports, including audited financial statements, accounts, budget execution, and operations management reports were prepared and submitted in a timely manner with an acceptable level of quality in terms of financial administration and operational control of the project; (iii) the Bank has verified BNDES's financial and institutional soundness,[64] indicating that the institution's satisfactory performance can be expected to continue during execution of the first operation under the proposed CCLIP and that the BNDES has previous experiences in financing the sectors comprised in the CCLIP; and (iv) the CCLIP is prioritized in the country program, and its intervention areas are aligned with the Country Strategy.

2.4 The CCLIP is an effective instrument for this intervention because it: (i) provides a programmatic multisector financing framework through which BNDES can respond effectively to the changing needs for productive infrastructure financing using all of the IDB's customary instruments; (ii) establishes an intervention framework for the Bank and BNDES, an executing agency with extensive experience and proven institutional capacity; and (iii) promotes implementation of an efficient and flexible mechanism for preparing and approving productive infrastructure lending operations. This CCLIP is aligned with and complements the previous approved CCLIPs by increasing the scope of eligible activities from credit access to micro, small and medium enterprises to supporting financing of a broader set of initiatives to promote sustainable productivity in key areas to increase Brazilian Development.

2.5 In addition, it is worth noting that the Bank has a relevant track record of working with BNDES, having carried out several[65] prior global credit loan operations satisfactorily, in terms of both operational achievements and its capacity for institutional strengthening. BNDES is a national credit institution with ample experience in finance structuring and fiduciary management and is the main financing agent for development in Brazil. Since its foundation, in 1952, the BNDES has played a fundamental role in stimulating the expansion of industry and infrastructure in the country. BNDES has extensive knowledge and technical capacity to offer several financial support mechanisms to Brazilian companies of all sizes as well as public administration entities, enabling investments in all economic sectors. Finally, recent BNDES organizational structure adjustments show improved governance in risk and environmental management (See *Apresentação Institucional do BNDES*).

2.6 **Eligibility of the first operation under the CCLIP.** With regard to the compliance with the requirements for the first operation under the CCLIP (document GN-2246-7), it has been established that: (i) the objectives and components of the program are consistent with the objectives of the CCLIP, as

[63] Loan 2236/OC-BR, signed in 2010, for a financing of up to US$1 billion.
[64] See Annex III, *Apresentação Institucional do BNDES*, as well as the links to BNDES' performance and financial information.
[65] Four operations in the last decade, including loans 1608/OC-BR, 1860/OC-BR, 2023/OC-BR and 2236/OC-BR, and 14 loans overall.

this program will finance clean energy projects; (ii) the operation is included in the country program; and (iii) the executing agency (BNDES) has demonstrated a satisfactory level of performance in the execution of several previous operations, including global credit loans and CCLIPs.

B. Environmental and Social Safeguard Risks

2.7 **Environmental and social risks.** According to Directive B.13 of the Environment and Safeguards Compliance Policy (OP-703), the first program of the CCLIP does not require classification. Overall, risks associated to environmental and social safeguards are medium. Projects supported under the program will be limited to category "B" projects and are expected to have minor to moderate environmental and social impacts. Given the size of the first program, the cumulative impact of projects could be high. These potential impacts have a low probability to occur given that they will be mitigated through the implementation of an environmental and social risk management system described in the ESMR and in more detail in the OR. Project performance will be monitored by local authorities, BNDES and IDB.

C. Fiduciary Risk

2.8 As mentioned above, BNDES has experience in the implementation of programs with resources financed by the Bank and has shown capacity as Executing Agency. Based on this knowledge, the institution is deemed to have sufficient capacity to perform activities of financial management and administration of the resources under the proposed operation. The updated institutional analysis confirmed that the BNDES maintains a satisfactory level of development and a low risk for project implementation. The fiduciary risk is low (see Annex III).

D. Other Key Issues and Risks

2.9 **Macroeconomic and fiscal sustainability risks.** The program identifies a medium risk in the potential weakening of economic conditions in the future, which may have a negative impact in the conditions for private investment, the demand for new credit or the credit profiles of existing projects. In order to mitigate this risk, the project team will ensure a continuous monitoring of the pipeline of eligible projects and the status of the portfolio, in close coordination with the executor. Macroeconomic conditions and the energy sector in particular, shall be closely monitored.

2.10 As referred in ¶1.16, ¶1.26 and ¶1.27, the proposed program is expected to play a critical role to fill the long-term financing gap and mobilize funding from the private sector, providing necessary support to ARE investment projects unable to obtain suitable financing in the current market and macroeconomic situation. Over time, the program is expected to have a positive demonstrative effect on private sector financing sources and local capital markets players, by improving their capacity to analyze "*project finance*" projects and increasing their credit appetite to finance and invest more significantly when overall market conditions improve.[66]

[66] See further detailed analysis in Financing of ARE in Brazil.

III. IMPLEMENTATION AND MANAGEMENT PLAN

A. Summary of Implementation Arrangements

3.1 The borrower and executing agency of the CCLIP and its first program will be BNDES, with the Federative Republic of Brazil as guarantor of the monetary obligations under the loan. BNDES will ensure the necessary administrative and control mechanisms to provide and maintain a transparent and effective administration of the program are in place. Previous experiences of BNDES working with the IDB (see ¶2.8), along with their leading position in the sector of sustainable energy over the past decade, makes them a suitable partner with strong will to continue developing the sector.

3.2 BNDES will implement the program under its current organizational structure, and will be responsible for supervising the adequate use of program financial resources as well as for the timely provision of human and technical resources necessary to implement the program. The provisions governing program execution, accredited FIs[67] participation, and eligibility of each project to be financed with funds from the program will be established in the OR agreed between the Bank and BNDES, in accordance with their policies and procedures. This OR includes specific procedures, conditions and requirements for the use of program resources, including: (i) technical, regulatory and financial criteria for accessing the subloans; (ii) disbursement mechanisms; (iii) eligibility criteria for the participating accredited financial intermediaries; and (iv) monitoring and evaluation requirements, amongst others. An agreement between BNDES and each eligible subborrower will provide the precise terms and conditions (i.e. maturity, rates and costs) of the financing, which will depend on the characteristics of the project, its internal rate of return and its risk profile.

3.3 **Disbursements, eligible expenditures, and administration framework.** Program resources will be committed and disbursed over a period of 48 months (see disbursement flow) from the effective date of the loan contract. For the purpose of this global credit loan operation it is proposed that the eligible expenditures be the disbursement of program resources from BNDES to eligible subborrowers or accredited FIs, in the case of indirect financing, pursuant to the terms of effective subloan agreements for eligible projects. Disbursements will be made by reimbursing BNDES for transfers made to the subborrowers or accredited FIs according to the program's OR. **It is a special contractual clause prior to the first disbursement, the presentation of evidence that BNDES has approved the OR of the program, in accordance with a draft previously agreed upon with the Bank, and that such OR has entered into effect.**

3.4 **Retroactive financing.** The Bank may finance retroactively eligible expenses for up to US$150 million (20% of the approved amount) incurred by the beneficiary prior to the date of loan approval. These expenses shall be recognized if they satisfy requirements substantially similar to those established in the loan contract.[68] The costs mentioned shall be incurred during the 18 months prior to the

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[67] *Gestão e controle de riscos em operações indiretas no BNDES*.

[68] BNDES, as program executing agency, has been working on the development of a portfolio of eligible projects that could be ready for financing in the short term.

date of loan approval, but in no event will include expenses incurred before September 19, 2016 (date of approval of the Project Profile).

3.5 Cumulative recoveries from the amortization or prepayments of subloans, that exceed the loan service of the Bank, will be used to finance new subloans, for up to five years from the date of last disbursement made to BNDES by the Bank.

3.6 Financial statements and expenses of the program will be audited annually by the former *Controladoria Geral da União* (CGU) – *Ministério da Transparência, Fiscalização e Controle*or by an independent auditing firm acceptable to the Bank, which will be contracted by BNDES following the terms of references agreed with the Bank. Annual audited reports will be presented to the Bank within 120 days after the end of BNDES's fiscal year, and the final audit will be presented to the bank 120 days after the date of last disbursement.

3.7 **Procurement of goods and services.** No procurement actions or consultant services are contemplated for the proposed loan. Subborrowers will use market procurement practices, which are in accordance with the Bank's policies.[69]

B. Summary of Arrangements for Monitoring Results

3.8 The program will apply the standard procedures established by the Bank for monitoring and evaluation of investment operations. The evolution of indicators should be periodically reported by BNDES to the Bank during program execution, as established in the Monitoring and Evaluation Arrangements and the OR.

3.9 BNDES will compile, produce and maintain all information, indicators and parameters, including annual plans, midterm review and final evaluation, necessary for the preparation of the Project Completion Report (to be prepared 9 months before the last disbursement date) and any ex post assessment the Bank may wish to conduct.

3.10 The evaluation plan considers a cost-benefit ex post methodology. Due to the scale and scope of the intervention, considered as one of many elements that will contribute to long-term growth of productivity in Brazil, the proposal is not able to present a thorough evaluation on the specific impact of the program resources on the structural indicators of productivity. This would require much more information, as well as controlling for a series of variables that are out of the scope of the program (see Monitoring and Evaluation Arrangements).

[69] The policies of BNDES provide for requirements for local content for financing equipment. However, the project team concluded, that the project complies with IDB procurement policies and private sector market principles and efficiency, given that: (i) the competitive nature of project selection, since wind energy projects in Brazil are awarded via public auctions conducted by the regulator (ANEEL) and the lowest price of energy is as the awarding criteria; (ii) these auctions are public, with a transparent process, and conditions clearly defined and there are no restrictions for participation of foreign project developers; (iii) there is a high participation of international firm carrying out business in the wind sector; and (iv) project developers are free to choose their funding source and their equipment in order to achieve the lowest price in the auctions. The largest share of project developers chose BNDES funding with local equipment, as this combination provides the lowest cost, and has advantages (see: Financing of ARE in Brazil and *O mercado de energia eólica no Brasil Evolução e Perspectivas*).

Development Effectiveness Matrix			
Summary			
I. Strategic Alignment			
1. IDB Strategic Development Objectives	**Aligned**		
Development Challenges & Cross-cutting Themes	**-Productivity and Innovation -Climate Change and Environmental Sustainability**		
Regional Context Indicators	**-Greenhouse gas emissions (kg of CO2 e per $1 GDP (PPP))**		
Country Development Results Indicators	**-Reduction of emissions with support of IDBG financing (annual million tons CO2 e)**		
2. Country Strategy Development Objectives	**Aligned**		
Country Strategy Results Matrix	**GN-2850**	**Improve the business climate.**	
Country Program Results Matrix	**GN-2849**	**The intervention is included in the 2016 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**
	8.7		**10**
3. Evidence-based Assessment & Solution	**8.4**	**33.33%**	**10**
3.1 Program Diagnosis	**3.0**		
3.2 Proposed Interventions or Solutions	**2.4**		
3.3 Results Matrix Quality	**3.0**		
4. Ex ante Economic Analysis	**10.0**	**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	**1.5**		
4.5 Sensitivity Analysis	**1.5**		
5. Monitoring and Evaluation	**7.8**	**33.33%**	**10**
5.1 Monitoring Mechanisms	**2.5**		
5.2 Evaluation Plan	**5.3**		
III. Risks & Mitigation Monitoring Matrix			
Overall risks rate = magnitude of risks*likelihood	**Low**		
Identified risks have been rated for magnitude and likelihood			
Mitigation measures have been identified for major risks			
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: External control.**	
Non-Fiduciary	**Yes**	**Environmental Assessment National System.**	
The IDB's involvement promotes additional improvements of the intended beneficiaries and/or public sector entity in the following dimensions:			
Gender Equality			
Labor	**Yes**	**The Brazilian population will indirectly benefit from positive externalities associated with the environmental and economic impacts of the program, as job creation and increased local revenues poor geographic areas.**	
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			

Note: (*) Indicates contribution to the corresponding CRF's Country Development Results Indicator.

This US$750 million operation is part of a US$2,400 million CCLIP addressing Brazil's scant productivity growth - in 1960 Brazil's productivity was at 90% of Europe's and Central Asia's and by 2011 it was only 43% of that level. This specific operation within the CCLIP has the objective of promoting investments in sustainable energy projects to contribute to the goal of diversifying the energy matrix and efficient use of energy while minimizing GHG emissions. In the 1990s and 2000s Brazil's economy suffered from an unmet increase in electricity demand which has led to the need for continued investment in the sector to avoid losses in productivity. With the intention of having a more reliant energy supply this expansion aims to diversifying the energy matrix which is highly dependent on hydropower.

The diagnosis is clear and evidence is provided for the vulnerability of the energy matrix if it is not diversified, and for the reliance of energy investments on private participation and on the availability of long-term financing which has traditionally only been available from BNDES, and which is now constrained in the current macroeconomic context in Brazil. The diagnosis is well articulated with the proposed solutions, and indicators in the results matrix are well specified.

The methodology followed in the economic analysis is standard for these types of projects, and assumptions are well explained and justified. The monitoring and evaluation plan is a direct extension of the economic analysis, with an ex-post Cost Benefit Analysis methodology proposed, which is standard for these types of projects.

The overall risk of the operation is low, and that rating is appropriate assuming that the proposed environmental and social risk management system is executed as planned.

RESULTS MATRIX

Objective of the program:	The objective of the first program under the Conditional Credit Line for Investment Projects (CCLIP) is to promote investments in sustainable energy projects to contribute to meet Brazil's goal of diversifying its energy matrix and efficient use of energy, minimizing Greenhouse Gas (GHG) emissions in Brazil.

Indicator	Unit	Base	Y1	Y2	Y3	Y4	Target	Description / Source of verification
EXPECTED IMPACTS								
Power generation from ARE sources (excludes hydro) in Brazil as a share of total generation.[1]	%	9.4					14	This measure includes all new investments added to the system, including those supported by the program. This impact is related to ARE projects under the program. Target estimate is based on country's authority projections. **Source**: Data from the *Ministério de Minas e Energia* and the *Balanço Energético Nacional.*
Energy intensity to Gross Domestic Product (GDP).[2]	tep/US$[3]	0.150					0.142	Measures the quantity of energy required to generate US$1 of GDP. This impact is related to EE and cogeneration projects under the program. **Source:** IMF and official figures from the *Ministério de Minas e Energia* and the *Balanço Energético Nacional.*

[1] Baseline refers to the electric generation matrix (internal offer) as of end of 2014, last report published by the *Ministério de Minas e Energia* (*Resenha Energética Brasileira*, 2015). Target considers a 50% increase, taking into account that values have already increased during 2015.

[2] Baseline value corresponds to 2012, last data published by the *Ministério de Minas e Energia* (*Resenha Energética Brasileira*, 2015). Target considers a 5% decline, using values for other countries as a reference (Mexico 0.08; OECD countries 0.10; China 0.147).

[3] The *tonelada equivalente de petroleo* (tep) is a unit of energy equivalent to approximately 42 gigajoules (GJ). It is defined as the amount of energy released by burning one tonne of crude oil and is used for measuring large amounts of energy.

Indicator	Unit	Base	Y1	Y2	Y3	Y4	Target	Description / Source of verification
EXPECTED OUTCOMES								
Financing from third parties mobilized by the program.	Millions of US$	0	108	126	145	89	468	Includes all sources of financing other than the IDB and *Banco Nacional de Desenvolvimento Econômico e Social* (BNDES) own resources (debt or equity). Target estimate based on the average total investment required per project and an average 66/34 debt to equity ratio observed in similar projects from BNDES existing credit portfolio.[4] *Total investment = US$900 million from the program + equity + other sources* **Source:** Annual report on program execution by BNDES.
Annual electricity generation from ARE sources (excludes hydro) by projects financed by the program.	GWh		--	551.9	1,203.6	1,855.4	2,207.5	Final target was estimated based on an average production factor per ARE technology in Brazil. *Electricity prod (GWh) = Installed capacity (GW) x 24 x 365 x production factor* **Source:** Annual report on program execution by BNDES. Can be validated with information from national utility.
Average annual energy savings from EE projects (including cogeneration) financed by the program.	GWh	0	--	--	--	184.0	367.9	Final target was estimated based on an average capacity and efficiency ratios of EE systems installed. *Energy savings = MWh produced by the system installed * [efficiency of system installed – efficiency of original system]* **Source:** Annual report on program execution by BNDES.
Greenhouse Gas (GHG) emissions annual	TM CO_2e	0	--	63,466	138,417	234,523	296,176	Indicator is based on the CO_2e emissions displaced by RE power

[4] Annual values for this indicator are based on averages and have been rounded up for practical reasons. When trying to calculate the target value directly using the 66/34 leverage ratio, it may show a slight difference from the sum of annual values.

Indicator	Unit	Base	Y1	Y2	Y3	Y4	Target	Description / Source of verification
reduction, from projects financed by the program.								generation and the EE energy savings once the projects start operation. Final target was estimated based on envisaged ARE production and EE savings, using a specific conversion factor on the average emissions factor of the Brazilian electricity grid, calculated by *Empresa de Pesquisas Energeticas* (115kgCO_2/MWh, 2014). This emission factor considers the emissions of every source in the energy mix for power generation in Brazil, thus reflecting that this is already a clean energy matrix. **Source:** Annual report on program execution by BNDES and conversion factor specific to Brazil electricity grid.
OUTPUTS								
Installed Alternative Renewable Energy (ARE) generation capacity (excludes hydro) financed by the program.	MW	0	180	210	210	120	720	Measures installed capacity that becomes ready to start operations each year. **Source:** Annual report on program execution by BNDES.
Projects of Energy Efficiency (EE) financed by the program (includes cogeneration).	Number	0	0	0	2	2	4	Measures number of EE projects implemented and on operation (includes cogeneration projects). **Source:** Annual report on program execution by BNDES.

FIDUCIARY ARRANGEMENTS

Country:	Brazil
Program name:	Conditional Credit Line for Investment Projects (CCLIP) for Financing Productive and Sustainable Investments. First Program under the CCLIP: Financing Program for Sustainable Energy
Program number:	BR-L1442
Prepared by:	Santiago Schneider and Karina Díaz (FMP/CBR)

I. EXECUTIVE SUMMARY

1.1 The National Bank for Economic and Social Development (Banco Nacional de Desenvolvimento Econômico e Social - BNDES, in Portuguese) is the largest financial institution in Brazil. Its objective is to promote economic and social development within the country through the financing of major development projects in areas such as infrastructure, energy, business development, among others. IDB will support BNDES with a conditional credit line which is expected to be implemented through four to five individual programs. The objective of the CCLIP is to promote Brazilian productivity by providing firms access to medium and long-term finance. The first program under the CCLIP will promote investments in sustainable energy projects.

II. COUNTRY FIDUCIARY CONTEXT AND EXECUTING AGENCY

2.1 BNDES is a public federal financial institution with legal personality under private law and own assets, linked to the Ministry of Planning, Development and Management, whose main objective is the promotion of economic and social development in the country as the main instrument for implementing federal policy promoting private investment. The institution has three wholly owned subsidiaries: BNDES *Participações S.A.* (BNDESPAR), *Agência Especial de Financiamento Industrial* (FINAME), and BNDES PLC[1] which, together, make up the BNDES system.

2.2 BNDES is subject to the regulations of the National Monetary Council (CMN), of the Brazilian Securities Commission (CVM) and supervision from the Central Bank of Brazil. In addition, it meets the directives from the Board of Directors, Audit Committee, Fiscal Council and BNDES Board of Executive Officers. It must also meet all applicable laws for private companies, including tax and labor laws.

2.3 In terms of accountability, it is subject to various federal agencies such as the Ministry of the Treasury, the National Congress, the Ministry of Transparency, Oversight and Control (Ex Comptroller General of the Union (CGU)), Brazilian Central Bank (BCB) and the Court of Auditors of the Union (TCU, in Portuguese).

[1] BNDES's Board of Executive Officers has recently decided in favor of dissolution of BNDES PLC, which process is expected to be concluded within the next months.

III. EVALUATION OF FIDUCIARY RISK AND MITIGATION ACTIONS

3.1 BNDES has vast experience operating with International Financial Institutions, and has a specialized department within its structure that deals with all requirements related to these, the Department of Institutional Funding and International Relations (AF/DECRI). With regard to executing IDB funds, especially global credit loan operations, it has been satisfactorily acting as an IDB borrower for 40 years.

3.2 The latest of these loans was loan 2236/OC-BR, for a value of US$1 billion, signed on December 2010, concerning the first tranche of a US$3 billion CCLIP, to execute a program to support Small and Medium Enterprises. The total cost of this project was US$2 billion, including local counterpart financing.

3.3 To prepare the BR-L1442 project and develop the fiduciary agreements, the Bank updated the analysis of BNDES' institutional capacity, which showed that it maintains high technical capacity, adequate information systems, internal and external controls, demonstrating high capacity and low fiduciary risk for this operation.

IV. ASPECTS OF THE SPECIAL CONDITIONS OF THE CONTRACT

4.1 **Exchange Rate.** The exchange rate to be used in the reports to be delivered to IDB will be the effective date of the transfer of resources from BNDES to the subborrowers. The exchange rate to be used is the purchase rate of the Central Bank.

4.2 **Presentation of annual Audited Financial Statements (EFA, in Spanish) of the program.** EFAs audited according to the terms of reference agreed with the IDB by external auditors acceptable to the Bank, to be presented within 120 days after the closing of the fiscal year.

4.3 **EFA Entity.** BNDES publishes its EFAs on its website, so this financial statement will not be required.

4.4 **Retroactive financing.** The Bank may finance retroactively eligible expenses for up to US$150 million (20% of the approved amount) incurred by the beneficiary prior to the date of loan approval. These expenses shall be recognized if they satisfy requirements substantially similar to those established in the loan contract. The costs mentioned shall be incurred during the 18 months prior to the date of loan approval, but in no event will include expenses incurred before September 19, 2016 (date of approval of the Project Profile).

V. AGREEMENTS AND REQUIREMENTS FOR PROCUREMENT EXECUTION

5.1 ***Procurement execution.*** Because this is a loan to BNDES as financial intermediation institution, that will use IDB funding along with its own resources to provide long term finance to private developers (subborrowers) of sustainable

energy projects through direct and indirect (second tier) subloans, the procurement will be made by subborrowers. After analyzing the selection mechanism of the energy projects to be financed, it is observed that the subborrowers will carry out the procurement in accordance with private sector commercial practice, which is acceptable to the Bank, in accordance with the provisions of paragraph 3.12 of the Procurement Policies for Goods and Works under Bank Loans (GN-2349-9).[2]

5.2 **Procurement of works, goods, and services other than consulting services and direct contracting.** Because the project is within the scope of paragraph 3.12 of the Procurement Policies (GN-2349-9), it is not expected the executor to carry out procurement of works, goods or services (consulting and non-consulting) for project implementation.

5.3 **Procurement process thresholds.** These are not identified, considering that the implementation scheme and procurement and contracting methods will be carried out in accordance with paragraph 3.12 mentioned above.

5.4 **Recurring expenses.** Not expected.

5.5 **National preference.** Not identified, considering the implementation scheme (paragraph 3.12 GN 2349-9).

5.6 **Procurement Supervision.** The supervision mechanism will be implemented in accordance with the provisions of paragraph 3.12 of the policies mentioned above.

5.7 **Records and files.** Files must be located in the offices of the Execution Unit, duly identified by operation, in chronological order, by private subborrower and under the corresponding security and surveillance conditions, as defined in BNDES internal policies.

VI. FINANCIAL MANAGEMENT AGREEMENTS AND REQUIREMENTS

A. Programming and budget

6.1 BNDES follows the national regulations established in the annual budget law, maintaining an advanced level in its financial management systems. The roles and responsibilities of planning and programming are documented in the

[2] The policies of BNDES provide for requirements for local content for financing equipment. However, the project team concluded, that the project complies with IDB procurement policies and private sector market principles and efficiency, given that: (i) the competitive nature of project selection, since wind energy projects in Brazil are awarded via public auctions conducted by the regulator (ANEEL) and the lowest price of energy is as the awarding criteria; (ii) these auctions are public, with a transparent process, and conditions clearly defined and there are no restrictions for participation of foreign project developers; (iii) there is a high participation of international firms carrying out business in the wind sector; and (iv) project developers are free to choose their funding source and their equipment in order to achieve the lowest price in the auctions. The largest share of project developers chose BNDES funding with local equipment, as this combination provides the lowest cost, and has advantages (see: Financing of ARE in Brazil and O mercado de energia eólica no Brasil Evolução e Perspectivas).

Financial Planning and Programming Manual, as well as in its planning policies which are authorized by the Board of Directors.

6.2 BNDES is a public company and has legal personality and its own assets, thus it does not receive budgeting funds from the Federal Government.

6.3 For this operation, BNDES will operate with its own resources and the Bank will reimburse eligible expenses. Each year, BNDES must send to the Bank a detailed financial planning on how the loan proceeds will be used.

B. Accounting and information system

6.4 BNDES has several financial information systems which support the accounting and financial records. The debt and collection systems are suitable for operations indexed to several currencies, which allows records in local currency and US$. In this sense, all IDB financing transactions will be recorded by BNDES in its own systems, using the exchange rate of the day of the transfer to the subborrowers for conversion into US$ of transfers in BRL.

6.5 Brazil is in the catching-up process from Brazilian standards (NBCASPs) to International Public Sector Accounting Standards (IPSAS). BNDES complies with the rules established for banks in Brazil, issued by the Central Bank, and applies the Brazilian standards for reporting to the Central Bank of Brazil (Central Bank does not implement IPSAS 100%). Additionally, BNDES also publishes its reports using IPSAS in an informative manner.

6.6 The BNDES IT area ensures the performance and quality of all information systems, including financial management systems. IT is responsible for performing development and operation activities of these systems, data integration, and administration of IT infrastructure.

6.7 BNDES, as a bank, is audited by: (i) The Court of Audits of the Union (TCU); (ii) the CVM; (iii) the Ministry of Transparency, Oversight and Control (Ex CGU); and (iv) external auditors. According to IDB policy, each year BNDES will present, within 120 days after the end of each fiscal year, during the disbursement period, an Audited Financial Statement of the program on the use of the financing resources.

C. Disbursements and flow of resources

6.8 Loan disbursements will be made in US dollars and in the form of reimbursement of expenses.

6.9 The Bank will reimburse BNDES for the expenses incurred by eligible program operations, represented by transfers of loans granted, up to US$100 million per loan.

6.10 The disbursement requests to reimburse eligible costs must be made promptly, as BNDES incurs these expenses. These disbursement requests must be presented to the IDB in accordance with the loan contract requirements, the

information specified in the Operating Regulations and the financial management guidelines of the IDB.

6.11 The IDB will process the disbursements, depositing the resources in US$ to the bank account designated by BNDES.

6.12 The IDB will perform ex post checks and inspections of the disbursements.

D. Internal audit and control

6.13 The Internal Audit Area (AT) of BNDES evaluates the effectiveness of the processes, internal controls, risk management and governance. This area is linked to the Board of Directors. The AT is organized into three departments: Audit, Support, and Relations with Bodies related to External Control and Standards and Audit Processes.

6.14 The Risk Management Area has dedicated teams for each of the main risk types (operational, credit, market and liquidity), including internal control management office, charged with supporting BNDES units in proposing and improving their controls. There are also information security and processes departments, and the compliance department, whose activities reinforce the control environment of the BNDES.

6.15 To support the decision making process and strengthen BNDES governance, the Controller Superintendence was recently created, which merged most support units and management control into a single area, in addition to accounting, tax and process validation.

E. External control and reports

6.16 BNDES is audited by the two national control bodies, the Court of Audits of the Union (TCU) and the Ministry of Transparency, Oversight, and Control (Ex CGU). It is also supervised by the Central Bank of Brazil (BCB) and by the Brazilian Securities Commission (CVM), in the case of BNDESPAR.

6.17 BNDES’s financial statements are audited by a private external audit firm, which is contracted for periods of five years. Currently the external auditing firm for BNDES is KPMG. BNDES's financial statements as an entity are published on its website in April, thus it is not considered necessary to request their submission.

6.18 Each year BNDES will present to the Bank an Audited Financial Statement (AFS) of the program, within a period of 120 days after the end of each fiscal year. This report will be reviewed by the Ministry of Transparency, Oversight, and Control (Ex CGU) and will be prepared in accordance with the terms of reference previously agreed with the IDB.

F. Supervision plan

6.19 The supervision plan may be changed during project implementation, according to the evolution of risk levels or for additional control requirements, as determined by the Bank.

Table 1. Supervision Plan

Supervision activity	Supervision Plan			
	Nature-scope	Frequency	Person responsible	
			Bank	Executor
Financial	Ex post review	Annual	Fiduciary team	BNDES
	Annual audit	Annual	Fiduciary team	BNDES
	Review of disbursement requests	Regular	Team/Sector/Fiduciary	
	Supervision mission	Annual	Sectoral/fiduciary	

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-__/16

Brazil. Conditional Credit Line for Investment Projects (CCLIP) for Financing Productive and Sustainable Investments BR-O0001

The Board of Executive Directors

RESOLVES:

1. To authorize the President of the Bank, or such representative as he shall designate, to enter into such agreement or agreements as may be necessary with the Banco Nacional de Desenvolvimento Econômico e Social - BNDES to establish the Conditional Credit Line for Investment Projects (CCLIP) for Financing Productive and Sustainable Investments BR-O0001, for an amount of up to US$2,400,000,000 chargeable to the resources of the Ordinary Capital of the Bank, to promote Brazilian productivity by providing firms access to medium and long-term finance, in particular to promote higher participation of private investments in infrastructure financing, investments in sustainable energy projects and investments in small and medium enterprises productive projects.

2. To determine that the resources allocated to the above-mentioned Conditional Credit Line for Investment Projects (CCLIP) for Financing Productive and Sustainable Investments BR-O0001 shall be used to finance individual loan operations in accordance with: (a) the objectives and regulations of the Conditional Credit Line for Investment Projects approved by Resolution DE-58/03, as amended by Resolutions DE-10/07 and DE-164/07; (b) the provisions set forth in documents GN-2246-4, GN-2246-7, and GN-2564-3; and (c) the terms and conditions included in the Loan Proposal for the corresponding individual operation.

(Adopted on ___ _____ 2016)

LEG/SGO/CSC/IDBDOCS: 40692865
Pipeline No. BR-O0001

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-___/16

Brazil. Loan ____/OC-BR to the Banco Nacional de Desenvolvimento Econômico e Social - BNDES. Financing Program for Sustainable Energy. First Individual Operation under the Conditional Credit Line for Investment Projects (CCLIP) for Financing Productive and Sustainable Investments BR-O0001

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 the Banco Nacional de Desenvolvimento Econômico e Social - BNDES, as Borrower, and with the Federative Republic of Brazil, as Guarantor, for the purpose of granting the former a financing aimed at cooperating in the execution of the Financing Program for Sustainable Energy, which constitutes the first individual operation under the Conditional Credit Line for Investment Projects (CCLIP) for Financing Productive and Sustainable Investments BR-O0001, approved on _____ by Resolution DE-__/16. Such financing will be in the amount of up to US$750,000,000 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 ___ _____ 2016)

LEG/SGO/CSC/IDBDOCS: 40692877
Pipeline No. BR-L1442