

Funding Proposal

FP064: Promoting risk mitigation instruments and finance for renewable energy and energy efficiency investments

Argentina | Inter-American Development Bank (IDB) | Decision B.19/12

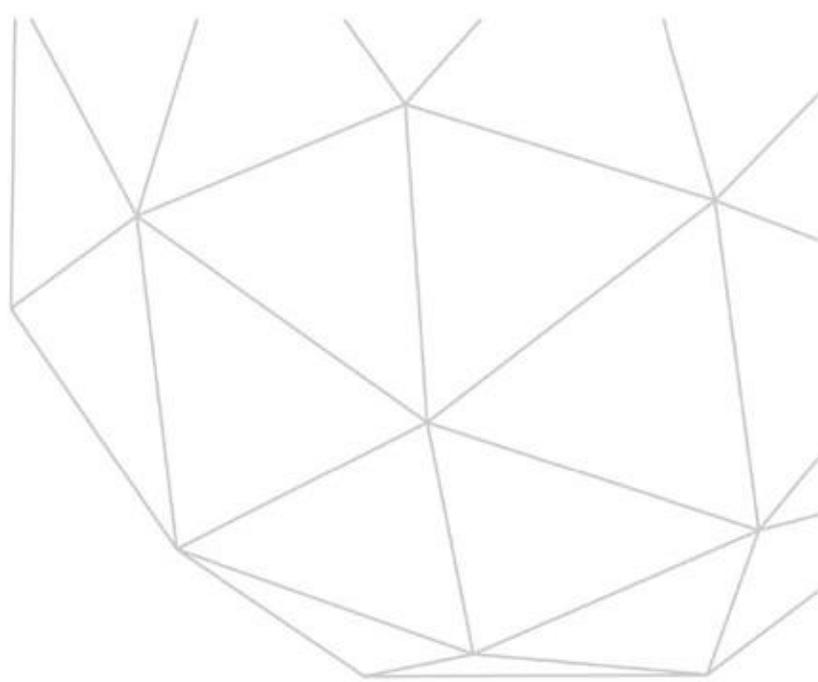
16 March 2018



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Funding Proposal

Version 1.1

The Green Climate Fund (GCF) is seeking high-quality funding proposals.

Accredited entities are expected to develop their funding proposals, in close consultation with the relevant national designated authority, with due consideration of the GCF's Investment Framework and Results Management Framework. The funding proposals should demonstrate how the proposed projects or programmes will perform against the investment criteria and achieve part or all of the strategic impact results.

Project/Programme Title: Promoting risk mitigation instruments and finance for renewable energy and energy efficiency investments

Country/Region: Argentina

Accredited Entity: Inter-American Development Bank (IDB)

Date of Submission: January 26, 2018

Contents

Section A	PROJECT / PROGRAMME SUMMARY
Section B	FINANCING / COST INFORMATION
Section C	DETAILED PROJECT / PROGRAMME DESCRIPTION
Section D	RATIONALE FOR GCF INVOLVEMENT
Section E	EXPECTED PERFORMANCE AGAINST INVESTMENT CRITERIA
Section F	APPRAISAL SUMMARY
Section G	RISK ASSESSMENT AND MANAGEMENT
Section H	RESULTS MONITORING AND REPORTING
Section I	ANNEXES

Note to accredited entities on the use of the funding proposal template

- Sections **A, B, D, E** and **H** of the funding proposal require detailed inputs from the accredited entity. For all other sections, including the Appraisal Summary in section F, accredited entities have discretion in how they wish to present the information. Accredited entities can either directly incorporate information into this proposal, or provide summary information in the proposal with cross-reference to other project documents such as project appraisal document.
- The total number of pages for the funding proposal (excluding annexes) is expected not to exceed 50.

Please submit the completed form to:

fundingproposal@gcfund.org

Please use the following name convention for the file name:

“[FP]-[Agency Short Name]-[Date]-[Serial Number]”



LIST OF ABBREVIATIONS

BICE	Banco de Inversión y Comercio Exterior S.A.
CAMMESA	Compania Administradora del Mercado Mayorista Electrico
EE	Energy Efficiency
ENRE	Ente Nacional Regulador de la Electricidad
ESI	Energy Savings Insurance
ESTP	Energy Services and Technology Provider
FODER	Fondo para el Desarrollo de las Energias Renovables
GCF	Green Climate Fund
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GWH	Gigawatt-hour
IDB	Inter-American Development Bank
INDC	Intended Nationally Determined Contribution
LFI	Local Financial Institution
MINEM	Ministry of Energy and Mining (Ministerio de Energia y Minería)
NDA	National Designated Authority
NDB	National Development Bank
OR	Operational Regulations
SE	Sustainable Energy
SME	Small and Medium Sized Enterprise
tCO ₂ eq	Tons of Carbon Dioxide equivalent
UNFCCC	United Nations Framework Convention on Climate Change
USD	United States Dollar

A.1. Brief Project / Programme Information		
A.1.1. Project / programme title	Promoting risk mitigation instruments and finance for renewable energy and energy efficiency investments¹	
A.1.2. Project or programme	Project	
A.1.3. Country (ies) / region	Argentina	
A.1.4. National designated authority (ies)	Ministry of Economy and Public Finances	
A.1.5. Accredited entity	Inter-American Development Bank (IDB)	
A.1.5.a. Access modality	<input type="checkbox"/> Direct <input checked="" type="checkbox"/> International	
A.1.6. Executing entity / beneficiary	<p>Executing Entity: Inter-American Development Bank (IDB) – Component 1 Banco de Inversión y Comercio Exterior S.A.(BICE) – Component 2</p> <p>Beneficiaries in Argentina:</p> <ul style="list-style-type: none"> • Small and Medium Sized Enterprises investing in eligible technologies (biomass, biogas and energy efficiency), • Sector market actors (technology service providers, installers, project developers) • Local Financial Institutions 	
A.1.7. Project size category (Total investment, million USD)	<input type="checkbox"/> Micro (≤ 10) <input type="checkbox"/> Small ($10 < x \leq 50$) <input checked="" type="checkbox"/> Medium ($50 < x \leq 250$) <input type="checkbox"/> Large (> 250)	
A.1.8. Mitigation / adaptation focus	<input checked="" type="checkbox"/> Mitigation <input type="checkbox"/> Adaptation <input type="checkbox"/> Cross-cutting	
A.1.9. Date of submission	January 26, 2018	
A.1.10. Project contact details	Contact person, position	Gloria Visconti , Climate Change Lead Specialist, Climate Change and Sustainability Division Maria Netto , Lead Financial Markets Specialist, Capital Markets and Financial Institutions Division
	Organization	Inter-American Development Bank (IDB)
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	Mailing address	1300 New York Avenue, N.W., Washington, D.C. 20577, USA

A.1.11. Results areas (mark all that apply)	
Reduced emissions from:	
<input checked="" type="checkbox"/>	Energy access and power generation (E.g. on-grid, micro-grid or off-grid solar, wind, geothermal, etc.)

¹ The project is complementary to the IDBG project FP 030 [Catalyzing private investment in sustainable energy in Argentina – Part 1](#) approved during B.15 by covering different mitigation technologies to support the structuring of viable RenovAr projects for biomass and potentially biogas projects, as well as promote the financing of energy efficiency investments. Thereby the proposed project ensures synergies with the aforementioned approved project by targeting additional energy demand sectors and reaching a wider set of private actors through the financial sector.

- Low emission transport
(E.g. high-speed rail, rapid bus system, etc.)
- Buildings, cities and industries and appliances
(E.g. new and retrofitted energy-efficient buildings, energy-efficient equipment for companies and supply chain management, etc.)
- Forestry and land use
(E.g. forest conservation and management, agroforestry, agricultural irrigation, water treatment and management, etc.)

Increased resilience of:

- Most vulnerable people and communities
(E.g. mitigation of operational risk associated with climate change – diversification of supply sources and supply chain management, relocation of manufacturing facilities and warehouses, etc.)
- Health and well-being, and food and water security
(E.g. climate-resilient crops, efficient irrigation systems, etc.)
- Infrastructure and built environment
(E.g. sea walls, resilient road networks, etc.)
- Ecosystem and ecosystem services
(E.g. ecosystem conservation and management, ecotourism, etc.)

A.2. Project Executive Summary (max 300 words)

1. The proposed Project aims at mobilizing concessional finance from the Green Climate Fund (GCF) to promote the efficiency in the production and use of energy in Argentina, in order to contribute to the reduction of greenhouse gas (GHG) emissions and the creation of a more conducive financing environment for investing in sustainable energy (SE) projects in the long term.²
2. GCF reimbursable resources will be channeled through a sovereign loan to the Republic of Argentina and will be executed by the *Banco de Inversión y Comercio Exterior S.A.* (BICE)³, Argentina's national development bank (NDB), and blended with BICE's own resources to provide financing at adequate terms and conditions for small and medium enterprise (SME) ⁴ sub-projects in specific SE technologies (biomass, biogas and energy efficiency). This concessional line of financing will be delivered through: (i) first-tier local financial intermediaries (LFIs); and (ii) where adequate, direct sub-project funding to jumpstart the evolving market, specifically where LFIs do not take senior positions⁵. Non-reimbursable GCF grant resources (USD 3 million) will finance technical assistance activities to support the structuring of various mechanisms that will complement the provision of loans and improve LFIs and SME technical capacity and knowledge of the Project and the type of investments it promotes⁶. GCF grant funding will be complemented by in-kind resources from BICE (USD 600,000) including staff hours, logistics and office space, and

² Henceforth, renewable energy (RE) and energy efficiency (EE) investments are encompassed by the collective term Sustainable Energy (SE) investments, where not otherwise specified. In the context of this Project, SE refers to the subset of biomass, biogas and demand-side EE investments (sub-projects).

³ The IDB, as lender (acting as Accredited Entity of the GCF) will enter into a loan agreement with the Republic of Argentina to finance Component 2 of the Program. The sovereign loan contract determines the responsibility of the Republic of Argentina in its capacity as borrower. No third-party guarantee is required. BICE will be the Executing Entity, and as such will sign the sovereign loan contract. BICE and the Republic of Argentina will enter into an agreement whereby BICE will agree, among others, to execute the program as contemplated in the loan agreement.

⁴ For the purpose of this Project, the definition of SME will follow [Argentine's government classification of SMEs](#), as per Resolución General 103-E/2017 of the Secretaría de Emprendedores y de la Pequeña y Mediana Empresa, under the Ministry of Production. Under this resolution, firms are classified by size based on their level of sales, with distinctions by economic activity. SMEs are firms with sales of up to \$760 million Pesos or \$250 million Pesos for the industrial and services sectors, respectively. Within this range, small firms constitute those with sales up to \$64 million Pesos or \$21 million Pesos, for the industrial and services sectors, respectively.

⁵ It is expected that direct lending will only apply to individual sub-loans larger than USD 5 million. Only biomass projects are expected to potentially be this large (see Table F2.1).

⁶ These lessons and case studies will serve in capacity and awareness raising events, as well as during sales by energy services and technology providers (ESTP) and loan discussions by LFI to target bankable SMEs. The promotion channel for the program is two-fold and based on the premise that local actors know their clients: 1) ESTPs develop a strategy to target their existing and new clients and 2) LFIs actively search their existing client base for financing opportunities, conscious about their debt capacity.

additional IDB grant resources (USD 250,000). Non-reimbursable GCF grant resources will be executed by the IDB, in coordination with BICE.

3. The Project is expected to play a critical role in filling the long-term financing gap and mobilize funding from the private sector, providing necessary support to SE investment projects unable to obtain suitable financing in the existing market. The Project including the impact of the revolving account (see paras 6 and 107) could reduce energy consumption by 229 GWh, generate 8,842 GWh, and reduce greenhouse emissions by about 9.1 million tCO₂eq over the Project's lifetime.
4. Over time, the Project is expected to have a positive demonstrative effect on private sector financing and local capital markets players, as well as technology providers and energy consumers, improving their capacity to analyze, select and implement SE projects and increasing credit appetite to finance and invest more under evolved market conditions in the future.
5. The Project is in line with Argentina's government objective to increase RE share in the energy matrix to 20% and reduce energy consumption in 5.9% by 2025. It is also consistent with the country's submitted Intended Nationally Determined Contributions (INDC)⁷, which sets the goal to reduce GHG emissions by 15% in 2030 with respect to projected business as usual (BAU) emissions for that year and includes actions related to EE and RE. The project has received the No-Objection letter of the Argentinean NDA following a thorough review by Argentinean authorities which included the programme prioritization by the Chief of the Cabinet of Ministers (*Jefe de Gabinete de Ministros*) (See Annex 1 and Section E.5).⁸
6. BICE is expected to use all GCF reimbursable funding for providing sub-loans for sub-projects in any of the SE technologies eligible for the Project (biomass, biogas and EE, see Section F.2). GCF funds will be transferred and managed by BICE exclusively for the execution of the Project in a dedicated revolving account⁹. BICE will maintain the level of co-financing throughout the duration of the GCF loan issued from the account for the portfolio of sub-loans (see C.7). Returns from sub-loans, including payments, prepayments, cancellations or terminations of sub-loans shall be used to finance new sub-loans consistent with the objectives of the Project (see para 107) and up to the tenor of 20 years. In the long term, it is expected that once these investments have demonstrated their viability and profitability, BICE and LFIs will be willing to commit additional funding from other sources to continue in this line of business.
7. Furthermore, the Project is aligned and complementary in scope to the IDBG GCF Project FP30 "*Catalysing private investment in sustainable energy in Argentina*"¹⁰ approved at [GCF B.15](#) and the IDBG [Green Financing Facility project with Banco Galicia](#).

⁷ The INDCs are public outlines of climate actions countries intend to take under the new international agreement adopted in December 2015 at the Conference of the Parties (COP21) in Paris. UNFCCC, 2016.

⁸ For the EE sector, the Project applies the Energy Savings Insurance (ESI) mechanism (see Annex 11 Micale et al. (2015) Global Innovation Lab for Climate Finance Lab), currently piloted in several countries in LAC, including Colombia and Mexico. The projects in Colombia, with Bancoldex, and in Mexico, with FIRA, have launched their respective ESI credit lines. As of March 2017, the Mexican programme has validated eleven technology service providers, is in the process of validating three sub-projects with about USD 1.9 Million investment volume, and expects thirty projects to be financed in 2017. The Colombian programme is currently in the promotion phase and expects at least six projects for a potential of USD1.2 Million to be financed by the end of 2017.

⁹ The use of a dedicated revolving account will enable longer-tenor resources from the GCF to finance new sub-projects, once maturity of the first round of sub-loans has been reached. The team estimates that the use of a revolving mechanism can produce a more than two-fold increase in the number of beneficiary sub-projects. Results and impact calculations for the Project are shown throughout the FP with and without the effect of the revolving account.

¹⁰ The following table presents a comparison of the scope of this proposal with the approved FP30:

Concept	Project proposal	FP30
Sub-projects	EE and small biogas and biomass projects (<5 MW)	Large scale wind and solar PV projects (average 80 MW)
Sectors	SMEs	Large-scale developers
# sub-projects	2,645	5
Energy takers	Self-supply and PPAs (renovAr)	PPAs (renovAR), grid connected
Objective	Engage local banks in financing these types of projects by SMEs	Help structure and complete long-term debt packages of large scale projects, engaging commercial banks

The two projects will be implemented by overlapping teams within IDBG with the cooperation of the GCF focal point of the IDB. The two projects have synergies in terms of the financial channels and capacity building and knowledge sharing efforts. While FP30 provides direct financing through project finance structures to large RE projects, the IDBG project team intends to share lessons learned with the LFI community. The proposed project will conduct joint knowledge sharing and capacity building events to inform the LFI and technology provider community where project finance structured are concerned. The project teams will be attentive when sharing and disseminating experiences and

A.3. Project Milestone	
Expected approval from accredited entity's Board (if applicable)	April 30, 2018 IDB will obtain its internal approvals within the period specified in the Accreditation Master Agreement (AMA)
Expected financial close (if applicable)	Within 12 months after all the relevant agreements between IDB and the GCF have finalized
Estimated implementation start and end date	Start: August 2018 End: August 2023
Project/programme lifespan	Five (5) years

B.1. Description of Financial Elements of the Project	
8.	The Project involves investments in biomass, biogas and EE sub-projects (see Section F.2) for a total amount of USD 430.64 million. This includes USD 100 million of GCF financing from the Project in a revolving account, thus financing multiple projects with the same GCF resources, USD 60 Million co-financing by BICE provided for the same tenor as the GCF resources, USD 3.85 in grants (including in-kind contribution) for technical assistance (see Table B1.1), plus an estimated USD 128 million of leveraged finance corresponding to private SME capital (see Table E6.5.1).
9.	The Project is designed with the objective of providing adequate financing to viable SE projects, in order to help fund the existing financing gap for these investments in Argentina. It also aims at catalysing additional investment by generating a track record of successful projects and building capacities among agents of the industry to address barriers to investment, thereby improving employment opportunities.
10.	GCF funding will contribute to lowering the cost of financing resulting from high perceived risks of these relatively new technologies in the current context of the country, helping adjust the terms of the available financing to the cash flows of participating sub-projects. By working via the NDB BICE, the project will also be able to leverage funding from this institution and other participating financial entities, while at the same time creating support mechanisms and skills to assess and implement these projects in the future.
11.	The total amount of GCF reimbursable resources will be channelled to BICE in order to provide financing for private investment in SE projects, either through first-tier operations (for sub-loans larger than USD 5 million) or via LFIs. A grant element, to be executed by the IDB in coordination with BICE is requested to support the implementation of the proposed lending activities and provide technical assistance, including for bridging information asymmetries, ensure bankable project structuring, and enable dissemination and capacity building activities to address non-financial barriers (see Tables B1.2 and B1.3 for a full description of the components). With this in mind, two components are envisioned for the Project, as shown below.

Table B1.1.- Indicative Project cost breakdown by component, expenditure type and funding source

Component	Expenditure type	GCF funding	Currency of disbursement to recipient	Co-financing Public (BICE)	Co-financing Public (IDB)	Total (for entire Project) ^[c]
1. Implementation costs and technical assistance activities ^[a]	Grant	3	million USD (\$)	0.6 ^[b]	0.25	3.85
2. Financing adapted to RE and EE projects	Loan	100	million USD (\$)	60.0	0	160.0
Total Project		103		60.6	0.25	163.85

^[a] Technical assistance includes activities to support Project implementation, training and capacity building, advisory services for the design of risk mitigation mechanisms, workshops, activities and marketing campaigns to raise public awareness and strengthening of the country's regulatory framework to facilitate financing and implementation of EE projects (see Tables B1.2 and B1.3) to be executed by IDB in coordination with BICE. ^[b] BICE funding for Component 1 will be provided in-kind, including staff hours, logistics, office space for events and consultants, and the like. ^[c] Total includes in-kind resources. SMEs' own capital invested in the projects financed (expected to be in the range of 20% to 30% of total project cost), albeit

knowledge to distinguish the size of targeted projects and therefore the diverse audiences within the LFI community, i.e. to differentiate between SME company finance vs. project finance teams so as to ensure the whole spectrum of project sizes and investors/SMEs are included.

required for eligibility, is not committed ex ante and will only be computed when calculating total leveraged resources. Ensuring equity contributions is a regular practice in the banking sector in order to assure client's financial solvency and commitment. Additional co-financing could be provided by commercial banks acting as LFI in latter stages of the Project, but will not be a commitment for the Project.

12. The Project budget by Component and Activity is presented in Table B1.2. (See Table B1.3 and Annex 9 for a more detailed description of activities)

Table B1.2.- Project Budget by Component, Activity and Sub-Activity (in million USD)

Component	Activity	GCF Proceeds	BICE ^[a]	IDB	Total
Component 1: Implementation costs and technical assistance activities	1.1. Develop financial and non-financial instruments, including standard performance contract, insurance policy covering energy savings and validation methodologies to account energy savings and generation	1.05	0.21	0.16	1.42
	1.2. Strengthen capacity of BICE, LFIs, ESTPs, project developers and validators for SE project development. Seed incentives and Knowledge sharing	1.49	0.31	0.09	1.89
	Contingencies	0.13	-	-	0.13
Component 2: Financing adapted to RE and EE projects	2.1 Increase medium and long-term credit line for SE projects provided to SMEs	100	60	0	160
Project Management Costs	PMU- Project Management Unit - Establishment at BICE of a business unit dedicated to Green financing	0.33	0.08	0	0.41
Total Project financing		103	60.60	0.25	163.85

^{a)}BICE funding for Component 1 will be provided in-kind, including staff hours, logistics, office space for events and consultants, and the like.

Table B1.3.- Component and activity description

Component 1. Implementation costs and technical assistance activities.

Activity 1.1. Develop financial and non-financial instruments. This activity will support the development of a ready-to-use strategy that blends financial and non-financial instruments to promote investment by SMEs. These instruments include: standard performance contract, insurance policy covering energy savings and validation methodologies to account for energy savings.

- Sub-activity 1.1.1. Development of market assessment. Two detailed interview-based in-depth market assessments for (i) biomass and biogas, and (ii) EE technologies. This will include a gender-disaggregated baseline setting study of financial services for women-led SMEs, and for the participation of women in project-specific technologies, so as to identify a set of adequate gender-sensitive indicators and definitions to monitor women's participation in Project activities.
- Sub-activity 1.1.2. Development of a standard performance contract. A standard performance contract model for risk sharing between SMEs and ESTPs will be developed by legal consultants. As part of the development of these contracts, stakeholder feedback will be incorporated. The contract will be available and disseminated among ESTPs, SMEs, LFI and local insurers. The proposed Project introduces a contractual arrangement between a potential client (e.g. SME) and ESTP in which the risks associated with achieving expected energy savings – or energy generation in the case of biomass and biogas – are transparently and efficiently shared by both parties in the contract, providing confidence to the SME that the ESTP will deliver as promised, and also providing the ESTP with the incentive to deliver the contracted energy savings or generation. Furthermore, the existence of a standardized contract allows LFIs to process loan applications in a standardized manner, reducing their transaction costs and allowing them to develop standardized approaches to assessing the risks associated with SE projects.
- Sub-activity 1.1.3. Develop a procedure/methodology to facilitate SMEs participation in the renovAR program¹¹. For biomass and some biogas sub-projects, the Project foresees to develop a mechanism to check the eligibility and feasibility of participating in the renovAR program. This activity will evaluate existing regulation and develop together with SMEs a standardized procedure to identify and support small projects to participate in the renovAR program.
- Sub-activity 1.1.4 Develop standards and validation methodologies for sub-project level accounting and proposal design validation. This will include the development of methodologies for accounting for technology/sub-project energy savings/generation, validation procedures, protocols, formats and reporting and monitoring procedures. Methodologies and templates will be developed and readily available for project developers (ESTP and SMEs) and validators to verify and monitor energy savings/generation. Independent validation procedures will be carried out by an independent third party with strong credentials on EE normalization and certification processes, and biomass/biogas project engineering design, respectively. Its role will include: a) validation of the ability of each sub-project to deliver expected and contracted energy savings/generation; b) validation of the capacity of the ESTP to realize the contracted sub-project and to realize necessary service; c) verification that the equipment has been installed according to the sub-project proposal and that the old equipment has been properly decommissioned and disposed of to avoid GHG emissions leakages and other negative environmental impacts, where applicable; d) verification of realized energy savings/generation; and e) arbitration in case of conflict between the SME and the ESTP on the actual energy results.

It is important to note that the design of the formats, protocols and methodologies which will be developed by the independent technical validator for each of the technologies eligible under the program, with feedback from BICE, the IDB, and local stakeholders will be based on international best practices and standards, and, as applicable, on the local technical regulations on EE, biomass and biogas, at the outset of the Project.

- Sub-activity 1.1.5. Development of financing structuring and risk mitigation instruments (ESI for EE) and sub-project supporting resources strategy. For EE, an insurance policy covering energy savings will be developed by a legal consultant, following the Energy Savings Insurance (ESI) model¹². As highlighted in the *Global Innovation Lab for Climate Finance Analysis* (Annex 11) and the EE Project Evaluation and Implementation Flow (Annex 12), and piloted in other countries, a financial risk mitigation instrument in the form of a surety

¹¹ Please refer to ¶36 of this Funding Proposal for a description of the RenovAR program.

¹² The ESI mechanism is a set of instruments consisting of a standard contract with a contractual retention, validation methodologies and activities, and the insurance. The retention can be structured as an escrow account, as an individual and as a pooled retention fund which sits with the insurance company. The costs and legal requirements of each of these options varies. In the economic and financial analysis we contemplate a conservative high cost of 5%, which in reality should be lower.

that partially covers the energy saving commitment made by the ESTP under the contract would help minimize the performance risk of the project for industrial firms and their potential financiers. To that effect, local insurance/surety firms will be engaged in the Project, and these firms are likely to reinsure their policies with international re-insurance companies. The insurance has a similar expected positive effect on the trust and on the access to finance barrier as the standardized contract. The ESI mechanism promotes financing for energy savings projects where end-beneficiary clients (SMEs) repay the project loan through the monetized energy savings of the project. A standard performance contract will be established between a ESTP and the end-beneficiary, which contemplates a retention fund to be managed by an insurance company or via a separate escrow-type bank with the ESTP as the account owner and the bank with a power of attorney. The decision between these two options will be based on feasibility of implementation including costs. The inclusion of the retention fund means that only part of the 100% of project costs for the exchange of inefficient with efficient equipment will be paid by the client to the ESTP. A share of the project costs goes into a retention fund managed by the insurance company. The retention fund will be paid out to the ESTP once energy savings have been realized. If there is a lack of energy savings, the share of the retention fund will be paid to the client to cover the lack of energy savings. If the lack of energy savings goes beyond the coverage of the retention fund (first loss), the insurance that has been signed at the beginning of the project pays the remaining share to cover the lack of energy savings.¹³ The grant will enable to support the surety company to structure a suitable market product based on an additional business line to their surety products. The insurance company relies on the technical due diligence of the third-party validator, while the insurance company does conduct their own financial due diligence of the ESTP companies to be covered.

The insurance policy will be developed incorporating stakeholder feedback; it will be available and disseminated with ESTPs, SMEs, LFIs and local insurers. The insurance policy will be a financial risk mitigation instrument in the form of a surety that partially covers the energy saving commitment made by the ESTP under the contract. It will help minimize the performance risk of the project for firms and their potential financiers. To facilitate access to guarantee instruments such as the *Sociedad de Garantía Reciproca* (SGR), this component aims to support the standardization of evaluation of sub-projects and firms. For biomass and biogas, a sub-project supporting strategy will be developed to reduce risks of small-scale project engineering studies.

- Sub-activity 1.1.6. Development and implementation of a Promotion and Execution Plan for the Project. A business plan with budget, human resources, timeline and milestones will be identified and approved internally in BICE for the Project's execution and promotion. The business plan primarily addresses a key obstacle to SE investments, the lack of prioritization of these investments by SMEs, and generally by key economic actors. By connecting relevant actors, the strategy aims to close the existing information gap on the opportunities for creating economic benefits through SE measures and providing information on realistic cost savings that SE investments would entail. Potential investors, i.e. industrial firms in different sub-sectors, in particular SMEs, and LFIs, will be particularly targeted and connected.
- Sub-activity 1.1.7. Development of a Project Pipeline. The Project will develop and implement a strategy to prepare an initial pipeline of technically-robust, bankable SE projects. The "Incentive for Engineering of the project" aims to reduce the risk perception of this phase by covering part of the costs (up to 50 percent) associated with the engineering and project preparation phase. The incentive is part of sub-project loan that will be converted to a grant if the project is not executed. (Sub-activity 1.1.7.). To increase the credibility of the engineering study in case it is performed by the project developer, an engineering firm will review the quality of the projects according to international standards. These mechanisms will help to reduce the risk perception that banks and investors have on the planning phase. (Sub-activity 1.1.7.). The independent engineering firm will also ensure that all environmental and construction permits have been obtained, or are in process, so as to provide investors and LFIs with the sufficient confidence that the project is on track. (Sub-activity 1.1.7.). Training on financial project structuring with SMEs, LFIs, and investors will provide enhanced and practical experience for sub-project design. (Sub-activity 1.2.1.)
- Sub-activity 1.1.8. Strengthen the regulatory framework, including lessons learned, good practices and discussing with public authorities on barriers and effective implementation and the provision of an enhanced investment environment.

Activity 1.2. Strengthen capacity of BICE, LFIs, ESTPs, project developers and validators for SE project development. The Project will strengthen the capacities of ESTPs to develop a new line of business, namely, the sale of guaranteed energy savings rather than just the sale of technologies. For biogas and biomass sub-projects, the Project aims at increasing access to incentives for engineering studies. Also, the Project is expected to support

¹³ See also Annex 12 Energy Service Insurance Project Flow diagram cycles.

the development and dissemination of information on new risk mitigation products, such as the standard performance contracts, insurance products and the monitoring, reporting and verification methodologies, among relevant stakeholders. As part of this activity, there will be training and dissemination of information to LFIs, ESTPs and validators on Project mechanisms and methodologies, as well as dissemination of generated knowledge at the local and regional level.

For this activity, consultants will be hired to conduct capacity building activities and Project information dissemination. The profile of these consultants will be both financial and technical, to cover the capacity building aspects of the Project on financial and non-financial mechanisms as well as the awareness raising and training. A series of capacity building events will be undertaken with BICE, LFIs, ESTPs, project developers and validators.

- Sub-activity 1.2.1. Training of project developers, ESTPs, validators, SMEs about Project mechanisms:
 - Sub-activity 1.2.1.1 Training for BICE staff (at least 20% women) ¹⁴ on Project mechanisms and methodologies to improve its promotion and execution. This activity will include workshops and seminars to train on SE investments and the financial and non-financial mechanisms of the Project.
 - Sub-activity 1.2.1.2 Training for LFIs. This activity will inform and train ten (10) LFIs and its staff (2 per LFI) on financing SE projects. As with 1.2.1.1, this activity will include workshops and seminars to learn on SE investments and the financial and non-financial mechanisms of the Project.
 - Sub-activity 1.2.1.3 Training for technical validators. At least two (2) local technical validators (total of 30 staff) (of which at least 20% women) will be trained about Project methodology so that they can support the Project quality control procedures. Capacity building workshops are included under this activity.
 - Sub-activity 1.2.1.4. Training for ESTPs. Thirty (30) technology solution providers (at least 20% women) will be trained on Project¹⁵ mechanisms. Informed and trained ESTPs can promote and identify sub-projects to participate in the Project.
 - Sub-activity 1.2.1.5. Training for SMEs and project developers. Targeted firms will be provided technical support with workshops and knowledge dissemination activities to provide information on the Project's financial and non-financial mechanisms to promote SE investments.
- Sub-activity 1.2.2. Establishment at BICE of a business unit dedicated for SE financing. A dedicated business unit will be created in BICE to execute the Project, including necessary budget and human resources. This will be coupled with training activities of BICE staff (sub-activity 1.2.1.1), as well as the establishment of the electronic registry system (Sub-activity 1.2.3). The business unit will support in the selection and launching of sub-projects.
- Sub-activity 1.2.3. Establishment of electronic registry system for monitoring and evaluation of sub-projects and Project's results. The monitoring and evaluating system of BICE should be based on an electronic registry system capable of collecting/indexing information stemming from supported sub-projects financed by first tier LFIs and financed directly (for example, in the case of larger biomass projects). 16 BICE monitoring and evaluation system will track: i) SME investments in promoted technologies stemming from the financing strategy developed; ii) their energy savings; and iii) their respective GHG emission reductions.
- Sub-activity 1.2.4. Seed incentives for projects (pipeline development resources). This activity provides support in the form of coverage of initial sub-project engineering design costs and sub-project validation cost, following the incentive strategy developed under activity 1.1.5.
- Sub-activity 1.2.5. Management and monitoring of the Project. This activity covers the management, monitoring, reporting and evaluation of the Project, including mid-term and final impact analysis, and lessons learnt for scale-up in the country.
- Sub-activity 1.2.6. Knowledge dissemination. This activity includes the development of six (6) products/publications, knowledge sharing events, country market reports published, and/or webinars, with national and regional expert interest and participation.

Component 2. Financing adapted to RE and EE projects.

Activity 2.1. Increase medium and long-term credit to SMEs for biomass, biogas, and EE projects. This activity involves the provision of medium and long-term credit lines to first-tier LFIs so that they can on-lend those

¹⁴ See Annex 10 for the Gender Action Plan

¹⁵ The training and outreach events for ESTPs will be made through existing BICE's promotion systems and capacity.

¹⁶ Such registry should also have clear format, templates and methodologies for collecting, maintaining and analysing data. The system should rely also on publicly available data systems and other relevant information needed to evaluate impacts, in particular the national emissions factor, the national energy generation plan and matrix, as well as promoted technology standards. The IDB will track the development and establishment of the monitoring and evaluation system and compliance with best practices and the Project's requirements, in order to collect and maintain data relevant to the financing strategy being promoted.

resources to SMEs interested in financing eligible sub- projects. For larger biomass projects, where LFIs do not take senior positions, the Project foresees that BICE will channel funds directly to sub-project beneficiaries.¹⁷ The credit line will be co-financed by GCF's reimbursable resources (USD 100 million) and BICE resources (USD 60 million). In order to also ensure higher participation of firms in the Project, medium and long-term financing will be complemented with pipeline development resources and project-specific technical assistance (see Component 1). Also, concessionality of GCF loan resources will be passed onto final beneficiaries through concessional conditions to stimulate and develop a market for SE investments and hence generate a powerful demonstration effect in the local credit market. The specific conditions of the credit line and sub-loans will be established in each contractual agreement, taking into account the costs and returns of each sub-project and technology, ensuring that tenors are sufficiently long so as to match the sub-project cash flow.

13. The budget breakdown for GCF grant resources (Component 1) by expenditure type (project staff and consultants, travel, goods and services) is presented in Table B1.4:

Table B1.4. Project Budget for Grant Component by Expense type (USD)

Expenses by type (GCF Grant)	USD
GCF Non-Reimbursable Funds	
Consultants	2,397,150
Workshops	140,100
Materials and supplies	148,000
Travel	189,750
Contingencies	125,000
Total GCF Non-Reimbursable Funds excluding PMU	2,667,500
Project Management Unit - (Consultants)	332,500
Total GCF Non-Reimbursable Funds including PMU	3,000,000
GCF Reimbursable Funds	
Sovereign Loan	100,000,000
GCF Reimbursable Funds	100,000,000
Total GCF Funds	103,000,000

14. The implementation of the Project promotes an efficient and flexible mechanism for preparing and approving SE lending operations. It is considered an effective instrument because it: (i) provides a programmatic multisector financing framework through which IDB can respond effectively to the needs of various sub sectors, using all of its customary instruments; (ii) establishes an intervention framework for the IDB and BICE, so that local experience and

¹⁷ The proposed project aims to provide suitable financing for RE projects (biogas and biomass) and to crowd-in private investment. Crowding-in of private investment occurs through both Tier 1 (BICE's direct lending) and 2 (BICE's lending through LFIs) financing. In Tier 1 lending, BICE can together with LFIs finance up to 70% of total project costs excluding VAT in syndications, up to a limit for BICE's share of AR\$80 Million (USD 4.1 Million) per syndication. LFIs participate in syndications as they do not have sufficient funding resources to finance alone, thus BICE will have the option to finance the underlying project through syndications in a senior/junior position. BICE's participation in syndications helps to jumpstart the market and to incentivize entry by LFIs through a crowding-in effect. As BICE offers both tier 1 and tier 2 financing, this is an optimal strategy to support the RE financing market development for RE projects such as biomass and biogas. In summary, BICE has the option to finance biomass projects (i) through LFIs, (ii) through their first tier operation/syndications with LFIs. The decision of LFIs to participate in the financing of projects as well as which position to take junior/senior depends on (i) the LFI's experience with the underlying project type, (ii) the size in relation to the overall LFI's portfolio (diversification strategy), and (iii) the expected profitability of the project. It is expected that over time LFIs will learn through their experience by directly financing, syndicating, and to a lesser extent by being informed about other projects being financed, and calibrate their risk and return understanding of these projects. Similarly through experience, BICE will understand better the actual risks of these technologies which will enable them to increasingly negotiate their bargaining power with LFIs on these projects.

capacity can be strengthened; and (iii) allows the IDB to deploy its extensive international knowledge of climate finance markets through a network of financial institutions via a local development bank with proven institutional capacity within the country.

B.2. Project Financing Information

	Financial Instrument	Amount	Currency	Tenor	Pricing		
(a) Total project financing	(a) = (b) + (c)	163.85	<u>million USD</u> (\$)				
(b) GCF financing to recipient	(i) Senior Loans	100.0	<u>million USD</u> (\$)	20 years	0.75%		
	(ii) Subordinated Loans	<u>Options</u>				
	(iii) Equity	<u>Options</u>				
	(iv) Guarantees	<u>Options</u>				
	(v) Reimbursable grants *	<u>Options</u>				
	(vi) Grants *	3	<u>million USD</u> (\$)				
	Total requested (i+ii+iii+iv+v+vi)	103	<u>million USD</u> (\$)				
(c) Co-financing from recipient	Financial Instrument	Amount	Currency	Name of Institution	Tenor	Pricing	Seniority
	<u>Senior Loans</u>	60.0 ^(a)	<u>million USD</u> (\$)	BICE	20 years	0.75%	<u>pari passu</u>
	<u>Grant</u>	0.60 ^(b)	<u>million USD</u> (\$)	BICE			
	<u>Grant</u>	0.25	<u>million USD</u> (\$)	IDB			
			
Lead financing institution: BICE. Additional funding from commercial banks acting as LFIs could be used in the sub-projects financed, although this will not be a commitment prior to the Project approval ¹⁸ . Grant co-financing from BICE will be provided in-kind (see Section B.1). ^(a) Loans to be provided by BICE to LFIs and/or SMEs. ^(b) In-kind contribution.							
(d) Financial terms between GCF and AE (if applicable)	Not applicable. The IDB will deploy the GCF financing directly to the recipient (i.e. the GCF financing passes directly from the GCF to the recipient through the IDB, acting as AE), in the proposed financial instrument and terms as described in part (b). See Section C.7						

B.3. Financial Markets Overview (if applicable)

15. **General Overview.** Argentina's economy has a long history of crisis and contraction, including the most recent -1.8% recession in 2016. But important progress has been made over the past year to restore macroeconomic stability, sustained and equitable growth and boost job creation. In fact, projections already show a rebound in Argentina's economy to a 2.7% growth in 2017, and close to 3% over the medium term¹⁹.

¹⁸ Sub loans will be financed from GCF and BICE resources pari-passu.

¹⁹ [Article IV Consultation with Argentina](#). IMF, 2016.

16. Nonetheless, debt financing is still quite insufficient to fund investment and consumption and the economy is yet to achieve greater integration with global financial markets. Partly due to the prevailing financial repression of the last decade, levels of financial intermediation in Argentina remain low. An underdeveloped (small and mostly transactional)²⁰ financial system, combined with limited access to international capital markets, affects competitiveness of local firms²¹.
17. According to its most recent [Informe de Estabilidad Financiera](#) (BCRA, 2016), Argentina's financial system has become robust, showing limited risks on its overall activity, good levels of liquidity and solvency (liquid assets are equivalent to 47% of deposits and non-performing loans below 2%), and with regulatory and supervision frameworks that are in line with international standards. A renewed stability of the system sets a funding base for expansion of the intermediation activity so as to achieve the depth levels comparable to those in other emerging markets of the region. The growth in the amounts of credit and in volume of deposits, although moderate, shows some signs of recovery in that sense.
18. Argentina's financial system consists of 63 banks and 14 finance companies. Bank assets (USD176 billion) as of December 2016, accounted for 98% of total system assets. Argentina's financial system is relatively liquid but lacks depth. Of those USD176 billion in bank assets, USD75 billion (42%) are in the loan portfolio. From a sector perspective, primary activities account for 12% of total loans, industry (15%), wholesale commerce and services (35%), consumption (34%), others (4%). Consumer lending has risen steadily in recent years as a result of the recovery in the domestic economy.
19. However, lending interest rates are significantly high (rates have grown continuously from below 20% in 2013 to over 25% in 2016) and large intermediation spreads of the banking system (over 10% in 2016), in part due to high levels of operational and administrative costs of the system, need to be monitored. As of 2015, the ratio of domestic credit to private sector (as a % of GDP) stood at 14.7%, well below peers in the region such as Colombia (47.1%), Peru (37.4%) and Chile (111%)²².
20. **Lack of long term credit.** The main indicators of Argentina's financial system performance show that it has performed well in recent years. Despite its substantial progress, the financial system still has structural weaknesses that prevent it from meeting the demand for credit among domestic productive sectors. The unmet demand for medium and long-term credit is particularly acute despite gradual increases in the loan portfolio of LFIs. Firms, and especially SMEs, require considerably more financing than the amount effectively available in the financial sector.
21. An analysis of loan maturities in the financial system reveals that by the end of 2016, 92.8%²³ of the portfolio is concentrated in loans of up to one year, 6.7 % of one to four years, and longer-term loans (more than 4 years) account for 0.5 % of total portfolio. These indicators show steadiness as to previous years, as long-term credit has maintained these level since 2011, when it represented 0.6 % of total credit. Despite the improvements in the financial system, the deposit structure still restricts medium and long-term lending by intermediary LFIs, both to individuals and businesses, as a way to control the risk of term mismatches on their balance sheets. By the end of 2016, 0.01% of deposits displayed a maturity over 2 years, 0.7% between 1-2 years and 99.3% of deposits had maturities of less than one year²⁴. The same patterns are observed since 2011. The financial system does not meet the need for productive lending, especially long-term, defined as credit with maturities longer than one year. The financial sector offers less attractive instruments, adjusted for inflation and with variable rates, and long-term lending is scarce.
22. In keeping with their conservative risk management policy, and in line with the Central Bank regulatory guidance, the banks in the system have elected to maintain high liquidity levels, in part to prevent the deleterious effects of previous recurrent financial crisis. This liquidity, however, is generally only short-term, given the structure of the terms of deposits (see above). Nevertheless, the supply of long-term funding remains very limited and is closely associated with long-term liabilities. Loans from private banks have an average total portfolio in arrears of 1.57%.
23. The lack of availability of long-term credit directly undermines firms' capacity to invest in new projects. The financing needs of Argentina's private sector are equivalent to about 17% of GDP, of which only 16% is provided by the financial sector.²⁵ In the case of the technologies targeted by the proposed Project, incremental risks of these relatively unknown SE investments produce even greater deficiencies in the availability of adequate financing for SMEs across

²⁰ [IMF Working Paper 16/5](#). IMF, 2016. The 2013 Country Rankings of Financial Development place Argentina in the position 65 out of 183 countries analysed. In terms of financial market depth, the country underperforms significantly, reaching only the 103rd position. The methodology provides an index of development which combines data from depth, access and efficiency of financial institutions and financial markets.

²¹ [Country Report No.16/347](#). IMF 2016.

²² <http://data.worldbank.org/indicator>, accessed on February 2017.

²³ This distribution of the loan portfolio by maturity was estimated from data on disbursements by the system. Only disbursements to firms were considered in order to obtain values more closely linked to productive investment (in local currency, which represents 90% of total disbursements).

²⁴ "Deposits by residual term at maturity". Financial Entity Report. Central Bank of Argentina (BCRA).

²⁵ IMF, World Bank and Ministry of Labor - Observatory of Employment and Business Dynamics (OEDE).

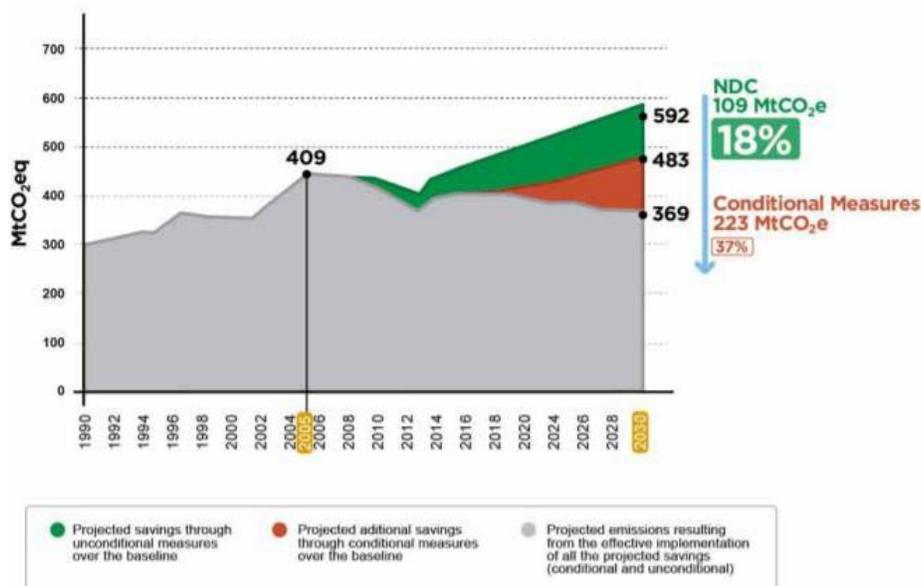
all sectors of the economy. There is usually an incompatibility between the time it takes for SMEs to see a return on longer-term investments and the structure of the conditions offered by the banking system, generating mismatches in loan amortization periods for those SMEs. In addition, interest rates tend to be higher due mostly to the lack of capacity or experience with SE lending in local financial institutions, who often have limited comprehension of the risks and opportunities of these projects and are hesitant to offer these loans. Capacity building is challenged by a lack of information, risk assessment skills, and track record for SE projects within the investor community; a lack of network effects (investors, investment opportunities) found in established markets; and a lack of familiarity with and skills related to project-finance structures.

24. The lack of investment also translates into low competitiveness, especially for SMEs, which have very limited access to credit, face high transaction costs, and in many cases, lack appropriate collateral to comply with banking requirements. As these SMEs employ approximately 65% of the country's labor force, the lack of credit has a direct impact on creation on new employment, as insufficient investment funding has an impact in productivity, innovation, equipment obsolescence, and capital stock. Inadequate access to finance is a critical obstacle to narrowing technology gaps and boosting productivity and growth.

C.1. Strategic Context

25. The **energy sector** is essential to the proper functioning of any modern economy. As economic activity grows, more and better availability of energy is required. Governments in all emerging economies are currently facing the complexities of securing a supply to cover increasing demands for energy while maximizing their system's efficiency. Factoring sustainability into this equation has acquired an increasingly important role in the face of global climate change, as energy generation and consumption, while important contributors to growth, are two of the main sources of CO₂ emissions. It is estimated that over 70% of global GHG emissions come from the energy sector²⁶, making it a critical part of any solution aimed to address the threat of climate change. The key lies in making efforts to decouple economic growth from the rising rates of energy use and the environmental impacts of energy production. Investments in power generation from clean sources play a large role in this process, contributing to diversifying the countries' energy matrixes and mitigating the negative environmental impacts of fossil fuel technologies. Likewise, promoting consumption patterns that allow for the use of energy in more efficient ways, can also have a significant impact in reducing emissions in the long term.
26. According to the results of Argentina's Third National Communication on Climate Change, **GHG emissions** are estimated to be of the order of 429 M ton CO₂e for the last national inventory of GHG emissions (an 80% increase from the 238.7 million Ton CO₂e reported in the Second National Communication in 2000); 43% of those emissions come from the energy sector²⁷.
27. Argentina's goal, set forth in their 2016 first revision of the 2015 NDC, is to reduce GHG emissions by 18% by 2030 with respect to projected BAU emissions for that year²⁸. The goal includes actions related to EE and RE, as well as others such as the promotion of sustainable forest management, nuclear power biofuels and transport modal shift²⁹. Furthermore, Argentina considers they could increase its reduction goal to up to 37% GHG reduction by 2030 if (i) adequate and predictable international financing becomes available, (ii) support for transfer, innovation and technology development and capacity building, and (iii) support to the creation of capacities to spread good practices and effectively implement the proposed measures are provided.

Figure C1.1.- Argentina's GHG emissions scenarios by 2030



Source: Republic of Argentina: First Revision of its Nationally Determined Contribution. UNFCCC, 2016.

²⁶ World Resource Institute (WRI), Climate Analysis Indicators Tool (CAIT) 2.0. 2014. Washington, D.C.

²⁷ Argentina's Third National Communication to the UNFCCC: <http://unfccc.int/resource/docs/natc/argnc3s.pdf>.

²⁸ Republic of Argentina, First Revision to its Nationally Determined Contribution: http://www4.unfccc.int/ndcregistry/PublishedDocuments/Argentina%20First/Traducci%C3%B3n%20NDC_Argentina.pdf

²⁹ The criteria for selecting the actions include the potential for reducing emissions, potential co-benefits, and the viability of using nationally developed technologies.

28. Through its *Ministerio de Energia y Minería* (MINEM), the government of Argentina set goals for the period 2015-2019, which include: (i) normalizing regulatory agencies and energy markets operation; (ii) improving energy access and efficient use by households and productive sectors; (iii) ensuring energy supply; and (iv) diversifying energy supply incorporating renewables to the country's energy matrix. This Project addresses specifically goals (ii)-(iv) through its implementation.

Renewable Energy

29. The Latin American and the Caribbean (LAC) region has seen outstanding increase in total investment in clean energy generation projects in the period 2009-2014 and has become one of the greenest regions in the world in terms of power generation. At a country level, however, Argentina lags significantly behind other large economies in the region, with total accumulated investments in RE reaching only USD1.8 billion during 2009-2014, compared to much greater values such as USD8.5 billion in Chile and USD11.7 billion in Mexico (KPMG, 2016).

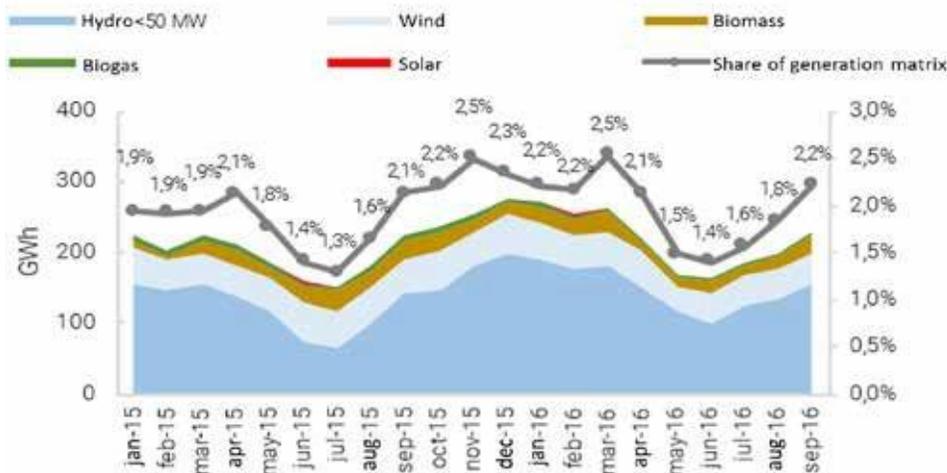
Figure C1.2.- Total accumulated investments in renewables by country 2009-2014 (USD billions)



Source: Development of renewables. Latin American context and the Argentine case. KPMG, 2016.

30. As of end of 2016, the share of RE sources in Argentina accounted only for 2% of total generation³⁰, compared to 18% in Brazil, 13% in Chile and 24% in Uruguay, for example. Almost 66% of the generation matrix of the country still comes from fossil fuels and 26.5% is large hydropower (the remaining 5.6% is nuclear). In terms of installed capacity, also around 2% of the 33.8 GW total capacity of the system corresponds to RE (1.4% of which is small hydro).

Figure C1.3.- Renewable power generation in Argentina by source and share of supply (2015-2016, in GWh)



Source: [Informe Trimestral de Coyuntura Energética, Tercer Trimestre 2016](#). MINEM, 2016.

³⁰ RE for this graph includes wind, solar PV, small hydro, biogas and biomass.

31. Argentina's government has embarked on a comprehensive plan for improving and developing regulation that promotes the expansion of RE technologies and the long-term development of the market. The recently enacted [National Law 27.191](#) (approved in September 2016) sets national targets for the share of RE in total energy consumption at 8% by 2018 and 20% by 2025 (see figure C.1.4). The law also introduces competitive and transparent market rules and contract mechanisms (including government tendered power purchase agreements (PPA), private PPAs and self-generation projects, as well as fiscal incentives to independent power producers (IPP) and local supply chain, and creates a sector specific trust fund (*Fondo para el Desarrollo de las Energias Renovables*, FODER), managed by BICE, to provide guarantees and debt financing to projects.
32. Regarding taxation, IPP projects can benefit from fiscal incentives established by Renewable Energy Law 27.191 (see Section C.1), including: (i) exemption of import duties for equipment, pieces, replacement parts, component parts and raw materials until December 31st, 2017; (ii) accelerated fiscal depreciation; (iii) advance value added tax (VAT) return; (iv) exemption of minimum presumed income tax; (v) exemption of dividend tax for the re-investment in infrastructure; (vi) tax deduction of all financial expenses when calculating the income tax; and (vii) issuing of fiscal certificate for inclusion of local content.
33. Worth noting are some specific regulations related to technologies and sub-sectors identified in the feasibility analysis. For example, several provinces have a sound framework regulating sanitary aspects in the pig sector, which requires farms to have a formal system for animal waste treatment in place³¹. Thus, pig farms investing in biogas plants have a two-fold benefit. On the one hand, they comply with applicable regulatory requirements related to animal waste, and on the other, energy and gas produced can be used in the farm processes. In addition, they can also benefit from the RenovAr program, which allows them to sell their excess energy to the network at competitive prices.
34. The *Compania Administradora del Mercado Mayorista Electrico* (CAMMESA) is the administrator of the wholesale electricity market. Its main function is the overall coordination of the operation and dispatch of electricity, price calculation in the spot market and commercial transactions carried out throughout the *Sistema Interconectado Nacional* (SIN). CAMMESA's goal is to guarantee sufficient and quality supply to cover the demand of electricity at the minimum possible cost.
35. The *Ente Nacional Regulador de la Electricidad* (ENRE) is the national sector regulator. As an independent entity created in 1993 within the Energy Secretariat, it is responsible for regulating the electricity sector and controlling that all sector firms (producers, transmitters, distributors) are in compliance with their obligation as established in the regulatory framework and concession contracts. ENRE is in charge of regulation and overall supervision of the sector under federal control, while provincial regulators control the rest of the utilities. ENRE and the provincial regulators set tariffs and supervise compliance of regulated transmission and distribution entities with safety, quality, technical and environmental standards.

Figure C1.4.- Argentina's RE national targets 2018-2025



Source: MINEM 2016

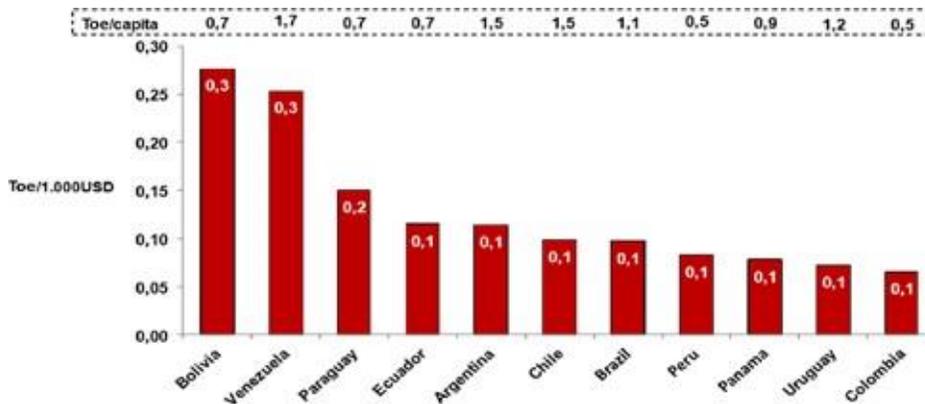
³¹ <http://www.senasa.gov.ar/cadena-animal/porcinos>

36. The government's goal to replace fossil fuels with renewables in the power generation matrix demands for an estimated increase in RE capacity of 2 to 3 GW in the next two years. The 2025 target (20% of the share of the generation matrix) represents a total addition of RE to the system of between 9.4 and 11.3 GW, which MINEM estimates equivalent to some USD15 billion in investments (MINEM, 2016)³². In the path to meet these targets, the government has already started its plan for public tenders under the framework of the program called "RenovAr". The first stage of the plan (Ronda 1) had the objective to issue public tenders for RE projects to produce 1,000 MW of energy (an aggregated investment between USD1.5 and USD1.8 billion), which the government estimates would reduce carbon emissions by around 2 million tons of CO₂ annually³³. In September 2016, 123 offers were received for Ronda 1: 49 wind, 58 solar, 11 biomass and biogas³⁴, and 5 mini-hydro, distributed throughout all regions of the country and adding a total capacity of over 6 GW. Ronda 1 awarded 29 projects for a total capacity of 1,142 MW (over-achieving the initial target of 1 GW)³⁵. The awarded projects include 12 wind, 4 solar, 6 biogas, 2 biomass and 5 mini hydro, distributed among 14 different provinces (see [RenovAR Ronda 1. October 2016 – Bid and awarded projects](#)). As a result of the great interest generated by the public tendering process and immediately following this first round, the program launched a second bid (Ronda 1.5) exclusive to wind and solar projects not awarded in Ronda 1, providing them with an opportunity to improve their offering conditions. Ronda 1.5 resulted in additional 10 wind and 20 solar projects awarded (a total of 1,281 MW of capacity), with a significant improvement in comparison with Ronda 1.
37. The successful implementation of projects awarded in Ronda 1 and Ronda 1.5 are expected to increase the share of RE in the mix to 5%. By mid-2017, Ronda 2 of the program is expected to be launched.
38. The project is complementary to the IDBG project FP 030 [Catalyzing private investment in sustainable energy in Argentina – Part 1](#) approved during B.15 by covering different mitigation technologies to support the structuring of viable RenovAr projects for biomass and potentially biogas projects, as well as promote the financing of energy efficiency investments. Thereby the proposed project ensures synergies with the aforementioned approved project by targeting additional energy demand sectors and reaching a wider set of private actors through the financial sector.

Energy Efficiency

39. In most countries in the LAC region, national strategies, policies, regulation, standards and the developing of capacities for EE programs are still lacking. On the private side, EE equipment and service markets are still underdeveloped and private actors are not yet sufficiently informed of energy saving opportunities in the different business sectors (CEPAL, 2010). Particularly for Argentina, there are also important opportunities for improvement in the field of EE, as the country still has the highest levels of energy intensity among its counterparts with similar income levels in South America.

Figure C1.5.- Estimated energy intensity and consumption per capita by country in 2015 (tons of oil eq)



Source: *Eficiencia energetica en Argentina: Identificacion de oportunidades*. CAF, 2016.

³² A similar amount of investment (some USD16 billion) is needed in other technologies such as hydro and nuclear, as well as close to USD5 billion in thermoelectricity and USD5 billion in transmission, in order to meet government's projections of power demand by 2025.

³³ Other co-benefits include the creation of between 5,000 and 8,000 jobs and USD 300 million annual savings in fuel.

³⁴ The specified projects in Ronda 1 could not gain access to adequate financing, as confirmed by the MINEM. Biomass bidding capacity for subsequent rounds is judged favourably at 1,018 MW (more than 80 projects by 17 proponents in 5 states) and biogas bidding capacity at 175 MW (more than 190 projects by 35 proponents in 12 states).

³⁵ Initially only 17 projects were awarded, but other 12 projects, having offered a price over the maximum applicable for each technology, were added after agreeing to cut down their price when invited to do so by CAMMESA.

40. In this context, the government has set ambitious goals in terms of EE policy. According to the alternative scenarios projected for the period 2015-2025, potential impact of policies related to EE and savings would result in a reduction of end consumption of 5.9% by 2025. Among these effects, the highest impact would be found in the electricity demand, for which savings are projected to reach levels in the order of 15%³⁶.
41. Along with these established targets, the Federal Government is actively working on setting clearly defined rules and competitive mechanisms, which will provide more appropriate legal and economic framework to attract private participation in the sector. There are already ongoing programs and policies for the development of EE, specifically directed towards the industrial sector. Particularly for SME, the MINEM has implemented a program ([Diagnosticos Energeticos](#)) to support firms in carrying out energy diagnostics to determine their potential for savings from adopting EE measures. The government provides 90% of the financing for these studies, which produce recommendations on a case by case basis for the installation/substitution of different technologies including lighting, refrigeration, heating and motors. These diagnostics so far show there is an estimated saving potential of 20% in the firms evaluated.
42. In addition, a joint initiative by the MINEM and the Ministry of Production (through its *Fondo Nacional de Desarrollo de la Micro, Mediana y Pequeña Empresa*, FONAPYME) is already providing loans to SMEs for their investments in EE (see [FONAPYME Eficiencia Energetica](#) and [Fondo Argentino de Eficiencia Energetica, FAEE](#)). Funding is provided for up to 70% of the total cost of the project, loans ranging from ARS100,000 to ARS4 million³⁷.

Barriers to RE and EE development

43. A significant change in the energy matrix to incorporate RE as set forth in the government goals requires large and long-term investment. Financial sector barriers to the development of RE in Argentina³⁸, and throughout the LAC region in general, involve macroeconomic risks related to political instability, unfavorable currency exchange movements, and overall credit worthiness, which may lower investor confidence. On a national level, the market capitalization is low (9.6% of GDP, compared to 27.6% in Brazil, 29.4% in Colombia and 79.1% in Chile, data from the World Bank indicators, 2015), compounded by the lack of adequate financial products in the form of special credit lines or grants. The local financial sector is also underdeveloped, lacking the capacity and/or willingness to provide credit for these projects (see Section B.3).
44. RE and EE projects normally have a payback period that exceeds the tenors at which debt financing is available. In a country where interest base rates are already high, these become prohibitive when financial products that do not correctly assess and address inherent risk are offered. This is due mostly to the lack of capacity or experience with RE and EE lending in local financial institutions, who often have limited comprehension of the risks and opportunities of RE and EE, and are hesitant to offer these loans.³⁹ Capacity building is challenged by a lack of information, risk

³⁶ [Prospectiva 2025](#). MINEM, 2016.

³⁷ Target subsectors of the beneficiaries of these loans include SMEs in the services, industry, commerce and agriculture subsectors.

³⁸ An important component is the provision of suitable financing for RE projects (biogas and biomass). In Argentina there is lack of suitable financing for this kind of projects so that medium-sized farms/enterprises cannot access capital in adequate conditions despite their available positive credit history. There is no long-term financing, and the lack of a track record by LFIs with these projects leads to a high-risk perception and high-interest rates, which make these projects currently unbankable. Biogas and biomass projects face difficulties in accessing international funding sources due to high transaction costs and the preference of international financial institutions in larger projects. Thus biomass and biogas projects exclusively rely on local financial sources.

If long-term finance becomes available, medium-sized farms/enterprises will not have difficulties to access finance due to their historical credit capacity and track record with LFIs. Where medium-sized farms/enterprises do have a limited credit capacity and face high collateral requirements, credit guarantee agencies (SGR – Sociadades de Garantía Reciproca) can support local companies to facilitate access to credit. For biomass and biogas projects that sell electricity to the grid under the RenovAr program, FODER (The Fund for the Development of Renewable Energy) can guarantee the payment of the underlying PPAs. Both SGR and FODER are existing complementary instruments to the proposed project design and the participation of FODER or SGR will not be a condition *Sine qua non* for the provision of loans from the credit line.

³⁹ RE projects present different financial and non-financial investment requirements and risks than EE projects from the perspective of investors. RE projects are investments made to new installations which will be typically be rather made by medium enterprises. From analysis undertaken in the market assessment prepared for the Project, the firms that could invest in RE may have credit history and access to credit, but consider the CAPEX and payback of these investments as relatively high and not find financing conditions in the market to adequately cover the CAPEX and long payback. This barrier is covered by the offer of concessional long term finance through the BICE credit line. In addition,

assessment skills, and track record for these projects within the investor community; a lack of network effects (investors, investment opportunities) found in established markets; and a lack of familiarity with and skills related to project-finance structures.

45. Attracting more investments to the sector requires both financial engineering and improved market conditions. The government is committed and advancing in addressing the issue through policy development that enables private actors to become active players in the market, but access to finance is crucial, considering the higher upfront cost of some RE and EE technologies when compared to their conventional alternatives.
46. A feasibility analysis is presented to support the Project proposal (see Section F.2 and Annex 2 Feasibility Analysis - Green financing program for BICE, for more detail), which includes a bibliographic review of the principal studies, reports, and documents available on potential for SE⁴⁰ in different sectors in Argentina, including their current status, opportunities, and perspectives. In addition, interviews were carried out with experts, public actors and ESTPs with the objective of validating and gathering perceptions of the market, as well as to identify main opportunity areas. The information collected was fundamental to assess and refine the technologies and subsectors where potential business opportunities could exist for the Project more specifically, as well as to gather statistical data that could help in evaluating its potential scope and impact. Based on the information collected, an evaluation matrix was designed to evaluate the different opportunity areas following a pre-established set of criteria. This analysis produced a list of technologies and subsectors that the Project is likely to support based on their potential. This list will serve as a basis to develop a pipeline of sub-projects as well as estimations of results indicators and potential impacts for the Project.

Public and private sector roles in the development of RE and EE projects.

47. The conditions presented above result in the inexistence of financing options for developers, especially SMEs. Moreover, lack of knowledge and absence of a performance record negatively affects investors and financiers in more subtle and permanent way. State plays a key role in promoting the environmental dimension as a part of public policy. A well-designed and robust regulatory framework can create incentives to scale up private sector initiatives. But an effective engagement of the private sector also calls for appropriate finance mechanisms and promotion of capacity-building and information exchange.
48. Financing is necessarily dependent on a “bankable” project but financial institutions do currently not understand the economics of these technologies and do not evaluate the feasibility of the projects, accentuating their perceptions of risk. As a result, financing is unavailable or becomes too expensive and projects rely exclusively on scarce and expensive capital resources, slowing down or precluding investment in the sector.
49. From a public perspective, NDBs across LAC have progressively increased their role in filling major financing gaps and developing long-term financing. Furthermore, when economies weaken, NDBs provide counter-cyclical finance, by supporting investment and mobilizing broader financial resources. As NDB lending in capital intensive industries is usually co-financed by private lending and investing, and is also susceptible to securitization, it can also contribute to the development of financial markets (IDB, 2013). NDBs can offer financial instruments that match the funding needs of these projects, attracting more private actors into the market. In this context, Argentina can tap into existing public concessional resources to reduce the costs and risks of such investments, mobilizing private funds via financial instruments made available by a local NDB (i.e. BICE). Capacity building and training in project financing and risk assessment can also reduce adversity to RE and EE and have positive spillover effects to other SE projects and other local financial institutions.

C.2. Project Objective against Baseline

50. The objective of the Project is to contribute to improve the efficiency in the production and use of energy in Argentina, by **increasing investments in EE and power production from RE sources to reduce GHG emissions**. The Project intends to scale up private investment in biomass, biogas and EE by making available financing instruments tailored to meet the specific needs of these projects, channeling funds through a local NDB and its network of LFIs. All baselines are subject to available aggregated data from the country. The baseline in Argentina indicates an installed renewables capacity of 709 MW (17 MW in biogas and biomass not reported) according to the *Informe mensual 2017, MINEM, February 2017*. The baseline for energy efficiency indicates a lack of aggregated data and can be considered marginal accounting for the projects of the FAEE and other initiatives (see Annex 13).

another important barrier of RE projects is related with the project preparation phase, where the investor currently bears all the risk of the financing decision, and without adequate mechanisms, investors would prefer to invest in other investment opportunities where they perceive that they could control the risks better, all else equal. Some of the most relevant risks in the planning phase include the engineering design, construction and environment permits, financial structuring, the reliability of the technology solution provider.

⁴⁰ In this feasibility analysis, sustainable energy is defined as RE and EE.

51. A significant potential for biomass, biogas, and EE (above USD 2 billion potential demand) was identified in the industrial sector of Argentina (see Annex 2), linked to: a) technological modernization and productivity gains through the installation of efficient equipment; b) the replacement of equipment that is outdated, obsolete and inefficient, most of which is considerably over 10 years old; and c) the substitution of energy sources, through biomass and biogas.
52. In order to address sector barriers and encourage private investment, a dedicated financing line will be created to promote new business models for EE and RE. The Project has an important transformational impact as it is expected that LFIs will be encouraged to develop business lines for this type of investments, as those financed by the Project begin to demonstrate the viability and profitability of the sector, lowering risk perceptions and encouraging stakeholders to actively participate in these markets.
53. The proposed Project is not only complementary to the aforementioned Government's initiatives already in place (see Section C.1) by providing necessary additional funding to sustain and expand the work initiated, but also can collect information and knowledge gained through these experiences. Furthermore, the inclusion of financial sector actors into the design of this proposal aims at: (i) capitalizing from the NDB and LFIs knowledge of their business which may contribute to minimize risks and (ii) integrating the financial system into this new line of business which will help markets to develop and the SE sector to evolve and become sustainable by guaranteeing funding without public support in the long term. The IDB considers this an effective structure to mobilize continued financing for the development of these projects: due to its multi-project approach, the Project is expected to also contribute to a progressive structural change of the economy towards the establishment of more efficient patterns of production and consumption of energy, by producing a shift in risk perceptions and creating awareness on the benefits of these types of projects.

Table C2.1.- Key barriers addressed by each project component, activity, and sub-activity⁴¹

Component	Activity	Sub-Activity	Barrier
Component 1: Implementation costs and technical assistance activities.	1.1. Develop financial and non-financial instruments.	1.1.1 Development of market assessment and gender baseline studies.	Lack of market information regarding accurate financial returns, identify market segment priorities (size and business opportunity), key technology providers/developers and characteristics. Lack of sex-disaggregated data on Women-led SMEs and female participation in project technologies
		1.1.2 Development of a standard performance contract.	Lack of trust by investors and financiers in the returns and technical performance of Biomass, Biogas and EE projects and in the ability of project developer/technology provider to guarantee the technical performance of projects.
		1.1.3 Develop a procedure/methodology to facilitate the SMEs to participate in the renovAR program	Limited technical capacity and knowledge of small projects (clients and providers) to participate and benefit from the renovAR auctions.
		1.1.4 Develop standards and technical validation methodologies for projects and project developers.	Limited technology understanding and lack of local standards regarding biomass, biogas and EE projects. This increases the technical risk perception of the project and technical capacity of developers
		1.1.5 Development of financing structuring and risk mitigation instruments (ESI for EE) and project incentive strategy.	Limited technical understanding and availability of suitable financial strategies: No experience by LFIs and SMEs in the risks and returns associated with these projects.
		1.1.6 Development and implementation of a Promotion and Execution Plan for the Project.	Limited experience and lack of understanding of the economic benefits of biomass, biogas and EE projects in Argentina, and the opportunity that renovAR presents for SMEs.

⁴¹ A detailed budget and description of each activity and sub-activity by component are presented in Tables B1.2 and B1.3, respectively.

		1.1.7 Development of a Project Pipeline.	Lack of visibility of business opportunities by LFI. Market need to assimilate and own the proposed BICE program
		1.1.8. Strengthen the regulatory framework	Limited uptake of EE investments potentially linked to evolving EE regulatory landscape. Potential for enhancing and strengthening the EE investment environment to incentivize EE investment.
	1.2. Strengthen capacity of BICE, LFIs, ESTPs, project developers and validators for SE project development. Seed incentives and Knowledge sharing.	1.2.1.1 Training of BICE staff	Limited local technical capacity and knowledge of BICE to effectively promote the Project and support the development of the market for EE financing. Support to implement the financing program.
		1.2.1.2 Training activities for LFIs.	Limited local technical capacity and knowledge on biomass, biogas and EE investments by LFIs: Inertia on the demand side and lack of knowledge and awareness on investment opportunities.
		1.2.1.3 Training of technical validators.	Lack of national technical standardization, which generate lack of trust in the market.
		1.2.1.4 Training of ESTPs.	Lack of understanding on how to finance these projects and offer risk mitigation instruments that create trust between client and technology provider (ESTP)
		1.2.1.5 Training of SMEs and project developers.	Limited local technical capacity and understanding on biogas/biomass and EE investments by SMEs: Inertia on the demand side and lack of knowledge and awareness on these technology investment opportunities.
		1.2.2 Establishment at BICE of a business unit dedicated for SE financing.	Limited technical capacity of BICE to effectively promote, evaluate and support the development of the market for biogas, biomass, and EE financing.
		1.2.3 Establishment of electronic registry system for monitoring and evaluation of projects and program's results.	Limited experience on evaluating the performance of the projects and monitoring and evaluation of these projects and program's performance:
		1.2.4 Seed incentives for projects (pipeline development resources)	Lack of understanding and priority on these types of investments. High risk perception. Initial project phase (engineering phase) has a very high-risk perception and many SMEs prefer not to invest because of lack of understanding.
		1.2.5 Management and monitoring of the Project.	Limited technical capacity and resources of BICE to develop and implement the program
		1.2.6 Knowledge dissemination.	Limited knowledge of biogas, biomass and EE investment opportunities and engagement of SMEs at the national and regional level.
Component 2: Financing adapted to RE and EE projects.	2.1 Increase medium and long-term credit for SMEs for biomass, biogas, and EE sub-projects.		Lack of suitable financing support to this type of projects. Lack of long term financing (<5 years), very high interest rated for SMEs.

C.3. Project Description

54. The Project will provide financing in suitable conditions through the Argentine national development bank, BICE, to promote the investments needed for accelerated development of biomass, biogas and EE projects, helping to ensure a more diversified energy supply and expand the use of these technologies over the medium and long term.
55. The Project is designed to optimize the use of funding available in terms of leverage and sustainability, investing concessional resources optimally to enable adequate financing and creating market instruments to manage risks among market actors. In order to access financing from the Project, SMEs will always be required to take on risk via

minimal capital requirements. As described in section B.1, the proposed Project shall be executed via two components:

56. For Component 1: Implementation costs and technical assistance activities, GCF grant resources will finance third party expertise to provide technical assistance and develop non-financial mechanisms to support the implementation of the loans and reduce risks for developers, energy service and technology providers and LFIs. These resources will help guarantee a sound and efficient Project, while also ensuring local capacity building so that a permanent mechanism remains in place beyond the availability of donor support. Resources for bridging information asymmetries, bankable project structuring, dissemination and capacity building activities and other associated minor costs are also considered under this component. IDB will be the Executing Entity in coordination with BICE.
57. For Component 2: Financing adapted to RE and EE projects, GCF resources are requested in the form of a concessional loan to be blended with BICE's own resources for financing eligible projects. BICE will use GCF loan resources along with its own resources to provide financial support to SMEs either directly or via LFIs. By channeling GCF resources, BICE will increase its ability to provide financial conditions consistent with biomass⁴², biogas and EE investment costs, risks, cash flow profile and expected returns to make these ventures successful. Based on this, the Project intends to develop a portfolio of bankable projects, familiarizing market actors (developers, SMEs, banks, technology and ESTPs) with this type of investments, leveraging additional financing from the private banking sector, and mobilizing capital to grow the industry in the long term (demonstration effect). BICE will be the Executing Entity for this component.

Table C3.1.- Summary of activities under the Project by component⁴³

Component	Activities and sub-activities
Component 1: Implementation costs and technical assistance activities	<p>1.1. Develop financial and non-financial instruments, including standard performance contract, insurance policy covering energy savings and validation methodologies to account energy savings and generation</p> <p>1.1.1. Market Assessment</p> <p>1.1.2. Development of a standard performance contract for risk sharing between SMEs investing and ESTPs</p> <p>1.1.3. Development of a procedure to participate in the renovAR program</p> <p>1.1.4. Develop standards and validation methodologies for project level accounting and project proposal design validation</p> <p>1.1.5. Development of financing structuring and risk mitigation instruments (ESI for EE) and project incentive strategy</p> <p>1.1.6. Development and implementation of a promotion and execution plan</p> <p>1.1.7. Development of a Project Pipeline</p> <p>1.1.8 Strengthen regulatory framework (lessons learned, good practices and discussing with public authorities on barriers and potential solutions to the current regulation)</p> <p>1.2. Strengthen capacity of BICE, LFIs, ESTPs, project developers and validators for SE project development. Seed incentives and Knowledge sharing</p> <p>1.2.1. Training of project developers/technology solution providers/LFIs/Validators/SMEs (at least 20% women) about Program mechanisms</p>

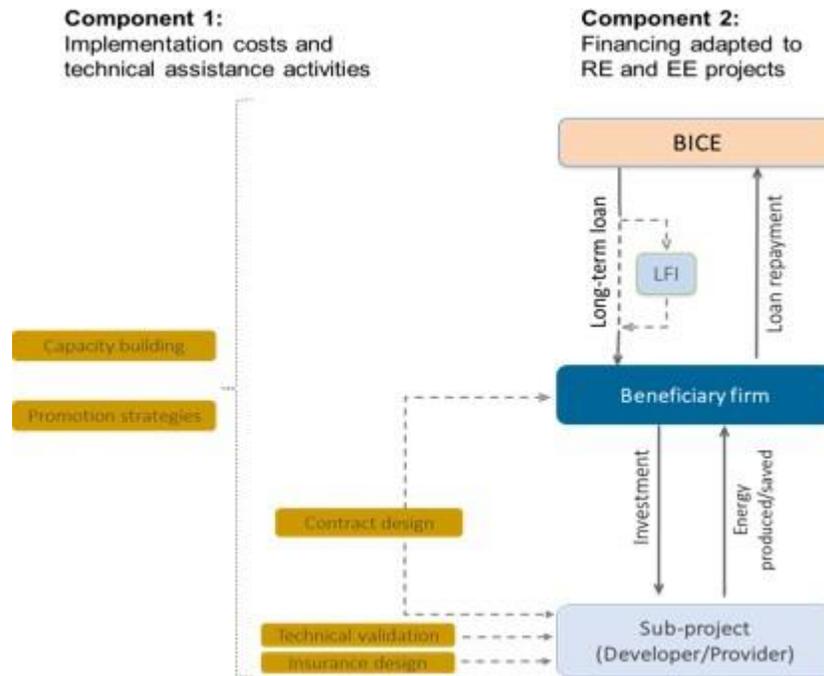
⁴² The main factors determining the design of the biomass power generation units will be (i) supply, sourcing, and availability of fuel waste type, (ii) site location and general layout including proximity to transmission line, (iii) plant size and design features (demand for steam, heat, or process steam) (iv) compliance with Regulatory permits, restrictions, and obligations (e.g. disposal of agricultural waste) Huajie et al (2015). [Agricultural Waste](#), (v) overall project economics and bankability including – electricity sales price/RenovAr price which is higher for smaller scale RE projects such as biomass/biogas, and (vi) technology selection. The biomass used for power generation will be sourced from agricultural and industrial waste. As the fuel yard is situated on private property no long-haul transportation GHG emissions are expected. Please see the following reports on the availability of agricultural waste sources in different regions and provinces in Argentina. German-Argentinean Chamber of Commerce (2015). [Zielmarktanalyse Argentinien 2015 - Biomasse und Biogas mit Profilen der Marktakteure](#) (page 48), Argentinean Ministry of Energy and Mines (2009) [Analysis of the Energy Balance derived from biomass energy in Argentina \[Análisis del Balance de Energía derivada de Biomasa en Argentina\]](#) FAO (2016) [Spacial analysis of the energy balance derived from biomass for the Argentinean province of Salta \[Análisis espacial del balance energético derivado de biomasa\]](#).

⁴³ See Table B1.3 for a detailed description of activities and sub-activities under each component.

	<p>1.2.2 Establishment at BICE of a business unit dedicated to SE financing</p> <p>1.2.3. Establishment of electronic registry system for monitoring and evaluation of projects and program's results</p> <p>1.2.4. Seed incentives for projects (initial project design costs, project validation cost)</p> <p>1.2.5. Management and monitoring of the Project</p> <p>1.2.6. Development of six (6) products/publications, knowledge sharing events, country market reports published, and webinars</p>
Component 2: Financing adapted to RE and EE projects	<p>2.1 Increase medium and long-term credit line for SE projects provided to SMEs</p> <p>Support of an estimated total of 2,645 end-beneficiary SMEs (based on average sized sub-projects) to finance eligible SE projects (biomass, biogas, EE)</p>

58. The **intended beneficiaries** of the Project will be SMEs investing on biogas, biomass and EE projects. Eligibility will be determined by BICE and the IDB, according to a pre-established set of conditions to be specified in the program's Operational Regulations (OR) (see Section C.7).⁴⁴ Improved efficiency in the use and production of energy will also enable energy consumers to benefit from greater and better availability of cleaner energy at competitive prices, and may allow the government to downscale existing subsidies for fossil-fuel based generation. Finally, communities as a whole should benefit from positive externalities associated to environmental and economic impacts of the Project.
59. While the Project targets private-led projects, it will be supervised by the public-sector arm of the IDB, through its Capital Markets and Financial Institutions Division (IFD/CMF), with a sovereign guaranteed loan component from the Republic of Argentina. The IFD/CMF division has significant experience in the design and implementation of financial instruments, particularly for climate finance, as well as a well-funded partnership with NDBs across LAC.

Figure C3.1.- Proposed Project scheme



Source: IDB Project team

⁴⁴ The OR is expected to be finalized subsequent to GCF Board Project approval. Please see section C.7. for details on the content and criteria of the OR.

C.4. Background Information on Project Sponsor (Executing Entity)

60. **Origin and Mandate.** The executing entity of the Project will be BICE. BICE, owned by the Argentine Federal Government, focuses mainly on promoting investments and foreign trade through export and import financing and operating as a second-tier banking institution, channeling its transactions through commercial banks. Since October 2003, it also grants loans directly to companies. BICE is currently acting as the trustee for the FODER (see Section C.1) and as such has been developing its own capacity to carry out its mandate efficiently. This mandate is a sign of the confidence of the government in BICE's capabilities to manage resources specifically directed towards clean energy initiatives.
61. **Objective.** BICE promotes economic development and job creation. Its objectives are fulfilled by channeling loan resources targeted to investment projects for SMEs through LFIs and through their first-tier operations. BICE aims to extend credit, in any form, to complement the funding structure of the first-tier financial intermediaries, cooperatives and other financial entities created by law, and enable the implementation of short, medium and long-term development programs, with internal or external funds from loans guaranteed by the Republic of Argentina, donations from third parties, endowment budget funds, own capital and funds obtained from the issuance of bonds. BICE does not have a deposit mechanism.
62. **Recent financial situation.** As of December 2016, BICE had USD 761.9 million in assets with a loan portfolio totaling USD 461.2 million (60.5% of its assets), of which 30.3% corresponds to its second-tier operation. BICE operations are funded by shareholder's equity (32.3%), negotiable bonds (18.2%), multilateral loans (17.3%), national budget lines (10.2%) and institutional deposits (9.2%), and other liabilities (12.8%). BICE currently accounts for 0.46 % of all the Argentine financial system assets.
63. **Operations.** The creation of BICE was intended to mitigate the structural flaws verified in market terms in order to spur economic development and promote job creation. Through BICE's provision of long-term finance, it helped lengthen loan terms in the system. Longer terms allow SMEs to make larger and long-term investments, thereby promoting job creation and higher competitiveness. Despite the extension in the tenor of credits, BICE's funding is nevertheless insufficient to meet the growing structural needs of Argentina's productive sector, in a context of a sustained cycle of economic growth and despite annual fluctuations related to the effects of external shocks.
64. Over its nearly 25 years of operation, BICE has succeeded in becoming a source of long-term financing in Argentina's financial system, offering terms that are considerably longer than the average for the system. It has significantly expanded its lending activities, demonstrating with its supply of long-term financing to the financial system that there is a demand for that type of product and that the participating LFIs have been able to allocate it effectively and responsibly.
65. Thus, BICE, as a NDB, is in a unique position to engage LFIs and private investors, align development financing with national priority mitigation actions, and canalize international climate funding as well as mobilizing national financial resources to promote scaled up investments in SE projects.
66. BICE has an extensive range of financial instruments to facilitate the development of initiatives in various sectors; notwithstanding, given the existing barriers to investments in RE and EE, the pool of financial instruments needs to be supplemented by additional innovative instruments to address those specific barriers. The aim of the proposed Project is to support BICE in the structuring of innovative instruments to achieve the Project objective.
67. The institution is deemed to have sufficient capacity to perform activities of financial management and administration of the resources under the proposed Project. It is customary for the IDB to perform an institutional analysis of all their potential executing agencies before presenting programs for approval by the IDB Board, to confirm that they maintain a satisfactory level of development, low fiduciary risk and a low risk for project implementation. Based on this, institutional capacity analysis for BICE has been concluded positively and approved by the IDB.

C.5. Market Overview (if applicable)

68. Energy and financial markets face a series of barriers that impede the expansion of the sector in a sustainable way. Given the high initial capital investments and the expected payback times of RE and EE projects, long-term financing is needed for projects to be viable. The domestic banking sector in Argentina is currently not able to deliver suitable financing for these projects and international financing is very limited. Furthermore, project finance structures – which allow private developers to fund projects off balance sheet – still need to develop further in order to increase private participation in the sector. At the same time, capital markets have not progressed further to meet the large funding needs of infrastructure or smaller industries' EE projects (see Sections B.3 and C.1).

69. A feasibility analysis ⁴⁵ has identified significant investment opportunities for biomass (in particular, agricultural, forestry residues, timber and paper industry), biogas (feedlots, pig farms, food processing) and EE in energy-intensive industry (specifically chemicals, food processing, dairy and plastics) in Argentina, which are currently hampered by financial and non-financial barriers.
70. According to this analysis, the requested amount of USD100 million reimbursable resources from the GCF, in combination with BICE's co-financing (see Table B1.1) could finance some 8% of the potential investments identified for biogas and biomass and 10% of identified SMEs for EE projects. While the theoretical internal rate of return of these projects is generally attractive, at 9%-18%, in practice the long pay-back periods require special funding conditions, which are not currently available in the market. Furthermore, adequate support for project structuring and pipeline generation activities is virtually non-existing in the market⁴⁶.

C.6. Regulation, Taxation and Insurance (if applicable)

71. All sub-projects financed under the Project will be subject to local laws and regulation and to IDB's internal policies, including environmental and social safeguards. Relevant gaps identified between IDB's requirements and local regulation shall be covered and agreed upon between the IDB and BICE before approval by the IDB. If necessary, technical assistance may be provided to BICE or public local entities for the provision of IDB requirements that go beyond local regulations (e.g. environmental and social management plans, gender plans, etc.).
72. The recently enacted [National Law 27.191](#) (approved in September 2016) sets national targets for the share of RE in total energy consumption at 8% by 2018 and 20% by 2025 (including biogas and biomass). The law also introduces competitive and transparent market rules and contract mechanisms that include self-generation, as well as fiscal incentives to IPPs and local supply chain, and creates a sector specific trust fund (FODER), managed by BICE, to provide guarantees and debt financing to projects. Furthermore, the law 27.191 provides a robust package of fiscal incentives for these technologies.

Permits and licenses required as part of public tenders (as per RenovAr's program) include:

73. Environmental permit that authorizes the development and operation of the project from the date of signing of the PPA without the need to process any further environmental authorizations. In normal circumstances, the issuing authority will be the relevant provincial agency of the province where the project is located.
74. License to operate as a generator, co-generator or self-supply agent in the wholesale energy market, issued by the MINEM. Filing needs to be completed by the time of presenting the proposal under the tender process and approval needs to be secured before signing the Commercial Operation Date (COD).
75. Law 24467 defines and establishes the framework for the SGR. The SGR is an economic instrument that provides guarantees or collateral to SMEs, to supplement its guarantees, thereby enabling a greater ability to borrow.
76. Resolution 1542/2010 establishes new minimum EE standards for split and compact air conditioners. The resolution requires air conditioners to comply with the Class E efficiency requirements of standard IRAM 62406:2007.
77. From a macroeconomic perspective, some aspects like foreign exchange regulation may have an impact on financial stability and deepening related to the sustainability of the Project. Since December 2015, the government has been progressively eliminating previously established foreign exchange controls that were limiting convertibility and transferability of foreign currency and thus hindering investment. This is expected to enhance conditions for foreign currency financing of these projects in the future.
78. Specific additional policies may be required and reviewed for sub-projects during the due diligence process to be carried out by BICE or the lending LFI.

Instruments and initiatives⁴⁷

79. FODER, Argentina's RE Fund Guarantee, aims to reestablish private investor confidence in Argentina and contribute to mobilize USD 3.2 billion overall investment into the Argentine RE sector. Under the RenovAr Program, CAMMESA, will be the off-taker and signatory of the corresponding PPAs when awarded to the proposed developers. The primary financial instruments developed under FODER have been payment guarantees to be implemented through escrow

⁴⁵ The results of this analysis and the potential sub sectors identified have been used for building an assumed pipeline of sub-projects to be financed by the Project, as well as estimations on the results and impacts of the Project. The figures presented should be taken merely as indicative.

⁴⁶ Presently, the electricity price in Argentina is subsidized. The government foresees a trajectory to phase out electricity subsidies over time, which would decrease the payback time of EE projects. Nonetheless, without long-term finance these projects will not be implemented. A breakdown of the potential market and the scope of the proposed financing line can be found in the Feasibility study in Annex 2.

⁴⁷ The Project is aligned and complementary in scope to the Project financed under the IDBG GCF Project FP30 "Catalysing private investment in sustainable energy in Argentina" approved at [GCF B.15](#) and the IDBG [Green Financing Facility project with Banco Galicia](#).

- accounts (*Cuenta de Garantía* and its sub-accounts) that are designed to cover: (a) ongoing PPA payments (i.e. liquidity support); and (b) payment obligations emerging from the rights held by the project developer to sell their project to FODER, if specific macroeconomic or sector risks materialize.⁴⁸
80. The PROBIOMASA program started in 2013, and aims to boost production, management and sustainable use of biomass for energy purposes.
81. In December 2007, the government launched the National Program for Rational and Efficient Use of Energy (PRONUREE). The PRONUREE included short and long-term objectives to improve EE in industry, transport, the household sector (10% energy savings target for 2016) and the services sector (12% energy savings target for 2016), as well as in public buildings (10% energy savings target for 2016).
82. The *Fondo Argentino de Eficiencia Energetica* was developed under a World Bank EE program in 2009. The objective of this six-year project was to increase EE use through the promotion and sustainable growth of EE services contributing to the reduction of energy costs to consumers and long-term sustainability of the Argentinean energy sector. The aim was to reduce GHG emissions by eliminating regulatory, financing and information-related barriers that limit activities and investment in EE and energy conservation. This project includes the creation of the energy efficiency fund (2.18 million USD) to support the development of energy audits and implementation of feasibility studies for investment in EE, as well as the development of the energy efficiency fund itself. The fund provided low interest loans for EE projects by SMEs and was operating under the scope of the National Fund for Development of Micro, Small and Medium sized companies.

C.7. Institutional / Implementation Arrangements

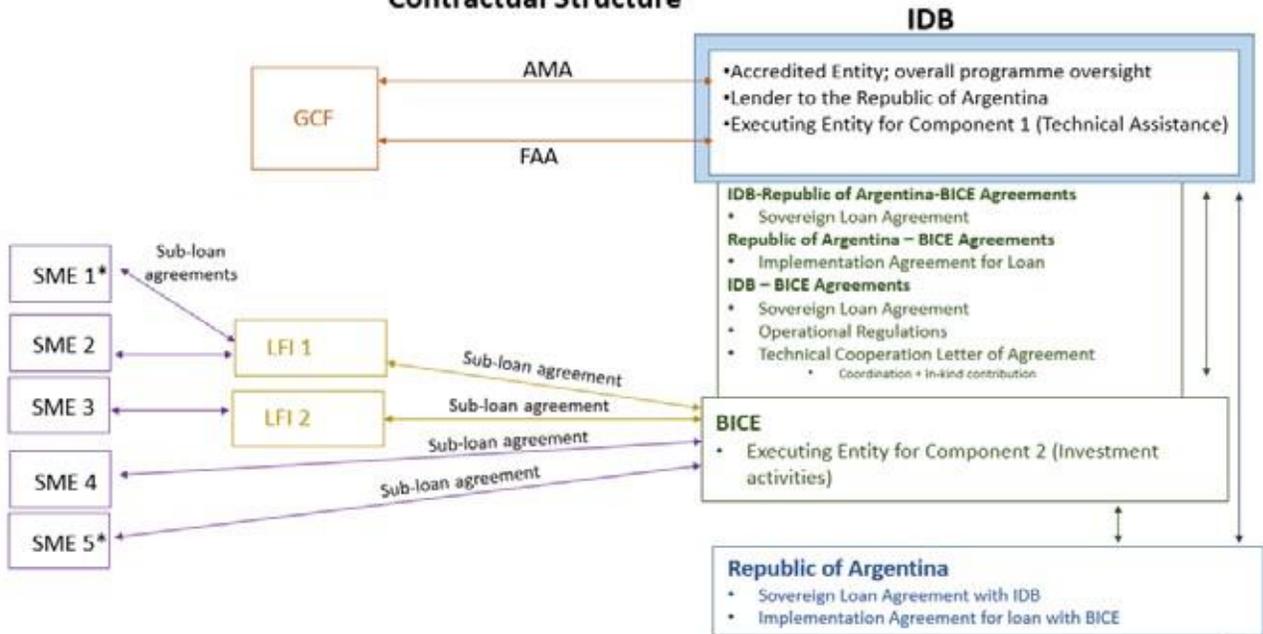
83. Component 1 will be executed by IDB, which will act as the Accredited Entity and Executing Entity for the GCF non-reimbursable resources. IDB will implement this component in coordination with BICE, which will provide in-kind resources to support its implementation. For Component 2, IDB, in its capacity as Accredited Entity, will enter into a sovereign loan agreement with the Republic of Argentina. The IDB, as lender (acting as Accredited Entity of the GCF) will enter into a loan agreement with the Republic of Argentina. The sovereign guarantee of the loan contract consists of the responsibility of the government in its capacity as borrower. No separate guarantee contract with the Argentinean Republic nor a third-party guarantee is required. BICE will be the Executing Entity for Component 2. BICE will sign the sovereign loan agreement to confirm its legal capacity and its capacity to fulfil the execution obligations assigned to it under the loan agreement. BICE and the Republic of Argentina will enter into an implementation agreement whereby BICE will agree, inter alia, to execute the program as contemplated in the loan agreement. The loan agreement, as well as the implementation agreement will enter into effect upon its signature by the parties to such agreements. No congressional approval is required for either agreement.
84. The IDB, will act as Accredited Entity and in line with the Accreditation Master Agreement (AMA) signed between the IDB and the GCF, will (a) administer and manage the use of GCF Proceeds; (b) incorporate provisions in the Subsidiary Agreements requiring that management, implementation and supervision of the Funded Activity be in line with the Accredited Entity's own internal policies and procedures; and (c) be responsible for the supervision, monitoring, evaluation and reporting responsibilities as set forth in the AMA.
85. For Component 2, GCF funds will be transferred to the Republic of Argentina, which in turn will transfer them to BICE, for BICE to manage and use them exclusively for the execution of this component in a dedicated revolving account. BICE will be required to maintain its co-financing level while sub loans financed with GCF Proceeds are being approved. Failure to do so will trigger repayment of GCF reimbursable resources.
86. In its capacity of Executing Entity for Component 2, BICE will be expected to implement sub-projects under its own organizational structure, and responsible for the timely provision of human and technical resources necessary to implement the financing of sub-projects under the Project. The provisions governing eligibility of each sub-project to be financed with funds from the Project will be established in an Operating Regulation (OR) agreed between the IDB and BICE⁴⁹. Amendments to the OR will have to be approved by the IDB. For each individual sub loan, an agreement between the BICE or the LFI and each sub borrower will provide the precise terms and conditions (i.e. maturity, rates

⁴⁸ A backstop guarantee is provided by the World Bank.

⁴⁹ The OR is a document required under the loan agreement between the IDB and BICE by which the executing entity formally adapts their internal processes to requirements by the IDB for the execution of a specific Project. As such, the document is prepared and owned by the executing entity, with supervision from the IDB, and must be approved by the entity's appropriate instances prior to the first disbursement of funds. The OR can be finalized at any time before the first disbursement and normally remains a work-in-progress throughout IDB program documents' preparation and negotiations.

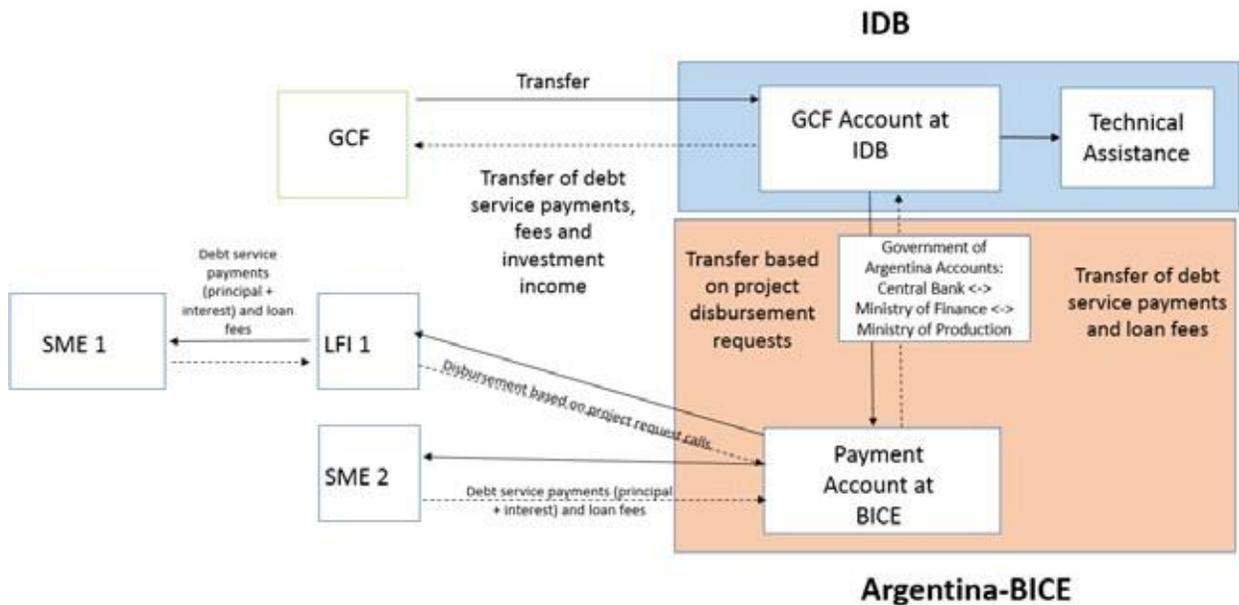
- and costs) of the financing, which will depend on the characteristics of the sub-project being financed, its internal rate of return and its risk profile.
87. For execution purposes of Component 2 and to ensure coordination with IDB regarding Component 1, BICE will designate an executing unit, within its current institutional structure, and a project coordinator, to be responsible for the overall execution of the project and for interaction with the IDB as an Accredited Entity. The proposed project will go through the IDB's normal approval process and will result in a loan contract between the IDB and the Republic of Argentina, stipulating that BICE will be responsible to execute the Project on behalf of the Republic of Argentina. All IDB policies and procedures for disbursements, procurement, environmental and social safeguards, external auditing, as well as reporting, monitoring and verification of results would have to be followed.
 88. The loan agreement between the Republic of Argentina and the IDB will require that BICE, as the Executing Entity for Component 2, to approve specific Operational Regulations in terms acceptable to the IDB, for the implementation of the Project activities contemplated in the loan agreement. The Operational Regulations will detail: (i) the eligibility criteria of the beneficiaries (LFIs and SMEs) and activities of Component 2; (ii) the terms and conditions to be complied by BICE and/or the LFIs when providing the sub-Loans to the SMEs; (iii) other parameters, requirements and/or restrictions that govern the use of resources by BICE, and the LFIs and/or SMEs, respectively; (iv) the methodologies to apply the concessionality of GCF Proceeds to LFIs and SMEs to ensure that SMEs sufficiently benefit from the Project; (v) methodologies to ensure that the ratio of the loan agreement and the cofinancing will be maintained at 1 : 0.6 for the portfolio of sub-loans provided to LFIs or SMEs under Component 2 by BICE over the entire tenor of the loan agreement; (vi) production of audited reports on the financial activities using the GCF Reimbursable Funds, in accordance with relevant financial reporting standards; (vii) measure to prevent access to finance in case of failure to comply with (iv), (v) and (vi) in this paragraph; and (viii) the definition of corrective measures to be applied in case of non-compliance with (i), (ii) and (iii). The OR shall be approved by the Board of Directors of BICE, following the non-objection of the IDB, and this requirement will be established in the loan contract as prior condition for its first disbursement.
 89. Following IDB Policies for Global Credit Loans, IDB will be supervising the BICE's execution. As a condition for disbursing funds, IDB will be reviewing whether the portfolio of approved sub-loans fulfill the Project's criteria and conditions, as well as progress reports regarding the overall Project execution and fiduciary criteria. If BICE, directly or through an independent auditor, encounters during the execution period that a sub-project does not comply with the eligibility criteria of the Project, it will need to take the sub-project out of the GCF-funded portfolio, and will have to assume the costs associated with recouping the concessionality that was unduly granted to it. IDB and BICE shall have planning meetings to estimate disbursements every year. IDB will maintain continuous tracking of execution of the program through a result-based electronic system of IDB.
 90. GCF funds will be kept in a dedicated revolving account under which any sub loan recuperations or re-payments made by first tier LFIs and SMEs receiving direct lending from BICE will be re-used to finance eligible projects. This revolving account will follow the ORs in terms of the eligibility criteria of the beneficiaries, the terms and conditions of the sub-loans (interest rate, grace period, amortization), sectors or projects that can be financed by the credits, and other parameters and/or restrictions that govern the use of the resources of the loan, as well as the local contribution.
 91. Apart from the IDB's own initial assessment of BICE's fiduciary capacity to execute the loan, BICE will have the obligation to provide, during the execution period, semi-annual execution reports and an annual audited fiduciary report. This audited report will be produced by an internationally recognized auditing firm following relevant financial reporting standards. The independent auditing firm will also verify compliance with the Project's eligibility criteria, as well as with the appropriate application of the methodology agreed with the IDB to distribute GCF's concessionality among beneficiary firms. An interim and a final evaluation will also be prepared.
 92. Transfer of GCF funds to the IDB: As provided for in the AMA, for the financing of the Program, GCF will enter into an FAA with the IDB. GCF funds will be transferred into the account specified in the FAA (GCF Account). As the EE for this Component, BICE will enter into the loan agreements with LFIs, which in turn would use those resources to finance loans to local SMEs. BICE may also directly finance SMEs. Loans to SMEs may also be co-financed by other co-lenders (which may enter into inter-creditor agreements). For direct lending to SMEs (potentially biomass and biogas), co-lending options can involve multiple LFIs, and the participation of multiple SMEs as investors, also in project finance structures, where applicable. The OR will reflect these options. Use of proceeds by BICE will also be subject to the terms and conditions of the OR approved by BICE and acceptable to IDB.

Contractual Structure



Note: Illustration of feasible arrangements that BICE may enter into, while not all structures will actually occur. *Potential other co-lenders. This would entail a a) loan agreement between the SME and the co-lender and b) an inter-creditor agreement between the LFI and the other co-lender, or c) inter-creditor agreement between BICE and a SME, respectively.

Flow of Funds



C.8. Timetable of Project Implementation

Table C8.1.- Project timeline by component and activity (period 2018-2023)

Component	Activity	Sub-Activity	2018				2019				2020				2021				2022				2023						
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
Component 1: Implementation costs and technical assistance activities	1.1. Develop financial and non-financial instruments, including standard performance contract, insurance policy covering energy savings and validation methodologies to account energy savings and generation	1.1.1. Market Assessment including Gender Analysis																											
		1.1.2. Development of a standard performance contract for risk sharing between SMEs investing and ESTPs																											
		1.1.3. Development of procedure to participate in the renovAR program																											
		1.1.4. Develop standards and validation methodologies for project level accounting and project proposal design validation																											
		1.1.5. Development of financing structuring and risk mitigation instruments (ESI for EE) and project incentive strategy																											
		1.1.6. Development and implementation of promotion and execution plan																											
		1.1.7. Development of a Project Pipeline																											
		1.1.8. Strengthen regulatory framework																											
	1.2. Strengthen capacity of BICE, LFIs, ESTPs, project developers and validators for SE project development. Seed incentives and Knowledge sharing	1.2.1. Training of project developers/technology solution providers/LFIs/Validators/SMEs (at least 20% women)																											
		1.2.2. Establishment at BICE of business unit dedicated to SE financing																											
		1.2.3. Establishment of electronic registry system for monitoring and evaluation of projects and program's results																											
		1.2.4. Seed incentives for projects (initial project design costs, project validation cost)																											
		1.2.5. Management and monitoring of the Project																											
		1.2.6. Development of six (6) products/publications, knowledge sharing events, country market reports published, and webinars																											
	Component 2: Financing adapted to RE and EE projects	2.1 Increase medium and long term credit for SE projects provided to SMEs	Support of an estimated total of 2,645 SMEs (based on average sized sub-projects) to finance eligible SE projects (biomass, biogas, EE)																										
	Monitoring*																												
	Mid-term evaluation**																												
	Impact evaluation***																												
IDB reporting to GCF																													

* Overall Project execution will be monitored and reported by BICE to the IDB. These reports will provide information on output and outcome indicators, as per IDB standards, and on characteristics of the sub-project portfolio, including compliance of eligibility criteria.

** To be conducted 24 months after the first disbursement of funds or once 50% of loan proceeds have been committed, whichever occurs first.

*** Covering indicators in Section H1. To be conducted within a year of end of Project.

D.1. Value Added for GCF Involvement

93. As long as there remains a lack of a larger and more sophisticated banking system in the country, and given the levels of risks associated to Sustainable Energy (SE) projects, as well as the existing lack of knowledge that prevails, a concessionality element is considered necessary to structure funding models that will make end beneficiary projects viable, influencing the characteristics and evolution of private sector participation. The GCF contribution supports the development of practices that will prevail in a more sophisticated banking market.
94. As described in Sections C.1 and E.5, Argentina is already committed to the transformation of its energy sector based on sustainable principles, promoting a more efficient use and production of energy in the country. While the reforms underway are expected to improve conditions for investment in the sector, this process will likely take time before it translates into investors and financiers building strong confidence in the sector, and some initial demonstration is considered meaningful to jumpstart the market.
95. Without the GCF's combination of grant and concessional loan contributions, financing by LFI of local EE and RE investments will continue to be limited in Argentina.
96. The fundamental reason for the need of GCF concessional financing relates strictly to the objective of the Project itself, namely to scale up investment in RE and EE. Without this incentive, the volume and pace of investments in these sectors would remain well below the full potential. The concessionality of GCF resources allows for the structuring of a financing package that is essential to overcome the barriers faced by private sector investors through different channels, including creating frameworks that are more conducive to private sector participation in SE investments and increasing private actors' access to finance per se.
97. GCF resources will reduce the risk of LFIs to participate in RE and EE investments with SMEs. Concessionality is critical for sub-projects to effectively offset the additional cost associated to the described risks and barriers and benefit from the financial effect of increased leverage that is fundamental for their competitiveness and financial viability.
98. The following mechanisms are considered sufficient to mitigate the risk that the benefits of the concessionality can be unduly captured by BICE or LFIs:
- First, Operational Regulations will be developed and enforced to ensure that the spread charged by LFIs is aligned with the market, so that LFIs do not unduly capture the concessionality. Competition between LFIs will further ensure that rates from BICE and LFIs to beneficiary SMEs are competitive;
 - Second, semi-annual reporting and verification of the beneficiary SME portfolio and activities financed with GCF funds will be carried out. The reporting and verification will specifically consider the appropriate application of concessionality; and
 - Third, corrective measures in cases of non-compliance with the previous provisions will be defined in the Operational Regulations.
99. The abovementioned risk mitigation mechanisms are considered sufficient to ensure that concessionality of funds (i.e. concessionality in the form of reduced cost of funding to blend in rates and tenors) is not fully captured by BICE or LFIs.
100. As the Project creates a long-term financing market, the concessionality in the form of interest rate and tenor will enable the financing of sub-projects that currently are not being served. The interest rates are subject to monitoring by the IDB via reporting of specific financial data on each beneficiary sub-project. By transferring concessionality to final beneficiaries of the sub-loans, LFIs ensure support to the demand for credit which is not viable without long-term finance.
101. In the short term, grant money will help provide the necessary technical assistance to develop support mechanisms, build capacities and support sub-projects, while concessional loans will help lower the cost of long-term financial resources needed by these investments. Even pooled with BICE's and LFIs additional resources lent at market rates, the financing terms of the blend will represent an enhancement of the financing available in terms of costs and maturities. In this sense, GCF funding can help source the complementary long-term financing available through the local financial system, under conditions that make it possible for these institutions to structure products suitable for RE and EE projects.
102. Financing to private projects via a NDB is not expected to crowd out any other sources of financing (in fact, the Project is aimed at sub-projects for which adequate financing is not available in the existing markets). Conversely,

the way in which the Project is designed promotes leverage of additional sources, as each beneficiary sub-project would require a certain level of equity financing (in general, between 20% and 30% of total investment costs, depending on the credit risk and availability of capital). Normal practice in previous similar projects led by the IDB is that NDBs complement program funding with their own resources and may bring other financial institutions into the transaction (commercial banks who would not be willing to finance the projects by themselves in the absence of the program), either by working as a second tier bank (channeling funds through LFIs) or syndicating loans with other banks or alone through Tier 1 operations if the size of the sub-project is large enough (> USD 5 Million) to allow for this⁵⁰.

D.2. Exit Strategy

103. GCF resources will enable the provision of financing currently not available in the market. Through the generation of a track record and knowledge for SMEs, financial institutions and ESTPs, the perceived risks are expected to decrease and additional finance will be available to further develop the sector in Argentina.
104. Using the limited available funding to finance demonstration, by creating mechanisms that incentivize the participation of the private sector in the long term and generate new development partners and mechanisms, will reduce aid dependence to address the needs of the energy sector in a timely sustainable manner in the future. BICE will maintain a dedicated account for the execution of the Project (revolving account). Returns from sub-loans financed by the Project, including payments, prepayments, cancellations or terminations of sub-loans shall be received in this account and used by BICE to repay the GCF loan to the IDB. Cumulative recoveries from the program that exceed the amounts necessary for service of the loan to the IDB shall be used to finance new sub-loans consistent with the objectives of the Project. This mechanism does not entail any incremental risks for the reimbursable portion of GCF funds, and is only intended to enable longer-tenor money from the GCF to finance additional sub-projects, once maturity of the first round of sub-projects has been reached. The Project is comprehensive in the sense that it seeks to jump-start/scale-up an investment process that should become self-sustaining in the longer term. Through the involvement of BICE and financing from third parties in the sub-projects, the viability of RE and EE projects is expected to be proven, and its financing and the risks involved therein better understood. Of course, without regulatory incentives to this industry already in place, it is difficult to predict where the limits to profitable ventures might be. That depends as well on the evolution of the technologies, the quality and quantity of the RE and EE resources available, future conditions in the financial markets, and future prices of electricity/energy.
105. It is expected that once the GCF financing is repaid, the transformation impact of the Project should allow for financial institutions, service providers and developers to be more engaged in these types of projects, as they would have acquired experience, new instruments would be in place, business models would have been proven viable and markets would have evolved⁵¹. At the same time, the Federal Government is currently demonstrating

⁵⁰ According to the IDB, countries showing a higher penetration of financial institutions for renewables are those that have provided public financial products. [Study on the Development of the Renewable Energy Market in Latin America and the Caribbean](#), IDB, 2014.

⁵¹ The continued provision of long-term finance in the financial system depends on multiple factors, some of which can be controlled by the Project, others that are exogenous to the Project such as macro-economic stability, low inflation rates, a healthy banking system supported by regulation and supervision, as well as contractual environment that protects the rights of creditors and borrowers. Further provision of long-term finance beyond the GCF will depend on BICE and LFIs capacity to match long-term assets (loans) vs. long-term liabilities (for instance deposits and bonds). The Project envisions to mobilize further private sector finance from LFIs, once these are comfortable with the project risks encountered in the co-financing of sub-projects with GCF support. By addressing the endogenous factors of the Project, it is expected that the perceived risks decrease through the generation of a track record and knowledge by firms, LFIs and ESTPs, and additional finance will be available to further develop the sector in the country. Long-term sustainability of the Project is ensured by allowing relevant economic decision makers to better assess the risks of their investments (understanding clearly the actual risk/return profile of each technology package) and its impact on their cash flows, productivity and profitability. GCF funding will be used to provide tailored financial and non-financial instruments that can spur private investments in these technologies the long-run. LFIs are incentivized to broaden their support to these investments as they also learn to shape their perceptions of risk associated to these projects. The expected benefits of this line of business for these institutions is expected to foster replication of the model, gradually increasing its scope and consolidating the market for financing this sector.

strong and proactive will to overcome the structural problems that prevent the development of their financial markets, which should help create a more favorable environment to invest without the need of further incentives in the long-term.

106. Nonetheless, the Project is not expected to create distortions, as the terms of financing and key contractual requirements will follow market-based parameters and best practices, and GCF concessionality will be targeted at overcoming short-term risk or cost barriers, thus allowing to phase out GCF support to achieve a self-sustaining market.
107. The Project delivers its structural impact because it makes more and better funding available and seeks to maximize the amounts leveraged. The underlying concessionality is seen as an incentive to accelerate and multiply the investment process, supported by risk-reduction instruments that are expected to become widely used by private market actors.
108. Finally, Project activities to develop local capacities are also expected to deliver long-term sustainability for the financing of these projects in the future, thereby allowing GCF exit once the GCF loan resources have been repaid.
109. Long-term sustainability of the Project is ensured by allowing relevant economic decision makers to better assess the risks of their investments (understanding clearly the actual risk/return profile of each technology package) and its impact on their cash flows, productivity and profitability. GCF funding will be used to provide tailored financial and non-financial instruments that can spur private investments in these technologies the long-run. LFI's are incentivized to broaden their support to these investments as they also learn to shape their perceptions of risk associated to these projects. The expected benefits of this line of business for these institutions is expected to foster replication of the model, gradually increasing its scope and consolidating the market for financing this sector.

E.1. Impact Potential

E.1.1. Mitigation / adaptation impact potential

110. The proposed Project seeks a significant transformational intervention by building a track record of sub-projects and providing the possibility to replicate successful outcomes in other sectors and increase commercial lenders' participation. The Project also has a multiplier effect, as it is designed to optimize the use of funding available in terms of leverage and sustainability. Continuing these efforts, from both a public and private perspective, can allow for the adjustment of available support frameworks, after demonstration of the benefits of investing in these projects has permeated the economy.
111. Due to the portfolio approach of the proposal and the diverse nature of eligible sub-projects, potential impacts will be presented in aggregated and disaggregated terms by technology. As the Project is designed to finance sub-projects on a first-come-first-served basis and specific sub-projects to be financed are not known ex ante, an indicative portfolio of sub-projects and standard factors for each technology in this assumed pipeline will be used for estimations of indicators. A broad description of the methodology used for each technology in the calculation of expected CO₂eq reductions is presented below. Data will be updated with real values as the Project advances its implementation.

Methodology for calculation of expected tons of carbon dioxide equivalent (t CO₂ eq) to be reduced or avoided

112. Based on a thorough analysis of the market, the methodology starts by constructing a sub-project profile for each of the subsectors identified in the feasibility analysis, namely, biogas, biomass⁵², and EE. Furthermore, for biogas technology the analysis expands to three different subsectors; a) pig farms, b) cattle in feedlot farms and c) agroindustry (food processing) sector (see also Section F.1 and F.2). Each subsector sub-project profile is built based on the characteristics of a standard venture in this particular subsector (indicative size, investment, efficiency of the technology used, etc.). This profile then serves to calculate the expected amount of clean energy that each biogas or biomass sub-project could produce or the amount of energy that each EE sub-project could save⁵³. A number of expected sub-projects to be financed by the Project is estimated, based on a specific share of each target subsector (determined by the feasibility analysis). For biogas and biomass, this number of sub-projects is then multiplied by the individual amount of energy produced by the profiled sub-project under each category. The total amount of energy produced by subsector, multiplied by a conversion factor (0.535 tCO₂/MWh the case of Argentina⁵⁴), leads to the potential of emission reductions under the biogas and biomass categories. In the case of EE, the expected emission reduction per technology is applied to a mix of technologies to be used in the sub-projects financed (15% electric motors, 40% solar water heaters, 15% efficient boilers, 10% refrigeration systems, 15% air conditioning, 5% cogeneration) and then extrapolated using the amount of investment per technology and the total amount of financing available for this subsector in order to obtain a total amount of emissions reductions for the assumed mix of sub-projects. Finally, by adding those values to the ones obtained for biogas and biomass, we obtain an aggregated emission reduction value for the Project.

⁵² Biomass sub-projects considered are limited in size to less than 5MW of capacity.

⁵³ Additional data used includes the standard emission reductions expected for each technology used and the historic level of usage of each technology in the target market (see Annex 3 Economic and financial model).

⁵⁴ See Ministry of Energy and Mining Argentina [Emission Factor Calculation 2015](#) (latest official data).

Table E1.1.- Estimations of Project impact by eligible technology

Subsector	Reference for calculations	# of sub-projects to be financed	Total energy produced / saved (GWh)	Total CO ₂ emission reductions (million tCO ₂ eq) ⁵⁵
		without and [with revolving account effect]		
Biogas				
Pig farms	Energy produced per farm = Energy produced per pig in profile farm x # of pigs per farm	449 [954]	2,046 [3,096]	2.87 [4.25]
Livestock (feedlot)	Energy produced per farm = Gas produced per profile farm daily x 365 x 0.35 x 0.85 x # of cows per farm ^[a]	20 [43]	316 [479]	1.23 [1.84]
Agroindustry	Energy produced per plant = Average size of profile plant x 365 x 24 x production factor ^[b]	168 [357]	1,033 [1,562]	0.55 [0.82]
Biomass	Energy produced per plant = Average size of profile plant x 365 x 24 x production factor ^[b]	12 [21]	2,473 [3,703]	1.32 [1.94]
Energy efficiency	Emissions reduced per type of technology = CO ₂ reduced per type of eligible technology x share of usage of this technology in the local market x share of total projects financed investing in this technology	598 [1,270]	118 [229]	0.15 [0.27]
Total		1,247 [2,645]	5,988 [9,071]	6.13 [9.1]

^[a] The gas produced is calculated by multiplying an average dung per cow (15kg/day) by the methane produced per dung (0.05 m³/kg). The 0.35 corresponds to the conversion factor from gas to electricity and 0.85 ratios correspond to capacity factor of the biogas plant. See Annex 3 for details. ^[b]The production factor used is 0.8.

113. The expected results include among others the following:

- Investments will mostly be in long-lived assets; thus, the Project will contribute to avoid locking-in of high-emissions. For eligible sub-projects, energy savings vary between 5% to 60% compared to the baseline, depending on the (replaced) technology.
- The GHG emission reductions from the underlying sub-projects to be implemented are expected to be around 21,346 tCO₂eq per million of USD invested over the lifetime of the Project. This is based on the assumption that the initial USD 160 Million financing resources will be able to be re-utilized due to the revolving account for an estimated total financing of USD 298.75 Million and resulting in a total project investment volume of USD 426.78 Million. Dividing the total expected GHG emission reductions of 9.1 Million tCO₂ by USD 426.78 Million results in a 21,346 per Million tCO₂ reduction. (See also Footnote 72)
- A total of 455,517 tons of CO₂eq are expected to be avoided or reduced annually. The aggregate expected reductions are about 9.1 million tCO₂eq over the lifetime of the sub-projects, including the reduction in methane emissions⁵⁶.
- The total estimated direct and indirect beneficiaries are based on expected beneficiary SMEs as well as new jobs created. The proposal is expected to serve more than 2,600 (2,645) SMEs, and create more than 1,950

⁵⁵ Including the reduction in methane emissions for pig farms and livestock.

⁵⁶ Accounting for 20 years for biomass and biogas sub-projects and 10 years for EE sub-projects.

additional green jobs. Green jobs created in the biogas and biomass industry are estimated at 778 employees⁵⁷ and in the EE industry at 1,180 additional direct, indirect and induced jobs⁵⁸.

E.1.2. Key impact potential indicator

GCF core indicators	Expected tons of carbon dioxide equivalent (t CO ₂ eq) to be reduced or avoided (Mitigation only)	Annual	455,517
		Lifetime ⁵⁹	9,110,338
	<ul style="list-style-type: none"> Expected total number of direct and indirect beneficiaries, disaggregated by gender (reduced vulnerability or increased resilience); Number of beneficiaries relative to total population, disaggregated by gender (adaptation only) 	Total	The proposal is expected to serve 2,645 SMEs, as well as create more than 1,950 additional green jobs. Green jobs created in the biogas and biomass industry are estimated at 778 employees and in the EE industry at 1,180 additional direct, indirect and induced jobs.
		Percentage (%)	Not applicable
Other relevant indicators	<ul style="list-style-type: none"> 453,579 of MWh produced/saved annually by sub-projects financed by the Project for a total of 9,071 GWh over 20 years. 114 MW of newly installed RE capacity 2,645 end beneficiaries that obtain access to credit from the Project to invest in SE sub-projects 		

114. Indicators will be calculated over the base of the number of sub-projects financed as a result of the activities by the Project. Once deployed, sub-projects financed are expected to produce or save energy (in the form of MWh) in the long term. The energy produced/saved is then assumed to lead to emissions savings calculated in aggregated terms (in the case of energy produced, the assumption is that the net effect is a reduction in emissions, as the alternative would be to produce that same energy with less clean technologies), both annually and during the lifetime of the sub-projects, using the average displaced emissions factor for electricity in Argentina, standard load factors and savings ratios for each particular RE and EE technology, respectively⁶⁰. Based on estimated reductions of CO₂ emissions over the course of the lifetime of sub-projects financed, and using indicative amounts for finance leveraged by the Project, the cost of abatement is estimated considering only GCF financing, and then considering total investment (GCF, BICE and equity from SMEs).

⁵⁷ [Highlights of socio-economic impacts from biogas in 28 target regions](#) (Intelligent Energy Europe, 2010). The reference is based on European values and the mid-point between Bodenhöfer H.-J., Wohlgemuth N., Bliem M., Michael A., Weyerstraß K. - Assessment of the economic impact of the support of green electricity in Austria, IHS Carinthia, 2004; updated in 2007: Employment effects of the green electricity generation in Austria and the lower bound of Danish employment in biogas. See also [IRENA](#) and EESI 2015 Fact Sheet: [Jobs in Renewable Energy and Energy Efficiency \(2015\)](#). Jobs in construction are estimated at 454 and in maintenance at 325.

⁵⁸ Mid-point between [Greenpeace](#) and EESI 2014 Fact Sheet: [Jobs in Renewable Energy and Energy Efficiency \(2014\)](#) based on an assessment of the US economy.

⁵⁹ For the purpose of calculating total GHG emissions reduced, assumed lifetime is 20 years for RE projects and 10 years for EE projects.

⁶⁰ For the purpose of calculating total GHG emissions reduced, assumed lifetime of projects is 20 years for RE projects and 10 years for EE projects.

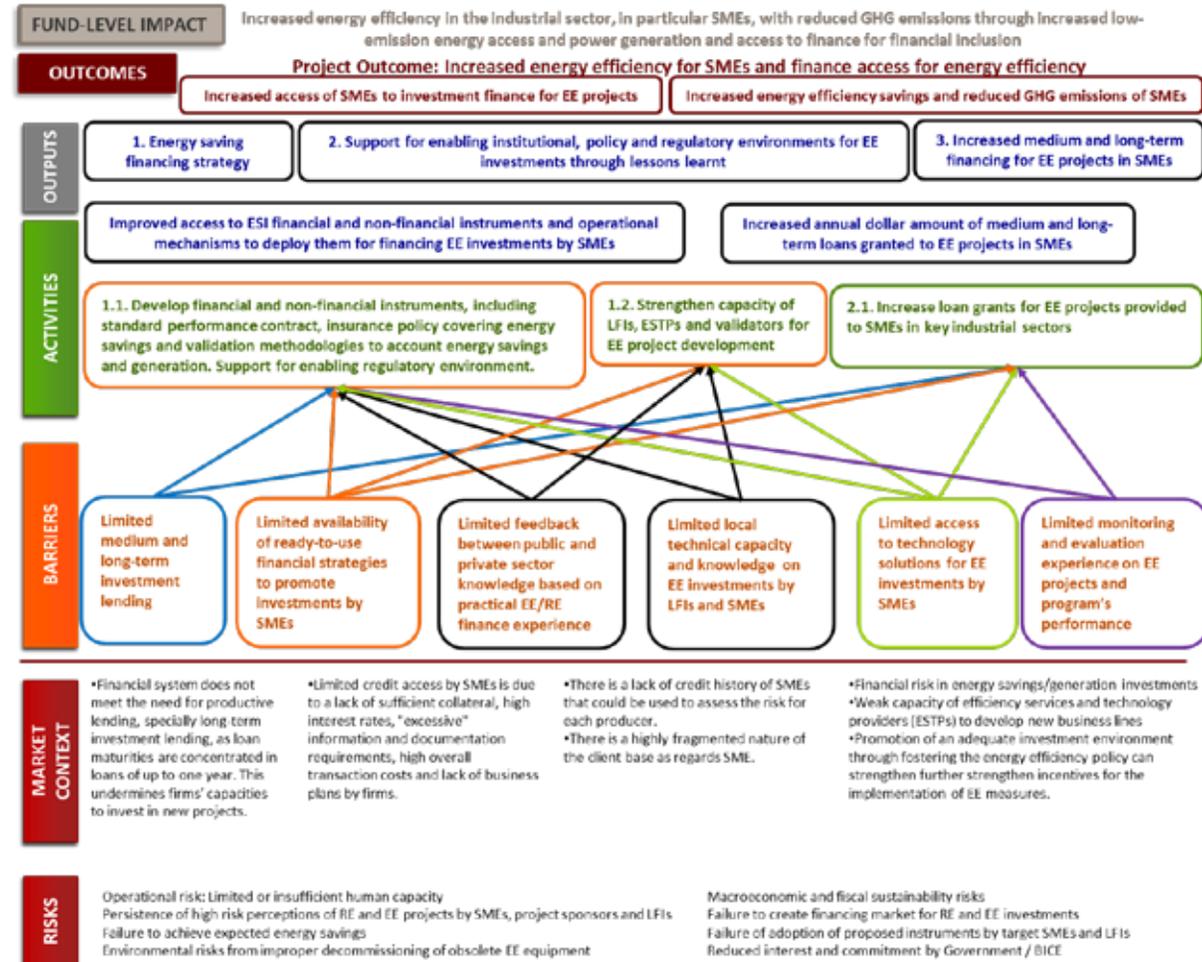
E.2. Paradigm Shift Potential

E.2.1. Potential for scaling up and replication

115. The goal of the Project is to trigger investment in RE and EE in Argentina, helping SMEs overcome financial and non-financial barriers, creating increased confidence in the markets and advancing knowledge for financial institutions so that a track record is established and the potential for expansion of these technologies is unlocked. The Project includes a technical cooperation component (Component 1) that will ensure the building of capacity, particularly in the financing institutions and ESTPs, in order to guarantee the sustainability of the Project beyond donor support.
116. As explained in the sections above, through a combination of innovative financial support and implementation capacity building, supported by a deep level of country ownership, the Project will contribute to overcoming the binding constraints to develop viable EE and RE projects, foster multi-sector approach and bridge the funding gap, which will result in accelerated investment, market transformation and large-scale impact.
117. SE and generally clean energy financing in Argentina is still in a very early development stage and there are many opportunities for improvement related to the financial sector. There are few local banks offering dedicated loan products or actively marketing the benefits of such investments. Further efforts to enhance private sector participation and to demonstrate the benefits of SE financing are required from the public financial sector to reach a critical mass and upscale the commercial financing of these projects.
118. By addressing these barriers via channeling funds through BICE and LFI, the Project intends to deliver results that will go beyond GCF funding support. At the same time, by directing Project activities to private participants via a public initiative, a greater convergence between the actors involved can generate new types of public-private relationships in the sector. This will serve to enhance traditional sources of financing and build capacities to design innovative mechanisms for scaling up sustainable projects. With this, private actors could take advantage of new opportunities presented by the sector while contributing to the objectives of public policies.
119. The Project's theory of change (Figure E2.1) highlights the relation between components (and specific activities proposed for each component, detailed in Table B1.3), the main products or expected outputs from the implementation of the activities and the medium and long-term outcomes desired (results and impacts). Delivered efficiently, the actions proposed will produce tangible outputs that the Project should be able to measure and monitor in aggregated terms. In the context described (see Section C.1), when proposing these outputs, it is assumed that the country will maintain a fairly stable framework and conditions conducive to sustaining investment and promoting financial instruments to support it. It is also assumed that the current demand for financing exceeds supply and that the government will continue to increase their will to support the sector in a sustainable way.
120. Industry associations will be informed and consulted during the development of the market instruments (Sub-activities 1.1.1 - 1.1.8) to share these through their membership channels which allows also different industry sectors to be reached. Based on experience from other countries, industry associations have shown large interest as acting as an information bridge informing their members through calls and appropriate communications. The financed technologies will focus on the best locally available technologies, for which sufficient parts as well as local technological and maintenance support exist. The validation methodology (sub-activity 1.1.4) ensures that proposed and financed sub-projects always lead to an improvement relative to the baseline (the equipment to be replaced). It furthermore, ensures that technological innovation is factored in.
121. Within a stable framework, private actors are able to analyze the financial viability of specific sub-projects. Hence, voluntary participation of the private sector under market conditions is considered to be indicative that the expected value of these projects will result in net financial profits (i.e. financial costs are lower than financial benefits from a private perspective) and that the desired results may be achieved⁶¹.
122. In the long term, accumulated results from effective operation of biomass, biogas and EE sub-projects financed by the Project are expected to lead to the achievement of more efficient patterns of production and use of energy (impacts) in the country. Although a direct causality would be too hard to establish, it is assumed that momentum for investment will be created as a result of the Project, and that larger and more developed markets for these investments may in fact be a consequence of the financing of demonstration sub-projects, combined with training and timely dissemination.

⁶¹ Before implementation of the Project, any portfolio used to build indicators is indicative. There is no information available on specific sub-projects until they are presented when applying to funding from the Project, and in all cases numeric values of targets should be treated with caution.

Figure E2.1.- Project's theory of change (as per IDB's results framework for operations) (see Section H.1)



* Risk mitigation measures are illustrated in Section G.

123. Replicating Project's success with the participation of other financial institutions will result from knowledge sharing led by the IDB, with the support of BICE and beneficiaries. Moreover, the experience can also be shared among peers in the international community, capitalizing on close relationships between the IDB and NDBs in other countries facing the same issues. The upfront engagement of technical assistance teams to deliver case studies, origination training and marketing efforts will help consolidate demand for the financial products offered and its proper execution, creating a track record of successful projects and lessons learned that will be essential for catalyzing the Project's impact further.

E.2.2. Potential for knowledge and learning

124. As the Project advances in its implementation, the IDB will generate and aggregate data so as to demonstrate results. These results are intended to capture and share lessons emerging from sub-projects and activities financed. Experiences will be shared through regular knowledge exchange platforms (webinars, workshops and trainings). The IDB regularly participates in conferences and events related to climate financing and is actively engaged with its local partners in the development of publications and learning events.

125. The regional scope of IDB's work provides an opportunity to share experiences in a more harmonized manner and to optimize the use of all funding available due to potential economies of scale with similar ongoing interventions.

126. All results, knowledge material and publications will be shared via the IDB dedicated websites, including the IDB website, the [Financial Innovation Lab](#), and the [LAC Green Finance](#).⁶²
127. In particular, the Project will:
- generate knowledge (studies, webinars, presentations, newsletters and guidelines showing specific experiences in structuring the BICE Financing Strategy)
 - disseminate knowledge (organization of national and regional events with the financial services and technology provider industry in Latin America including)
 - provide training and outreach through BICE's training and promotion systems for LFIs and relevant market actors
128. Knowledge creation and dissemination will be complementary and coordinated with activities under the approved IDBG-GCF project in Argentina with a focus on knowledge for LFIs and ESTPs.⁶³
129. All these knowledge and learning activities will adhere to best practices in incentivizing a balanced gender participation and showcase Project experience with female participation on the platform through webinars and publications.

E.2.3. Contribution to the creation of an enabling environment

130. Uncertainties specific to the sector (such as costs of certain technologies, new regulatory framework, existence or volatility of the resource, etc.) critically influence investment decisions in RE and EE. In this context, the demonstrative effect of public intervention becomes crucial in order to detonate private investment and create a EE and RE investment and technology cluster supported by a carefully designed structure of incentives (including financial, technology validation procedures, and risk sharing mechanisms that facilitate the development of successful projects, proper training and regulation) that is likely to mobilize the local potential of an industry that has been growing exponentially in other parts of the world.
131. To this end, GCF resources will facilitate the structuring of financial and non-financial mechanisms to create business models that will attract investment, increasing private stakeholder's confidence (see Section C.3). This is expected to generate a critical mass that will result in more competitive costs for the technologies involved, and consequently make efficient use and production of energy more accessible.
132. With these incentives in place, the banking system will gradually gain a better understanding of the economics of these technologies and the sector should benefit from better investment environments, reduced costs of financing, longer terms for their loans, and coverage from the uncertainties associated with the development of these projects.

E.2.4. Contribution to regulatory framework and policies

133. Unless steps are taken to reduce GHG emissions, global temperatures are projected to rise by about 3 to 4 degrees Celsius above preindustrial levels by 2100, with risks of more severe warming and climate instability. Both advanced and developing countries are pledging to reduce emissions in their NDCs (see section E.5.1).
134. Through the provision of more and better financing for projects, the creation of financing capabilities and consequent evolution of the markets, federal and subnational governments may be incentivized to develop more

⁶² In December 2016, the Green Finance in LAC Region online web Platform was launched (<http://greenfinancelac.org>). The site contains all information regarding IDB's dedicated green finance programs, including an interactive Map with a list of all existing projects, beneficiary countries and specific project information. The platform is being continuously updated and maintained with publications, events and related news and activities, in addition to interactive tools such as webinars and eLearning. The platform is promoted on regular basis to: (i) all national development banks of the LAC region through regional and national banking networks (such as ALIDE, FELABAN, etc.); (ii) global and regional partner institutions and initiatives such as Sunref from the French AFD, the Green Bank Network, OECD, IEA, among others (see: <https://www.greenfinancelac.org/related-initiatives/>); and (iii) general public and specialized green finance experts through social media and dedicated banking and green finance communications means. Also, a private intranet was developed for the platform in which NDBs, donors and relevant participants can access information, acquire updated knowledge and interact through a live chat. The project expects to help LFIs discover and develop the full potential of this new line of business and once the viability and profitability of these investments has been demonstrated, it is in the LFIs interest to promote it. Local partners are strongly encouraged to work with their potential borrowers using these platforms to expand the scope of the demand for these loans to other SMEs and sectors, although the proposal is based on the premise that there is already a big enough group of identified firms interested in these instruments (see feasibility analysis).

⁶³ FP30 "Catalysing private investment in sustainable energy in Argentina" approved at [GCF B.15](#).

- and improved policies in the energy, financial or other relevant sectors to mobilize additional private funding and continue to create more established markets that contribute to the country's economy in a sustainable way.
135. The Project aligns and reinforces public policy priorities related to climate change, energy use, and productivity upgrading set by the Argentinean Government. With its focus on allowing access to climate finance and leveraging private finance, this Project is not primarily targeting domestic policy and regulation, but rather the mobilization of private sector investment for RE and EE activities. Concretely, the main contribution to the regulatory landscape is the standardized contractual arrangement, which promotes the EE market by addressing investor and financier uncertainties.
136. The Project is at the same time fully aligned with national plans and strategies, energy plans, climate policies and measures and national contributions to international cooperative efforts submitted by Argentina.

E.3. Sustainable Development Potential

E.3.1. Environmental, social and economic co-benefits, including gender-sensitive development impact

137. There are far-reaching social and economic benefits for society that result from reducing carbon emissions and ensuring universal access to modern energy services. In general, access to affordable and non-polluting energy services is a prerequisite for achieving economic empowerment and poverty reduction. The following list is a set of co-benefits that is expected as a result of Project implementation.
138. **Economic co-benefits.** Positive effects of the development of these projects have been reflected on long-term net reductions on electricity consumer prices (relative to non-subsidized prices) and avoided costs due to a reduced dependency on fuel imports and fuel price volatility (particularly in Argentina, which has been a net importer of energy since 2011), savings in reduced infrastructure investments for energy supply, deferred investments in generation capacity and significant savings in electricity subsidies, estimated at USD 96 Million per year. Specifically, in the case of SMEs that will be financing EE investments, their competitiveness may be also positively impacted, as their operation will become more cost-efficient. Where sub-projects include trade-intensive industries, productivity gains could translate in increased inflows of foreign exchange.
139. **Environmental co-benefits.** The implementation of RE and EE projects has a range of local and regional air quality benefits, as air pollution from energy generation includes SO₂, NO_x, and Mercury (Hg), in addition to GHG emissions. Estimated annual reductions for the project are 4,752 t (SO₂), 766 t (NO_x), and 14 t (Hg).⁶⁴
140. **Social co-benefits.** Developing the industry, via the trainings and capacity building activities of this Project, would help create new sources of employment (at the preparation, development and operation stages of sub-projects) and increase the country's competitiveness in an evolving global industry. The total estimated direct and indirect beneficiaries are based on number of SMEs, as well as new jobs created. The proposal is expected to serve more than 1,200 SMEs, as well as create more than 1,950 additional green jobs: green jobs created in the biogas and biomass industry are estimated at 778 employees⁶⁵ and in the EE industry at 1,180 additional direct, indirect and induced jobs⁶⁶. An increase in fiscal revenues could also result from an increase in the volume of investments, which would translate in the use of public funds for social interest.
141. **Gender development**⁶⁷. Development of eligible sub-projects, supported by promotional activities through technical assistance, can contribute to encourage women's interest in these sectors, together with facilitating access to information and training to achieve women's technological literacy and thus, greater gender parity in the sector's workforce. Currently 17% of energy-related jobs are occupied by women. The program thus expects at least 200 additional jobs to be created for women. Energy projects that support the use of locally available sources for productive uses can also provide opportunities for women's entrepreneurship, for example, in local enterprises that

⁶⁴ [CEC 2004](#) based on numbers from Mexico.

⁶⁵ [Highlights of socio-economic impacts from biogas in 28 target regions](#) (Intelligent Energy Europe). The reference is based on European values and the mid-point between Bodenhofer H.-J., Wohlgemuth N., Bliem M., Michael A., Weyerstraß K. - Assessment of the economic impact of the support of green electricity in Austria, IHS Carinthia, 2004; updated in 2007: Employment effects of the green electricity generation in Austria and the lower bound of Danish employment in biogas. See also [IRENA](#) and EESI 2015 Fact Sheet: [Jobs in Renewable Energy and Energy Efficiency \(2015\)](#)

⁶⁶ Mid-point between [Greenpeace](#) and EESI 2014 Fact Sheet: [Jobs in Renewable Energy and Energy Efficiency \(2014\)](#) based on an assessment of the US economy.

⁶⁷ For a detailed Project Gender Action Plan, please see Annex 10 and indicators in Section H.1.

can deliver reliable energy services based on RE and EE technologies. In particular and to the extent possible, the Project will carry out:

- A sex-disaggregated baseline setting study on financial services for women-led SMEs and for the participation of women in project-specific technologies, to identify a set of adequate financial and non-financial gender-sensitive indicators and definitions to monitor women's participation in Project activities
- Awareness raising, training and capacity building campaigns that are gender-sensitive and promote the participation of women in pre-construction, construction and operation of sub-projects for different skill-levels
- Internships promoting the participation of women in participating LFIs and sub-projects, where appropriate.
- A knowledge platform module to share experiences with financing women-led projects, SMEs, and ESTPs, to encourage female participation in the sector
- Awareness raising and capacity building events will inform transparently about remuneration ranges in the sector to facilitate the achievement of equal pay
- Reports on the requirement of gender-sensitive conditions such as the presence of sanitary facilities on construction and work places
- Events organized to further the project will ensure the promotion of female participation.

E.4. Needs of the Recipient

E.4.1. Vulnerability of country and beneficiary groups (Adaptation only)

Not applicable.

E.4.2. Financial, economic, social and institutional needs

142. As described above (see Sections B.1, C.2 and C.3), multiple issues have been identified as barriers related to availability of adequate and sufficient financing in the face of the development of RE and EE projects in Argentina:
- High upfront cost of technologies and absence of adequate pricing of financial products (interest rate and tenor) to incentivize investments
 - High perceived risk of EE and RE lending due to lack of market knowledge
 - Insufficient experience and skills in originating commercially viable and bankable EE and RE projects
 - Lack of awareness among stakeholders about the benefits of these projects, in terms of energy security, environmental benefits, health and livelihoods in general
 - Lack of knowledge about how to access loan products among end borrowers
 - Limited skills and capacity to design, procure, install, operate, maintain and dispose of RE and EE technologies.
143. In order to deliver the desired products, the Project proposes activities under the two aforementioned components to address each set of barriers identified (see Table C2.1).

E.5. Country Ownership

E.5.1. Existence of a national climate strategy and coherence with existing plans and policies, including NAMAs, NAPAs and NAPs

144. The project has received the No-Objection letter of the Argentinean NDA following a thorough review by Argentinean authorities including the Ministry of Finance, MINEM, and the Ministry of Environment. The programme received the prioritization by the Chief of the Cabinet of Ministers (*Jefe de Gabinete de Ministros*) (see Annex 1) and is in line with Argentina's climate and development targets in the NDC as well as SDGs.
145. The Paris agreement and the UN's Sustainable Development Goals (SDGs) established for 2030 require a set of actions to make energy generation and consumption sustainable towards the environment and natural resources. Argentina ratified the Paris Agreement on September 21st, 2016. Moreover, as a response to the recently heightened impacts of environmental events, most countries in the LAC region are taking initiative to design policies specific to

mitigation and adaptation⁶⁸, for which priority sectors include energy, transport, agriculture, forestry and waste management.

146. The government of Argentina, via the MINEM, is giving impulse to the creation of platforms for dialogue and availability of more and better information, in order to envision a “sustainable energy sector for the future” and contribute to strengthening the state capacity to reflect this vision. Government initiatives seek to be in line with factors key to the creation of this vision, including the evolution of international energy markets, the evolution of other sectors of the economy, the dynamic nature of energy prices and advances in climate change agreements.
147. With all these activities ongoing, local public actors are more aware of the interactions between the economy, society and the environment, including the costs of socioenvironmental conflicts. Policy measures are being taken to create a more conducive environment for investments in clean energy, and there is also a wide recognition of the private sector’s important role in deploying investments to support the country’s NDC and its potential to contribute to the paradigm shift to a low-carbon economy (for examples of some specific government initiatives in the sector, see Section C.1 above). However, the sector still faces several barriers that delay an increased participation of private actors in the market, including less-developed financial markets that do not cover the financing needs of perfectly viable projects. Medium and long-term challenges are heightened by conjunctural factors such as the recent context of international recession, the impacts of which are only beginning to recede in the country.
148. Argentina has participated actively in the process of generation and development of the international climate regime, specifically with respect to the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol. In fact, the country’s capital, Buenos Aires, hosted two Conferences of the Parties, in 1998 and 2004. The country has implemented voluntary national actions in mitigation and adaptation in different sectors, including the design of a National Strategy on Climate Change and the creation of a Governmental Committee on Climate Change, for the participation of national and provincial state representatives⁶⁹.
149. In 2015, Argentina presented their NDC, which was revised in 2016. Argentina’s NDC is based on studies prepared within the framework of the Third National Communication (including an updated national GHG inventory) and a consultative process with different actors to determine the mitigation potential and adaptation measures. The country’s unconditional goal is to reduce GHG emissions by 18% in 2030 with respect to projected BAU (see Section C.1) via a set of actions to be deployed based on criteria related to their potential for reducing emissions, potential co-benefits, and the possibility of applying nationally developed technologies.
150. Lessons learnt from project implementation will inform the regulatory discussion with demonstration examples from practice for regulators. To ensure alignment and support for regulatory activities, the Project grant budget contemplates a further detailed assessment of the current regulatory situation and continuous lessons learned activities, coordinated with the Ministry of Production and MINEM and other relevant government entities to give decision tools to the regulatory discussion.

E.5.2. Capacity of accredited entities and executing entities to deliver

151. **Accredited Entity.** The IDB is the main source of multilateral financing for LAC. Since 1961, the IDB has provided almost USD 246 billion for projects aimed to reduce poverty, raise standards of living, spur economic growth, protect natural resources, foster integration and trade, and reach other agreed goals. IDB’s operations approvals in 2014 totaled USD 13.8 billion and average annual approvals have increased consistently from USD 9.8 billion in 2005–2009 to USD 12.6 billion in 2010–2014. The IDB is a global partnership of 48 member countries, in which the 26 borrowing countries of LAC hold the majority of shares. The IDB holds a credit rating of AAA/aaa. The IDB will capitalize on their strong and well-established experience with partners in the energy and financial sector. As described in section C.4, the IFD/CMF division of the IDB has a record of successful interventions and a long history of collaboration with an extensive network of NDBs.
152. **Executing Entity.** Please see Section C.4.
153. As per IDB policy, all programs require institutional capacity and fiduciary assessments of their corresponding executor for approval by the IDB Board. These assessments are carried out for new executing agencies with no previous experience with IDB programs, and also periodically for executing agencies already with a track record of

⁶⁸ Recently developed strategies have been identified in 18 countries plus CARICOM (the Caribbean community).

⁶⁹ [Argentine Republic Intended Nationally Determined Contribution \(INDC\)](#). UNFCCC 2015.

interventions, and are specially designed to determine the capacity of these institutions to deliver. BICE's more recent institutional capacity analysis has been assessed positively, has been approved by the IDB and is still in force.

E.5.3. Engagement with NDAs, civil society organizations and other relevant stakeholders

154. In December 2016, the a technical IDB mission visited Argentina, to consult with BICE and relevant Argentine authorities on the market potential for RE and EE investments, as well as to discuss their determination and potential specific roles in developing the Project as is being proposed.

Table E5.3.1.- Authorities consulted during the December 2016 mission

Institution/Entity	Name of representative
Ministry of Environment and Sustainable Development	Prem D. Zalzman
Ministry of Energy and Mining – Sub-secretariat for Renewable Energy	Sebastian Kind, Maximiliano Morrone, Mauro Soares
Ministry of Energy and Mining – Sub-secretariat for Energy Efficiency	Marco Bergel, Andrea Heins
Ministry of Agroindustry – Sub-secretariat for Added Value	Mariano Lechardoy

155. The above-mentioned technical visit also consulted with commercial banking institutions, projects developers and technology providers of RE and EE equipment, as well as industry associations and the National Commission of Securities to assess the market potential, stakeholders' interest, financing options and barriers to sub-project development (see Annex 2).

156. The ongoing dialogue with the authorities remains in line with the country's NDC investment plans, in order to identify concrete sub-projects for which funding from the Project will be best suited.

157. In the case of specific sub-projects, each developer is responsible for fulfilling all consultations with stakeholders required by local laws and regulations. When applying for funding from the Project, the recipient of the loan shall follow the requirements established by BICE in order to be in compliance with IDB policies. When required, the recipient of the loan is responsible for conducting and documenting any public consultation that is carried out with civil society and other relevant stakeholders.

158. On December 6, 2017, the Argentine NDA provided a non-objection to the Project's full proposal (see Annex 1).

159. BICE provided its co-financing commitment letter on April 7, 2017 (see Annex 4).

E.6. Efficiency and Effectiveness

E.6.1. Cost-effectiveness and efficiency

160. This proposal intends to use GCF resources to offer financial mechanisms tailored to meet the specific needs of RE and EE projects. GCF loan and grant resources will be used in the most effective way: standard financing tools (using loan resources) may be combined with non-financial instruments (developed with grant resources) to reduce perceived and real risk levels for developers, hence contributing to remove the financial barriers to investment. The effective combination of these resources will contribute to finance as many sub-projects as possible, with as much leverage as possible, depending on the specific credit risk of each borrower.

161. Through the generation of a track record and knowledge for investors, financial institutions and developers, the perceived risks will be lower and additional finance will be available to further develop the sector in the country.

162. Consistent with its principles and objectives, GCF funding will be used to mitigate risks that commercial lenders are not able to bear, providing financing at long-term maturities, currently not available in the market, and crowding-in the private sector by catalyzing investment that would not have happened otherwise. Grant resources will be concentrated on technical assistance and Project implementation support, optimizing the use of available concessional funds (see also Section D.1).

163. Section E.6.5 shows that compared to similar projects, this project has a relatively lower cost per ton of CO₂eq reduced. Indicators show an estimated cost per tCO₂eq of USD 37.95 for the total Project investment (including leveraged finance) and USD 16.8 per ton CO₂eq for GCF funding only. Lower costs for GCF resources are expected when considering the impact of the revolving account (USD 25.6 and USD 11.3 per tCO₂eq, respectively).

164. The economic and financial analysis assessed the impact of the financing line as a whole (during its estimated lifetime of 20 years). It was conducted on a per technology basis, comparing sub-project values with and without GCF support (see Annex 3 for more details).
165. The use of concessional funding is aimed at compensating for the incremental risks of this type of projects, enabling financing to reach cost levels that make sub-projects viable. By doing this, the Project seeks to give impulse to these investments without distorting the market, in order to create momentum and set the markets in motion so that they can function on their own in the medium to long term.
166. Thus, the GCF loan resources have an impact on the interest rate BICE provides to LFI, while it should be noted that final interest rates include LFI market SPREAD that would not be impacted by the GCF funds. The LFI market spread is influenced by the credit quality of the borrowing clients and based on the value that local banks charge at the moment. Furthermore, an important factor increasing the impact of GCF funding is its longer tenor that BICE would be able to provide to LFIs under the Project.⁷⁰

E.6.2. Co-financing, leveraging and mobilized long-term investments (mitigation only)

167. The Project will encourage leverage from other sources of debt and capital mainly through: (i) minimum requirement of capital in projects financed (end beneficiaries of the loan); (ii) possible caps per individual credit as established in the OR, requiring larger projects to seek alternatives to complement their financing with other sources; and (iii) the possibility to work with LFIs that may be willing to complement financing with their own resources and get more involved in financing the sector, which encourages their participation in the future.
168. Based on previous experience with similar programs implemented by the IDB in the region, GCF resources are expected to leverage funds with a ratio of 1 to 2.3 (USD2.3 leveraged per USD1 of GCF funding provided). This indicative ratio includes co-financing from BICE leveraged finance (equity) from SMEs investing in beneficiary sub-projects (see Table E6.5.1). It does not include mobilized funding as a result of the demonstration effect (investments incentivized by the Project but which do not receive funding from it), as attribution of the development of these ventures to the Project activities would not be possible to verify.

E.6.3. Financial viability

169. The Project is conceived as a flexible instrument with the general goal of promoting RE and EE investments. It is designed to provide funding on a first-come-first-served basis, based on actual demand for credit or technical assistance by specific sub-projects. For this reason, in order to present evidence of the economic and financial viability of the Project, the analysis will be based on an assumed simulated portfolio of biomass, biogas and EE sub-projects to be financed⁷¹. Section F.1 presents the methodology, assumptions, results and conclusions of this analysis. The full document of the Financial Model can be found in Annex 3.
170. Despite of the estimated significant IRR of some technologies, it is important to note that the additionality of the GCF intervention becomes evident when considering the scarcity of adequate long-term financing from other sources in Argentina. The estimated rate of return figures are based on the condition that financing is available and thus that these sub-projects are actually financed. The scarcity of long-term financial resources in Argentina due to the current structure of the financial system actually inhibits the realization of these sub-projects. As mentioned above, GCF resources will address both the lack of long-term finance at adequate conditions and the structuring of bankable projects so to enable SE projects to be realized.

⁷⁰ BICE receives GCF resources at an annual interest rate of 0.75% in USD (excluding the commitment and service fees) for 20 years. BICE funding to LFIs in USD is currently at Libor+4% for 5 years (Status August 2017). GCF concessionality has two complementary delivery channels: the interest rate and the long-term tenor. The following financing conditions will be given in Argentinean pesos. In a reference credit line, BICE provides funding to LFI at Badlar (Buenos Aires Deposits of Large Amount Rate) +2,50% points. The average LFI-to-client spread for this particular line in Argentinean pesos is 2% points, which is based on the credit risk of end-beneficiaries. This reference line uses less concessional resources than those from the GCF. These rates are indicative and dependent on the market conditions, which have improved for instance between 2015-2017. Intermediary rates are subject to BICE's board approval and will be part of the agreements set forth in the OR, subsequent to GCF Board approval. GCF concessional funding will furthermore offset the exchange rate risk.

⁷¹ For practical purposes, the analysis uses aggregated data over time, based on the construction of a portfolio of sub-projects and the characteristics of a representative beneficiary SME for each type of sub-project.

Table E.6.3.1.a - Project Financing Line Flow from GCF to SMEs through LFIs

Deal Flow	Market SPREAD	Interest rate in USD	BICE Spread	Interest rate in local currency	Risk reduction mechanism
GCF	n.a.	0.75%		-	NA
IDB	n.a.	n.a.		-	Sovereign guarantee
BICE	Libor + 4/6%	Libor + 4,5%	Badlar* Priv + 2,5/4,5%	Badlar Priv + 3%	Bank credit track record
LFI	Libor + 5/7,5%	Libor + 5,75%	Badlar Priv + 5,5/7,5%	Badlar Priv + 5,75%	Collateral
SME	n.a.	n.a.			Energy Savings insurance
Provider		(Project payment)			

Source: BICE.

Note: Numbers are for demonstrative purposes only, and will change to reflect current market conditions at the time of the Project structuring. Badlar: Buenos Aires Deposits of Large Amount Rate.

Table E.6.3.1.b - Project Financing Line Flow from GCF to SMEs

Deal Flow	Market SPREAD	Interest rate in USD	BICE Spread	Interest rate in local currency	Risk reduction mechanism
GCF	n.a.	0.75%		-	NA
IDB	n.a.	n.a.		-	Sovereign guarantee
BICE	Libor + 5/7,5%	Libor + 5,75%	Badlar Priv + 4,5/7,5%	Badlar Priv + 5,75%	Bank credit track record
SME	n.a.	n.a.		Range	Energy Savings insurance
Provider		(Project payment)			

Source: BICE.

Note: Numbers are for demonstrative purposes only, and will change to reflect current market conditions at the time of the Project structuring. Badlar: Buenos Aires Deposits of Large Amount Rate.

E.6.4. Application of best practices

171. Existing literature identifies several areas in which multilateral development banks can support countries to mitigate the barriers that still exist to the deployment of SE projects, through technical, financial, and policy support measures. Securing private sector investment via the provision of more and better access to finance is among the most important elements of this support.
172. The proposed Project combines IDB experiences of similar projects successfully implemented or ongoing in several countries across the region, in most cases working with concessional donor funding. Some of these experiences have already produced significant positive results in terms of volumes of financing approved and in terms of impact in the countries where programs have been implemented. The IDB has also gained experience in the management of external concessional financing and in the response to donors in line with their particular requirements and criteria for funding. Lessons have been learned from each and every program executed in the area of clean energy, in terms of program design and execution, as well as from relationships with member countries and their institutions. All these will be incorporated into the Project.
173. Particular lessons from other programs incorporated into the Project design are:

- i. Support the structuring of both the demand- and the supply-side of investment financing through financial and non-financial instruments;
 - ii. Address the barriers and perceived risks of all of the actors involved;
 - iii. Adapt to the local circumstances, with no silver bullet or textbook solution available;
 - iv. Blend loans, technical assistance and risk mitigation instruments to support the financial intermediation, as none of these instruments on its own is able to ensure that the supply of financing for RE and EE projects will meet its demand;
 - v. Tailor investment products and incorporate RE and EE to private sector needs;
 - vi. Build on local knowledge and on the existing financial distribution network; and
 - vii. Invest in reputation and trust building, particularly when the deployment of new technologies is sought.
174. For the EE component, the ESI model combines best practices learned from EE initiatives and projects in LAC and beyond. As shown by the in-depth analysis of the Global Innovation Lab for Climate Finance Lab (Annex 11), the ESI methodology was structured to provide an integrated package that addresses all barriers and shares the risks among the parties best able to manage those risks (see also footnote 8).

E.6.5. Key efficiency and effectiveness indicators

Estimated cost per t CO ₂ eq, defined as total investment cost / expected lifetime emission reductions	
(a) Total project financing (in millions)	USD430.6 ⁷²
(b) Requested GCF amount (in millions)	USD103
(c) Expected lifetime emission reductions overtime (millions of tCO ₂ eq)	9,1 Million tCO ₂ eq
(d) Estimated cost per tCO₂eq (d = a / c)	USD47.27 / tCO ₂ eq
(e) Estimated GCF cost per tCO₂eq removed (e = b / c)	USD11.3 / tCO ₂ eq

GCF core indicators

175. Indicators were calculated over the base of the expected number and size of sub-projects financed as a result of activities by the Project (see Section E.2). Once deployed, sub-projects financed are expected to produce or save energy (in the form of MW) in the long term. The energy produced and saved is then assumed to lead to emissions savings calculated in aggregated terms (both annually and during the lifetime of the projects), using the average displaced emissions factor for electricity in Argentina, standard load factors and savings ratios for each particular RE and EE technology⁷³. Based on estimated reductions of CO₂ emissions over the course of the lifetime of sub-projects financed, and using indicative amounts for co-financing resources for the Project, the cost of abatement is estimated considering only GCF financing, and then considering total Project investment (GCF, BICE and leveraged finance from investors).

⁷² This value includes total financing committed to the Project (GCF funding plus co-financing from BICE, the total being equivalent to USD163.85 million including BICE in-kind resources and IDB grant resources). The USD 160 Million GCF and BICE co-financing will be utilized more than once through the revolving account for an estimated total of financing of USD 298.75 plus SMEs' own capital invested in the projects financed (expected to be in the range of 20% to 30% of total sub-project cost). For the purpose of this calculation, a 30% equity share has been assumed to cater to the higher collateral needs for RE projects. Taking into account a smaller equity share 20% the indicator (d) would change marginally due to proportionality to USD 47.33/tCO₂eq (from USD 47.27/tCO₂eq), however, (e) would increase to USD 12.92/tCO₂eq (from USD 11.31/tCO₂eq). See Annex 3.

⁷³ For the purpose of calculating total GHG emissions reduced, assumed lifetime of projects is 20 years for biomass and biogas projects and 10 years for EE projects.

176. The estimated cost per tCO₂ reduced for the Project is well within values of benchmarks in the sector. As a reference, in the GCF supported EE project for BANDESAL in El Salvador⁷⁴, the calculation of a simulated portfolio resulted in the following indicators:

Total project financing	USD 51.7 Million ^[a]
Requested GCF amount	USD 21.7 Million ^[b]
Expected lifetime emission reductions overtime	562,037 tCO ₂ eq
Estimated cost per tCO₂eq (d = a / c)	USD 91.99/tCO₂eq
Estimated GCF cost per tCO₂eq removed (e = b / c)	USD 38.61/tCO₂eq

^[a] USD 51.7 Million, including USD 10 Million from private sources.

^[b] GCF resources of a total of USD 21.7 Million including a USD 1.7 Million grant.

Expected volume of finance to be leveraged by the proposed project and as a result of the Fund's financing, disaggregated by public and private sources (mitigation only)

177. The Project design seeks to combine reimbursable funding from the GCF with BICE's own resources to blend the terms of financing in order to achieve pricing and maturities that will make sub-projects viable without distorting the market. Furthermore, sub-projects financed by the Project will require a minimum amount of capital to be invested by loan recipients (SMEs investing in RE/EE technologies), which despite not being included as a co-financing commitment will indeed constitute funding leveraged directly by the Project.

Table E6.5.1.- Volume of finance by source (millions of USD)

	GCF funding	Project co-financing (BICE and IDB)	Total Project funding	Total Project funding through revolving account	Third-party finance leveraged (private) ^[a]	Total investment
Component 1: Implementation costs and technical assistance activities	3	0.85	3.85	3.85	0.0	3.85
Component 2: Financing adapted to RE and EE projects	100.0	60.0	160.0	298.75	128.04	426.79
Project total	103.0	60.85	163.85	302.6	128.04	430.64

^[a] SMEs' own capital invested in the projects financed (expected to be in the range of 20% to 30% of total project cost), albeit required for eligibility, is not committed ex ante. Hence, it does not constitute co-financing but is considered leveraged financing as it constitutes part of the investment for the sub-projects. Ensuring equity contributions from borrowers is a regular practice in the banking sector in order to assure client's financial solvency and commitment. SME will need to cover an equity portion for LFIs to feel comfortable to lend to SMEs

178. Values proposed are similar to those from previous programs implemented by the IDB in the region. The table shows co-financing amounts from BICE and IDB ("Project co-financing")⁷⁵, as well as additional third-party financing (leveraged finance in the form of equity for sub-projects financed), only in the sub-projects being financed by the Project. These figures do not include mobilized funding as a

⁷⁴ See GCF project in [El Salvador](#) (BANDESAL).

⁷⁵ Although not formally committed, more sub-projects could potentially be co-financed with additional funds from participant LFIs.

	result of the demonstration effect (investments incentivized by the Project but which do not receive funding from it), as attribution of the development of these ventures to the Project activities would not be possible to verify.
Other relevant indicators (e.g. estimated cost per co-benefit generated as a result of the project)	See Sections E.3.1 and H.1

F.1. Economic and Financial Analysis

179. The proposal is supported by a financial analysis, which quantifies ex ante the viability and potential impact of the Project, based on the analysis of the market potential included in the feasibility analysis. Estimated values for output and outcome indicators are calculated using an assumed portfolio of specific RE and EE sub-projects implemented with support from BICE using GCF funding. It is assumed that in a counterfactual scenario such RE and EE sub-projects are not deployed in the timeframe proposed by the Project. See Annex 3 for details.
180. For the financial model, the methodology is based on the analysis of a model sub-project for each of the sub-sectors identified in the feasibility analysis (namely, biogas in agriculture, pig and livestock sub-sectors, biomass and EE in industry and services), which is then multiplied by a number of expected sub-projects to be financed under each category. An internal rate of return (IRR) is calculated on the basis of a sample project's cash flow. The IRR is calculated to reflect the sample project's viability with and without financing from the Project. The higher this rate, the higher the project benefits are when compared to the cost.
181. In all cases, the assumption is that without the Project, the development of the sub-project is not possible, either because there is no enough capital available to cover for the entire investment without any financing or because financing it from existing sources becomes too expensive. The resulting "with-Project" IRR should be considered a lower-bound measure for the Project's impact in economic terms, and externalities should be accounted for in addition to this value.

Table F1.1.- Summary of financial model of the Project [with revolving account finance]⁷⁶

Technology	No. Projects targeted	Total Power capacity in MW	Total financing (M USD)	Total investment (M USD)	Without financing from Project		With financing from Project	
					IRR	Payback	IRR	Payback
Biogas								
Pig farms	449 [954]	16.6 [35.3]	34 [71.4]	48 [102]	18%	6.7	29%	5.6
Livestock (feedlot)	20 [43]	3.9 [8.3]	14 [24.5]	20 [35]	10%	11.1	16%	10
Agroindustry	168 [357]	8.4 [17.9]	29 [51.5]	42 [73.5]	12%	11.7	20%	6.3
Biomass	12 [21]	30 [52.5]	42 [73.5]	60 [105]	11%	12.7	18%	9.7
Energy efficiency	598 [1,136]		41 [77.9]	59 [111,3]	9%	11.1	15%	5.2
Total		58.9 [114]	160 [298]	229 [426.8]				

182. The proposal is supported by an economic analysis that takes into account the whole Project cash flows and the monetized benefits of the carbon reduction.
183. Environmental externalities are accounted for based on a valuation of GHG emission reductions. A monetary value of GHG emissions reduced by the projects financed is determined by the unit price of a metric ton of CO₂ in the

⁷⁶ Although these figures are proposed based on the results of the feasibility analysis, there is no information available on actual specific sub-projects until they are presented when applying to funding from the Project. Any portfolio used to build indicators before implementation of the Project is indicative and in all cases numeric values of targets should be treated with caution.

international market. This value is based on information about carbon pricing around the world (emissions trading systems, ETS, and carbon taxes), which has been substantially increasing since 2012. The existing carbon prices vary significantly—from less than USD1 per tCO₂e to USD130 per tCO₂e, with the majority of emissions (85%) priced at less than USD10 per tCO₂e. The analysis will use a unit price of USD9 per tCO₂e, conservatively and along the lines of existing or potential instruments in other emerging economies (including Korea, China, Mexico and Chile)⁷⁷. The use of this reference price is an interpretation of the evaluation exercise of the various economic, local and global, current and future costs of negative externalities associated to less clean technologies displaced. International carbon pricing provides us with a publicly available resource for monetization of this aspect of the analysis.

F.2. Technical Evaluation

184. A feasibility analysis has been carried out to develop a strategy to financially support firms in Argentina in the implementation of RE and EE solutions that contribute to reduce emissions. The feasibility analysis proposes strategies aimed at stimulating the demand for financing as well as positioning BICE as the articulating institution for these efforts in Argentina.

185. To calculate the possible scope and impact of the Project, the methodology follows an evaluation of different business opportunities identified in the Argentine market, prioritizing these based on their potential and the mandate and objective of BICE. For the lines of business with highest potential, the analysis then proposes strategies for incentivizing the demand and creating specialized financial mechanisms.

Figure F2.1.- Methodology of feasibility analysis



186. Following the results of the evaluation of technologies and sub-sectors, areas of opportunity identified with the highest value can be classified in three categories of sub-projects:

- Biogas, specifically in the pig and livestock sector (mainly “feedlot”⁷⁸) and the industrial sector (mainly food processing).
- Biomass from agricultural and forestry waste, as well as industry (mainly paper and wood).
- EE in industry and service (electric/thermal), mainly energy intensive sub-sectors such as chemical, food processing, dairy, plastic. Technologies in this category include cooling systems, pumps, cogeneration, solar heating, boilers and heat recovery.

187. The following table shows a summary of the analysis of the three abovementioned sectors, including the estimated market size of each sub-sector eligible for the uptake of the financing line. The financing line will be open to other technologies and will be demand-driven. Therefore, the table does not constitute a pre-determined allocation of

⁷⁷ In the European Union Emissions Trading System (EU ETS), which remains the single largest international carbon pricing instrument, the average price in 2014 was €6/tCO₂ (USD 7/tCO₂). As of August, 2015, this price stood at some USD9/tCO₂. For governments, carbon pricing is an instrument to achieve emissions mitigation but also a source of revenue. See [State and Trends of Carbon Pricing](#), World Bank and Ecofys, 2015.

⁷⁸ A feedlot or feed yard is a type of animal feeding operation which is used in intensive animal farming for finishing livestock, notably beef cattle, but also swine, horses, sheep, turkeys, chickens or ducks, prior to slaughter. It originates on the need for intensifying production.

funds to any particular technology Any additional technology inclusion will be governed by the ESMF and its exclusion criteria.

Table F2.1.- Priority sub-sectors identified and their potential

Technology	Sub-sector	Description	Estimated market size	Potential volume of Investment from Project
Biogas	<ul style="list-style-type: none"> ○ Pig sector ○ Livestock sector (feedlot) ○ Food processing 	<ul style="list-style-type: none"> ○ Supplying excess energy to the network ○ Self-supply 	<ul style="list-style-type: none"> ○ 2,996 pig farms (with over 50 sows) ○ 2,000 livestock farms ○ 4,200 food & beverage processing firms 	USD110 million (637 sub-projects)
Biomass	<ul style="list-style-type: none"> ○ Agricultural and forestry waste, paper and wood industry. 	<ul style="list-style-type: none"> ○ Supplying excess energy to the network ○ Self-supply 	<ul style="list-style-type: none"> ○ Small-sized (2.5MW in average) generation plants⁷⁹ 	USD60 million (12 sub-projects) ⁸⁰
EE	<ul style="list-style-type: none"> ○ Industry (chemical, food processing, dairy) 	<ul style="list-style-type: none"> ○ Solar thermal collectors ○ Cogeneration systems ○ Industrial cooling ○ Heat recovery 	<ul style="list-style-type: none"> ○ 75,000 firms (SME + large) 	USD59 million (598 sub-projects)
	<ul style="list-style-type: none"> ○ Services (hotels, hospitals) 	<ul style="list-style-type: none"> ○ Solar thermal collectors ○ Cogeneration systems ○ HVAC 		

188. **Biogas** sub-projects consist of the use of biodigesters. Gases captured from the organic waste deposited in the biodigester can be used as energy, significantly saving operational costs. A potential biogas sub-project would require a preliminary engineering study that is normally paid by the investor. This is often perceived as a risky upfront cost and generally becomes a disincentive for the development of these sub-projects. In addition, while these projects have long payback periods (ranging from 5 to over 10 years in some cases), the majority of existing local credit supply for any type of firm is currently below 5 years, with SMEs having greater difficulties in accessing any credit at all.

189. **Biomass** sub-projects refer to plants that convert biomass into energy via thermochemical processes. Biomass that can be exploited in this conversion includes dry waste from forestry activity and other related industries (wood and furniture, paper, logging). Thermochemical processes refer mainly to incineration, pyrolysis and gasification. Biomass projects are largely dependent on the availability of waste, and guaranteeing its supply in the long term is the only way to reduce perceived risks for these sub-projects. Relatively large SME producers and cooperatives are in better position to guarantee an adequate supply of the resource. In addition, distance between the resource and the plant location can be a limiting factor, as transport costs could make projects unviable. Like in the case of biogas, biomass sub-projects also require high upfront costs for engineering and feasibility studies, and the absence of adequate financing also jeopardize their development.

190. Having both biogas and biomass technologies be part of the Project is in line with government initiatives, as these are also technologies prioritized by the RenovAr program.

191. **EE** projects in industry and services consist of the replacement of obsolete and inefficient equipment for new ones that consume less energy to provide the same amount of products or services. The resulting savings from less

⁷⁹ As, biomass encompasses the largest sub-projects in size from the foreseen portfolio for the Project, and as the aim of the Project is to support smaller firms, the Project will limit eligibility of this particular technology to sub-projects with generation capacities below 5MW.

⁸⁰ Given the size of biomass investments, in comparison with the other eligible technologies, it is expected that direct financing from BICE (for sub loans larger than USD 5 million) will occur mainly in biomass sub-projects.

energy consumption and maintenance should be sufficient to payback the initial investment in a relatively short time (normally, less than 5 years). Evidently, payback and return potential will depend on the cost of energy, and the availability of financing. While the government is already making efforts to normalize energy prices, Argentina's energy costs are currently highly subsidized and way below those in the region. The current situation discourages investments in EE, even in energy-intensive industries. In addition, investors and financiers lack confidence on the performance of the projects and the real savings that could be achieved. This results in high costs of financing and in turn EE projects not being prioritized or even considered by firms.

F.3. Environmental, Social Assessment, including Gender Considerations

192. IDB Policies and management programs related to Environmental and Social Assessment, as well as gender policies are fully consistent with GCF requirements. IDB has gone through an in-depth assessment by the GCF Secretariat and the Independent Accreditation Panel and a full accreditation with no conditions has been awarded.
193. As per IDB safeguards, the Project is classified as a financial intermediary (Directive B.13 of the Environment and Safeguards Compliance Policy, OP-703). Based on the E&S due diligence conclusions and the intended use of proceeds, this operation is classified as low-risk level financial intermediation (FI-3). Sub-projects to be financed under the Project will exclude projects that (i) involve involuntary resettlement of people, (ii) have a potentially adverse impact on communities and/or indigenous people, or (iii) involve conversion or degradation of critical natural habitats or cultural sites (see Exclusion List on Appendix 1. of Annex 5). It is important to note that sub-projects eligible for financing under this Project are not greenfield projects: they are EE and RE projects to be implemented in existing industrial or agricultural facilities. Category A projects will not be eligible to the Project.
194. The Project will be managed through the implementation of an Environmental & Social management Framework (ESMF) (see Annex 5), to be fully integrated in the program OR. The ESMF integrates all applicable Argentine norms (see also Section C.6) and contains the program exclusion list and eligibility criteria, the rules, procedures and guidance for screening, evaluating and managing E&S for each type of eligible sub-project, the institutional capacity assessment and the stakeholder engagement plan including grievance mechanisms.
195. RE and EE projects deliver long term GHG emission reductions and are considered environmentally friendly, as they entail cleaner energy production and reduced consumption. However, some of the sub-projects eligible for financing can have adverse environmental or social impacts (see full description of potential E&S risks in Annex 5) that need to be assessed and managed on a project-by-project basis. In summary, along with (i) the application of an extended exclusion list and of a set of eligibility criteria, (ii) the compliance with all applicable local regulations, the subprojects will have to comply with:
 - A Program Decommissioning and Disposal protocol for EE sub-projects
 - An Agricultural Waste protocol for biomass sub-projects, to ensure that they only use agricultural waste and that they are calibrated to only run on their own waste.
196. BICE will ensure that each sub-project financed is in compliance with the ESMF. The due diligence process concluded that BICE has the institutional capacity to manage a portfolio of sub-projects with the risks levels identified (see Annex 5).

F.4. Financial Management and Procurement

197. As part of the Project and following IDB policy, IDB determines the on-lending, financial management and oversight activities and contractual responsibilities in the framework of the loan contract with the Argentinean Republic and executed by BICE. All procurement will be conducted according to IDB policy. The following procedures shall apply for Component 1: a) Individual Consultants – Human Resources procedures (AM-650), b) Non-consulting Services –Corporate Procurement Policy and procedures (GN-2303-20); and for Component 2: a) Policies for the Procurement of Goods and Works financed by the Inter-American Development Bank GN-2349-9 and b) Policies for the Selection and Contracting of Consultants financed by the Inter-American Development Bank GN-2350-9. Please also see Annex 8.
198. The approval of the Operational Regulations (OR) of the Project by BICE, following the non-objection of the Bank, will be a prerequisite for the first disbursement of the GCF's reimbursable resources. Such regulations: i) will have to be consistent with the policies and operational standards of BICE, the IDB, and the laws and financial practices of the country; (ii) will pick up the main features of the project, including the eligibility criteria for beneficiaries, types of EE investments and LFIs, conditions under which the LFIs are to provide sub-loans and ensure that financing is provided in adequate terms and conditions (medium and long term at or below market rates) to SMEs sub-projects, as well as the environmental and social safeguards that will apply for each of the technologies financed under it; (iii) set up specific fiduciary conditions and reporting of the dedicated credit line to be established, including that any loan recuperations and re-payments are to be re-used by the line finance similar EE projects; (iv) will provide that failure to comply with its provisions will prevent access to financing; and (v) will established that any change to the OR will require the non-objection of the IDB.
199. For the purposes of the execution of the project, BICE will have a list of sectors (exclusion list), previously agreed upon with the IDB and incorporated into the OR, which will not be able to gain access to finance, as well as a protocol that will have to be followed to ensure the adequate decommission and disposition of old equipment substituted with the support of the Project to avoid GHG leakages. The risk management system for environmental and social risks will be detailed in the Report for Environmental and Social Management of the project, an integral part of its OR.
200. The disbursements, reporting (including external audit reports), monitoring, and evaluation of the Project will be done in accordance to IDB Policies and Procedures, among others the IDB's Financial Management Guidelines (OP-273-6), and reflected in the Term Sheet and FAA. Given the characteristics of the operation, the IDB would make disbursements under the loan agreement according to its methods of disbursement that include: Advances of Funds, Reimbursement of Expenses and Direct Payments to third parties on behalf and at the request of BICE.
201. Also during the project disbursement period or any extensions thereof, the project's financial statements will be audited annually by an independent audit firm acceptable to the Bank to be hired and paid for by BICE, with terms of reference previously approved by the Bank. Additionally, BICE will assume the commitment to submit non-audited financial reports on the project during the Project Financial Reporting Period. Audited financial statements will not be required during the repayment of the loan.
202. To prepare its financial statements, BICE applies generally accepted accounting standards and regulations. The accounting standards used shall be internationally recognized accounting standards, and the accounting processes and systems should follow best practices of international standards. The use of appropriate accounting by executing agencies as well as their fiduciary systems are assessed before the approval of the loan. BICE will share audited accounts during the execution period and non-audited accounts after the execution period.
203. To the satisfaction of the IDB, the BICE must present reports relating to the implementation of the project each semester or other period as the IDB and the EE may agree, and they shall include as a minimum: (i) the status of the implementation of the activities of the program the compliance with the criteria of eligibility for credit and program level problems and/or execution risks identified and the measures proposed to remedy or mitigate those problems or risks; (ii) financial risk and potential non-performing loans and risk management measures undertaken in accordance, (iii) the extent that are being met environmental and social safeguards of the program; and (iv) the achievement of the indicators of product and expected results, as they materialize. These reports will provide the inputs for the Annual Performance Reports (APRs) the IDB will have to deliver for the GCF according to the AMA.
204. BICE undertakes to maintain, in terms that will be set in the Operations Regulations, an information system from which held the collection of project information, so that the IDB can implement, with its resources, an assessment of impact ex post of the same, which will assess the extent that the objectives of the project were achieved.

205. BICE and the IDB will carry out a mid-term evaluation of the project about 30 months after first disbursement or once 50% of the loan proceeds have been committed, whichever occurs first. This evaluation will assess the progress in achieving the expected results in the project's results matrix to identify any corrective action that may be required. BICE will also provide the IDB with the necessary information to make a completion report of the project 90 days after the end of the execution period or from the date of the last disbursement. Regular monitoring meetings will also be scheduled. The Monitoring and Evaluation Plan of the project, an integral part of any IDB project, will include a strategy to carry out an impact evaluation as of the last year of the project's execution period. This evaluation will be covered with part of the GCF non-reimbursable resources (see sub-activity 1.2.2, 1.2.3, and 1.2.4) which complement this proposed GCF loan.

G.1. Risk Assessment Summary

206. Among the specific factors studied in the risk profile of the Project (fiduciary, macroeconomic, regulatory, operational), the possibility of a deterioration in economic and investment conditions having a negative impact over the results of the Project is perhaps the most distinct. In broad terms, the Project team has a positive view with regard to the risks linked with public policy and regulation in Argentina in the field of energy and climate change because of the government's international commitments and the importance of the sector from an environmental but also from an economic point of view.
207. Table G1.1 summarizes the risk factors, the level of impact and the probability of occurrence. A description of these risk factors and mitigation measures is detailed in section G.2.

Table G1.1.- Project risk factors, level of impact and probability of occurrence

Risk Factor	Level of Impact	Probability of occurrence
1. Operational risk: Limited or insufficient human capacity	Medium	Medium
2. Macroeconomic and fiscal sustainability risks	High	Low
3. Persistence of high risk perceptions of RE and EE projects by SMEs, project sponsors and LFIs	High	Medium
4. Failure to create financing market for RE and EE investments	High	Low to Medium
5. Failure to achieve expected energy savings	Medium	Low to Medium
6. Failure of adoption of proposed instruments by target SMEs and LFIs	Medium	Medium to High
7. Environmental risks from improper decommissioning of obsolete EE equipment	Low	Low
8. Reduced interest and commitment by Government / BICE	Medium	Low

G.2. Risk Factors and Mitigation Measures

Selected Risk Factor 1

Description	Risk category	Level of impact	Probability of risk occurring
Operational risk: the risk of having limited or insufficient human capacity (specific technical expertise, legal or regulatory compliance capacities or a network of technology providers) to accompany the pace of development of sub-projects supported.	Technical and operational	Medium (5.1-20% of project value)	Medium
Mitigation Measure(s)			
208. Several aspects are considered for mitigation of this risk, including activities included in Component 1 of the Project, and overseeing with local relevant public and private entities that knowledge is properly transferred from third party technical expertise to develop local competences.			

Selected Risk Factor 2

Description	Risk category	Level of impact	Probability of risk occurring
Macroeconomic and fiscal sustainability risks: risk of a potential weakening of economic conditions in the future (including exchange rates, repatriation of capital flows) having a negative impact in the conditions for private investment, the demand for new credit or the credit profiles of existing projects.	Other	High (>20% of project value)	Low

Mitigation Measure(s)			
<p>209. BICE will bear potential FX risks. Several aspects are considered for mitigation of this risk, including activities included in Component 1 of the Project, and overseeing with local relevant public and private entities that knowledge is properly transferred from third party technical expertise to develop local competences. 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 executing entity, BICE. Macroeconomic conditions, ongoing implementation of related regulation and any relevant government program in place, shall be closely monitored. Furthermore, an in-depth credit analysis of the LFI and SME will be conducted, including a sectoral analysis of the SME's market and forecast, financial status, and use of the loan resources⁸¹. Where applicable, BICE will ask for an SGR (See section C.6) BICE is following the FX policy defined in the framework of its Policy and Strategy guide which is aligned with national regulation. The limits on sale and buy positions are defined in the Liquidity and Financial Resources Committee (Comité de Liquidez y Recursos) following the Central Bank regulatory framework (Banco Central de la República Argentina BCRA). The maximum buy/sale positions according to the BCRA are equal to 30% of the committed capital (responsabilidad patrimonial comprometida - RPC). BICE is considering through the Liquidity and Financial Resources Committee to cap the maximum sale exposition at 17% and for buy position a maximum of 30%. This risk is monitored and managed on a daily basis by BICE's finance department, which is in turn supervised monthly by the internal risk department. As borrower, the Republic of Argentina will be directly responsible for all the financial obligations established in the loan agreement to be entered into with IDB and funded with GCF Proceeds. The sovereign guarantee of the loan contract consists of the responsibility of the government in its capacity as borrower.</p>			
Selected Risk Factor 3			
Description	Risk category	Level of impact	Probability of risk occurring
Persistence of high risk perceptions of RE and EE projects by target SMEs and LFIs is a critical challenge to RE/EE investments and its occurrence has been analyzed both for developing and developed countries.	Technical and operational	High (>20% of project value)	Medium
Mitigation Measure(s)			
<p>210. The proposed Project methodology plans to address this risk through different mechanisms:</p> <ul style="list-style-type: none"> i. Capacity building and awareness enhancement. To increase the capacity of potential SMEs and LFIs to assess actual credit risks associated with the financing of RE and EE technologies under the Project's mechanisms, thus further reducing perceived risks of loan underperformance; ii. Technical due diligence, by a third party independent validator to assess sub-project feasibility, structuring and engineering, and energy saving for EE sub-projects; iii. Shared insurance mechanisms. In addition, economic conditions in the short to medium term, in particular those resulting from incremental prices of non-sustainable biomass, uncertain supply and increasing transport costs will induce increasing interest in EE efficiency investments. 			

⁸¹ LFIs will be institutions of the pool of BICE-accredited LFIs. Accreditation is based on financial audited data and LFI reports and risk qualification utilizing metrics on efficiency, liquidity, capitalization, assets, profitability, governance and shareholder structure following the regulation by the Central Bank. Participating LFIs will be required to provide feedback on Project instruments to ensure their viability. Lending conditions including interest rate and tenor by LFIs will be monitored and reported (see Sections D.1 and D.2).

Selected Risk Factor 4			
Description	Risk category	Level of impact	Probability of risk occurring
There is a risk that the project does not create a financing market for RE and EE investments and the interest of financial institutions remains dependent on the provision of credit lines supported by concessional financing.	Technical and operational	High (>20% of project value)	Medium
Mitigation Measure(s)			
<p>211. The proposed Project methodology plans to address this risk through different mechanisms which include capacity building and demonstration projects:</p> <ul style="list-style-type: none"> Initial support to kick-off the market will be provided through the Project. Seed finance for a number of sub-projects, once the financing strategy has been deployed by BICE, will support demonstration of the viability of the concept. LFIs gain experience with RE and EE investments using loan resources and risk-sharing mechanisms, which let them experience the actual risks of these investments. The key barrier to RE and EE investment is not the interest rate but the tenor. Together these activities mitigate the residual risk to low. 			
Selected Risk Factor 5			
Description	Risk category	Level of impact	Probability of risk occurring
There is a potential risk in that the EE investment projects to be developed under this Project will not achieve the expected energy savings and/or that these energy savings will not occur in the expected time frame.	Technical and operational	Medium (5.1-20% of project value)	Medium
Mitigation Measure(s)			
212. This risk is being addressed through different means. Risk will be transferred to sub-project developers and, if the expected energy savings are not achieved due to equipment failure, the guarantee/surety bonds furnished by the ESTPs should provide risk protection for end users, SMEs and/or lenders.			
Selected Risk Factor 6			
Description	Risk category	Level of impact	Probability of risk occurring
There are risks related to the up-take/lower than expected momentum of the proposed instruments by Argentina's SME target firms and financial institutions.	Technical and operational	Medium (5.1-20% of project value)	High
Mitigation Measure(s)			
213. In the framework of the feasibility analysis of the barriers to investment, consultations were undertaken with key market actors to confirm interest in RE and EE and the conditions for investment. Furthermore, in the framework of the proposed Project, each mechanism will be discussed and socialized with the relevant actors so as to receive and integrate feedback during the structuring and implementation of the financial strategy. These different interactive phases serve to increase the interest of market actors. In addition, the intervention is designed to minimize transaction costs to SMEs, ESTPs and LFIs of entering and participating in the Project. This is achieved by standardizing and simplifying documentation and procedures.			

Selected Risk Factor 7			
Description	Risk category	Level of impact	Probability of risk occurring
If not properly decommissioned and disposed, the replaced equipment could lead to GHG leakages (re-utilization) and/or soil contamination.	Social and environmental	Low (<5% of project value)	Low
Mitigation Measure(s)			
214. BICE, with support from IDB, will design and implement a Decommissioning and Disposal Protocol, based on the existing local regulations and compliant with IDB safeguards. The Project stipulates that old replaced equipment should be properly decommissioned and disposed of to avoid GHG emissions leakages and any potential contamination. Replaced equipment will have to be handled in a technically appropriate manner to ensure that its final disposal is undertaken in accordance with all relevant national regulations and with the assistance of national licensed or certified waste management service provider.			
Other Potential Risks in the Horizon			
215. Other potential risk that may arise during the life of the project is that the interest and commitment of the Argentinean government or BICE could be reduced as a result of changing policy priorities and/or economic conditions. The level of impact of this risk is medium and its probability of occurrence is low. This risk is to be mitigated through the continuous and constructive engagement with government authorities, as well as by the commitments resulting from international agreements.			

H.1. Logic Framework.

H.1.1. Paradigm Shift Objectives and Impacts at the Fund level⁸²

Paradigm shift objectives	
<i>Shift to low-emission sustainable development pathways</i>	216. The Project is expected to shift the current paradigm by altering the risk perceptions of the local financing sector and target SMEs for SE investments, developing an enabling environment for investors through standardization, providing a track record of profitable and sustainable business in the energy services market, and thereby supporting an evolving SE market. By disbursing funds applying the mechanisms described in Section B.1. the Project aims to build a track record of profitable business in the selected technologies with a demonstrative effect expected to lead to a paradigm shift in the SE financing market in Argentina. Such market proving of the ESI concept and structured mechanisms for RE sub-projects through the proposed Project is crucial to achieving a paradigm shift given the lessons learnt from existing RP and EE financing initiatives. Achieving such a paradigm shift would reduce national energy related emissions in Argentina by 9.1 million tCO ₂ eq over the project's lifetime. Furthermore, the Project's impact includes improved working conditions and opportunities for both men and women in the biomass, biogas and EE industries, as well as improved access to finance for women-led/owned SMEs investing in biomass, biogas and EE ⁸³ .

⁸² Information on the Fund's expected results and indicators can be found in its Performance Measurement Frameworks available at the following link (Please note that some indicators are under refinement): http://www.gcfund.org/fileadmin/00_customer/documents/Operations/5.3_Initial_PMF.pdf

⁸³ For the sake of flexibility, and following standard IDB practice in similar previous successful programs, the amounts of Project funding to be used in each of the eligible technologies will not be predetermined. As a result, there is a possibility that resources may end up concentrating in one particular technology, either RE or EE. The concept of paradigm shift is

Expected Result	Indicator	Means of Verification (MoV)	Base-line	Target		Assumptions
				Mid-term (if applicable)	Final	
Fund-level impacts						
<i>M1.0 Reduced emissions through increased low-emission energy access and power generation</i>	M1.1 Tons of carbon dioxide equivalent (tCO ₂ eq) reduced or avoided power generation	IDB Project report based on registry created by sub-activity 1.2.3. Aggregate value of sector-specific tCO ₂ eq reduction indicators. Intended to be estimated from projections over lifetime period of sub-projects		565,134 (Year 2021)	9,110,338 (Year 2038)	National grid emission factor: Full disbursement of financing line. Mitigation of Risk factors 3, 4, and 6 and risk mitigation strategies in section G.2.
<i>M3.0 Reduced emissions from buildings, cities, industries and appliances</i>	M3.1 Tons of carbon dioxide equivalent (tCO ₂ eq) reduced or avoided – buildings, cities, industries, and appliances	IDB Project report Same as above		28,843 (Year 2021)	269,203 (Year 2038)	National grid emission factor: Full disbursement of financing line. Mitigation of risk factors 3-6 and risk mitigation strategies in section G.2.

H.1.2. Outcomes, Outputs, Activities and Inputs at Project level

Expected Result	Indicator	Means of Verification (MoV)	Baseline	Target		Assumptions
				Mid-term	Final	
Project outcomes	Outcomes that contribute to Fund-level impacts					
M6.0 Increased number of small, medium and large low-emission power suppliers	M6.1 Proportion of low-emission power supply in a jurisdiction or market	MINEM and CAMMESA annual reports	2.2% ⁸⁴	NA	8% ⁸⁵ (Year 2025)	Financial closing and construction for projects awarded in Ronda 1 of RenovAr program occur within timelines established.

being addressed for SE markets as a whole, and does not depend on the number of sub-projects financed but on the capacity to demonstrate the viability of these investments and the ways in which they can be financed. This is deemed reasonable due to the fact that barriers to financing RE and EE projects are very similar from the perspective of lenders and investors, although activities associated to the Project are expected to promote participation of smaller firms. The shift in perceptions, either via RE or EE sub-projects, is expected to have an impact among actors across the SE sector.

⁸⁴ Share of RE sources in national demand in the wholesale power market, as of October, 2016. Per Law 27.191's definition, RE includes power generated from all non-conventional RE sources, including hydro up to 50 MW.

⁸⁵ Based on national targets by 2018. It is expected that the share by the end of the Project implementation will be at least in levels equivalent to the 2018 national target. http://www.cac.com.ar/data/documentos/19_Ley%2027%20191.pdf

						While the project contributes to this outcome, the achievement of this outcome cannot be controlled by the project as the replication of the mechanisms and the participation of LFI and SMEs is necessary for its achievement. The risk mitigation measures mentioned in section G will mitigate this risk
M6.0 Increased number of small, medium and large low-emission power suppliers	M6.3 MWs of low-emission energy capacity installed, generated and/or rehabilitated	IDB Project report	709 MW, all RE (17MW in biogas and biomass not reported) ⁸⁶	768 MW (Year 2023)	823 MW (Year 2038)	Assumed portfolio of sub-projects includes: Biogas projects, specifically in the pig and livestock sector (mainly “feedlot”) and the industrial sector (mainly food processing); and Biomass from agricultural and forestry waste, as well as industry (mainly paper and wood).
RE generation financed and installed with GCF support	Annual GWh of energy produced from RE sources by sub-projects financed	IDB Project report	0	917.2 During the execution period	8,842	Assumed production factor for biogas and biomass: 0.8 (0.85 for livestock sector) While the project contributes to this outcome, the achievement of this outcome cannot be controlled by the project as the adoption of the mechanisms by LFI and SMEs (Risk factor 6 in Section G.1) is necessary for its achievement. The risk mitigation measures mentioned in section G.2 will mitigate this risk

⁸⁶ Informe mensual 2017, MINEM, February 2017.

Energy saved by sub-projects financed and installed with GCF support	Annual GWh of energy saved from EE technologies implemented in sub-projects financed	IDB Project report	0	40.95 During the execution period	229.4	Assumed savings factor per technology considered: engines: 0.05, preheating: 0.6, boilers: 0.06, cooling systems: 0.27, A/C: 0.2, cogeneration: 0.35 While the project contributes to this outcome, the achievement of this outcome cannot be controlled by the project as the replication of the mechanisms and the participation of LFIs and SMEs is necessary for its achievement. The risk mitigation measures mentioned in section G.2 will mitigate this risk
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Project component	Outputs that contribute to outcomes					
Component 1. Implementation costs and technical assistance activities	Number of targeted technical assistance studies/reports completed	IDB Project report	0	3 (Year 2021) Including 1 gender baseline study (see paragraph 222)	15 (Year 2023)	Including gender baseline study
	Number of training sessions completed	IDB Project report	0	15 (Year 2021) 100 participants At least 20% of women trained	25 (Year 2023) 175 participants	Including training sessions and national At least 20% of women trained (see paragraph 222)
	Number of events/publications completed	IDB Project report	0	3 (Year 2021) Total of 500 attendees % of women at	6 (Year 2023) Total of 800 attendees	

				<p>least 20% (see paragraph 222)</p> <p>1 knowledge platform module to encourage female participation in the sector (see paragraph 222)</p>	<p>% of women at least 20% (see paragraph 222)</p>	
<p>Component 2. Financing adapted to RE and EE projects</p>	<p>Estimated number of RE sub-projects financed</p>	<p>IDB Project report</p>	<p>0</p>	<p>649 (Year 2023)</p> <p>During the execution period</p> <p>At least 20% of women-led or owned projects</p>	<p>1,375 (Year 2038)</p>	<p>Assumed portfolio of sub-projects includes:</p> <p>Biogas projects, specifically in the pig and livestock sector (mainly “feedlot”) and the industrial sector (mainly food processing); and</p> <p>Biomass from agricultural and forestry waste, as well as industry (mainly paper and wood).</p> <p>See also risk factor 3&4 in Section G.1 and risk mitigation measures in Section G.2.</p> <p>At least 20% of women-led or owned projects</p>
	<p>Estimated number of EE sub-projects financed</p>	<p>IDB Project report</p>	<p>0</p>	<p>598 (Year 2023)</p> <p>During the execution period</p> <p>At least 20% of women-led or</p>	<p>1,136 (Year 2038)</p>	<p>Assumed portfolio of sub-projects includes:</p> <p>EE in industry and service (electric/thermal), mainly energy intensive sub-sectors such as chemical, food processing, dairy, plastic. Technologies in this category include, and are not</p>

				owned projects		<p>limited to, cooling systems, pumps, cogeneration, solar heating, boilers and heat recovery.</p> <p>See also risk factor 3&4 in Section G.1 and risk mitigation measures in Section G.2.</p> <p>At least 20% of women-led or owned projects</p>
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Table H1.2.1.- Project inputs by components, activities and sub-activities

Components	Activities	Sub-activities	Inputs
Component 1: Implementation costs and technical assistance activities	1.1 Develop financial and non-financial instruments, including standard performance contract, insurance policy covering energy savings and validation methodologies to account energy savings and generation	1.1.1 Development of market assessment and gender baseline studies.	Technical consultants
		1.1.2 Development of a standard performance contract.	Legal and technical consultants
		1.1.3 Develop a procedure/methodology to facilitate the SMEs to participate in the renovAR program	Legal consultant
		1.1.4 Develop standards and technical validation methodologies for projects and project developers.	Technical consultants / Firm
		1.1.5 Development of financing structuring and risk mitigation instruments (ESI for EE) and project incentive strategy.	Technical consultants
		1.1.6 Development and implementation of a Promotion and Execution Plan for the Project.	Technical consultants
		1.1.7 Development of a Project Pipeline.	Technical consultants
		1.1.8 Strengthen regulatory framework (lessons learned, good practices and discussing with public authorities on barriers and potential solutions to the current regulation)	Technical / Legal consultants
	1.2 Strengthen capacity of BICE, LFIs, ESTPs, project developers and validators for SE project development. Seed incentives and Knowledge sharing	1.2.1. Training of project developers/technology solution providers/LFIs/Validators/SMEs (at least 20% women) about Program mechanisms	Technical consultants
		1.2.2 Establishment at BICE of a business unit dedicated for SE financing.	Technical consultants
		1.2.3 Establishment of electronic registry system for monitoring and evaluation of projects and program's results.	Technical consultants / Firm
		1.2.4 Seed incentives for projects (initial project design costs, project validation cost)	Technical consultants
		1.2.5 Management and monitoring of the Project.	Technical consultants

		1.2.6 Development of six (6) products/publications, knowledge sharing events, country market reports published, and webinars	Knowledge consultants
Component 2: Financing adapted to RE and EE projects	2.1 Increase medium and long-term credit provided to SMEs for biomass, biogas, and EE sub-projects.		Credit line

217. In relation to the outputs and outcomes proposed for the Project, the following indicators have been designed in order to monitor gender-related activities (see Annex 10). As these are co-benefits, these are presented separately and do not constitute a commitment for the achievement of Project objective. Where possible, beneficiary SMEs and ESTPs will provide information as an input for the following sex-disaggregated indicators:

- (i) % of companies considered for GCF financing that receive information about the gender activities (internships, capacity building, working experience), targeting 100% of beneficiary SMEs by 2020
- (ii) % of beneficiary firms that contractually agree and plan for implementation of at least one gender activity, targeting 30% of beneficiary SMEs by 2020
- (iii) % of companies that initiate implementation of agreed activities in (ii), targeting 40% of beneficiary SMEs by 2020
- (iv) One knowledge platform module to share experiences with financing women-led projects, SMEs, and technology providers to encourage female participation in the sector.

H.2. Arrangements for Monitoring, Reporting and Evaluation

218. The Project will apply the standard procedures established by the IDB for monitoring and evaluation of investment operations. Based on the proposed results and a monitoring and evaluation plan to be agreed between the IDB and BICE, and following the AMA, the evolution of indicators should be reported periodically during Project execution. In coordination with the IDB, BICE will compile and maintain all information, indicators and parameters necessary for the preparation of Project reports, including annual plans, midterm review and final evaluation, and any ex-post supervision the IDB or the GCF may wish to conduct.
219. It is the responsibility of BICE to ensure that the sub-borrower is eligible for funding from the Project in accordance with the Project's eligibility criteria, as defined in the OR. Monitoring of disbursements for eligible expenditures will be held by the IDB ex- post. In coordination with BICE, the IDB may schedule supervision visits to sub borrowers to monitor and verify the proper use of resources and compliance with contractual conditions of the Project with regards to the use of funds.
220. Operations approved by BICE and presented to the IDB to be part of the Project must be properly identified in BICE's accounting systems and be in compliance with what is stated in the specific loan agreements. These records should allow for identifying financial conditions of each transaction (e.g. currency, maturity, interest rates), the value of the contract, loan proceeds and eventual use of proceeds for monitoring purposes, program funds balances and default rates, if necessary.
221. For the management of Project resources, the Bank and BICE will agree on a specific bank account to be set up or designated by BICE for the transfer of IDB-GCF funds following requests for disbursements.
222. The monitoring process intends to follow up the execution of the Project in order to identify the intermediate milestones achieved in each phase and evaluate its outcomes and fulfillment of proposed targets. The indicators to be monitored will be those included in sections H.1.1 and H.1.2, above. IDB's own policies for monitoring of programs include mandatory instruments such as the Results Matrix (to be agreed between IDB and the executing agency and is required for approval of the program by the IDB Board) and a Progress Monitoring Report (PMR) that accompanies the execution of each IDB investment loan intervention.
223. BICE will collect the necessary data for monitoring and present annual reports to the IDB. In some cases, the IDB will make calculations required for some indicators, based on the information provided by BICE in the annual reports. BICE's own information systems are considered sufficient and appropriate for monitoring the proposed indicators.

Secondary sources of information (especially international and government agencies publications) are also acceptable for contributions and/or complementing of information, as per description of indicators. BICE will deliver these annual reports within sixty (60) calendar days after the end of each year of Project's implementation. The reports will include information regarding the evolution of the indicators, as well as financial information regarding the use of the resources. The IDB will be entitled to request additional information, if necessary. In addition to the annual reports and the scheduled activities for monitoring of the operations described above, BICE and the IDB will conduct a midterm evaluation within twenty-four (24) months from the effective date of the loan contract or when 50% of Project resources have been disbursed – whichever occurs first. Finally, BICE will present a final report to the IDB up to six (6) months after the day of the last disbursement. This report shall contain all relevant information to assess if objectives of the Project and targets for each indicator have been met. Based on this report and as per normal practice, the IDB will also prepare a Project Completion Report (PCR), which evaluates the fulfillment of targets, reviews the overall results of the operation and describes lessons learned, among other relevant aspects.

224. The evaluation proposed will follow an ex-post economic analysis, based on the data collected for a set of indicators detailed in sections H.1.1 and H.1.2.
225. Due to the long-term nature of the sub-projects to be financed, real data available by the end of the execution period will not be sufficient to run the ex-post economic analysis without relying partially on certain projections. The evaluation exercise will be made at the time of program completion, time at which data collected will be used to adjust projections on the expected results. After that and if necessary, arrangements will need to be made for a discussion on an optimal timeframe for further actual data collection during the expected lifetime of the sub-projects financed.
226. Since the ex-post evaluation aims to replicate the ex-ante economic analysis, replacing the assumptions or estimated values with values effectively verified, information to be gathered shall be equivalent to that used in the economic analysis presented with the proposal to the IDB Board. As a reference, some of the information to be obtained on sub-projects once these are known to be participant in the Project, includes: number of sub-projects under each category, contracted price of energy (income), installed capacity, operating capacity, production/efficiency factors, time of start of operations, investment costs, O&M costs, emission factor, etc.
227. It will be the responsibility of the IDB to supervise the execution of the Project evaluation from the data collected in accordance with the plan proposed.

I. Supporting Documents for Funding Proposal

- ☒ NDA No-objection Letter (Annex 1 dated 6 December 2017)
- ☒ Feasibility Study (Annex 2)
- ☒ Economic and financial model with sensitivity analysis (xls format) (Annex 3)
- ☒ BICE co-financing commitment (If applicable) (Annex 4)
- ☒ Environmental and Social Management Framework (Annex 5)
- ☒ Map indicating the location of the project/ (Annex 6)
- ☒ Project implementation timeline (Annex 7)
- ☒ 18-month Procurement Plan (Annex 8)
- ☒ Detailed Budget (Annex 9)
- ☒ Gender Analysis and Action Plan (Annex 10)
- ☒ Micale, Stadelmann, Boni (2015). *Energy Savings Insurance: Pilot Progress, Lessons Learned, and Replication Plan*, Global Innovation Lab for Climate Finance Lab, April 2015 (Annex 11)
- ☒ Energy Efficiency Project Evaluation and Implementation Flow (Annex 12)
- ☒ Argentine regulatory framework and initiatives for Energy Efficiency (Annex 13)