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ARGENTINA

**Promoting risk mitigation instruments and finance for renewable energy and energy efficiency investments**

**(AR-L1280)**

**Monitoring and Evaluation Plan**

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1. Introduction
   * + 1. A. General Framework
   1. The “Promoting risk mitigation instruments and finance for renewable energy and energy efficiency investments” project intends to address the absence of adequate financing for Small and Medium Enterprises (SME) in Argentina, where a significant potential for Renewable Energy (RE) and Energy Efficiency (EE) investments has been identified (for a detailed project context description and a diagnosis of the problems identified, please refer to Section I of the Proposal for Operation Development (POD).
   2. There is an intrinsic link between the level of investments in RE and EE and the availability of financing. SMEs in less developed economies are largely dependent on external financing to realize new projects; in turn, external financing in these countries relies on the banking sector, as stock markets and venture capitalism are not well enough established to provide funding. However, the underdevelopment of the banking sector, in addition to problems specific to RE and EE, such as high up-front costs and long lead times, hamper the emergence of RE and EE innovations. These arguments have been supported by empirical data; for example, a study conducted on finance for RE[[1]](#footnote-1) is conclusive in that financial intermediation has a significant positive effect on the amount of RE produced, and the impact is especially large when considering non-hydropower RE such as wind, solar, geothermal and biomass. The same could be expected from EE, as these technologies share with RE the same characteristics in terms of financial needs, especially in emerging economies.
   3. The general objective of the project is to promote the efficiency in the production and use of energy in Argentina. The specific objectives are: (i) increase SME investments in RE and EE, by providing access to medium and long-term finance; and (ii) contribute to the reduction of Greenhouse Gas (GHG) emissions.
   4. The proposed project consists of a single component in the form of a global credit operation to be executed by *Banco de Inversion y Comercio Exterior* (BICE), Argentina’s national development bank. Green Climate Fund (GCF)[[2]](#footnote-2) concessional resources will be channeled by IDB through BICE, and blended with BICE’s own resources to provide long-term financing for RE and EE projects by SMEs.[[3]](#footnote-3) Financing may be delivered through first-tier financial institutions (FI) regulated by the Central Bank or directly to projects by BICE.[[4]](#footnote-4)
   5. The eligibility criteria for beneficiary projects will be described in detail in the Operational Regulations (OR),[[5]](#footnote-5) including the legal, financial, environmental, social and technical requirements for each individual project to be eligible, following local legislation and IDB standards.[[6]](#footnote-6) All guidelines included in this OR shall be consistent with BICE’s and IDB’s operational policies and procedures.
   6. The inclusion of local financial actors into the design of this project aims to capitalize from their knowledge of the local business, promote their participation and familiarize them with investments of this kind. Over time, the project is expected to have an important transformational impact as it is expected that FIs will be encouraged to further support RE and EE investments, once demonstration of its viability and profitability (track record) has occurred.
   7. A complementary technical cooperation (TC) project (AR-T1213), to be approved separately) includes activities to address other issues related to the lack of knowledge and market structure aspects obstructing the development of RE and EE, including: (i) insufficient information, risk assessment skills, and track record for these projects within the investor community; (ii) inexistence of network effects (investors, investment opportunities, established range of energy service and technology providers, ESTPs) found in established markets; and (iii) lack of familiarity with and skills related to project-finance structures. Activities under this TC will support the structuring of various mechanisms that will complement the provision of loans and improve capacities of participating actors.[[7]](#footnote-7) The implementation of these activities is considered essential to reduce adversity to RE and EE and have positive spillover effects to other clean energy projects and other local FIs.
   8. The end borrowers and intended beneficiaries of the project will be SMEs investing on RE (primarily biogas and biomass) and EE projects.[[8]](#footnote-8) 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.
      * 1. B. Scheme for Implementation and Monitoring
   9. The borrower and executing agency for the project will be BICE, with the Republic of Argentina as guarantor of monetary obligations under the loan. BICE focuses mainly on promoting investments and foreign trade through export and import financing, 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 *Fondo para el Desarrollo de las Energías Renovables* (FODER) 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.
   10. BICE will execute the project within the framework of its current organizational structure. The provisions governing the execution of the project as well as the participation of financial intermediaries and the eligibility of individual loans, will be established in the project’s OR (see ¶1.5), to be agreed between the IDB and BICE, in accordance with both institutions rules and policies and with Argentina’s financial norms and regulations. The OR provides the guiding principles and requirements for the use of project funds, including: (i) technical, regulatory and financial criteria for accessing the sub loans; (ii) disbursement mechanisms; (iii) eligibility criteria for participating financial intermediaries; and (iv) monitoring and evaluation requirements. An agreement between BICE and each eligible sub borrower will provide the precise terms and conditions (i.e. maturity, rates and costs) of the financing, which will be established on a project-by-project basis.
   11. The project will be executed under a sole component, using US$100 million from the GCF and co-financed with an additional US$60 million from BICE, for a total project funding of US$160 million. Table 1.1 indicates outputs and corresponding costs for the project.

**Table 1.1.- Costs of the project by expected output**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Output/Costs | Y1 | Y2 | Y3 | Y4 | Y5 | Total |
| 1. Installed RE generation capacity financed by the project (MW) | 0 | 4 | 8 | 10 | 12 | **34** |
| Costs Output 1 (USD million) | 14.1 | 28.2 | 35.2 | 42.2 | 0.3 | **120** |
| 2. Credit line used in EE projects financed (US$ million) | 1.4 | 2.8 | 8.1 | 11.9 | 15.8 | **40** |
| Costs Output 2 (USD million) | 1.4 | 2.8 | 8.1 | 11.9 | 15.8 | **40** |
| Total Project Financing | **15.5** | **31.0** | **43.3** | **54.1** | **16.1** | **160** |

* 1. The project will apply the standard procedures established by the IDB for monitoring and evaluation of investment operations.
  2. It is the responsibility of BICE to ensure that all end borrowers are 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 end 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.
  3. 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, project funds balances and default rates, if necessary.
  4. For the management of project resources, a dedicated account will be set up or designated by BICE for the transfer of IDB-GCF funds following requests for disbursements.
  5. During the disbursement period and within 180 days following the end of BICE’s fiscal year, IDB will need to submit audited financial statements of the project to the GCF, duly performed by an independent auditing firm acceptable to the IDB. BICE will provide the IDB with the audited financial statements prior to that deadline, within 120 days following the end of BICE’s fiscal year. A final audit will be submitted within 120 days following expiration of the disbursement period or the date of last disbursement by the IDB to the GCF. BICE’s audited financial statements are posted on its website (see [*Memoria y Balance*](https://www.bice.com.ar/es/memoria-y-balance/)); thus, their formal submission will only be required if they are not made public after 180 days from the beginning of a given year.
  6. Also, unaudited Financial Reports for the IDB to report to GCF, based on existing financial information concerning the service of the loan agreement, including confirmation from BICE to the GCF, that: (i) appropriate concessionality is applied to the LFIs and SMEs, (ii) a ratio of 1:1 of loan financing from GCF and BICE for the portfolio of Sub-Loans is maintained, and (iii) the use of resources available in the Revolving Account is in compliance with the OR. The first unaudited Financial Reports will be prepared within six (6) months after the end of the year in which the first repayment of principal was made. Second and subsequent Annual Unaudited Financial Reports from the IDB to GCF, will be prepared annually, not later than June 30 of each calendar year. The end of Project Unaudited Financial Reporting Period will be twenty (20) years as of the effectiveness of the loan agreement.

1. Monitoring
   * + 1. A. Indicators
     1. Based on the proposed monitoring and evaluation plan, and following the Accreditation Master Agreement (AMA) between the IDB and the GCF, the evolution of pre-established indicators shall be reported periodically during project execution.
     2. The monitoring plan intends to provide the guidelines for following up the execution of the project, with aims to evaluating periodical milestones achieved (fulfillment of proposed outcomes and targets) and identifying corrective action (if necessary). The indicators to be monitored are included in the Results Matrix and, subsequently as implementation of the project advances, will be integrated in the Progress Monitoring Report (PMR). Table 2.1 presents a list of these indicators, including a brief description, the source of verification and the frequency of collection and reporting process (for annual target values for these indicators throughout the execution period, please refer to the [Results Matrix](https://idbg.sharepoint.com/teams/EZ-AR-LON/AR-L1280/_layouts/15/DocIdRedir.aspx?ID=EZSHARE-972212929-18)).

**Table 2.1: Indicators for Monitoring**

| **Indicator** | Unit | Frequency of measurement | Description / Source of verification |
| --- | --- | --- | --- |
| Installed RE generation capacity financed by the project. | MW | Annually and Final Project Report | Measures installed capacity that becomes operational each year.  Source: Annual report on project execution by BICE. |
| Credit line used in EE projects. | Millions of US$ | Annually and Final Project Report | Measures the annual usage of the credit line for EE projects, as established by the project.  Source: Annual report on project execution by BICE. |
| Financing from third parties mobilized by the project  - Financing from third parties mobilized by RE projects financed  - Financing from third parties mobilized by EE projects financed | Millions of US$ | Annually and Final Project Report | Includes all sources of financing (debt or equity) other than the IDB and *Banco de Inversion y Comercio* (BICE) own resources. Target estimate based on the average total investment required per project and an average 70/30 debt to equity ratio observed in similar projects. Real values will be monitored and validated with information provided by AFD in periodical reports, which will include detail on sources of financing per individual project.  *Total investment = US$160 million from the project + equity + other sources*  **Source:** Annual report on project execution by BICE. |
| EE projects financed by the project. | Number | Annually and Final Project Report | Measures number of EE projects implemented and in operation.  Source: Annual report on project execution by BICE. |
| Annual electricity generation from RE sources by projects financed by the project (accumulated) | GWh | Annually and Final Project Report | Indicator can be estimated based on an average production factor for RE technologies expected to be financed, namely biogas and biomass.  *Electricity prod (GWh) = Installed capacity (GW) x 24 x 365 x production factor*  The indicator must show the accumulated value for each year.  **Source:** Annual report on project execution by BICE.[[9]](#footnote-9) Can be validated with information from national utility. |
| Average annual energy savings from energy efficiency (EE) projects financed by the project (accumulated)  - Average annual energy savings from electricity-sourced EE projects financed  - Average annual energy savings from fuel-sourced EE projects financed | MWh | Annually and Final Project Report | Indicator can be estimated based on an average consumption of firms and savings ratios of EE technologies installed. Savings for fuel-sourced systems are estimated by converting Gal to MWh.  *Energy savings = Baseline energy consumption (MWh or Gal) x % savings produced by system installed*  The indicator must show the accumulated value for each year.  **Source:** Annual report on project execution by BICE.[[10]](#footnote-10) |
| Greenhouse Gas (GHG) emissions annual reduction, from projects financed by the project  - GHG emissions annual reduction from RE projects financed  - GHG emissions annual reduction from EE projects financed | tCO2e | Annually and Final Project Report | Indicator is based on the CO2e emissions displaced by RE power generation added by the project and the energy savings (electricity and fuel) from EE projects financed. Final target was estimated based on envisaged RE production and EE savings, using a country specific conversion factor for electricity and fossil fuels (0.535 tCO2/MWh and 0.015 tCO2/Gal).  **Source:** Annual report on project execution by BICE and conversion factor specific to Argentina (included in periodical publications of CAMMESA). |

* + 1. RE and EE projects deliver long term GHG emission reductions and are considered environmentally friendly, as they entail cleaner energy production and reduced consumption. While environmental and social (E&S) risks associated to the projects under this project are expected to be low, some projects eligible for financing can have E&S impacts that need to be assessed and managed on a project-by-project basis. The E&S element of all projects shall be monitored following the guidelines established in the [Environmental and Social Management Report (ESMR)](https://idbg.sharepoint.com/teams/EZ-AR-LON/AR-L1280/_layouts/15/DocIdRedir.aspx?ID=EZSHARE-972212929-5), agreed between the IDB and BICE, to be fully integrated in the project’s OR. The ESMF integrates all applicable Argentine norms and contains: (i) the exclusion list and eligibility criteria for the project; (ii) rules, procedures and guidance for screening, evaluating and managing E&S for each type of eligible sub project; (iii) an institutional capacity assessment; and (iv) a stakeholder engagement plan, including grievance mechanisms.
    2. BICE will be responsible for establishing all interagency arrangements needed to properly implement the ESMF and will ensure that projects financed are in compliance with the ESMF. The due diligence process concluded that BICE has the institutional capacity to manage a portfolio of projects with the risks levels identified.
       1. B. Data collection and Instruments
    3. In coordination with the IDB, BICE will compile and maintain all information necessary from the referenced sources[[11]](#footnote-11) and present reports to the IDB periodically, as established in Table 2.1. In some cases, additional projections, estimations or technical calculations will be required for some indicators, which will be carried out by the IDB based on the information provided by BICE in the periodical reports.
    4. In the case of EE projects, emphasis should be taken by BICE on keeping track and compiling information related to energy savings at the project level, which will be the main input for calculating the value of the aggregated indicator “Average annual energy savings from Energy Efficiency (EE) projects financed by the project”. It is also of much relevance to the projects themselves, as their repayment capacity is subject to the fulfilment of the energy savings as planned. The complementary TC project (AR-T1213), to be approved separately (see ¶1.17) envisions a series of activities that will support the effective implementation of the loans produced by this project. Under Component 1: Design of financial and non-financial instruments, this TC includes the development of processes and methodologies to account for technology/project energy savings/generation and to validate their adequacy to the project criteria. While the tools to be developed involve some level of technical expertise and are aimed mainly for the use of project developers (ESTP, SMEs) and validators verifying project performance, the data resulting from the application of these methodologies and tools is considered essential for BICE. BICE will be responsible of following up of the proper accounting and registering of this information in the corresponding systems. Budget assigned for this specific activity under the TC is included in the monitoring budget of this project, as shown in Table 2.2.
    5. While BICE’s information systems are considered sufficient and appropriate for monitoring the proposed indicators, it should be noted that the aforementioned complementary TC to be approved in addition to this project (see ¶1.7), includes the provision of grant resources to support the establishment of an electronic registry system. This electronic registry will serve to monitor and evaluate results in a more efficient manner, at both project and project levels. The electronic registry system will enable BICE to compile and organize information from projects financed, including amount of investment, energy savings produced and the resulting GHG emission reductions; as well as to monitor the implementation progress of each project. Resource allocation for this activity under the TC is included in the monitoring budget of this project, shown in Table 2.2.
    6. In addition, monitoring activities will be supported by a multi sector team from the IDB, composed by specialists from IFD/CMF, INE/ENE and CCS/CSD, as well as local assistance from the IDB’s country office in Argentina, who will be jointly in charge of overseeing the implementation, monitoring and evaluation of the project. Throughout project execution, BICE will be required to participate in monitoring meetings with the IDB, based on a previously agreed schedule (see Table 2.2).
       1. C. Reporting of monitoring results
    7. The *Gerencia de Coordinación de Proyectos* will act as project coordination unit at BICE. In this regard, it will operate as counterpart’s focal point and will be responsible for channeling communication with the IDB in all matters related to the project, including: (i) operational and administrative activities, (ii) monitoring and compliance with contractual and reporting commitments, including the implementation of the ESMF; (iii) project supervision visits; (iv) IDB follow up missions related to the project.
    8. **Semi-annual and annual reporting.** BICE is required to inform on the performance of the project to the IDB through periodical reports, as proposed by this plan. Semi˗annual reports must provide operational data from the project, at least on disbursements (amounts, dates, co-financing including local counterpart and other sources, when applicable), the corresponding eligible expenses financed, and the remaining amount of funds. Operational data shall be complemented by an assessment on the performance of the project, in particular, with regard to the compliance on the eligibility and concessionality requirements, as established in the OR.
    9. Annual reports must include a more in-depth examination on the performance of the project relating to the results framework (evolution of indicators included in Table 2.1 and any additional tracking requirements at the project and/or project level). This reports shall also include information on the fulfilment of fiduciary obligations (financial information regarding the use of the resources and the state of the project’s account), environmental and social aspects associated to the projects financed (see ¶2.3 and ¶2.4), as well as gender-related information, as per prior agreement with the IDB. The products envisioned and eligible expenses for this project do not entail considerations on intellectual property.
    10. Reports may also include recommendations on operational and administrative improvements to the project by BICE, based on the information reported, from which the IDB and BICE could jointly decide to introduce adjustments to the project. Annual reports shall be presented to the IDB within 60 calendar days from the end of each year of project implementation. The IDB will be entitled to request additional information, if necessary.
    11. **Mid-term and final report.** In addition to the annual reports and the scheduled activities for monitoring of the operations described above, BICE and the IDB will conduct a Interim Evaluation Report Within six (6) months after Year 2 of effective date of the loan agreement. Finally, BICE is also required to prepare a final report and present it to the IDB once the funds are fully justified.[[12]](#footnote-12) This report shall contain all relevant information to assess fulfillment of objectives as per targets established in the project proposal, as well as lessons learned on the overall execution of the project. Based on the final report and as per normal practice, the IDB will also prepare a Project Completion Report (PCR), within six (6) months after the last disbursement of GCF proceeds by the IDB to the funded activity. This PCR will evaluate the fulfillment of targets, review the overall results of the project and describe lessons learned, among other relevant aspects. A final evaluation report will be prepared within nine (9) months after the submission of the PCR
    12. After the five-year execution of the project, two additional reports are required by the GCF on the use of funds (in year 10 and year 20), which shall include financial information on the loan and BICE’s declaration on: (i) continued use of resources; (ii) fulfilment of OR; and (iii) compliance with concessionality and co-financing requirements by the GCF. These reports are not required to be audited.
        1. D. Coordination, workplan and budget for monitoring
    13. As explained above, BICE will be responsible for the execution, supervision, technical and administrative coordination of the project and for performing the necessary reporting duties to the IDB. Reporting required by the GCF on the use of their resources is to be prepared and presented by BICE, with support from the IDB.
    14. Costs of monitoring activities described in this plan are mainly derived from IDB and BICE operational and technical staff hours involved in these activities. Thus, resources to cover these costs will come from both institution’s standard operational and administrative budgets associated to staff participating in the project from both institutions, plus US$40,000 from TC AR-T1213, allocated for “Management and Monitoring”[[13]](#footnote-13) included in the budget for activities related to strengthening of capacities at BICE. Complementarily, TC resources (US$80,000) will also further support BICE specifically in establishing an electronic registry system for monitoring and evaluation of projects and project’s results (see ¶2.5). It is estimated that the IDB will dedicate 0,5 FTE (full time employee) per year for project monitoring and BICE will dedicate the equivalent to 1 FTE.
    15. Project resources are to be fully committed and disbursed within five years (60 months) from the effective date of the loan agreement. The organizational structure of BICE and IDB’s proven successful experience working with similar project structures and other national development banks ensure that proper compliance with all tasks and commitments related to this plan can be achieved.

**Table 2.2: Monitoring workplan and budget[[14]](#footnote-14)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Activity | Y1 | Y2 | Y3 | Y4 | Y5 | Y6 | Responsible[a] | Budget (USD)[b] |
| 1. Coordination meetings and supervision visits[[15]](#footnote-15) | 1 | 2 | 2 | 2 | 2 |  | BICE/IDB | 12,000 |
| 2. Develop standards and validation methodologies for project level accounting and project proposal design validation | x | x | x |  |  |  | IDB/Consultants | 150,100 |
| 3. Electronic registry system at BICE for monitoring and evaluation | x | x |  |  |  |  | IDB/Consultants | 80,000 |
| 4. Preparation of annual reports on project execution to IDB | 1 | 1 | 1 | 1 | 1 |  | BICE | 15,000 |
| 5. Preparation of annual reports on project execution to GCF | 1 | 1 | 1 | 1 | 1 |  | IDB | 10,000 |
| 6. Audits |  | 1 | 1 | 1 | 1 |  | BICE/IDB | 30,000 |
| 7. Final reports (for IDB and GCF) |  |  |  |  |  | 1 | BICE | 10,000 |
| Total |  |  |  |  |  |  |  | **307,100** |

[a] All budgetary responsibilities assigned to BICE are to be payable in-kind.

[b] The amount of resources assigned for “Management and Monitoring” from TC AR-T1213 (US$40,000, see ¶2.16) may be included in the budget for activities 1 or 5 in Table 2.2 or in ex post evaluation activities budget (see Section III). Activities 2 and 3 in Table 2.2 will be covered fully with resources from TC AR˗T1213.

1. Ex Post Evaluation
   * + 1. A. Main Question(s)
     1. This section includes a proposal for a feasible plan to evaluate the project at the end of its execution. In particular, the analysis will try to answer the following questions:
2. Related to the specific objective (i) increase SME investments in RE and EE, by providing access to medium and long-term finance: *Have SMEs received medium and long-term finance to support their RE and EE investment projects? Have these projects been properly implemented (are they currently producing or saving energy)? How much additional funding (public and private) was the project able to leverage in the development of projects financed by the project?*
3. Related to the specific objective (ii)contribute to the reduction of Greenhouse Gas (GHG) emissions: *Have the projects financed by the project contributed to reduce GHG emissions? How much reductions do projects financed produce annually?*
   * 1. The evaluation proposed will follow an ex post economic analysis, which will use data collected for the referenced set of indicators following the methodology used for the ex ante economic analysis linked to the project proposal (see [Economic Analysis](https://idbg.sharepoint.com/teams/EZ-AR-LON/AR-L1280/_layouts/15/DocIdRedir.aspx?ID=EZSHARE-972212929-6)).
     2. Due to the long-term nature of the projects to be financed, real data available by the end of the execution period will not be sufficient to run the ex post cost-benefit analysis without relying partially on certain projections. The evaluation exercise proposed in this plan will be made at the time of project completion, time at which data collected will be used to adjust projections on the expected results. After that, arrangements will need to be made for a discussion on an optimal timeframe for further data collection during the expected lifetime of the projects financed[[16]](#footnote-16).
        1. B. Existing Knowledge
     3. The instrumental role that SMEs play in furthering growth, innovation, and development, coupled with a growing clean technology sector, brings about important opportunities for clean energy investment in both developed and emerging economies.[[17]](#footnote-17) According to the International Energy Agency (IEA), initiatives for reducing SME energy demand, besides benefiting SMEs themselves, can help countries meet a variety of important policy goals. From a country perspective, reducing SME energy consumption is cheaper than investing in new generation and transmission. Evidence shows that the potential for implementing EE in SMEs is typically more cost-effective than in other sectors, as relatively few of them have implemented these improvements.[[18]](#footnote-18) In addition, in areas that are not grid-connected, SMEs can obtain electricity from smaller scale, RE sources such as wind, solar, and/or biomass and biofuels.[[19]](#footnote-19) SMEs can realize not only the benefits involved in generating all of their own energy with clean sources, but their business profitability can also be increased if any excess energy can be offered to the system. This is already the case in many countries in the region, including Argentina. Moreover, targeting SMEs clean energy investments can also stimulate the growth of local markets for energy technology goods and services, including energy service per se and financial products, and can provide business opportunities for other SMEs participating in the value chain as suppliers.[[20]](#footnote-20)
     4. The fact that these businesses are small-sized, that does not mean their impact cannot be significant. The feasibility analysis[[21]](#footnote-21) undertaken by IFD/CMF in preparation of this project has identified significant potential for investments by SMEs in EE and RE in Argentina, equivalent to more than US$2 billion, linked to modernization of equipment and substitution of energy sources using biomass and biogas. In addition, there is a significant potential in the development of awarded projects under the government’s RenovAr tendering project, which is the main source for constructing a pipeline to be financed by BICE. A total of 18 biomass projects and 40 biogas projects have been awarded so far (for a total of 236 MW of new capacity), most of which are currently in need of financing.[[22]](#footnote-22) However, investments in energy technologies by Argentine SMEs are affected by a series of barriers that hinder their development, one of the most significant being the inadequate access to finance. As explained in the POD, SME potential for implementing RE and EE projects is directly impacted by a financing gap, not only because of the augmented difficulties they face as SMEs, but also due to the incremental risks of these relatively unknown technologies. The referred feasibility analysis also shows that RE and EE projects involve high upfront costs, along with longer terms to see a return on investments, making them incompatible with the conditions offered by the banking system.[[23]](#footnote-23) Also, operational and administrative costs (and therefore, interest rates) tend to be higher for these projects, mostly due to the lack of experience with this type of lending by local FIs, who often have limited comprehension of the associated risks and opportunities and no project-finance skills, and thus become hesitant to offer these loans.
     5. In addition to the limited supply of adequate financing, SMEs willing to invest in RE and EE face barriers related to their capacity to prepare adequate business plans without support from specialized third-parties (energy service and technology providers, ESTPs) and the lack of information available on the performance of new equipment and on existing service for its installation and maintenance. Local ESTPs do not have financial capacity to take on risks in these investments, and their business is dependent on SME willingness to invest and their capacity to access financing.
     6. A comprehensive strategy to financially support firms in Argentina in the implementation of RE and EE solutions that contribute to reduce emissions calls for actions to stimulate both the supply and the demand side of financing, coordinating all relevant actors (government institutions, ESTPs, FIs and SMEs). Hence, the strategy shall combine medium and long-term financing that is adequate for these projects with incentive mechanisms (instruments to mitigate the risks, such as monitoring and verification methodologies, standard contracts, guarantees, insurance, as well as awareness, capacity building and training) that can encourage investment by firms with potential to develop viable projects.[[24]](#footnote-24)
     7. To articulate these efforts, BICE is extremely well-suited as the only financial institution integral to the government’s development strategy. BICE’s goal is to promote Argentine firms’ productive investment and trade, for which the institution has established two main objectives: (i) catalyze financing for SMEs, including preferential rates and flexibility in currency and amortization of the loans; and (ii) create a long-term credit market. In addition to this, its knowledge of the local market and its engagement with local FIs make it an ideal and reliable partner to align development financing with national priority mitigation actions, and canalize international climate funding for EE and RE investments by SMEs.
     8. Similar initiatives have been developed in neighboring countries. In Uruguay, an EE project was financed with Global Environment Fund (GEF) resources, channeled by the World Bank for U$S 6,875,000, co-financed by a total local counterpart of U$S 8.200.000, contributions from the *Ministerio de Industria, Energía y Minería* and the *Administración Nacional de Usinas y Trasmisiones Eléctricas* (UTE). The main objectives of the project include:
   * Revise existing local norms and regulation in order to identify changes needed to promote investment in EE.
   * Develop a project for energy labelling and standards, including efficiency certifications for household equipment and construction materials (housing).
   * Implement capacity strengthening projects and disseminate EE topics in schools and universities.
   * Produce standard contract mechanisms to support projects developed by *Empresas de Servicios Energéticos* ([ESCO](http://www.eficienciaenergetica.gub.uy/escos.htm)) and support the creation of an ESCO market.
   * Create a dedicated fund for financing of EE projects, which finances energy audits as well as the investments needed to implement EE measures.
     1. In Chile, one of the pioneering instruments that favored the implementation of EE projects, over a decade ago, was led by the *Corporación de Fomento de la Producción* (CORFO), Chile’s national development agency. The initiative consisted in providing support for carrying out EE consulting to reinforce the government-led *Programa País de Eficiencia Energética* (PPEE), in place since 2005.[[25]](#footnote-25) The objective of this instrument was to finance specialized consultancy services to carry out studies (from a technical, economic and financial perspective) to identify and evaluate different investment alternatives for optimizing energy consumption and reducing energy-related costs. The main objectives of these studies were three: (i) perform an energy audit, in order to gain knowledge on the main energy sources, uses and potential savings for the firm; (ii) develop a plan for implementing EE measures, including a methodology for prioritizing, assessing costs, benefits and timeframes; and (iii) develop an investment plan, including the sources of financing, to incorporate the EE measures, following the recommendations from the audits, the EE measures plan and the local financial system. Beneficiary firms had to be under a specific level of annual sales to be eligible. CORFO used its network of intermediaries to implement this project and required a fraction of the consultancy costs to be covered by the beneficiary firm.[[26]](#footnote-26)
     2. Another Chilean example is the *Fondo de Garantía de Eficiencia Energética* (FOGAEE), which consisted in a financing scheme aimed for the ESCOs. The FOGAEE provided guarantees to energy savings associated to the loans provided by the fund to the ESCO, partially covering for savings committed to a third party. Requirements by the fund were significantly less strict than those required by a bank, and firms were also provided with technical and financial assistance. However, adjustments in this project are being made to incorporate banks in the operation scheme, as, so far, the execution has not met the expected results set for the initiative. Nonetheless, experience gained from this operation, has been used to design a credit line for EE and RE in *Banco Estado*, including capacity building for bank staff in analyzing this type of projects. Over 100 employees were trained and since they began operations in April 2017, eight operations have been approved for this line (equivalent to around CLP 500 million, or US$750,000, with some additional US$3.75 million under evaluation.[[27]](#footnote-27)
     3. In the development of financing solutions for RE projects, all of which had objectives related to the support of private sector investment in power generation, IDB’s previous experience with development banks in the region (for example, NAFIN in Mexico and BROU in Uruguay)[[28]](#footnote-28) has proven viable and effective. In the case of Mexico, these interventions are considered to have contributed effectively to the momentum gained by wind sources in the country. Wind installed capacity in Mexico rose from levels below 100 MW in 2006-08, to almost 600 MW in 2011 and over 1,000 MW in 2012. According to the *Asociación Mexicana de Energía Eólica* (AMDEE) this is the result of a combination of factors, including the existence and availability of sources of financing, a solid legal and regulatory framework, and the high efficiency of the plants due to the quality of the resource in the country. Production costs have decreased significantly during the last 15 years, becoming competitive with conventional sources of energy (PwC, citing AMDEE). Internationally, the development of RE sources for power generation are widely recognized as one of the most effective ways to support environmental sustainability and reducing GHG emissions.

**Table 3.1: Key Outcome Indicators**

| **Indicator** | Unit | Frequency of measurement | Description / Source of verification |
| --- | --- | --- | --- |
| Financing from third parties mobilized by the project  - Financing from third parties mobilized by RE projects financed  - Financing from third parties mobilized by EE projects financed | Millions of US$ | Annually and Final Project Report | Includes all sources of financing (debt or equity) other than the IDB and *Banco de Inversion y Comercio* (BICE) own resources. Target estimate based on the average total investment required per project and an average 70/30 debt to equity ratio observed in similar projects. Real values will be monitored and validated with information provided by BICE in periodical reports, which will include detail on sources of financing per individual project.  *Total investment = US$160 million from the project + equity + other sources*  **Source:** Annual report on project execution by BICE. |
| Annual electricity generation from renewable energy (RE) sources by projects financed by the project (accumulated) | GWh | Annually and Final Project Report | Indicator can be estimated based on an average production factor for RE technologies expected to be financed, namely biogas and biomass.  *Electricity prod (GWh) = Installed capacity (GW) x 24 x 365 x production factor*  The indicator must show the accumulated value for each year.  **Source:** Annual report on project execution by BICE.[[29]](#footnote-29) Can be validated with information from national utility. |
| Average annual energy savings from energy efficiency (EE) projects financed by the project  - Average annual energy savings from electricity-sourced EE projects financed  - Average annual energy savings from fuel-sourced EE projects financed | MWh | Annually and Final Project Report | Indicator can be estimated based on an average consumption of firms and savings ratios of EE technologies installed. Savings for fuel-sourced systems are estimated by converting Gal to MWh.  *Energy savings = Baseline energy consumption (MWh or Gal) x % savings produced by system installed*  The indicator must show accumulated values for each year.  **Source:** Annual report on project execution by BICE.[[30]](#footnote-30) |
| Greenhouse Gas (GHG) emissions annual reduction, from projects financed by the project  - GHG emissions annual reduction from RE projects financed  - GHG emissions annual reduction from EE projects financed | tCO2e | Annually and Final Project Report | Indicator is based on the CO2e emissions displaced by RE power generation added by the project and the energy savings (electricity and fuel) from EE projects financed. Final target was estimated based on envisaged RE production and EE savings, using a country specific conversion factor for electricity and fossil fuels (0.535 tCO2/MWh and 0.015 tCO2/Gal).  **Source:** Annual report on project execution by BICE and conversion factor specific to Argentina (included in periodical publications of CAMMESA). |
| Power generation from RE sources (excludes large hydro) as a share of total demand. | % | Final Project Report | This measure includes all new investments added to the system, including those supported by the project. This impact is related to RE projects under the project. Target estimate is based on country’s authority projections.  **Source**: Official data from the *Ministerio de Energía y Minería* |
| Energy intensity to Gross Domestic Product (GDP). | toe/1,000 US$[[31]](#footnote-31) | Final Project Report | Measures the quantity of energy required to generate US$1,000 of GDP. This impact is related to EE projects under the project.  **Source:** IEA and official data from the *Ministerio de Energía y Minería.* |

* + - 1. C. Evaluation methodology
    1. The evaluation methodology proposed is an ex post cost-benefit analysis. Following the recommendations of the Toolkit for the application of the Development Effectiveness Matrix (DEM), the ex post cost benefit analysis uses the same framework defined in the ex ante economic analysis and replaces assumed values with actual values.
    2. **Justification for the selected methodology.** This method is appropriate because the relatively small population of projects and the concentration of projects in sub-sectors with resource potential (in the case of RE, particularly biogas and biomass), and the inherently non-random mechanisms that lead to the approval of the best sub projects for financing (applicants are evaluated by LFIs based of specific criteria and conditions), disallow the construction of control groups for an experimental or quasi experimental exercise in the evaluation.
    3. The ex post cost benefit analysis can be considered a reassessment of the ex ante cost benefit analysis made as part of the project proposal, once the magnitudes effectively involved are known. In this sense, it is clear that the key elements of a cost benefit analysis ex post are similar to those of a cost benefit analysis ex ante (see Table 3.2).

Table 3.2: Data to be collected for analysis ex post

| Indicator/Input | Ex ante | Ex Post | Comments |
| --- | --- | --- | --- |
| PROJECT INFORMATION | | | |
| Investment in USD | Projected annually based on tentative pipeline | Real from actual annual disbursements justified and reported by BICE | Information on investment is to be provided per individual project and shall include disaggregated data, i.e. share of financing from project and equity (leveraged finance). |
| Number of projects | Projected from tentative pipeline | Real from actual portfolio justified and reported by BICE each year | Information must include a description of the technology and activity of each individual project. |
| Energy generation per RE project | Estimated based on assumed size of projects in terms of installed capacity and production factor of the assumed technology | Real as reported by each beneficiary project, once recognized for financing and operating | Publishing of information from Argentina’s administrator of the wholesale electricity market (CAMMESA) on production of all project supplying electricity to the system is mandatory. |
| Baseline energy consumption per EE project | Estimated based on each category of project considered in the assumed portfolio | Real as reported by each beneficiary project, once recognized for financing | Baseline consumption refers to the amount of energy consumed before installation of efficient equipment. |
| Savings ratio of EE equipment per project | Standard average for corresponding technologies, following the technology used in each category of project in the assumed portfolio | Standard ratio featured by actual equipment to be installed in each beneficiary project, once recognized for financing |  |
| O&M costs old equipment per project | Estimated as a value relative to: (i) MW installed in the case of RE; and (ii) CAPEX of project in the case of EE | Real as reported by each beneficiary project, once recognized for financing (may be approximate) |  |
| OTHER VARIABLES | | | |
| Conversion factors | International standard | International standard | Information normally found online. Sources can be verified when carrying out the ex post analysis; if different values are used for any of these factors, it must be specified. |
| Emission factors | National published values by the Ministry of Energy and Mines | National published values by the Ministry of Energy and Mines (updated, if applicable) | These values are published periodically in official documents such as the *Balance Energético Nacional*. |
| CO2 price | International standard | International standard updated | Due to the volatility of this price, available data should be revised and updated for the ex post analysis. |
| Energy supply substitution price | Estimated based on the projected marginal cost of generation | Updated based on the real marginal cost of generation during the execution period |  |
| Electricity consumption price | Based on current price scenario | Updated with real values for period of execution | If relevant changes in price trends occur, this should be reflected in the ex post analysis. Projections will need to be adjusted for the years following the time in which the ex post analysis is carried out, based on updated values for the period Y0-Y5 and adjustments in assumptions initially made. |
| Fuel consumption price | Based on current price scenario | Updated with real values for period of execution | If relevant changes in price trends occur, this should be reflected in the ex post analysis. Projections will need to be adjusted for the years following the time in which the ex post analysis is carried out, based on updated values for the period Y0-Y5 and adjustments in assumptions initially made. |
| TC funding | Projected based on indicative disbursement plan | Real as per disbursements reported by the TC execution |  |

* + 1. The analysis is based on the comparison of two scenarios:**[[32]](#footnote-32)**

1. In the scenario “with project”, project funding produces investment by SMEs in a portfolio of RE and EE projects. Investment costs occur during the investment phase, while maintenance costs occur during the life of the projects. RE projects are simulated by a mix of biogas and biomass projects in sub sectors with high potential, which provides additional capacity to the electric system and generates electricity from clean sources and additional income (or foregone costs) for investor SMEs. EE projects are exemplified as a portfolio mix of various technologies, which produces a reduction of energy consumption (fuel or electricity, depending on the type of technology). In this scenario, emissions are reduced, both from RE generation, and from EE. Total costs for all investments are included incorporating all sources of financing and resources from the complementary TC AR-T1213 are also accounted for, as activities under this TC are considered essential for the fulfilment of project objectives.
2. In the alternative scenario “without” project, none of the projects in scenario A is implemented –without financing from the project, SMEs do not have the capacity to finance 100% of these investments by themselves and other sources of financing are not currently available at terms adequate to match their projects’ profiles.[[33]](#footnote-33) In this scenario, the amount of energy added to the system in scenario A must come from other sources, no energy savings from EE projects are produced, and there are no CO2 emission reductions.
   * 1. When calculating and projecting project cash flows, economic benefits derive from: (i) the difference between the expected energy supply costs of the scenario with project, and the expected energy supply costs of the scenario without project; (ii) the difference in the energy costs of SMEs once EE measures are implemented, compared to the scenario without project (i.e., the foregone costs of energy resulting from EE savings); and (iii) the externalities associated with the reduction of GHG emissions, in a projected scenario in which the system incorporates RE and EE investments financed by the project.[[34]](#footnote-34)
     2. Total new RE capacity and energy saved by EE projects is determined based on an indicative pipeline of projects (resulting from the tentative pipeline information provided by BICE, the current status of RenovAr awarded projects and the [feasibility analysis](https://idbg.sharepoint.com/teams/EZ-AR-LON/AR-L1280/_layouts/15/DocIdRedir.aspx?ID=EZSHARE-972212929-11)), and a simulation of the programming in which those projects are expected to be approved for financing and start operations. Benefits are represented by the foregone costs or income that are implied by saving or producing such amounts of energy instead of consuming them from the electricity grid, and a monetized value for the resulting GHG emissions. Additionally, the abatement costs associated to the reduction of GHG emissions is obtained by dividing the total amount of reductions by the total amount of investment. The value of these benefits in the scenario without project shall be zero, as no new generation capacity or savings in energy are expected from these SMEs in the absence of investment.
     3. A Net Present Value (NPV) is calculated by projecting the net economic flows over the estimated useful life of each type of projects, and discounting them at a rate of 12%.[[35]](#footnote-35) The NPV and the Internal Rate of Return (IRR) for the project are obtained as key indicators to determine its economic viability.
     4. **Treatment and control groups**. The selected methodology does not require the assignment of treatment and control groups. However, the ex post cost-benefit analysis will rely on the counterfactual without-project scenario –as defined in the ex ante cost-benefit analysis– with updated data.
     5. **Counterfactual.** As aforementioned, this project will employ an ex post cost benefit analysis at closure and it is expected that analysis of attribution will be conducted in theoretical manner. Since the ex post analysis constitutes a reassessment of the cost benefit analysis made as part of the project proposal (ex ante), the counterfactual scenario remains the same, i.e. “without” project, it is assumed that other sources of financing are not available at terms adequate to match the targeted projects’ profiles and that SMEs do not have the capacity to finance 100% of these investments by themselves– thus, the amount of energy added to the system with the project must come from other sources, and no energy savings from EE projects are produced (see ¶3.16).[[36]](#footnote-36)
     6. Potential evaluation exercise for EE projects: Conditional on data availability, the team could use the variation in the timing when the credits are granted to do a comparative exercise on energy use between firms that receive the credits in different years. Conditional on the granting scheme, the firms that received credits in the first years are potentially comparable with the firms that receive the credit in later years. In order to do this exercise, it is important for the firms to have similar characteristics independently of the year under treatment. This will allow to compare consumption and spending patterns between firms where the only difference is the timing of the credit and therefore the timing of the acquisition of the new equipment. One methodology that could be use in this exercise is a propensity score matching, if existing administrative data allow (such as sales, sector, size, and energy use), in an attempt to control for differences between the groups that receive the credit (purchase new equipment) in different years. A baseline would be necessary, and this could be estimated reflexively with input from existing beneficiaries. The possibility to carry out this exercise will be evaluated following discussions with BICE once a reasonable number of EE projects are underway and experience on data collection has been gained.
     7. **Data collection**. BICE will collect the necessary data to periodically monitor indicators in Table 3.1, and will submit reports to the IDB as explained in ¶2.10 and ¶2.13. Information systems at BICE and existing databases from government and international institutions related to the energy sector, are considered sufficient to monitor the proposed indicators.
     8. Since the ex post cost benefit analysis aims to replicate the ex ante cost benefit analysis, replacing the assumptions or estimated values with values effectively verified, information to be gathered shall be equivalent to that used in the corresponding ex ante analysis presented with the project proposal to the IDB Board. Therefore, project information to be obtained once they are recognized under the project, will include: technology used by the project financed, subsector and firm size, operating capacity, efficiency factors, time to start operations of the project/equipment financed, investment costs, O&M costs, emission factor, etc. (see [Economic Analysis](https://idbg.sharepoint.com/teams/EZ-AR-LON/AR-L1280/_layouts/15/DocIdRedir.aspx?ID=EZSHARE-972212929-6)).
        1. D. Coordination, workplan and budget for evaluation
     9. For the implementation of this assessment, it is expected that IDB will use its own staff, with the assistance of and in coordination with BICE. This working scheme is considered adequate and sufficient to ensure the quality and success of the evaluation work.
     10. It will be the responsibility of the IDB, through its IFD/CMF, INE/ENE and CCS/CSD divisions, with support from the Office of Strategic Planning and Development Effectiveness (SPD), to supervise the execution of the project evaluation from the data collected, in accordance with the plan proposed. BICE, through its *Gerencia de Coordinación de* Proyectos at BICE, coordination unit for the project, will collaborate with the IDB in any aspects required and requested for this evaluation plan. If available and necessary, the IDB may provide additional technical and financial support (see Table 3.3) to carry out the activities of specialized analysis on the economic assessment.
     11. From a technical and operational perspective, IDB and BICE are able to jointly fulfill their responsibilities competently and have sufficient administrative and operational capacity, and qualified personnel to provide all inputs necessary to assess the effectiveness of the proposed project according to this plan. In addition, both institutions understand and promote the benefits of optimizing the use of lessons learned to improve their projects.
     12. It is expected that the information required for the calculations of the cost benefit ex post will be available from national public sources and project reports produced by BICE, as indicated in Table 3.1. Some of the information required is generated by existing information systems at BICE, and in this sense, it does not entail additional costs. Other information is periodically generated by government agencies (e.g. *Ministerio de Energía y Minería*), in the normal course of its operations. Since the information is expected to be publicly available, it is assumed that any complementary consultancy services that may be needed will focus on gathering information specific to projects financed. All costs of the activities listed in this plan will be financed by the IDB, using the supervision budget included in the transactional funds of the IFD/CMF division. Its completion is expected by the end of the execution period of the project (see Table 3.3). Any further evaluation involving other specific or more sophisticated purposes, longer timeframes of data collection or seeking to determine additional externalities resulting from the execution of the project, may be carried out if considered relevant, but will not be incorporated as part of this Monitoring and Evaluation Plan.

**Table 3.3: Evaluation workplan and budget[[37]](#footnote-37)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Activity | Y1 | Y2 | Y3 | Y4 | Y5 | Y6 | Responsible[a] | Budget (USD) |
| 1. Collection of data for outcome indicators |  |  |  |  | 1 |  | BICE/IDB | 12,000 |
| 2. Data projections and analysis |  |  |  |  | 1 |  | IDB/Consultants | 20,000 |
| 3. Preparation of final evaluation: Cost-Benefit Analysis Ex post |  |  |  |  |  | 1 | IDB/Consultants | 10,000 |
| 4. Cost-Benefit Analysis Ex post distribution and discussion |  |  |  |  |  | 1 | IDB/BICE | 3,000 |
| Total |  |  |  |  |  |  |  | **45,000** |

[a] All budgetary responsibilities assigned to BICE are to be payable in-kind.

[b] The amount of resources assigned for “Management and Monitoring” from TC AR-T1213 (US$40,000, see ¶2.16) may be included in the budget for activities 1, 2 or 3 in Table 3.3 or in monitoring activities budget (see Section II).

1. Brunnschweiler, Christa N. Finance for RE: an empirical analysis of developing and transition economies. Environment and Development Economics 15.03 (2010): 241-274, 2010. [↑](#footnote-ref-1)
2. The [GCF](http://www.greenclimate.fund/home) provides funding to promote mitigation and adaptation to climate change. The IDB is accredited by the GCF to manage these resources, under the terms established in the AMA approved by the IDB Board (GN‑2895) (see footnote 1). The project has Argentina’s National Designated Authority’s non-objection. [↑](#footnote-ref-2)
3. In the context of this project, SME is defined as per Argentine’s government classification of PYME (*Resolución General* 103-E/2017 of the Ministry of Production). In this resolution, firms are classified based on their level of sales, with distinctions by economic activity. SMEs constitute firms with sales of up to $760 million Pesos and $250 million Pesos for the industrial and services sectors, respectively. [↑](#footnote-ref-3)
4. It is expected that direct lending will only be available for loans larger than US$5 million, and that only RE eligible projects (particularly, biomass) have the potential to be this large. [↑](#footnote-ref-4)
5. The OR is an agreement by which the executing agency formally adapts their internal processes to requirements by the IDB, in the context of the execution of a specific project. The OR will be prepared and owned by BICE, with supervision from the IDB, and must be finalized and approved by BICE’s appropriate instances prior to the first disbursement of funds. [↑](#footnote-ref-5)
6. The same criteria and conditions will apply to direct and indirect operations. [↑](#footnote-ref-6)
7. These include support for project implementation, training and capacity building, advisory services for the design of risk mitigation mechanisms, workshops, activities and marketing campaigns to raise public awareness, etc. [↑](#footnote-ref-7)
8. A [Feasibility Analysis](https://idbg.sharepoint.com/teams/EZ-AR-LON/AR-L1280/_layouts/15/DocIdRedir.aspx?ID=EZSHARE-972212929-11) undertaken for BICE and IDB (Magallon, 2017) identified a significant potential for RE and EE investments in Argentina’s SME (equivalent to more than US$2 billion), linked to modernization of equipment and substitution of energy sources, using biomass and biogas. In addition, there is significant potential in the development of awarded projects under the government’s RenovAr tendering project, which is the main source for constructing a pipeline to be financed by BICE. A total of 18 biomass projects and 40 biogas projects have been awarded so far (for a total of 236 MW of new capacity), most of which are in need of financing. [↑](#footnote-ref-8)
9. Information included in the annual report is obtained from actual portfolio justified and reported by BICE each year, as submitted by each beneficiary project, individually, once recognized for financing. BICE is responsible for verifying the authenticity of this information. While it is not established that the IDB directly verifies individual project information, it will be entitled to do so (for selected projects or the entire portfolio) at its discretion. [↑](#footnote-ref-9)
10. Information included in the annual report is obtained from actual portfolio justified and reported by BICE each year, as submitted by each beneficiary project, individually, once recognized for financing. BICE is responsible for verifying the authenticity of this information. While it is not established that the IDB directly verifies individual project information, it will be entitled to do so (for selected projects or the entire portfolio) at its discretion. [↑](#footnote-ref-10)
11. Secondary sources of information (especially international and government agencies publications) are acceptable for complementing information, as per description of indicators. [↑](#footnote-ref-11)
12. This final report is not equivalent to the ex post evaluation analysis, which will be explained in detail in Section III, and also differs from the two reports required by the GCF post project completion. Nonetheless, data to be used for these reports may be the same and contents may overlap. [↑](#footnote-ref-12)
13. This covers the management, monitoring, reporting and evaluation of the project, including mid-term and final analysis, and lessons learned. [↑](#footnote-ref-13)
14. Sources for the evaluation budget include BICE in-kind resources, specific activity budget for Management and Monitoring from the complementary TC AR-T1213 and operational budget and other applicable budget (compatible TCs) from the IFD/CMF division. Estimations of costs have been made based on similar works carried out for other similar projects within the division. As a conservative measure, these costs are based in international consultant rates (which is normally the case in this type of projects). If local qualified consultants are available, budget may be reduced. [↑](#footnote-ref-14)
15. Includes travel and per diem costs of required travel. Coordination meetings may be carried out remotely, via video or call conference. It is expected that at least one coordination meeting/supervision visit per year will only include staff from the local office in Argentina and will not involve international travel. [↑](#footnote-ref-15)
16. Due to the long-term nature of project development, some of the results will only happen after the end of the execution period. [↑](#footnote-ref-16)
17. Building Competitive Green Industries: The Climate and Clean Technology Opportunity for Developing Countries, The World Bank, 2014. [↑](#footnote-ref-17)
18. See Accelerating Energy Efficiency in Small and Medium-sized Enterprises, IEA, 2015. [↑](#footnote-ref-18)
19. [Empowering Development, Energy and Small and Medium Enterprise](http://pdf.usaid.gov/pdf_docs/PNADJ569.PDF), USAID. [↑](#footnote-ref-19)
20. See Accelerating Energy Efficiency in Small and Medium-sized Enterprises, IEA, 2015; Building Competitive Green Industries: The Climate and Clean Technology Opportunity for Developing Countries, The World Bank, 2014. [↑](#footnote-ref-20)
21. [*Análisis de factibilidad, Programa de financiamiento verde para BICE*](https://idbg.sharepoint.com/teams/EZ-AR-LON/AR-L1280/_layouts/15/DocIdRedir.aspx?ID=EZSHARE-972212929-2), Basel Agency for Sustainable Energy (BASE), 2017. [↑](#footnote-ref-21)
22. While the project does not impose restrictions on particular RE and EE technologies that will be eligible for financing, the *Análisis de Factibilidad* (BASE, 2017) identified areas of opportunity with highest potential in specific subsectors. In the context of this proposal and its annexes, RE and EE refer to the group of technologies associated to the main opportunity areas identified by this analysis, which are in line with government priorities and include: (i) biogas and biomass, particularly in the framework of the RenovAr tendering process; and (ii) 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; EE projects consist of the replacement of obsolete and inefficient equipment for new ones that consume less energy to provide the same number of products or services. [↑](#footnote-ref-22)
23. For instance, 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. [↑](#footnote-ref-23)
24. This scheme has been recognized by the “International Climate Finance Lab” as one of the most promising financing strategies to promote and leverage private investment in EE. See: [Energy Savings Insurance. The Global Innovation Lab for Climate Finance](http://climatefinancelab.org/wp-content/uploads/2014/08/Energy-Savings-Insurance-Lab-Phase-3-Analysis-Summary.pdf). [↑](#footnote-ref-24)
25. In 2010, the PPEE was transformed into the *Agencia Chilena de Eficiencia Energética* and the Ministry of Energy was created. [↑](#footnote-ref-25)
26. No evaluation or reports on the results of these projects are available. [↑](#footnote-ref-26)
27. See *Documento de Apoyo, Validación Programa* BICE; Carpio, Claudio, 2017. [↑](#footnote-ref-27)
28. Various programs under the CCLIP ME-X1006 (ME-L1051, ME-L1081, ME-L1109 y ME-L1119) and the program UR-L1099 under the CCLIP UR-X1011 [↑](#footnote-ref-28)
29. Information included in the annual report is obtained from actual portfolio justified and reported by BICE each year, as submitted by each beneficiary project, individually, once recognized for financing. BICE is responsible for verifying the authenticity of this information. While it is not established that the IDB directly verifies individual project information, it will be entitled to do so (for selected projects or the entire portfolio) at its discretion. [↑](#footnote-ref-29)
30. Information included in the annual report is obtained from actual portfolio justified and reported by BICE each year, as submitted by each beneficiary project, individually, once recognized for financing. BICE is responsible for verifying the authenticity of this information. While it is not established that the IDB directly verifies individual project information, it will be entitled to do so (for selected projects or the entire portfolio) at its discretion. [↑](#footnote-ref-30)
31. The ton of oil equivalent (toe) is a unit of energy equivalent to approximately 42 gigajoules (GJ). It is defined as the amount of energy released by burning one ton of crude oil and is used for measuring large amounts of energy. The indicator denominator is expressed in constant US$ of 2010. [↑](#footnote-ref-31)
32. See [Economic Analysis](https://idbg.sharepoint.com/teams/EZ-AR-LON/AR-L1280/_layouts/15/DocIdRedir.aspx?ID=EZSHARE-972212929-6). [↑](#footnote-ref-32)
33. Although the government has a series of ongoing activities and projects related to encouraging increased private investment in the RE and EE sectors (as listed in the POD), none of these efforts, alone or combined, are assumed to have an impact on the counterfactual scenario as established in this analysis (or the values would be too marginal to presume a change would be expected in the counterfactual assumed). Nevertheless, the ex post exercise proposed as impact evaluation for the project should clarify any significant changes observed in the counterfactual scenario. [↑](#footnote-ref-33)
34. Technical note No. IDB-TN-623. [*Beneficios para la sociedad de la adopción de fuentes renovables de energía en América Latina y el Caribe*](http://publications.iadb.org/bitstream/handle/11319/6465/Beneficios%20sociales%20TN-623.pdf?sequence=1). [↑](#footnote-ref-34)
35. Following IDB guidelines for economic analysis of projects financed by the IDB, it is recommended to use a discount rate of 12% for all IDB operations. [↑](#footnote-ref-35)
36. In the case of RE projects, this exercise is less relevant as new beneficiaries accessing financing will have no RE generation to begin with, and the comparison with regards to energy generation will be basically against zero. Several attempts to design a methodology that can use comparative mechanisms or control groups for RE generation projects have been made in the context of past projects, with no effective way to materialize such a mechanism, due to several factors associated to these type of technologies (location of the resource, geographical concentration, location of consumers, etc.). [↑](#footnote-ref-36)
37. Sources for the evaluation budget include BICE in-kind resources, specific activity budget for Management and Monitoring from the complementary TC AR-T1213 and operational budget and other applicable budget (compatible TCs) from the IFD/CMF division. Estimations of costs have been made based on similar works carried out for other similar projects within the division. As a conservative measure, these costs are based in international consultant rates (which is normally the case in this type of projects). If local qualified consultants are available, budget may be reduced. [↑](#footnote-ref-37)