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Report No: PADHI01009

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROJECT APPRAISAL DOCUMENT
ON A
PROPOSED LOAN

IN THE AMOUNT OF US$500 MILLION

TO THE

ARGENTINE REPUBLIC

FOR A

SUPPORTING THE TRANSITION TO A SUSTAINABLE ELECTRICITY SECTOR IN ARGENTINA

OCTOBER 29, 2024

Energy & Extractives Global Practice
Latin America And Caribbean Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective Oct 18, 2024)

Currency Unit =	AR$
AR$ 1.014,42 =	US$1
US$ =	SDR 1

FISCAL YEAR
January 1 - December 31

Regional Vice President:	Carlos Felipe Jaramillo
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ABBREVIATIONS AND ACRONYMS

AM	Accountability Mechanism
CAMMESA	Management Company of the Wholesale Electricity Market Limited Company *(Compañía Administradora del Mercado Mayorista Eléctrico Sociedad Anónima)*
CCDR	Country Climate and Development Report
CPF	Country Partnership Framework
DGPPSE	General -Directorate for Sectorial and Special Programs and Projects (*Dirección General de Programas y Proyectos Sectoriales y Especiales)*
ESCP	Environmental and Social Commitment Plan
ESF	Environmental and Social Framework
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GoA	Government of Argentina
GRID	Green, Resilient and Inclusive Development
GRS	Grievance Redress Service
IBRD	International Bank for Reconstruction and Development
IDB	Inter-American Development Bank / Banco Interamericano de Desarrollo
IFR	Interim Financial Report
LAF	Financial Administration Law (*Ley de Administración Financiera*)
MECON	Ministry of the Economy (*Ministerio de Economía)*
NDC	Nationally Determined Contribution
NPV	Net Present Values
PBC	Performance-based conditions
PDO	Project Development Objective
PEST	Electricity seasonal price (*Precio Estacional de la Energía Eléctrica*)
PIT	Project Implementation Team
PPSD	Project Procurement Strategy for Development
RASE	National ad-hoc registry to access energy subsidies (*Registro de Acceso a los Subsidios Energéticos*)
SE	Secretariat of Energy (*Secretaría de Energía)*
SINTyS	National tax and social identification system (*Sistema de Identificación Nacional Tributario y Social*)
VAD	Distribution value added (*Valor Agregado de Distribución*)

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DATASHEET

BASIC INFORMATION

Project Beneficiary(ies)	Operation Name		
Argentina	Supporting the Transition to a Sustainable Electricity Sector in Argentina		
Operation ID	Financing Instrument	Environmental and Social Risk Classification	
P506430	Investment Project Financing (IPF)	Moderate	

Financing & Implementation Modalities

[ ] Multiphase Programmatic Approach (MPA)	[ ] Contingent Emergency Response Component (CERC)
[ ] Series of Projects (SOP)	[ ] Fragile State(s)
[✓] Performance-Based Conditions (PBCs)	[ ] Small State(s)
[ ] Financial Intermediaries (FI)	[ ] Fragile within a non-fragile Country
[ ] Project-Based Guarantee	[ ] Conflict
[ ] Deferred Drawdown	[ ] Responding to Natural or Man-made Disaster
[ ] Alternative Procurement Arrangements (APA)	[ ] Hands-on Expanded Implementation Support (HEIS)

Expected Approval Date	Expected Closing Date
19-Nov-2024	31-Dec-2028
Bank/IFC Collaboration	
No	

Proposed Development Objective(s)

To strengthen institutional capacity to rationalize energy subsidies in Argentina

Components

Component Name	Cost (US$)

C1: Project management, capacity building, and instruments to foster sector sustainability	20,000,000.00
C2: Financing rationalized electricity subsidies for users with validated eligibility criteria	480,000,000.00

Organizations

Borrower:	Argentine Republic		
Contact	Title	Telephone No.	Email
Cecilia Rabinovich	National Director for Strategic Prioritization of International Financing	(+54)91150109090	crabinovich@mecon.gov.ar
Implementing Agency:	Secretariat of Energy		
Contact	Title	Telephone No.	Email
Damian Sanfilippo	Undersecretariat of Electric Energy	(+54) 4349-8018	dsanfilippo@mecon.gov.ar

PROJECT FINANCING DATA (US$, Millions)

Maximizing Finance for Development

Is this an MFD-Enabling Project (MFD-EP)? No

Is this project Private Capital Enabling (PCE)? No

SUMMARY

Total Operation Cost	**500.00**
Total Financing	**500.00**
of which IBRD/IDA	**500.00**
Financing Gap	**0.00**

DETAILS

World Bank Group Financing

International Bank for Reconstruction and Development (IBRD)	500.00

Expected Disbursements (US$, Millions)

WB Fiscal Year	2025	2026	2027	2028	2029
Annual	256.00	94.50	72.50	55.50	21.50
Cumulative	256.00	350.50	423.00	478.50	500.00

PRACTICE AREA(S)

Practice Area (Lead)

Energy & Extractives

Contributing Practice Areas

Poverty and Equity; Social Protection & Jobs

CLIMATE

Climate Change and Disaster Screening

Yes, it has been screened and the results are discussed in the Operation Document

SYSTEMATIC OPERATIONS RISK- RATING TOOL (SORT)

Risk Category	Rating
1. Political and Governance	Substantial
2. Macroeconomic	Substantial
3. Sector Strategies and Policies	Moderate
4. Technical Design of Project or Program	Moderate
5. Institutional Capacity for Implementation and Sustainability	Substantial
6. Fiduciary	Substantial
7. Environment and Social	Moderate
8. Stakeholders	Moderate
9. Overall	Substantial

POLICY COMPLIANCE

Policy

Does the project depart from the CPF in content or in other significant respects?

[ ] Yes [✓] No

Does the project require any waivers of Bank policies?

[ ] Yes [✓] No

ENVIRONMENTAL AND SOCIAL

Environmental and Social Standards Relevance Given its Context at the Time of Appraisal

E & S Standards	Relevance
ESS 1: Assessment and Management of Environmental and Social Risks and Impacts	Relevant
ESS 10: Stakeholder Engagement and Information Disclosure	Relevant
ESS 2: Labor and Working Conditions	Relevant
ESS 3: Resource Efficiency and Pollution Prevention and Management	Relevant
ESS 4: Community Health and Safety	Relevant
ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Not Currently Relevant
ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	Relevant
ESS 7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Relevant
ESS 8: Cultural Heritage	Not Currently Relevant
ESS 9: Financial Intermediaries	Not Currently Relevant

NOTE: For further information regarding the World Bank's due diligence assessment of the Project's potential environmental and social risks and impacts, please refer to the Project's Appraisal Environmental and Social Review Summary (ESRS).

LEGAL

Legal Covenants

Sections and Description
Section I.A of Schedule 2 The Borrower, through SE, shall operate and maintain, at all times during Project implementation and for purposes of Project implementation, a structure (including a technical Project Implementation

Team under SE and a fiduciary team under DGPPSE) with functions, responsibilities, and staffing acceptable to the Bank, including fiduciary, administrative and technical personnel, and social and environmental specialists, all with qualifications, experience, and terms of employment, as set forth in the provisions of the Project Operations Manual.

Conditions

Type	Citation	Description	Financing Source
Disbursement	Section III.B.1(c) of Schedule 2	No withdrawal shall be made for payments made under Category (2)(b) until and unless the Borrower, through SE, has adopted the Project Operational Manual in a manner satisfactory to the Bank.	IBRD/IDA
Disbursement	Section III.B.1(d) of Schedule 2	No withdrawal shall be made for payments under Category 2(c) of the Project, up to an aggregate amount not to exceed USD90,000,000, until and unless the Borrower, through SE, has submitted evidence satisfactory to the Bank, that an External Event has occurred, and the conditions set forth in the POM have been complied with in a manner satisfactory to the Bank.	IBRD/IDA
Disbursement	Section III.B.1(a)	No withdrawals shall be made for payments made prior to Signature Date, except that withdrawals up to an aggregate amount not to exceed USD 200,000,000 may be made for payments made twelve (12) months prior to this date but on or after December 1, 2023 (but in no case more than one (1) year prior to the Signature Date), for Eligible	IBRD/IDA

		Expenditures under Category (2)(a)	

I. STRATEGIC CONTEXT

A. Project Strategic Context

1. **Argentina is the third-largest economy in Latin America, but its development has been hindered by underinvestment and recurrent macroeconomic challenges.** Argentina grew at a slower pace (2.5 percent) than the regional average (3.6 percent) and its investment during the past 30 years, at 17 percent of Gross Domestic Product (GDP), lagged the 29 percent average for developing countries and the 20 percent average for Latin America. The country ranks among the ten emerging economies that are most vulnerable to climate change. The combination of the impact of a severe drought of late 2022 – early 2023 and the October 2023 presidential elections, put an additional strain on the economy, resulting in extremely high inflation, a large gap between official and market exchange rates, increased depletion of international reserves, and increased commercial debt with foreign entities.

2. **The new administration launched a stabilization program in December 2023, which eliminated the fiscal deficit (from 4.4 percent of GDP in 2023), improved balance sheet of the Central Bank of Argentina, and reduced-price misalignments and inflation.** In the first eight months of the year, the accumulated primary surplus reached 1.54 percent of GDP while the overall fiscal surplus reached 0.35 percent of GDP. A 55 percent devaluation of the official exchange rate in December was followed by a monthly exchange rate crawl of 2 percent. This narrowed the gap between official and alternative exchange rates from more than 200 percent to less than 30 percent in September 2024. Inflation has been on a gradual decline from a peak of 25.5 percent (month over month) in December 2023 to 4.2 percent in August 2024. In June 2024, the International Monetary Fund's Executive Board approved the eighth review of the on-going 30 months Extended Fund Facility, which provided an additional US$800 million of resources to support the efforts to stabilize the economy. Finally, on June 27th, the Congress approved the fiscal reform, and the so-called "Ley de Bases" (Law N. 27,742) aimed at streamlining government operations and attracting foreign direct investment. The fiscal package includes the reinstatement of the personal income tax and changes to the wealth tax, and it is expected to increase fiscal revenue by 0.4 percent of GDP in 2024. The "Ley de Bases" declares a public emergency in administrative, economic, financial, and energy sectors and touches upon state reorganization, privatization of eight public firms, an incentives regime for large investments, and labor reform.

3. **The impact of the stabilization program on economic activity has been significant with a 3.1 percent year-over-year contraction in the first seven months of 2024**. Although family allowance programs were protected and maintained their value, high inflation, higher public service tariffs, and a weakening labor market increased poverty and extreme poverty rates from 41.7 percent in the second half of 2023 to 52.9 percent in the first half of 2024 and from 11.9 to 18.1 percent, respectively. Moving forward it will be important to improve the quality of the fiscal adjustment and take initial steps towards an enhanced monetary and foreign exchange policy framework, while implementing reforms to unlock growth. Furthermore, strengthened mitigation measures are needed to contain and reverse the impact of the adjustment on the poor and vulnerable.

4. **The World Bank is supporting Argentina through a US$2 billion package of four operations aimed at building and protecting human capital, while supporting subsidy efficiency reforms in the energy and transport sectors**[1]. To build human capital, the operations support access to early childhood services, including education and health, focusing on vulnerable children under four and pregnant women, as well as the implementation of a national literacy program. To protect human capital, the operations support cash transfers, energy subsidies for the poor and vulnerable, and urban transport affordability. By supporting reforms in subsidy efficiency, these operations contribute to less costly and better

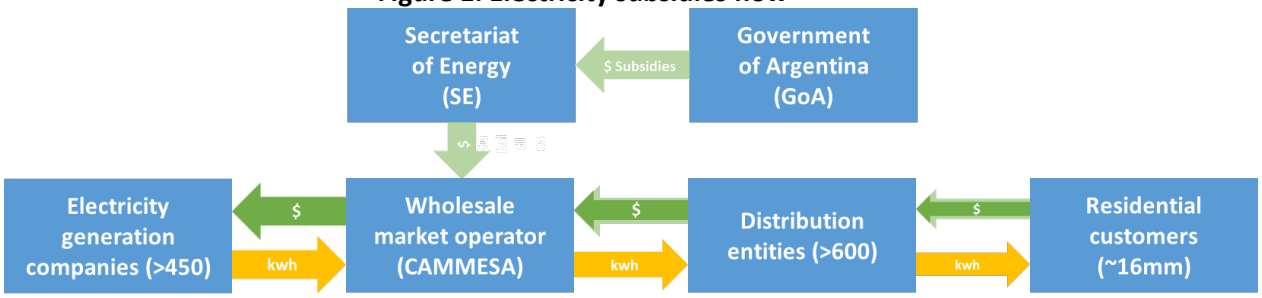
[1] These include, in addition to this Operation, the Support for Integrated Early Childhood Development Project (P505675); the Program to Support the Federal Policy for Enhancing Foundational Literacy (P505179); and the Public Transport Sustainability Project (P506846).

targeted poverty alleviation and vulnerability mitigation measures. In particular, the proposed operation supports the strengthening of institutional capacities to improve electricity subsidies rationalization in Argentina. It adds value by providing capacity building activities and instruments to develop and implement better targeting mechanisms for improved subsidy schemes. All four operations are proposed with either parallel or supplemental financing from the Inter-American Development Bank (IDB), in line with the IDB-WBG Memorandum of Understanding signed between the two institutions on August 31, 2023.

B. Sectoral and Institutional Context[2]

5. **Energy subsidies represented roughly 1.5 percent of Argentina's GDP in 2023, a drop from the 2.0 and 2.3 percent registered in 2022 and 2021, respectively.**[3] Electricity subsidies represent roughly 70 percent of all energy subsidies in the country and, as shown in Figure 1, cover the gap between electricity generation costs and the established wholesale market operator's (*Compañía Administradora del Mercado Mayorista Eléctrico Sociedad Anónima*, CAMMESA)[4] seasonal price (*Precio Estacional de la Energía Eléctrica*, PEST), which has been consistently set below cost recovery. Furthermore, in the recent past, distribution companies bought electricity from CAMMESA at PEST price while some transmission and distribution tariffs for certain consumers were also set below economic costs. Non-reimbursable transfers from the Government of Argentina (GoA) have covered CAMMESA's shortfalls, including arrears from distribution entities (due to, among other factors, the low transmission and distribution tariffs). For most of the last 25 years, electricity bills for residential consumers have not reflected actual electricity costs.[5]

Figure 1. Electricity subsidies flow



Source: WB

6. **Although they are progressive, a large share of energy subsidies in the last two decades flowed to middle- and upper-income households as well as non-residential consumers.** Following Argentina's macroeconomic and social crisis of 2001, energy tariffs were frozen until 2015 to mitigate the impact of rising prices on the purchasing power of low-income households. Efforts to raise natural gas and electricity rates were contested in courts which blocked most attempts to unfreeze energy prices. As a result, subsidies continued to grow, increasingly straining the country's finances. In 2014, subsidies for high-income neighborhoods were reduced, and a voluntary registry to encourage higher-income households to forgo subsidies was introduced, but with limited impact. A new and more effective attempt to rationalize subsidies and set cost-reflective tariffs was made in January of 2016 when the GoA updated pass-through mechanisms, putting tariffs on a path to reflect actual costs and introduced a "social tariff" to try to target subsidies to vulnerable populations. By the end of 2018, responsibility for financing of the social tariff was transferred to the provinces. In 2019, tariffs were re-frozen, increasing the resources devoted to subsidizing generation costs and limiting the resources available to invest in the grid.[6]

[2] See Annex 2 for further sector and context background information.
[3] Economía & Energía & PxQ. *Tarifas de energía eléctrica y gas natural*, July 2024, p. 3.
[4] A public-private entity owned by the market agents (80 percent) and the State (20 percent).
[5] As electricity bills consist of generation, transportation and distribution costs, and local taxes.
[6] Romero, *Estado de situación de las distribuidoras eléctricas en Argentina*, January 2021, p. 7.

7. **In mid-2022, the government started revising tariff structures to better target subsidies to poor and vulnerable groups.** A new national ad-hoc registry to access energy subsidies (*Registro de Acceso a los Subsidios Energéticos*, RASE) was created to define new tariff segments and classify energy consumers into low, medium, and high-income categories. To continue receiving subsidized rates, users had to self-declare through RASE their updated information on income, and additional socioeconomic information (including listing all members of their household). Based on the updated data, households in the *Registro* were classified into three categories: N1 – higher-income households not to be further subsidized; N2 – lower-income households continuing to receive subsidies; and N3 – middle-income households to be partially subsidized. The RASE has become a key tool to improve subsidies targeting, complementing dispersed individual administrative records and outdated information from distribution entities with self-reported household data.

8. **The new administration has emphasized the need for further subsidy reform focusing on improving the targeting mechanism**[7]**.** Most electricity subsidies for high-income households and commercial customers were eliminated in early 2024 and, in June 2024, the subsidy reform process was deepened with the announcement of new national electricity prices and subsidies impacting all residential customers. The GoA has delayed the full elimination of subsidies for the N2 and N3 segments to protect the most vulnerable, but the mid-2024 changes resulted in price increases for all segments, including low- and middle-income customers who had last seen energy price hikes in June 2022 and February 2023, respectively.[8] Under the new tariffs, the bottom 40 percent of households have seen the share of monthly income needed to cover the electricity bill rise from 1 percent to between 4 and 6 percent (depending on their classification as N2 or N3).[9] Despite the new prices, N2 or N3 customers only cover 36 and 44 percent of total generation costs, respectively.

9. **The GoA has found that roughly 30 percent of households registered in the RASE may need to be recategorized.** To decrease inclusion and exclusion errors, the current administration has begun testing and cross verifying the RASE data with administrative records through the national tax and social identification system (*Sistema de Identificación Nacional Tributario y Social*, SINTyS). To date, the GoA has detected that an important number of households may not be registered in the RASE but potentially qualify for energy subsidies and roughly 20 percent of households (approximately 1 million homes) registered in the RASE do not have socioeconomic information to be verified through the SINTyS. Utilities and provincial regulators databases – which could potentially address the RASE's gaps – tend to be outdated. The GoA has found significant inconsistencies involving around 400,000 N2 users and realized that some non-technical losses have been imputed as N2 segment consumption.[10] As the RASE keeps growing – with over 1 million household entries added just in the last 3 months – the challenge to improve households' information keeps mounting.

10. **Energy subsidies could drop to between 0.7**[11] **and 1.0**[12] **percent of GDP by the end of 2024, reducing their fiscal impact by 30 to 50 percent and demonstrating the value of subsidy reform.** The reforms introduced throughout 2024

[7] The regulatory framework for such subsidy reform was published and implemented through Decree 465/2024 Art.1, which says that: "The restructuring of national energy subsidies seeks to ensure a gradual, orderly, and predictable transition towards a scheme that allows: (i) transferring the real costs of energy to users; (ii) promoting energy efficiency; and (iii) ensuring that vulnerable residential users have access to the essential consumption of electricity, piped and bottled gas." Available online at: https://www.boletinoficial.gob.ar/detalleAviso/primera/308255/20240528.

[8] These increases are applied only to the subsidized electricity under the caps set for each segment (350 kWh/month for N2 and 250 kWh/month for N3 users); any consumption above those levels would be paid at full (N1) tariffs. See: Economía & Energía and PxQ. *Tarifas de energía eléctrica y gas natural*, June 2024, p. 9.

[9] Estimates based on information for the Greater Buenos Aires region (*Área Metropolitana de Buenos Aires*, AMBA). There is heterogeneity across provinces, but the share of household income required to cover the electricity bill is generally higher for households outside AMBA.

[10] Information provided by the SE.

[11] IMF, June 2024, Argentina: *Eighth Review Under the Extended Arrangement Under the Extended Fund Facility, Requests for Modification of Performance Criteria, Waivers of Nonobservance of Performance Criteria, and Financing Assurances Review*, p. 46.

[12] Economía & Energía and PxQ. *Tarifas de energía eléctrica y gas natural*, June 2024, p. 18.

are already having an impact on improving the RASE as well as household's databases, self-reported information, and utilities' mechanisms to gather, report or share information, among others; continuing such efforts would help deliver improved targeting mechanisms. Further incentivizing users to appropriately register in the RASE – including social tariff beneficiaries that were initially grandfathered into the N2 segment – or report additional socioeconomic characteristics – such as other household members' details – could also be of great help in Argentina's reform efforts.[13]

11. **Sheltering households at high risk of severe welfare losses under increasing electricity tariffs while advancing an efficient use of fiscal resources requires new mechanisms to appropriately target the vulnerable population.** Improving targeting can go a long way towards protecting vulnerable populations and sustaining progress. Consolidating the registry of households accessing the subsidies (RASE) as well as validating it with administrative databases (collected through SINTyS),[14] developing national capacities for data collection, improving the technology and software availability, and creating mechanisms to incentivize relevant stakeholders (at the provincial or national level) to share and update information can all be key measures to improve targeting and deepen reform efforts.

12. **The proposed Project would help expand the positive outcomes of subsidy reform by specifically focusing on the institutional capacities to improve targeting mechanisms.** Project activities could help reduce the fiscal impact of the energy sector while creating tools for the GoA to improve policies, incentivize better electricity use, and rationalize public spending. The proposed Project would also help create incentives for key stakeholders to generate valuable information on user characteristics and other enabling activities to potentially help reduce technical and non-technical losses, increase savings, or improve electricity use in households, as well as improve key stakeholders' sustainability and financial viability. As these measures increase planning capabilities, they can help generate better policies to improve resilience. Finally, the interlinkages between Argentina's large fiscal imbalances, carbon dioxide emissions, and subsidies imply that improving the focalization of the latter would result in improving (or reducing) the former.

C. Relevance to Higher Level Objectives

13. **The proposed Project objectives are consistent with the World Bank Group's Country Partnership Framework for the Argentina (FY19-FY22), extended to end FY24 by the May 2022 Performance and Learning Review,[15] as well as the upcoming CPF under preparation.** The proposed operation is of vital importance to the GoA and of strategic relevance for the Bank's efforts in the country. The Project would help improve the overall sustainability of the power sector and Argentina's fiscal balances by strengthening the country's capacity to improve subsidies targeting. In particular, the operation would contribute to Focus Areas 2 "Addressing Key Institutional Constraints for Better Governance and Service Delivery" and 3 "Supporting Argentina in implementing its NDC". The Project will help implement policies and practices to strengthen the local capacities to improve power sector subsidies targeting, efforts which would result in an increased efficiency and financial sustainability of the sector. It will also help Argentina in crafting key sector guidelines, enhancing knowledge and capacity for policymaking and overall capabilities within the sector.

14. **The Project is consistent with Argentina's Nationally Determined Contribution (NDC).** In the latest NDC submitted to the United Nations Framework Convention on Climate Change, Argentina commits to not exceeding a net

[13] The GoA's recent authorization for federally controlled utilities to increase their remuneration for distribution activities (*Valor Agregado de Distribución*, VAD) has also bolstered the sector's financial sustainability by enhancing the profitability of the distribution segment. In fact, according to sector experts from GoA, CAMMESA's collectability reached 96 percent (from a baseline of 54 percent). However, these price increases have also negatively impacted consumers.

[14] As efforts from the *Supporting the electricity Social Tariff transition in the Province of Buenos Aires Project (P170329)* have shown, helping provincial entities to cross examine RASE and SINTyS records to assess potential social tariff eligibility helped reduce the percentage of unidentified users to 9.5 percent, compared to an average of 23 percent when not cross checking the databases.

[15] Country Partnership Framework Report No. 131971-AR and Performance Learning Review Report No. 170668-AR.

emission of 483 million tons of carbon dioxide equivalent (tCO2eq) by 2030 on mitigation. The Project contributes to the NDC by supporting the decarbonization of electricity production as, eventually, reducing electricity subsidies and incentivizing improved planning and efficient electricity use will facilitate a transition to cleaner electricity sources and reduce the use of fossil fuels, thereby aiding in achieving the mitigation targets. The Project is also consistent with the National Adaptation and Mitigation Plan by enhancing energy efficiency and resilience to climate change through capacity building to foster behaviors that reduce energy consumption and emissions, as well as strengthening energy planning to comply with Argentina's climate commitments. Additionally, the Project is aligned with the recommendations of the World Bank Argentina Country Climate and Development Report (CCDR) which points out that Argentina could undertake a path towards net zero carbon dioxide emissions and smaller decreases in emissions from other pollutants by 2050, if it, among others, decarbonizes electricity production with increased capacity for renewable energy and increased energy use.[16]

15. **The Project also supports Green, Resilient and Inclusive Development (GRID),[17] particularly Pillar 4 – Strengthening Policies, Institutions and Investments for Rebuilding Better.** It will spur green and sustainable growth by supporting a better targeting of subsidies, improving efficiency, incentivizing better energy use and thus reducing the use and reliance on fossil fuels, supporting institutional strengthening and capacity building, while also creating data and information tools that can help enhance the sector's resilience. The Project is also aligned with the Global Challenge Program Energy Access and Transition, as it will support energy efficiency and future integration of more renewables, as well as contributing to the World Bank's Climate Change Action Plan 2021-2025 which aims to advance the climate change aspects of the GRID approach. It also follows the directives of the LAC Roadmap for Climate Action 2021-25 as it guides the Bank's "response for scaled-up, transformational climate action in the region."

II. PROJECT DESCRIPTION

A. Project Development Objective

To strengthen institutional capacity to rationalize energy subsidies in Argentina.

PDO Level Indicators

- Institutional capacities strengthened (Text)
- Electricity subsidies provided to beneficiaries validated per the eligibility criteria (Percentage)

B. Project Components

16. **The proposed Project will consist of a US$500 million IBRD loan to be executed by the Ministry of Economy (MECON) through the Secretariat of Energy (SE).** The proposed Investment Project Financing (IPF) loan would finance capacity building and enabling activities to rationalize electricity subsidies and include Performance Based-Conditions (PBCs) linked to expenditures such as share of subsidies provided to households identified through the improved targeting mechanisms. The proposed operation will consist of two components detailed below and will be implemented over 4

[16] World Bank Group (2022). Argentina Country Climate and Development Report. CCDR Series; World Bank, Washington, DC. © World Bank Group. https://openknowledge.worldbank.org/handle/10986/38252 License: CC BY-NC-ND, p. 6.
[17] The World Bank Group, Green, Resilient, and Inclusive Development, 2021, available online at: https://openknowledge.worldbank.org/handle/10986/36322.

years. The IDB is also supporting GoA's electricity subsidies rationalization process with a similar project in the amount of US$700 million.[18]

Table 1. Supporting the transition to a sustainable electricity sector in Argentina, by financier

Financier / Component	US$M
IBRD	**500**
1. Project management, capacity building, and instruments to foster sector sustainability	*18.75*
2. Financing rationalized electricity subsidies for users with validated eligibility criteria	*480.00*
Front-end Fee	*1.25*
IDB	**700**

17. **Component 1: Project management, capacity building, and instruments to foster sector sustainability (US$20 million).** This component will focus on strengthening the GoA's capabilities for the implementation of Component 2 to ensure ongoing efforts and potential subsidy reforms can be effective, efficient, and clearly communicated. Component 1 will not rely on PBCs; disbursements will be input-based. Activities will include project management and technical assistance for the SE and other relevant entities – such as other federal-government ministries and line agencies, provincial or national regulatory bodies, generation, distribution, or energy sector enterprises. Impacts on low-income households as well as on the overall energy sector could also be assessed.

18. **The component will also seek to support the improvement of capacities to assess and address key impacts of subsidy reform – particularly on the most vulnerable households – as well as key drivers of the energy sector's sustainability.** In addition, Component 1 will support the production of evidence for policymaking purposes. If appropriate, effort will be made to implement innovative approaches to account for the reduction of Greenhouse Gas (GHG) emissions that would result from improving energy use at the residential level[19]. Activities will seek to improve critical stakeholders' understanding of key sectoral issues and support the development of general and specific communication strategies to ensure successful implementation. Additionally, a gender lens will be incorporated to ensure communication strategies or results' assessments on the most vulnerable population involved are inclusive and gender sensitive. In addition, effort will be made to ensure equal participation of men and women in the capacity-building activities to be developed under the Project. The component will also have positive climate change mitigation impacts due to the generation of improved data which would enhance energy planning, inform behavioral change campaigns and policies, and improve energy efficiency measures. As planned activities enable more accurate forecasting of demand and supply, the component will also lead to optimized use of energy and improved support for integrating renewable sources, as well as foster energy efficient habits, such as switching lights off or unplugging appliances. Overall, planned activities will lead to reduced emissions and help strengthen the resilience and adaptation of the sector.

19. **Component 1 will consist of two subcomponents:**

a. **Project management (US$4.75 million):** The subcomponent will support overall Project management. Activities include coordination, implementation, technical design, legal, procurement, financial management aspects and fulfillment of all fiduciary obligations, liaising and establishing relevant implementation agreements with key institutions collaborating with or participating in the Project, communication, environmental and social management (as per the Project Environmental and Social Commitment Plan, and its related instruments), monitoring and evaluation (including audit expenses), tracking mitigation and

[18] The IDB's energy operation, while sharing the same name as the Bank-financed Project, is supplemental and distinct: it has a different scope, components, and results framework. The World Bank project team will coordinate with the IDB to ensure there is no overlap in financing.

[19] For example, Uzbekistan has developed a carbon credits market to account for the reduction in GHG emissions from subsidy reform, known as the Innovative Carbon Resource Application for Energy Transition Project (iCRAFT).

adaptation results and impacts, engagement and consultations with targeted populations and beneficiaries to foster behavioral change (including the implementation of the Project Stakeholder Engagement Plan, and its Grievance Redress Mechanisms).

b. **Strengthening institutional capacities and processes to improve sector sustainability (US$14 million):** This subcomponent will seek to address the enhance SE's capacities to manage and assess subsidies, including supporting the crafting of an *ad-hoc* structure to centralize information from different data sources and registries (such as the RASE, SINTyS and provincial regulators), address information gaps relevant to the appropriate granting of subsidies, strengthen data systems and overall information management capabilities, analyze potential impacts of the subsidies reform, help craft improved and efficient energy use initiatives and design innovative subsidy delivery mechanisms to potentially be tested and deployed by the GoA.[20] Activities to be financed could include, *inter alia*:

   i. Training activities and deployment of technological solutions for centralization and processing of data from RASE, SINTyS (or their successors), regulatory entities, or other relevant sources, as needed.
   ii. Development of protocols and procedures to allow for systematic information exchanges between regulatory entities, provincial bodies, SE, CAMMESA, and other key stakeholders at the federal and sub-national (or provincial) levels.
   iii. Provision of software, hardware and technical support to SE, distribution companies, and other institutions to be defined by SE as needed, to improve data updating processes and user identification.
   iv. Diagnostics and support to distribution entities to improve residential consumption databases.
   v. Assessments and evidence on changes in household energy use patterns and evaluating related impacts on non-technical losses and the financial sustainability of key sector entities.
   vi. Methodologies to identify and define low-income households to be protected from further tariff increases, including a gender perspective when feasible.
   vii. Studies of geospatial distribution of different households' categories, aiming at better design and direct interventions.
   viii. Assistance for the design of policies and energy efficiency initiatives that can improve the well-being of vulnerable households and help them reduce energy expenditures and GHG emissions (potentially including innovative approaches to account for the GHG reduction linked to subsidy reform).
   ix. Identification of subsidy reform improvements that reduce inclusion and exclusion errors.
   x. The design and deployment of innovative subsidy delivery mechanisms to improve subsidies focalization and rationalization.
   xi. Assessment and piloting of digitalization as a tool to enhance the deployment of energy subsidies through cash transfers, capture the social perception of subsidy reform, and integrate a gender lens on the information gathered from surveys or grievance mechanism.

20. **Component 2: Financing rationalized electricity subsidies for users with validated eligibility criteria (US$480 million).** This component will mostly rely on PBCs to improve targeting mechanisms and implement better focalized subsidy schemes resulting from the capacity building and instruments supported and developed through Component 1. The component will seek to support – *inter alia* – the improvement of existing registries at the national and provincial or subnational levels (electricity regulatory entities or provincial institutions), the appropriate inclusion of vulnerable households into such databases, the correction of other inclusion or exclusion errors within such records, the appropriate

[20] The document and component description make reference to SINTyS and RASE as these are the current tools the Project aims to enhance. Similar support would be provided by the Project to any replacement, substitute or successor instruments (such as registries or databases) enacted or deployed by the same responsible or different entities. Similar considerations will apply to other Project support areas such as residential users' segment classification; should the N1, N2 or N3 categories change, the Project would continue addressing issues related to such new categories.

capturing and processing of enhanced information sources and data on electricity consumption at the residential level, and the provision of external shock-related electricity subsidies (see paragraph 23 for further details).

21. **The component will result in a more efficient allocation of electricity subsidies due to improved mechanisms to appropriately identify eligible beneficiaries (low-income households).** Adjusting households' registries to appropriately classify them into the correct subsidy scheme segment will directly improve targeting, reduce wasteful spending, improve energy use, reduce consumption, and incentivize energy efficiency measures in households (such as promoting the use of energy-efficient appliances), resulting in a significant reduction of GHG emissions. It is estimated that by 2035, the supported activities could aid in reducing energy consumption by 27,544 GWh and avoid CO2 emissions by 7.44 MtCO2. Improving information sources and households' electricity consumption data will also facilitate energy use monitoring and identification of programs and policies that can pave the way for energy efficiency investments. Furthermore, ensuring low-income groups have access to affordable electricity can help them build resilience against climate shocks, as electricity can power cooling systems, enhance food storage capability, and thus ensure they are better equipped to manage climate risks, such as droughts or extreme heatwaves.

22. **Throughout 2024, the GoA has been implementing an initial set of subsidy reform efforts that are to be supported under this component as retroactive financing.** The SE has continued working during 2024 on improving the information contained in the RASE and lowering the share of household entries that rely entirely on self-reported data or that have been grandfathered into the subsidized segments from provincial Social Tariffs registries. The GoA has also enacted the key measures that comprise the first steps in the subsidy reform process supported by the operation, such as: (i) setting of the period for reformulating existing subsidy allocations to transition from a universal to a targeted scheme and which mandated relevant entities to share administrative data to enhance households subsidy targeting (Decree 465/2024 of May27th 2024); (ii) defining key identification criteria and processes for potential beneficiaries to request and obtain electricity subsidies (Resolution N. 90 of June 2024); and (iii) improving RASEs registry forms to incorporate additional information and enhance cross-referencing with the SINTyS. As these first steps were planned to be incorporated in the Project and have already been achieved, their retroactive financing for up to 40 percent of the IPF loan (US$200 million) is envisaged.[21] These activities are the basis of the GoA's subsidy reform and the operation's efforts and will lead to the emission reductions and energy savings envisioned by the Project. These measures will be key to unleash climate benefits by reducing subsidies (by targeting them only towards the most vulnerable), improving the passthrough of electricity generation costs to consumers, reducing errors in subsidies databases, and defining the criteria limiting access to such subsidies. Without these measures, expected electricity tariffs would not change, and climate co-benefits would be hampered.

23. **The provision of shock-related electricity subsidies will be triggered in the case of external events that impact generation costs and thus tariffs paid by vulnerable users.** Disbursements will be linked to criteria established in the Project's Operational Manual (POM) and are expected to be made within the first two years of Project implementation. The objective is to shield vulnerable users from external shocks, such as droughts or extreme situations that impact the cost of imported fuels to generate electricity, covering them from unexpected tariff increases. The eligibility period is the first 24 months of Project implementation, as it is considered the most critical phase of the subsidy reform process. The amount assigned to this activity (US$90 million) was estimated to cover three months of the potential incremental cost from an external shock.

24. **The disbursement of funds for the rest of the component will be triggered by the achievement of specific PBCs and linked to subsidies expenditures provided to households identified through the improved targeting mechanisms.**

[21] Management approved up to 40 percent retroactive financing, as requested by the Borrower, in light of the ongoing fiscal consolidation, economic crisis, and high poverty rates currently affecting the country.

The PBCs included under this component are further presented in Table 2, including key activities, calendar and disbursement milestones. For further details on the PBCs, as well as the monitoring and verification procedures, please see Annex 1. The PBCs are summarized below:

a. **PBC 1: Deploying the mechanisms to improve subsidies rationalization (US$110 million):** This PBC will include activities such as deploying integrated operational platforms to facilitate users and residential consumption information flow from provincial or subnational sources to SE; systematization of information exchanges between the SE and its registries and regulatory entities' or provincial databases; increasing the share of users for which relevant electricity consumption data has been shared with the SE; and the update or correction of subsidy granting eligibility criteria. These activities will ensure that subsidies are allocated efficiently, promoting energy efficiency, reducing consumption and GHG emissions, while creating further incentives to change energy use consumption and related behaviors.
b. **PBC 2: Strengthening targeting schemes (US$90 million):** The PBC will help design, develop, implement, and comply with a system to address household classification errors and resolve related complaints; and reduce the number of households registered in the RASE that lack administrative records in the SINTyS. By improving or correcting households' classifications and records, the Project will ensure subsidies are provided to vulnerable households enhancing their resilience to climate change. Furthermore, the identification of vulnerable households will allow for their targeting under energy use campaigns and strategies and allow for energy use behavioral changes.
c. **PBC 3: Tracking and communicating subsidy reform (US$80 million):** This PBC will link disbursements to activities or milestones such as the share of subsidies granted to the segment receiving the greatest discount (N2) that have been cross-verified in SINTyS; developing communication and education campaigns, including crafting a timely, assertive, and targeted communications strategy to clearly introduce any subsidy reform to key stakeholders and beneficiaries; preparation of in-depth analyses of overall reform impact on the sector, including all stakeholders (consumers, distribution entities, CAMMESA) and issues such as the evolution of total electricity losses by province and on collectability indicators for the residential segment; distributive and sectoral impact of tariff increases on vulnerable households, on energy use patterns in households (including a gender perspective on the last analyses to assess differential effects and identify areas of action to mitigate those gaps), and on the environmental risks and impacts related to the eventual induction of a transition, at the household level, towards other cheaper energy sources for heating and cooking (such as wastes, firewood, charcoal, coal, kerosene or diesel), stemming from the reduced access of some groups to subsidies to electricity tariff. Awareness-raising activities, as well as improved information and data on the sector, will lead to more effective programs and policies to foster energy efficiency, and help reduce GHG emissions. The preparation of communication campaigns will further allow households across Argentina to gain knowledge on ways to reduce energy use and strengthen the capacities of key stakeholders – such as distribution companies – to deal with key challenges related to losses, planning or delivery of key services.

Table 2. PBCs, expected disbursements and milestones per calendar year

PBC		2025	2026	2027	2028
PBC 1: Deploying the mechanisms to improve subsidies rationalization	PBC1.1: SE's integrated operational platform has been able to generate users and residential consumption information from provincial or subnational entities.	Target: Operational platform. Baseline: no platform developed. Disbursement: US$15 million			
	PBC 1.2: Formal agreements on systematic information exchanges have been signed between the SE and regulatory entities or provincial databases.	Target: Agreements signed covering up to 80% of residential users. Baseline: n.a. Disbursement: US$15 million (US$7 million for the first 40% of users, and US$8 million proportionally until target of 80%).[22]			
	PBC 1.3: Share of users for which electricity consumption data by segment has been shared with the SE	Target: 50% Baseline: 0% Disbursement: US$15 million	Target: 70% Disbursement: US$20 million	Target: 80% Disbursement: US$20 million	Target: 90% Disbursement: US$15 million
	PBC 1.4: Update or correction of subsidy granting eligibility criteria has been issued by SE		Target: Resolution issued by SE Baseline: n.a. Disbursement: US$10 million		
PBC 2: Strengthening targeting schemes	PBC 2.1: Enhanced grievance redress mechanism designed and implemented with information available to address household classification queries related to the segmentation scheme	Target: Design of grievance redress mechanism centralized at the national level[23] Baseline: no centralized grievance mechanism designed Disbursement: US$15 million	Target: centralized mechanism implemented[24] 70% of inquiries are answered by the centralized system Disbursement: US$9 million	Target: 80% of inquiries are answered by the centralized system Disbursement: US$8 million	Target: 90% of inquiries are answered by the centralized system Disbursement: US$8 million
	PBC 2.2: Share of households registered in the RASE that lack administrative records in the SINTyS.	Target: 30% Baseline: 0% Disbursement: US$15 million	Target: 20% Disbursement: US$15 million	Target: 15% Disbursement: US$10 million	Target: 10% Disbursement: US$10 million

[22] This is a rolling PBC: it is expected to be met (and resources disbursed) in 2025, but if milestones were met in a later year during Project implementation, linked disbursements could still be proportionally requested.
[23] This involves capacity building activities and the implementation of measures to channel segment-related claims received at the distribution or regulatory entities level to the national system.
[24] Includes cooperation measures with provincial entities to centralize claims at the national level, such as publishing the national segment-related help desk number in electricity bills, or passing related enquiries made at provincial or utilities help desks to the national help desk, among others.

PBC 3: Tracking and communicating subsidy reform	PBC 3.1: Share of subsidies granted to the segment receiving the greatest discount (N2) cross verified in SINTyS	Target: 70% Baseline: 5% Disbursement: US$13 million	Target: 75% Disbursement: US$13 million	Target: 80% Disbursement: US$8 million	Target: 85% Disbursement: US$10 million
	PBC 3.2: Communication and education strategy on the rationalization of subsidies and electricity tariffs increased mitigation measures	Target: Communications strategy designed. Baseline: No communications plan Disbursement: US$7 million	Target: Implementation of the strategy with target audiences. Execution of a campaign on subsidy rationalization and an awareness campaign on the efficient use of electricity. Disbursement: US$5 million	Target: Measurement of results of the communication strategy on households Disbursement: US$6 million	
	PBC 3.3 Assessments of (i) the distributive impact of tariff increases on low-income households (ii) environmental risks and impacts of tariff increases and changes on energy use patterns in households (including a gender perspective) (iii) Analyses of the evolution of total electricity losses by province and on collectability indicators for the residential segment	Target: Reports (i) and (iii) developed Baseline: N.A. Disbursement: US$7 million	Target: Updated Reports (i) and (iii) and report (ii) developed, Disbursement: US$5 million	Target: Updated Reports (i) and (iii) developed Disbursement: US$6 million	

C. Project Beneficiaries

25. **Direct Project beneficiaries are nationwide electricity residential users, accurately identified as vulnerable households (in accordance with current regulations) eligible to receive a tariff discount.** Additional direct beneficiaries would include households targeted by communication strategies on the benefits of improved energy use, existing electricity service users that would benefit from subsidy reform mitigation measures to be potentially introduced (including the extreme climate event mitigation mechanism).

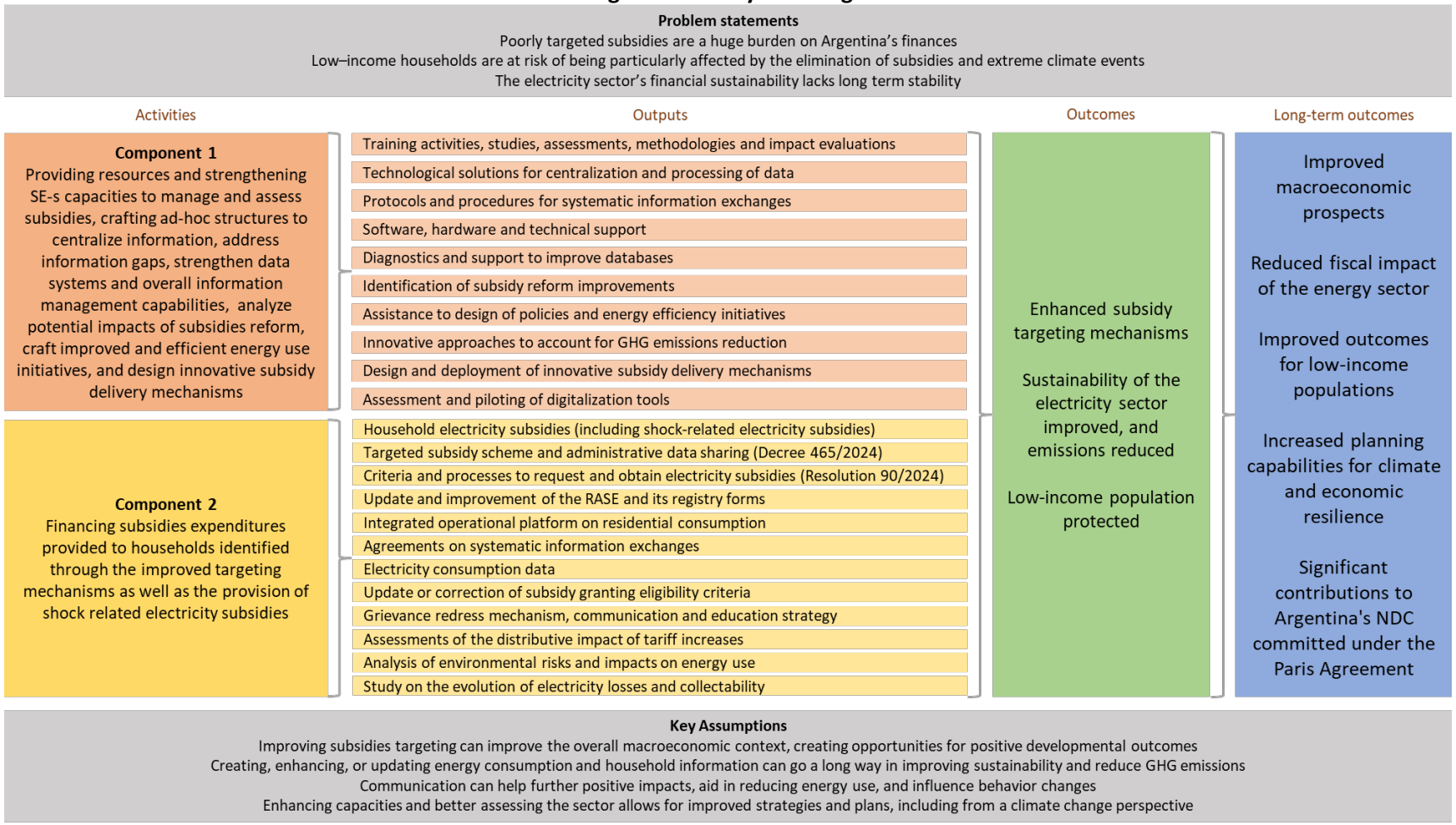
26. **The proposed operation would also directly support the strengthening of institutional capacities within key actors.** The Project would allow the development of new and strengthening of existing capabilities within the SE and other line agencies involved in the management of electricity subsidies, such as regulatory agencies, provincial or subnational entities or utilities, among others. Utilities processes to gather and update information will also be targeted and improved, further enhancing such entities' capacities and facilitating an improved management. Furthermore, policymaking processes will be reinforced through the crafting of new evidence and knowledge outputs. Finally, by improving existing information on electricity use and facilitating collaboration between relevant stakeholders, the operation will also benefit overall governance and allow for the furthering of key sectoral initiatives in the future.

27. **The Project will develop a proactive communication and citizen and stakeholders' engagement strategy.** Such tools will incorporate the principles of using the feedback from beneficiaries (especially women) collected in consultations in Project design and implementation and communicating those decisions and changes back to the beneficiaries. The operation will also support the crafting of strategies to sensitize the population on behavioral changes that could help them better use electricity and achieve savings to counter any further potential negative impacts from the reduction of subsidies, mitigation measures and to "close the loop" by including their feedback. Project monitoring will track the number of complaints related to household classification errors and satisfaction and report these during implementation.

D. Results Chain

28. The Theory of Change presented below summarizes Project activities, outputs, and outcomes.

Figure 2. Theory of Change



E. Rationale for Bank Involvement and Role of Partners

29. **The World Bank is well-positioned to support Argentina as it has robust experience designing and supporting interventions to implement subsidy reforms and improve targeting.** Throughout preparation and implementation, the Project team will support the GoA through non-lending activities to be sought with Bank-executed resources. These could include additional support to Argentina to prepare the measures considered under all components before approval as well as analysis relevant for the country to address key fiscal challenges. The Bank is already helping in the development of more robust mechanisms for distribution entities to submit accurate information to SE and to enhance the understanding of individual household energy consumption. In addition, the Bank has also gathered a unique set of lessons from its extensive experiences in the power sector and subsidy reform and which are being considered in the design of this operation.

30. **An extensive number of energy sector operations have given the World Bank plenty of experience supporting the GoA, the SE, and provincial entities, as well as other key players from the Argentinian power sector.** During 2023, the "*Argentina Clean Energy for Vulnerable Households and Communities Project*" (Loan 9521-AR) was launched with the objective of improving access to and the quality of electricity services for the most vulnerable. In 2019, the "*Supporting the electricity Social Tariff transition in the Province of Buenos Aires Project*" (P170329) supported the transition of the social tariff scheme from the federal to the Buenos Aires province – as part of the COVID-19 emergency response. Prior to that, the World Bank supported Argentina's efforts to increase electricity generation capacity from renewable energy sources through private investment with the "*Renewable Fund Guarantee Project for Argentina*" (P159901). The recently closed "*Renewable Energy for Rural Areas Project for Argentina Project*" (133288) helped provide and enhance access to modern energy services in rural areas. The World Bank's support will consider the experience gained through these efforts and link to and use (and further align) the ongoing operation mentioned above to support Project outcomes and outputs.

F. Lessons Learned and Reflected in the Project Design

31. **Argentina's success in improving targeting mechanisms (and furthering subsidy reform) will hinge on understanding the effects of current subsidies on households and communities, especially how their reduction might impact them.**[25] Engaging in such efforts can help identify critical challenges and influence design to avoid negative outcomes, particularly for the most vulnerable, as well as ensure policy continuity. Furthermore, accompanying a subsidy reform with efforts to improve the efficiency and sustainability of the sector would maximize impact. Such goals can be achieved if key institutions have access to updated information – particularly regarding electricity use and consumption – and the capacity to process it in a way to inform policymaking and planning. Such evidence can also help create and deploy additional measures – beyond energy sector interventions – to protect vulnerable populations by improving databases at the national or provincial level (or within distribution entities and regulators). Additional lessons learned incorporated in the Project's design include:

a. Energy subsidy reforms have a stronger impact when accompanied by a package of policies and measures within and beyond the energy sector.
b. Energy subsidy reforms require extensive preparatory work in multiple domains—including assessing the energy sector or utilities' financial performance and fiscal costs.
c. Decisions on reform measures towards efficient cost-reflective tariffs and market-based prices needs to be informed by a distributional analysis of different options and the exploration of alternative approaches to meeting the needs of poor and vulnerable households.

[25] Adapted from: The World Bank & ESMAP, Energy Subsidy Reform in Action: Political Economy Analysis and Communications for Energy Subsidy Reforms. Approaches and Insights from Recent Technical Assistance. March 2024.

d. Most of the reform options developed envisage a transition period with an initial price or tariff increase, followed by a path with gradual increases before fully eliminating subsidies once protective measures are set.
e. Involvement of the relevant set of energy sector counterparts, coherence between activity design and government reform and policy-making priorities, and adaptability to the evolving needs of government counterparts and shifting energy sector objectives are key.

III. PROJECT IMPLEMENTATION

A. Institutional and Implementation Arrangements

32. **Overall implementation of the Project will be the responsibility of the Secretariat of Energy within the Ministry of Economy.** The Secretariat of Energy has long experience overseeing a wide range of projects with external multilateral financing – as well as with bilateral donors. Since the 1990s, SE has received continuous support to expand and enhance its capacities and has been implementing different Bank-financed operations, including the active "*Argentina Clean Energy for Vulnerable Household and Communities Project*" (Loan 9521-AR). The SE will rely on a Project Implementation Team (PIT) which will perform most technical, management, reporting, and monitoring and evaluation tasks while the MECON's General Directorate for Sectorial and Special Programs and Projects (DGPPSE) will be responsible for fiduciary activities. The PIT will ensure compliance with all environmental and social regulations and monitor the implementation of the subprojects and tasks, compiling information from the various implementation partners and activities. Overall fiduciary capacities tend to be adequate in Argentina and the Project is expected to make extensive use of country's systems in terms of budgeting, flow of funds, and internal and external audits.

33. **The SE will be responsible for supervision, monitoring, and reporting of all Project activities, relying on local and partners' capacities as needed.** The SE will establish structured collaborations with key stakeholders, including federal agencies, utilities, regulators, and provincial authorities, to enhance coordination, align objectives, and ensure regulatory compliance. In addition to the sharing of information contemplated in Decree 465/2024 (Art. 6), collaborative engagements with subnational entities and utilities would also be sought – if appropriate – to secure the flow of information and any other relevant exchanges.

34. **Component 1 will rely on existing SE capacities to be strengthened by and during Project implementation.** As this component comprises procurable expenses and outputs, the PIT will rely on its extensive experience with World Bank projects to deploy them. The Team will coordinate all activities and be supported by the DGPPSE, which will launch selection processes for consultancy services and procurement of equipment, or activities, including training and capacity building activities and assessments as well as for any goods, or services linked to these analyses.

35. **The SE will also coordinate Component 2 and oversee all activities for triggering of its PBCs.** The SE's PIT will compile and provide verifiable records and evidence for the triggering of the PBCs and will ensure harmonization and alignment with activities supported by other partners such as IDB. As this will be the first operation managed by the PIT that includes the use of PBCs, the World Bank team will provide close implementation support to the GoA, as needed.

B. Results Monitoring, Evaluation, and Verification Arrangements

36. **Project results and indicators will be monitored continuously, and the SE will regularly collect and track key information.** Project monitoring will build upon existing structures and capacities developed through past and ongoing activities with SE, particularly for Component 1 activities. Component 2 tasks that rely on PBCs to trigger disbursements will have specific and detailed monitoring and verification plans. These are detailed in Annex 1 and include, *inter alia*:

a. The preparation and publication of specific government regulations and decrees.
b. The signing and validation of relevant collaboration agreements.
c. The crafting of update guidelines, processes, templates, and methodologies.
d. The reporting of key variables, results, impacts and measures.
e. The design and deployment of software and platforms.
f. The drafting of key analyses and assessments and their revision or updating.
g. The crafting and deployment of communication, grievance redress, and mitigation plans and measures.

37. **The Project will also be evaluated throughout implementation and the use of PBCs will ensure the achievement of key outcomes.** The World Bank and the SE will conduct a midterm review to assess overall Project progress and identify critical implementation issues. Necessary revisions, if any, will be made at such stage to Project design or schedule.

C. Sustainability

38. **The proposed Project tackles key barriers to improving subsidy targeting and supports key reforms sought by the GoA.** As these interventions would positively and directly impact the GoA's fiscal balances, creating space for further sector and tariff reform, they are a critical element of the administration's agenda. Furthermore, addressing the targeting gaps and challenges can enable other beneficial interventions, both increasing the sector's efficiency as well as buy-in. Deploying and implementing and mitigation measures – as well as efficiency conscientization programs – can also help in facilitating Project objectives and subsidy reform. Creating grievance redress mechanisms to protect the most vulnerable will also add to the operation's sustainability over time.

IV. PROJECT APPRAISAL SUMMARY

A. Technical, Economic and Financial Analysis

39. **The Project is expected to improve subsidies targeting at the household level.** It will also help enhance energy consumption information, improve and strengthen the capacities of key energy sector stakeholders, and potentially allow for other policy objectives and energy efficiency strategies. The Project does not present considerable technical complexities; most activities to be supported include assessments, software deployment, and knowledge outputs that are well-known to relevant stakeholders. As the Project would help reduce energy consumption by eliminating inefficient subsidies – which could be redirected to other pressing needs and help facilitate efficiency measures – it would also provide global and environmental benefits.

40. **The Project is aligned with the goals of the Paris Agreement on both mitigation and adaptation:**

a. **Assessment and reduction of mitigation risks:** The Project is not expected to lead to increased GHG emissions nor to introduce or reinforce barriers to transition to the country's low GHG emissions development pathways. On the contrary, the Project is expected to contribute to decarbonization objectives given that rationalization of electricity subsidies will promote rather than prevent the energy transition, as it fosters energy efficient behaviors, aligning it with the mitigation goals of the Paris Agreement. Furthermore, the Project also seeks to promote other activities that have the potential to reduce carbon dioxide emissions from grid generation such as technical assistance and capacity building to potentially introduce energy efficiency measures.
b. **Assessment and reduction of adaptation risks:** The Project is not vulnerable to climate change risks and is therefore aligned with the adaptation and resilience goals of the Paris Agreement. Since the Project does not invest in physical infrastructure, there are no physical risks. Regarding the targeted outcome of subsidy reform, there are no obviously identified climate risks either. By rationalizing electricity subsidies, the Project

can improve power generation in ways that reduce vulnerability to climate change (leading to higher reserve margins, delaying investment needs to meet demand, among others). Improving energy subsidies targeting, will also better shelter vulnerable households (who are often also disproportionately affected by climate change) from potential electricity market price shocks that might be induced by climate change events.

41. **The Project has carried out a comprehensive analysis of the potential impact of the operation.** It includes the preparation of two main assessments: (i) distributional analysis of the first measures taken regarding tariffs and demand-subsidies reform; and (ii) evaluation of the potential impact of subsidy reform on energy consumption and emissions. While the former sought to test if changes adopted in June 2024 would be directly beneficial for lower-income households – and under which circumstances it could not be so –, the latter aimed to quantify the impact of subsidy reform in terms of energy consumption and emission reductions. Given their distinctive scopes, both analyses used similar data, but different fundamental considerations as shown below.[26]

42. **The distributional analysis estimated the direct effects of the measures implemented in June 2024 on households.** The analytical approach focused on assessing the potential impacts by using micro-simulations to estimate: (i) the effects of consumption caps on household affordability given the mitigation scheme for the allocation of demand subsidies (lower tariff increases for N2 and N3); (ii) the distribution of existing electricity demand subsidies across the population by income level (absolute distributional incidence); and (iii) the share subsidies represent – in terms of household income – for different levels across the income distribution (relative distributional incidence). In addition, the analysis included a full reform scenario under which the potential effects of improved households' targeting (per their level of vulnerability) were modelled to illustrate the potential distributional gains the reform could deliver under strengthened design mechanisms (such as an incremental phase-out and subsidies impact monitoring).

43. **The assessment shows that in a scenario where households' electricity consumption is assumed to remain the same (pre- and post-), introducing consumption caps could exacerbate affordability issues, particularly for poor households.** As households in the lower part of the income distribution had higher consumption and qualified for N2 subsidies, the caps reduced the subsidies concentration in the lower part of the income distribution. The cumulative share of subsidies is lower than the cumulative share of households at the bottom. Thus, the caps would mean that the absolute incidence of subsidies (assumed as the difference with the N1 tariff) would be slightly pro-rich. Moreover, electricity bills across regions would show significant disparities, with households in the bottom 40 percent of the distribution experiencing a rise in their electricity bill – as a share of their total income –, and potential misclassification of the vulnerable would put additional pressure on household income.

44. **Consequently, the analysis highlights the importance of ensuring that the Project can support the complementary measures necessary to achieve a comprehensive reform.** This would enable better targeting and protection of households, resulting in improved subsidy reduction and a decrease in regressive distributional biases. Achieving these outcomes will require addressing several implementation challenges. In this context, the planned efforts to enhance data completeness and quality considered in the Project are critical to the success of the subsidy reform. These

[26] For example, under the first assessment, subsidies were defined as the difference with the tariffs applied to the N1 segment; the changes made to subsidized energy caps were used to quantify the impact of the reform on households income; potential consumption or behavioral changes after the implementation of the reform were not considered (all effects were interpreted as "next day" effects); potential subsidy eligibility was determined based on income levels exclusively; and the number of targeted households was kept constant at the 2024 levels. In the second analysis, subsidies were established as the percentage of generation costs not passed on to consumers; caps and other subsidy reform efforts – ongoing and planned – were considered; a price elasticity of demand was incorporated to account for behavioral changes and a reduced energy consumption post-reform; eligibility potential considered all existing criteria; and all households in Argentina were incorporated in the analysis in their assessed segment.

efforts can be effective if identification gaps are closed, administrative data sources are improved, more efficient consumption is promoted, and greater efforts are made to mitigate affordability problems upon energy price increases.

45. **The second assessment compared "with" and "without" Project scenarios that modeled the potential impact of a full subsidy reform in which households are better targeted and energy consumption adjusts to increased electricity prices.** The analysis compared the overall expected effect of improved electricity tariffs – due to electricity subsidies that are better targeted to lower income households –against a business-as-usual scenario in which no subsidy reform happens over a 12-year timeline. This second analysis found the operation would result in energy savings, reduced generation costs, environmental benefits and avoided CO2 emissions. Such positive results arise from the better identification and categorization of consumers into their respective segment, the improved passthrough of generation costs to consumers, and the resulting lower household consumption throughout the interventions lifetime as shown in Table 3.[27]

Table 3. Key Project Results

Variable	Unit	Results by 2035
Saved electricity	GWh	27,544
Reduced expenditures	M US$	3,061
Reduced subsidies	M US$	2,288
Avoided CO2 emissions	MtCO2	7.44

Source: WB own elaboration

46. **The second analysis found the operation would result in energy savings, reduced generation costs, environmental benefits and avoided CO2 emissions.** Such positive results arise from the better identification and categorization of consumers into their respective segment, the improved passthrough of generation costs to consumers, and the resulting lower household consumption throughout the interventions lifetime. In addition, the analysis found extremely positive net present values (NPVs) and rates of return due to the large impact and effects of subsidy reform over time.

47. **The Project also is expected to result in a sizeable and significant reduction of GHG emissions given the positive impact of subsidy reform on energy use.** The baseline GHG emissions and gross Project emissions were estimated by multiplying the electricity consumed by residential users targeted under the supported subsidy reform by the electricity generation emissions factor over a 12-year timeframe (2024-2035). Table 4 presents the GHG emissions estimates.

Table 4. Project GHG emissions

Baseline GHG emissions without Project (tCO2eq)	Gross GHG emissions with Project (tCO2eq)	Net GHG emissions (tCO2eq)	Annual net GHG emissions (tCO2eq)
-207,242,566	-199,805,589	-7,436,977	-619,748

Source: WB own elaboration

[27] The assessment also performed a cost-benefit economic and financial analysis of the GoA's subsidy reform efforts by comparing key costs (the US$480 million in financing the Project is providing) and direct benefits (reduced energy expenditures and associated emission reductions in the case of the economic analysis) as well as the reduced subsidies to be spent by the GoA due to the Project (in the case of the financial analysis). This analysis found extremely positive NPVs and rates of return due to the large impact and effects of subsidy reform over time.

B. Fiduciary

(i) Financial Management

48. **A Financial Management (FM) Assessment has been conducted in September 2024 to assess the adequacy of FM arrangements in place at the DGPPSE.** The scope of the FMA includes: (i) an evaluation of existing FM systems in place to be used for Project budgeting, monitoring, accounting and reporting, including those related to the electricity subsidies to the users; (ii) a review of staffing arrangements; (iii) a review of the flow of funds arrangements and disbursement methods to be used; (iv) a review of internal control mechanisms in place, including internal audit; (v) a discussion on reporting and disbursement requirements under the PBCs, including the format and content of the Eligible Expenditures Spending Report for disbursement purposes; (vi) a discussion on reporting requirements, including the format and content of Interim Financial Reports (IFR) for reporting purposes; and (vii) a review of the external audit arrangements.

49. **The performance of the public financial management (PFM) systems at the national level are reasonably aligned with international standards and good practices.** The Argentinian legal framework for PFM is well-developed and supported by the Financial Administration Law (LAF) which regulates budgeting, public credit, treasury, government accounting, and internal controls. The existing National PFM System and framework has satisfactory internal rules and controls, with a clear definition of responsibilities and institutional arrangements. The proposed Project is expected to make extensive use of country systems in terms of budgeting, flow of funds, internal controls, and internal and external audit. The conclusion of the FM Assessment is that the FM arrangements for the proposed Project are considered adequate; and the funds flow, disbursements, monitoring, auditing, and supervision arrangements have been designed in a way to respond to the Project's implementation arrangements.

(ii) Procurement

50. **Procurement activities will be conducted in accordance with the World Bank's "Procurement Regulations for IPF Borrowers: Procurement in Investment Project Financing Goods, Works, Non-Consulting, and Consulting Services," dated September 2023.** The responsibility for executing and monitoring these procurement activities has been assigned to DGPPSE, which will also consolidate technical specifications from the relevant technical division. An assessment of procurement capacity was conducted to measure the adequacy of DGPPSE's systems, organizational framework, and staff proficiency in managing these tasks. The evaluation revealed that DGPPSE counts on the requisite experience. Additionally, DGPPSE has prepared a Project Procurement Strategy for Development (PPSD) describing the operational environment and considerations for customizing procurement methods for the expected activities under Component 1. The findings of the PPSD, coupled with the capacity assessment and proposed actions to address identified procurement challenges, are recorded in Annex 1.

C. Legal Operational Policies

Legal Operational Policies	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Area OP 7.60	No

D. Environmental and Social

51. **This Project has a national scope and the population to be directly affected by the Project (both positively and negatively) is covered by the electricity distribution network** (that means, mostly urban population, but also some rural population in areas where such kind of public service is provided)**.** Project activities do not entail civil works, infrastructure investments or any other kind of physical interventions. However, Project design does include capacity building and enabling activities (i.e., technical assistance) which downstream risks and impacts must be assessed during implementation. Most of the impacts identified would be indirect and hard to attribute exclusively to project implementation.

52. **The Environmental Risk Rating is Moderate.** There is a very low probability of the Project causing serious effects on the environment. Project-related direct risks and impacts identified are low or minimal in magnitude, predictable and reversible. However, a few indirect environmental risks and impacts have been identified, related to the eventual induction of a transition, at the household level, towards other cheaper energy sources for heating and cooking, stemming from the reduction of subsidies to electricity fees. They are, in principle, deemed not to be significant and would occur once project implementation is advanced. Additionally, project design includes capacity building and enabling activities (i.e., technical assistance) which downstream risks and impacts must be assessed during implementation, once the scope of such activities is clearly defined. Further assessment of such risks and impacts is required to determine their likelihood and relevance. If relevant, the results of such deeper assessment might lead to a re-classification of the Project's environmental risk during the implementation.

53. **The Social Risk Rating is Moderate.** The Project aims at sheltering the poor from electricity tariff increases while advancing an efficient use of fiscal resources. The Project will develop new mechanisms that appropriately target the vulnerable population by consolidating the national registry to access energy subsidies (RASE), developing national capacities for data collection and verification, and improving the existing registries at provincial levels, correcting existing inclusion or exclusion errors (i.e. including households that currently do not benefit from subsidies and should, while excluding those who do benefit from subsidies and should not). The Project will support the establishment of a robust grievance and redress mechanism to provide beneficiaries with channels for effective feedback (PBC 2.1). The Project will also ensure that tariff reforms can be effective, efficient and avoid negative impacts on vulnerable households. Despite the expected benefits from the Project, the substantial modifications to the subsidy program may cause discontent among certain individuals and businesses. Therefore, communication strategies that are inclusive and timely will be implemented throughout the Project cycle to ensure all stakeholders are well-informed and can adapt to the changes effectively (PBC 3.2).

54. **A project Environmental and Social Commitment Plan (ESCP) and a Stakeholders Engagement Plan were prepared and have been disclosed, and the negotiated version of the ESCP was disclosed after negotiations. The SE will use parts of Argentina's national legal and institutional framework to address requirements from WB's Environmental and Social Standards (ESS) 1 and 2**. Regarding ESS1, during the first two years of implementation, the guidelines[28] established by Resolution 337/19 from the former Ministry of Environment and Sustainable Development to conduct Strategic Environmental Assessments, will be used to assess the indirect risks and impacts associated to the eventual transition, at the household level, towards cheaper and dirtier energy sources for heating and cooking, stemming from the reduction of access to subsidies to electricity fees. When it comes to ESS2, to deal with labor and working conditions Argentina's legal framework (i.e., National Law N. 20,744) will be used, as is mostly in line with the principles of such standard. ESCP includes additional actions that are needed to fill identified gaps and meet the WB's ESS.

[28] https://www.argentina.gob.ar/sites/default/files/guia_elaboracion_diaee-2_0.pdf

55. **The SE will supervise, monitor, and report on the environmental and social (E&S) aspects of project activities, ensuring compliance with applicable environmental and social requirements and regulations.** This responsibility is mainly outlined in the ESCP. The Secretariat of Energy has experience working for a long time with a wide range of projects with multilateral financing, as well as bilateral donors. Since the 1990s, SE has been responsible for different WB-financed operations and has received continuous support to expand and enhance its capacity including through the PIT. In the recent past, it implemented the FODER – Argentina Renewable Fund Guarantee Project (G2460), PERMER II – Renewable Energy for Rural Areas Project (Loan 8484) and Clean Energy for Vulnerable Households and Communities Project (P178553) – the latter under WB's Environmental and Social Framework (ESF). To implement Project P178553 Clean Energy for Vulnerable Households and Communities Project (Argentina) under ESF, the WB and the client have developed capacity strengthening measures to address specific E&S aspects. Nonetheless, the recent changes to the existing team of specialists may require additional strengthening activities.

V. GRIEVANCE REDRESS SERVICES

56. **Grievance Redress.** Communities and individuals who believe that they are adversely affected by a project supported by the World Bank may submit complaints to existing project-level grievance mechanisms or the Bank's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the Bank's independent Accountability Mechanism (AM). The AM houses the Inspection Panel, which determines whether harm occurred, or could occur, as a result of Bank non-compliance with its policies and procedures, and the Dispute Resolution Service, which provides communities and borrowers with the opportunity to address complaints through dispute resolution. Complaints may be submitted to the AM at any time after concerns have been brought directly to the attention of Bank Management and after Management has been given an opportunity to respond. For information on how to submit complaints to the Bank's GRS, visit http://www.worldbank.org/GRS. For information on how to submit complaints to the Bank's Accountability Mechanism, visit https://accountability.worldbank.org.

VI. KEY RISKS

57. **The overall risk rating is assessed as Substantial.** The section below presents and assesses key risks.

58. **Political and governance risk is Substantial.** The political environment, reform processes and challenges in implementing government priorities could delay implementation and affect commitments regarding tariffs, subsidies, communication strategies and establishment of key processes, all of which would have an impact on Project outcomes. Government commitments to the International Monetary Fund and the alignment of the proposed Project to key administration priorities would mitigate these risks. In addition, the World Bank's ongoing efforts to help Argentina strengthen and improve the policy environment and overall governance would also help mitigate these risks. It is likely these risks could delay Project during implementation as mitigation measures cannot fully address political changes in Argentina.

59. **Macroeconomic risk is Substantial.** Current macroeconomic conditions in Argentina include high foreign exchange volatility, low Central Bank reserves, and high (though decreasing) inflation. The inherent risk is that these conditions might reduce the funding available for the Project and delay Project implementation directly and indirectly. This risk is mitigated by the recent improvements in the overall macroeconomic environment. Furthermore, the risk is also mitigated by the fact the Project would continue to support such amelioration by facilitating the introduction of measures such as strengthened capabilities that help increase efficiency and sustainability of the sector and enhanced data to

improve planning of the power sector, leading to reduced losses -with a direct and positive fiscal impact. This risk could likely delay the Project during implementation.

60. **The institutional capacity for implementation and sustainability risk is Substantial.** The inherent risk is the SE 's strained capacities could hinder activities required to trigger disbursements under the proposed Project in a timely manner, as well as prevent it from coordinating all the different and diverse set of activities under the proposed components. Furthermore, this risk includes the complexities associated with Project implementation, as a delay in – for example – implementing Component 1 activities –could trigger delays in Component 2 PBCs. These risks are mitigated by the support the SE will receive from the Bank team and other partners (such as IDB), as well as by the capacities of other GoA line agencies (such as the SINTyS). The support SE is receiving from other active operations would also help mitigate this risk. It is likely this risk would delay implementation.

61. **The combined Fiduciary (Financial Management and Procurement) risk assessment is Substantial.** The risk assessment is based on the following: (i) the Project's complexity, including a large PBC scheme and several stakeholders involved, may cause delays in the project implementation, belated financial reporting and slow disbursements; (ii) consolidation of household information collected from disparate national and provincial databases may affect the timeliness and integrity of data related to beneficiaries of the subsidies; (iii) risk of double-dipping of eligible expenditures under Component 2 as IDB operation will be financing similar initiatives; (iv) due to current fiscal constraints, project budget appropriations may be diverted to other government activities/projects, thereby compromising funds availability and the timely implementation of project activities, (v) potential delays in defining technical specifications and Terms of Reference required to initiate timely procurement activities. The following specific mitigating measures will be implemented to cope with the identified risks: (i) preparation of a POM including a section with FM and Procurement arrangements acceptable to the Bank containing specific budgeting, flow of funds and disbursement arrangements to be used under the PBC scheme using a customized Eligible Expenditure Report and ensuring accountability and the proactive management of procurement tasks and contract management; (ii) defined protocols, streamlined procedures and customized data collection reports will be prepared to gather information on subsidized tariffs from various stakeholders, including distribution companies and regulators; (iii) an harmonized approach on financial management will be followed jointly with IDB including a clear methodology defined in the POM to allocate eligible expenditures to be paid under each external financier, and (iv) DGPPSE will carry out the actions necessary for planning and recording project's budget in the annual budget law.

VIII. RESULTS FRAMEWORK

PDO Indicators by PDO Outcomes

Baseline	Closing Period
Improve electricity subsidies rationalization	
Institutional capacities strengthened (Text)	
Oct/2024	Dec/2028
Baseline as per PBCs 1, 3.2 and 3.3	Targets as per PBCs 1, 3.2 and 3.3
Electricity subsidies provided to beneficiaries validated per the eligibility criteria (Percentage)	
Oct/2024	Dec/2028
Baseline as per PBC 3.1	Targets as per PBC 3.1

Intermediate Indicators by Components

Baseline	Closing Period
C1: Project management, capacity building, and instruments to foster sector sustainability	
C2: Financing rationalized electricity subsidies for users with validated eligibility criteria	
Deploying the mechanisms to improve subsidies rationalization (Text) PBC	
	Dec/2028
	-
➢SE's integrated operational platform has been able to generate users and residential consumption information from provincial or subnational entities (Text) PBC	
Jan/2025	Dec/2025
No platform developed	Operational platform
➢Formal agreements on systematic information exchanges have been signed between the SE and regulatory entities or provincial databases (Text) PBC	
Jan/2025	Dec/2025
N.A	Agreements signed covering up to 80% of residential users
➢Share of users for which electricity consumption data by segment has been shared with the SE (Percentage) PBC	
Jan/2025	Dec/2028
0	90%

➢Update or correction of subsidy granting eligibility criteria has been issued by SE (Yes/No) PBC	
Jan/2026	Dec/2026
n.a	Resolution Issued by SE
Strengthening targeting schemes (Amount(USD)) PBC	
	Dec/2028
	-
➢Enhanced Grievance Redress Mechanism designed and implemented with information available to address household classification queries related to the segmentation scheme (Percentage) PBC	
Jan/2025	Dec/2028
No centralized grievance mechanism designed	90% of inquiries are answered by the centralized system
➢Share of households registered in the RASE that lack administrative records in the SINTyS (Percentage) PBC	
Jan/2025	Dec/2028
0	10%
Tracking and communicating subsidy reform (Text) PBC	
Jan/2025	Dec/2028
-	-
➢Share of subsidies granted to the segment receiving the greatest discount (N2) cross verified in SINTyS (Percentage) PBC	
Jan/2025	Dec/2028
5	85%
➢Communication and education strategy on the rationalization of subsidies and electricity tariffs increased mitigation measures (Text) PBC	
Jan/2025	Dec/2027
No communications plan	Measurement of results and impact of the communication strategy on households
➢Assessments on (i) distributive impact, (ii) environmental risks and impacts and (iii) electricity losses (Text) PBC	
Jan/2025	Dec/2027
N.A.	Updated Reports (i) and (iii) developed

Performance-based Conditions (PBC)

Period	Period Definition
Period 1	2025
Period 2	2026
Period 3	2027
Period 4	2028

Baseline	Period 1	Period 2	Period 3	Period 4
1:Deploying the mechanisms to improve subsidies rationalization (Text)				
-	-	-	-	-
0.00	0.00	0.00	0.00	0.00
PBC allocation		0.00	As a % of Total PBC Allocation	0%
➢ 1.1:SE's integrated operational platform has been able to generate users and residential consumption information from provincial or subnational entities (Text)				
No platform developed	Operational platform	-	-	-
0.00	15,000,000.00	0.00	0.00	0.00
PBC allocation		15,000,000.00	As a % of Total PBC Allocation	5.36%
➢ 1.2:Formal agreements on systematic information exchanges have been signed between the SE and regulatory entities or provincial databases (Text)				
N.A	Agreements signed covering up to 80% of residential users	-	-	-
0.00	15,000,000.00	0.00	0.00	0.00
PBC allocation		15,000,000.00	As a % of Total PBC Allocation	5.36%
➢ 1.3:Share of users for which electricity consumption data by segment has been shared with the SE (Percentage)				
0	50%	70%	80%	90%
0.00	15,000,000.00	20,000,000.00	20,000,000.00	15,000,000.00
PBC allocation		70,000,000.00	As a % of Total PBC Allocation	25%
➢ 1.4:Update or correction of subsidy granting eligibility criteria has been issued by SE (Yes/No)				
n.a	-	Resolution Issued by SE	-	-
0.00	0.00	10,000,000.00	0.00	0.00
PBC allocation		10,000,000.00	As a % of Total PBC Allocation	3.57%
2:Strengthening targeting schemes (Amount(USD))				
-	-	-	-	-
0.00	0.00	0.00	0.00	0.00
PBC allocation		0.00	As a % of Total PBC Allocation	0%
➢ 2.1:Enhanced Grievance Redress Mechanism designed and implemented with information available to address household classification queries related to the segmentation scheme (Percentage)				
No centralized grievance mechanism designed	Design of grievance redress mechanism centralized at the national level	Centralized mechanism implemented and 70% of inquiries are answered by the centralized system	80% of inquiries are answered by the centralized system	90% of inquiries are answered by the centralized system
0.00	15,000,000.00	9,000,000.00	8,000,000.00	8,000,000.00

PBC allocation		40,000,000.00	As a % of Total PBC Allocation	14.29%
➢ 2.2:Share of households registered in the RASE that lack administrative records in the SINTyS (Percentage)				
0	30%	20%	15%	10%
0.00	15,000,000.00	15,000,000.00	10,000,000.00	10,000,000.00
PBC allocation		50,000,000.00	As a % of Total PBC Allocation	17.86%
3:Tracking and communicating subsidy reform (Text)				
-	-	-	-	-
0.00	0.00	0.00	0.00	0.00
PBC allocation		0.00	As a % of Total PBC Allocation	0%
➢ 3.1:Share of subsidies granted to the segment receiving the greatest discount (N2) cross verified in SINTyS (Percentage)				
5	70%	75%	80%	85%
0.00	13,000,000.00	13,000,000.00	8,000,000.00	10,000,000.00
PBC allocation		44,000,000.00	As a % of Total PBC Allocation	15.71%
➢ 3.2:Communication and education strategy on the rationalization of subsidies and electricity tariffs increased mitigation measures (Text)				
No communications plan	Communications strategy designed	Implementation of the strategy with target audiences. Execution of a campaign on subsidy rationalization and an awareness campaign on the efficient use of electricity	Measurement of results of the communication strategy on households	-
0.00	7,000,000.00	5,000,000.00	6,000,000.00	0.00
PBC allocation		18,000,000.00	As a % of Total PBC Allocation	6.43%
➢ 3.3:Assessments of (i) distributive impact of tariff increases on low-income hh (ii) env risks and impacts of tariff increases and changes on energy use patterns in hh (ii) Analyses of evolution of losses (Text)				
N.A.	Reports (i) and (iii) developed	Updated Reports (i) and (iii) and report (ii) developed	Updated Reports (i) and (iii) developed	-
0.00	7,000,000.00	5,000,000.00	6,000,000.00	0.00
PBC allocation		18,000,000.00	As a % of Total PBC Allocation	6.43%

Monitoring & Evaluation Plan: PDO Indicators by PDO Outcomes

Improve electricity subsidies rationalization	
(i) Institutional capacities strengthened (Text)	
Description	The SE has implemented integrated platforms for user and consumption data, systematized information exchanges with registries and provincial databases, increased the proportion of users with shared electricity consumption data, and refined the criteria for subsidy eligibility. (PBC 1) Besides, SE has developed and implemented a communication campaign on subsidy reform (PBC3.2) and has improved the capacity for policy-making decisions (PBC3.3)
Frequency	Milestone (it happens once)
Data source	SE
Methodology for Data Collection	SE reports
Responsibility for Data Collection	SE
(ii) Electricity subsidies provided to beneficiaries validated per the eligibility criteria (%)	
Description	Share of subsidies granted to N2 segment cross-verified in SINTyS, computed as the amount of the subsidy allocated to users who receive the most significant discount (currently, N2), are registered in RASE, and whose information is validated with administrative information (currently in SINTyS) as a share of the total amount of subsidies to residential users. (PBC 3.1)
Frequency	Quarterly
Data source	SINTyS, SE
Methodology for Data Collection	SE reports
Responsibility for Data Collection	SE

Verification Protocol: Performance Based Conditions

PBC 1: Deploying the mechanisms to improve subsidies rationalization	
Formula	N.A.
Description	This PBC seeks to deploy integrated operational platforms to facilitate users and residential consumption information from provincial or subnational sources to SE; systematize information exchanges between the SE and regulatory entities' or provincial databases; increase the share of users for which relevant electricity consumption data has been shared with the SE; and update or correct subsidy granting eligibility criteria.
Data source/ Agency	SE
Verification Entity	Non-scalable PBCs will be subject to Task Team verification of compliance. Scalable PBCs will be subject to external entity verification.
Procedure	▪ **PBC 1.1: SE's integrated operational platform has been able to generate users and residential consumption information from provincial or subnational entities.** - SE submits a document to the World Bank with evidence that the platform and modules for data collection have been developed and implemented and including the detailed instructions for data uploading from distribution entities or regulatory bodies – which shall have been shared with these institutions. The milestone does not imply or require that all information has been uploaded, but to prove the platform has been developed, is operational, is being used and that information can be cross-referenced and centralized. ▪ **PBC 1.2: Formal agreements on systematic information exchanges have been signed between the SE and regulatory entities or provincial databases e.** - The SE prepares and shares a report to the World Bank describing the agreed information flows, the periodicity for such information exchanges and attaches the resolutions or copies of the data exchange agreements signed

	with provincial distribution entities or regulators. The specifics and requirements of this report will be further defined in the POM. The information exchange agreements must be active and in force; an amendment (or supplementary note) to a previously existing agreement would also be acceptable insofar as it covers the sharing of residential electricity consumption information. - This is a scalable PBC. US$7,000,000 million for the first 40 percent of covered residential users and then US$2,000,000 for each additional 10 percent of covered residential users until the target of 80 percent is achieved - **PBC 1.3: Share of users for which electricity consumption data by segment has been shared with the SE** SE prepares a quarterly report indicating the number of residential users with consumption information by level (shared by provincial entities) (Kwh/month), distinguished by distributor, and the number of residential users at the country level. This report will be sent to the external verifier for issuance. The report of the external verifier will be sent to the WB to process the corresponding disbursement. ▪ **PBC 1.4: Update or correction of subsidy granting eligibility criteria has been issued by SE** - The SE submits a document to the WB indicating the pertinent Resolution containing the modifications of the eligibility criteria, together with the date of publication in the Official Gazette, and a link to verify it. If the criteria do not change, the SE would send to the World Bank a document justifying such decision, in line with the reform process as outlined in PBC 3.3.

PBC 2: Strengthening targeting schemes	
Formula	N.A.
Description	The PBC will aim at reducing the share of N2 segment households lacking self-declared information in the RASE; design, develop, implement, and comply with a system to address household classification errors and resolve related complaints; and reduce the number of subsidized households registered in the RASE that lack administrative records in the SINTyS
Data source/ Agency	SE
Verification Entity	Non-scalable PBCs will be subject to Task Team verification of compliance. Scalable PBCs will be subject to external entity verification.
Procedure	▪ **PBC 2.1: Enhanced grievance redress mechanism designed and implemented with information available to address household classification queries related to the segmentation scheme.** - The SE designs, deploys and implements a process for receiving complaints regarding households classification, implementing a tracking system and solving any issues centralized at national level[29]. The SE shares a report summarizing such system to the WB as soon as it has been designed, deployed, and displaying its functionalities. Periodically, the SE shares the percentage of queries that were succesfully responded by the system, as classified by the users. ▪ **PBC 2.2: Share of households registered in the RASE that lack administrative records in the SINTyS..** - The SE prepares a quarterly report with information on the number of users who receive the highest level of subsidies (current N2 segment), are registered in the RASE and whose information has not been validated with administrative information (currently in SINTyS), and highlighting the share they represent within the universe of total users who receive the highest subsidies (current N2 segment) and who are actually registered in the RASE. Additionally, SE prepares a report informing N2 subsidized dividing among those cross-checked with SINTyS from those N2 defined for laking of socioeconomic information

PBC 3: Tracking and communicating subsidy reform	
Formula	N.A.
Description	This PBC will support activities or milestones such as increasing the share of subsidies granted to N2 segment beneficiaries that have been cross-verified in SINTyS; helping prepare a subsidy reform communications plan and electricity tariffs

[29] This involves capacity building and the implementation of measures to channel claims received at the DistCo or regulatory entities level to the national system, in relation to the segmentation scheme. The mechanism includes complementary measures with provincial entities to centralize the claims at the national level, such as: publishing the national Help desk number for the segmentation scheme in the bills, derivation of enquiries to provincial/utilities Help desks to the national Help desk if related to segmentation scheme, among others.

	increase mitigation measures; and supporting the preparation of in-depth analyses on the evolution of total electricity losses by province and on collectability indicators for the residential segment.
Data source/ Agency	SE
Verification Entity	Non-scalable PBCs will be subject to Task Team verification of compliance. Scalable PBCs will be subject to external entity verification.
Procedure	▪ **PBC 3.1: Share of subsidies granted to the segment receiving the greatest discount (N2) cross verified in SINTyS** - The SE will prepare a quarterly report presenting the resources allocated to users in the highest subsidy segment (current N2) that are registered in the RASE and whose information has been validated with administrative information (currently in SINTyS), as well as of the total amount of subsidies granted to households. - **PBC 3.2: Communication and education strategy on the rationalization of subsidies and electricity tariffs increased mitigation measures** SE will prepare the document of the strategy and share with the Bank, and periodic reports on the implementation of the communication actions to support the rationalization of subsidies and raise awareness about the efficient use of electricity.The content, duration and means of disseminating such campaigns will be detailed in the POM. ▪ **PBC 3.3: Assessments of (i) the distributive impact of tariff increases on low-income households; (ii) environmental risks and impacts of tariff increases and changes on energy use patterns in households (including a gender perspective); (iii) Analyses of the evolution of total electricity losses by province and on collectability indicators for the residential segmentt** - The SE will prepare and submit an annual report that is acceptable to the World Bank, analyzing the distributive and sectoral impact of the subsidy reform. The specific content and sectoral variables to be presented (regarding issues such as collectability, losses, quality of service, environmental risks assessments, etc.) will be specified in the POM. The reports of assessments (i) and (iii) will cover the previous year and will be cumulative over the targets. For (ii), the report will reflect year 2025.

ANNEX 1. Implementation Arrangements and Support Plan

COUNTRY: Argentine Republic
Supporting the Transition to a Sustainable Electricity Sector in Argentina

Implementation Support Plan

1. The World Bank will provide capacity building and training as needed to the SE on fiduciary and on environmental and social aspects to ensure appropriate Project implementation. Other stakeholders – such as other line agencies, ministries, distribution, regulatory or provincial entities – could also be targeted through activities under component 1. Training on fiduciary matters (such as procurement or financial management) would be provided to MECON, SE and DGPPSE as well as to other technical teams and stakeholders if necessary to ensure compliance with relevant policies. Additional training on relevant social and environmental processes and policies could also be provided to the SE, if needed. Overall, the World Bank technical, ESF, procurement and FM teams will be available on a just-in-time basis to support and provide guidance as well as help resolve any related issues that may arise during Project implementation. Further details on the overall approach for implementation support on FM, procurement and ESF issues are detailed in the respective sections below.

Procurement

2. Project procurement will follow the World Bank's 'Procurement Regulations for IPF Borrowers'dated September 2023, for the supply of goods, non-consulting services and consulting services. For activities subject to International Open Competitive Procurement, the Borrower will use World Bank's Standard Procurement Documents. For activities subject to National Open Competitive Procurement, the Borrower will use procurement documents acceptable to the World Bank. The Borrower will use STEP to manage the Procurement Plan.

3. A procurement capacity assessment was conducted to evaluate the current systems, structures, and staff competencies of DGPPSE, revealing moderate risks associated with the Project's procurement activities. The evaluation acknowledged that DGPPSE's procurement responsibilities are in the hands of professionals well-versed in managing Bank-funded projects and equipped with the skills necessary for the projected workload. The evaluation highlighted the need to count on an efficient workflow and implementation schedule to avoid potential delays in defining activities, technical specifications and terms of reference without an experienced professional to support technical areas. Finally, based on experience from previous operations, the contract management function has to be strengthened ensuring a timely monitoring.

4. A PPSD has been developed, describing the operational environment and specific considerations for the minor procurement activities to be executed under the Project. Based on the results of the PPSD, the Project does not foresee any high-value or high-risk procurement activities, nor will it involve complex arrangements. Initial planning indicates that the Project will mainly engage in selecting consulting services and procuring minor IT equipment. All processes will conform to the prevailing market approach and reference thresholds set for Argentina. As a result of the PPSD, the Borrower has prepared a Procurement Plan for the activities to be implemented during the first 18 months.

5. Based on all the above, the Project faces a moderate level of procurement risk. To mitigate the identified risks, the following measures have been outlined: (a) the POM will articulate distinct roles and responsibilities for technical and fiduciary areas, ensuring accountability and the proactive management of procurement tasks, including the timely

allocation, and planning of budgets, and contract management and; (b) the World Bank team will maintain close collaboration throughout the Project, providing support and training during and between implementation support missions to promptly identify and resolve any delays in procurement activities.

Financial Management

6. The FM Assessment identified the following key risks to the achievement of the PDOs: (i) the Project's complexity – which includes a large PBC scheme with several stakeholders involved – may cause delays in Project implementation, belated financial reporting and slow disbursements; (ii) consolidation of household information collected from disparate national and provincial databases may affect the timeliness and integrity of data related to beneficiaries of the subsidies; (iii) a risk of double-dipping of eligible expenditures under Component 2 as the IDB operation will be financing similar initiatives; (iv) Project budget appropriations may be diverted to other government activities/projects due to current fiscal constraints, thereby compromising funds availability and the timely implementation of project activities.

7. The following specific mitigating measures will be implemented to cope with the identified risks: (i) preparation of a POM including a section with FM arrangements acceptable to the Bank containing specific budgeting, flow of funds and disbursement arrangements to be used under the PBC scheme using a customized Eligible Expenditure Report; (ii) defined protocols, streamlined procedures and customized data collection reports will be prepared to gather information on subsidized tariffs from various stakeholders, including distribution companies and regulators; (iii) an harmonized approach on financial management will be followed jointly with IDB including a clear methodology defined in the POM to allocate eligible expenditures to be paid under each external financier, and (iv) DGPPSE will carry out the actions necessary for planning and recording project's budget in the annual budget law. The residual FM risk associated with the Project is rated as Substantial.

8. In relation to external audit arrangements, the DGPPSE will be responsible for the submission of audited financial statements to the Bank. The Project's external audit will be performed by an independent auditor with terms of reference (ToRs) acceptable to the World Bank and in accordance with acceptable auditing standards. The audit scope will comprise retroactive financing and verification that payments of Project eligible expenditures submitted to the World Bank have not been financed by another external financier. It is expected that the Argentina's Supreme Audit Institution (*Auditoría General de la Nación*, AGN) will carry out the Project's audit. If AGN is not capable of performing the audit, a private audit firm acceptable to the Bank will be hired to conduct the annual external audits. Audited financial statements should be submitted to the Bank no later than six (6) months after the end of each fiscal year. In accordance with the Bank's Access to Information Policy, upon receipt of the annual audited financial statements of the Project, they will be made available to the public (but not the Management letter) by the Bank.

Table A1.1. Risk Assessment and Mitigation Measures

Risk	Risk Rating	Proposed Mitigating Measures	Residual Risk Rating
Inherent Risk			
Country Level	Moderate	-Adequate PFM Systems.	Moderate
Entity	Moderate	- DGPPSE is composed of qualified professionals with experience in implementing projects financed by several multilateral lending banks but with no experience in PBC[30]	Moderate
Project (Project complexity including a large PBC scheme and several institutions involved)	Substantial	- DGPPSE will be responsible for overall Project fiduciary arrangements - Detailed procedures and controls over the electricity subsidies related to Component 2 under the PBC scheme will be clearly detailed in the POM. - Continued close support and supervision.	Substantial
Control Risk			
Budgeting	Moderate	- National rules will be used for budgeting, including formulation, and monitoring through the e-SIDIF System. - Underlying expenditures under the PBC scheme will be linked to specific SE budgetary lines. Specific documentation reports will be established in the Disbursement and Financial Information Letter.	Moderate
Accounting	Moderate	- The UEPEX system will be used to record all accounting transactions.	Moderate
Internal Controls	Substantial	- Detailed procedures and controls over the electricity subsidies to be requested to the borrower as evidence on eligible expenditures under Component 2 will be clearly detailed in the POM.	Substantial
Funds Flow	Substantial	- Specific flow of funds and disbursement arrangements will be used under the PBC scheme. - Eligible Expenditures Spending Report will be used for disbursement purposes under the PBC scheme.	Substantial
Financial Reporting	Moderate	- DGPPSE will prepare semiannual IFRs and annual financial statements using the UEPEX system.	Moderate
Auditing	Substantial	- Audited financial statements following auditing standards and terms of reference acceptable to both Banks.	Substantial
Overall Residual Risk rating			**Substantial**

Source: WB own elaboration

Description and Assessment of Project FM arrangements

9. **Institutional Arrangements for FM and staffing.** The DGPPSE will be responsible for the overall FM aspects including project's budget formulation and execution; managing the Designated Account and requesting disbursements from the Loan and documenting expenditures to the Bank; maintaining project's accounting records and preparation of interim financial reporting and Project annual financial statements required by the Bank; and complying with Project's external auditing arrangements. The DGPPSE is composed of qualified professionals with no experience in implementing Bank-financed projects using PBCs. The DGPPSE organization chart, roles and responsibilities, FM functions and procedures will be clearly defined in the POM.

10. **Planning and Budgeting.** National budget formulation and implementation are guided by rules established by the National Constitution and the LAF. The preparation of the annual budget, which incorporates current and capital expenditures, is coordinated by the Ministry of Economy and follows a clearly defined calendar that is generally adhered to. The Federal Government's integrated budget and accounting IT system e-SIDIF, *Sistema Integrado de Información Financiera* will be used for fulfilling the project's budgeting and accounting needs. The Project will execute budget

[30] BIRF 8484 AR, BIRF 9521 -AR, BID 4694/OC-RG, BID 5767/OC -RG, BID 4411/OC- AR.

allocations from the SE's general budget. The Project will rely on the Argentinian procedures for budget formulation and execution.

11. **Budgeting arrangements for the programs are well-defined, with sufficient budget allocations established.** The substantial annual funding for electricity subsidies, coupled with a stable budgeting process and approved budget, ensures that necessary resources for this vital function under DGPPSE are consistently maintained. The DGPPSE counts on a strong capacity, including the ability to prepare and manage budgets, manage accounting and financial reporting systems, and ensure compliance with legal and regulatory requirements.

12. **Accounting and Financial Reporting.** The DGPPSE will use the UEPEX system which is the Federal Government's system for accounting and financial reporting of donor-financed operations. This system is already in place and functioning well. The DGPPSE will be responsible for: (i) maintaining the Project's accounts with the Chart of accounts reflecting the Project categories, components and source of funding; and (ii) producing the requisite of semi-annual IFR and annual financial statements. Those reports will be prepared on a cash accounting basis using the standard formats agreed with the Bank. The IFR will be submitted to the Bank within forty-five (45) days after the end of the reported period. These reports will be used by the DGPPSE to monitor the Project, including comparisons of actual vs. budgeted expenditure. The Chart of accounts, format and content of the IFR and annual financial statements will be included in the POM. The accounting function within DGPPSE is adequately staffed with experienced and qualified people. DGPPSE will also have access to the Bank's Client Connection system for up-to-date information relating to the disbursement of the proceeds of the Loan.

13. The following financial reports will be presented by the DGPPSE to the Bank:

Table A1.2. Reports' Schedule

Report	Due date
Semi-annual unaudited IFRs reflecting the sources and uses of funds for each semester and cumulative uses by category, including beginning and ending cash balances	Within forty-five (45) days after the end of each calendar semester
Annual audit report on the Project's financial statements	Within six (6) months after the end of each calendar year (or other period agreed with the Bank)
Management letter identifying any internal control weaknesses and areas for improvement	

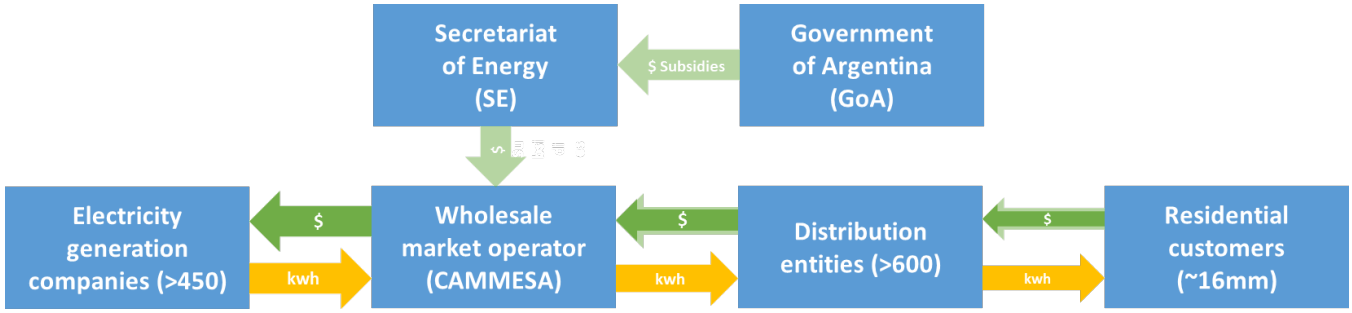
Source: WB own elaboration

14. **Internal controls: Subsidies provided to households and the administrative process over the current subsidy scheme.** The Ministry of Economy directs, through the Secretariat of Energy, non-repayable contributions, known as *Aportes No Reintegrables*, to the CAMMESA. These contributions aim to cover the gap between the generation cost and the generation price passed on to electricity consumers. The transfer of these funds to CAMMESA is governed by legal regulations, particularly Article 25 of Law N. 11,672, which mandates that the National Executive allocate funds from the National Treasury to a Unified Fund established by Law N. 24,065. This fund is vital for maintaining stable electricity prices within the Wholesale Electricity Market, with budget allocations detailed in the national budget law and adjustments made through Administrative Decision N. 5 and Decree N. 594.

15. At the wholesale level, the process begins when CAMMESA conducts a thorough financial needs assessment and submits a detailed monthly report to the SE, outlining the subsidies required to cover the difference for upstream generation and the price collected per the demands of the National Interconnected System (SIN). In response, the SE

initiates an Electronic File (*Expediente Electrónico*), leading to the issuance of a payment order. Upon approval of the payment order from SE, the National Treasury (TGN) transfers the allocated funds to CAMMESA.

Figure A1.1. Electricity subsidies flow.



Source: WB own elaboration

16. The eligible expenditure for the Bank consists of the subsidy granted for each billing period pertaining to users eligible for the subsidy. Currently, the SE obtains this information from CAMMESA. To obtain a more accurate computation at the individual user level, by billing period, the SE will begin collaborating with various stakeholders, including regulators and provincial authorities. The SE will produce monthly reports and submit them via the DGPPSE to the Bank, based on a defined protocol for the exchange of information that will be outlined in the POM. This documentation serves as proof of the subsidized electricity amounts eligible for reimbursement for each individual user, organized by billing period.

17. Financial management processes relevant to the Project will be included in a POM to be prepared and implemented by DGPPSE describing control measures to ensure the consistency and accuracy of user data on eligible users of electricity subsidies and the monthly amounts by verifying information on individual users across various stakeholders and systems. Detailed procedures and controls over the programs' payments will be detailed in the POM. As the World Bank and the IDB will be financing some of underlying eligible expenditures, a clear methodology to allocate these eligible expenditures (i.e. by billing period or other criteria) will be set up and included in the POM.

18. **External Auditing Arrangements.** DGPPSE will be responsible for the submission of audited financial statements to the Bank. The Project's external audit will be performed by an independent auditor with terms of reference (ToRs) both acceptable to the World Bank and the IDB, and in accordance with acceptable auditing standards. The audit scope will comprise the retroactive financing and verification that payments of project's eligible expenditures submitted to the World Bank have not been financed by another external financing source. It is expected that the Argentina's Supreme Audit Institution (*Auditoría General de la Nación*, AGN) will carry out the Project's audit. In the event that AGN is not capable to perform the audit, a private audit firm acceptable to the Bank will be hired to conduct the annual external audits. Audited financial statements should be submitted to the Bank no later than six (6) months after the end of each fiscal year. In accordance with the Bank's Access to Information Policy, upon receipt of the annual audited financial statements of the Project, they will be made available to the public (but not the Management letter) by the Bank.

Disbursement arrangements

19. The Project will combine traditional investment financing (input-based) and PBCs. The following paragraphs describe the arrangements for the disbursement of underlying expenditures under the PBC scheme and the reporting and input-based disbursements.

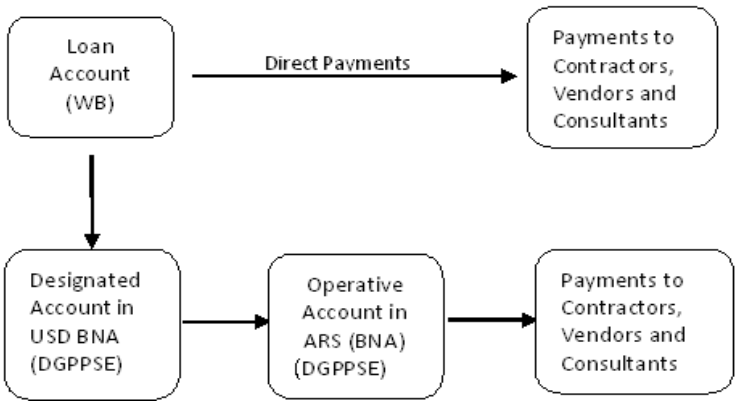
20. The following disbursement methods may be used under the loan: (i) Advance, (ii) Reimbursement, and (iii) Direct Payment.

Flow of Funds and Disbursement Arrangements for Eligible Expenditures (input-based) under Component 1

21. Under Component 1, the Project will finance the procurement of goods, consultant and non-consultant services, operating costs, training, and workshops, for which regular IPF disbursement mechanisms will be used. To finance expenditures to local providers, a project-specific designated account managed by the DGPPSE in US dollars will be opened at the *Banco de la Nación Argentina* (BNA). This account will receive advances from the Loan account and will be replenished by the World Bank as execution progresses. The designated account will have a fixed ceiling of US$4 million. The frequency for reporting eligible expenditures paid from the designated account will be at least once every three (3) months. Proceeds from the designated account will be transferred to a BNA Operating in local currency managed by the DGPPSE to handle payments of eligible expenditures to local providers. Under this modality, the DGPPSE will document eligible expenditures to the World Bank using Statements of Expenditures (SOEs). At the request of the Government, the World Bank will make Direct Payments to vendors based on requests for payments and supporting documentation. Reimbursement of eligible expenditures will also be permitted. The Project's Minimum Application Size will be defined in the Disbursement and Financial Information Letter (DFIL). The Project will have a four (4) month Grace Period.

22. The following figure presents the flow of funds for input-based disbursements:

Figure A1.2: Inputs-based Flow of Funds



Source: WB own elaboration

Specific arrangements under the PBC scheme

23. A large portion of the Loan under Component 2 will be disbursed following a performance-based financing approach. An Eligible Expenditures Spending Report will be used for disbursements under the PBC scheme and included in the DFIL. Disbursements will be supported by the underlying expenditures submitted by the DGPPSE pre-financed with

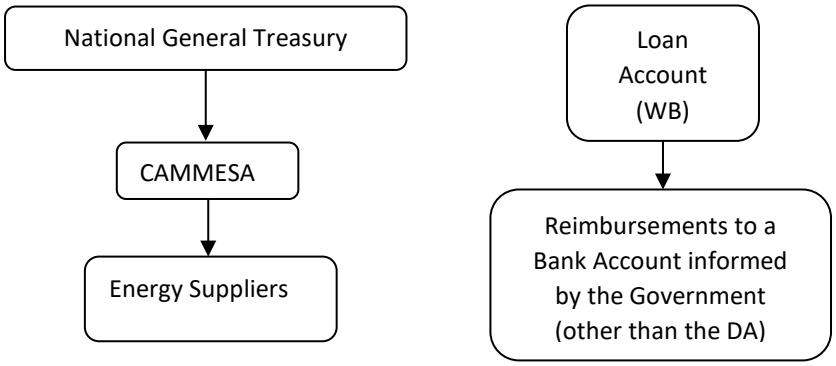
local counterpart funds. A Verification Protocol for each PBC will be clearly defined in the POM. The Report will be submitted to the Bank upon compliance with PBC targets and will be reviewed by the task team before submission to the WFA and Accounting Department for processing.

Flow of funds under the PBCs scheme

24. Eligible expenditures under PBCs of Component 2 will be pre-financed with fiscal resources and then refunded by the WB, adopting the reimbursement method of disbursements. Loan funds will be transferred to a Bank account informed by the Government (other than the DA) using the reimbursement method. Disbursements will be authorized against the achievement of the PBCs agreed targets and evidence confirming that eligible expenditures in an amount equal to at least the amount to be withdrawn under the PBCs has been incurred and that said expenditures have not been presented before to the Bank and that have not been financed by any other external financing source.

25. The following figure presents the flow of funds under the PBCs scheme:

Figure A1.3. PBCs Flow of Funds



Source: WB own elaboration

26. The table below shows the overall arrangements for disbursements:

Table A1.3. Disbursement arrangements for all components

Retroactive expenditures (Component 2)	Eligible expenditures: • Are paid up to 12 months prior to the date of loan signing; • Do not exceed 40 percent of the loan amount; • Comply with the agreed Prior Results; and • Customized SOE requesting the reimbursement accompanied by evidence of compliance with the Prior Results
Reimbursement of eligible expenditures pre-financed by the Government after the date of loan signing (Component 2)	• Reimbursement of eligible expenditures into a Bank Account informed by the Government (other than the DA). • Customized SOE requesting the reimbursement accompanied by evidence of compliance with the PBC
Other Disbursement Methods (Component 1)	• Direct payments to suppliers. The minimum application size for direct payment requests will be defined in the Disbursement Letter (DFIL). • Advance to a segregated designated account in US$ managed by DGPPSE as explained earlier with a ceiling to be defined in the DFIL. • Reimbursement of eligible expenditures pre-financed with Government funds.

Supporting documentation	• Customized SOE for Component 2 along with an electronic list of beneficiaries and subsidies payments that had been previously financed with Government funds; • Statement of Expenditures (SOEs) for Component 1; • Records (supplier contracts, invoices and receipts) for direct payments.

Source: WB own elaboration

27. **Retroactive Financing.** The Bank may reimburse the expenditures for payments made up to one year prior to the expected date of the Loan Agreement. These expenditures will not exceed US$ 200 million equivalents. Such funds will be deposited in a separate bank account (other than the DA).

FM Implementation Support Plan

28. The FM supervision plan and resources to be allocated thereto have been determined in accordance with the risks identified. FM implementation support will include on-site and off-site supervision. On-site missions will be carried out at least two a year and later calibrated following assessed risk and project performance. Off-site implementation support will comprise: (i) the reviews of IFRs; (ii) the review of audited financial statements and follow up of issues raised by auditors in the Management letter, as appropriate; (iii) follow up on any financial reporting and disbursement issues; and (iv) ongoing guidance to the DGPPSE on FM-related matters. The supervision plan may be adjusted according to project's fiduciary performance and updated risk.

Environmental and Social implementation support plan

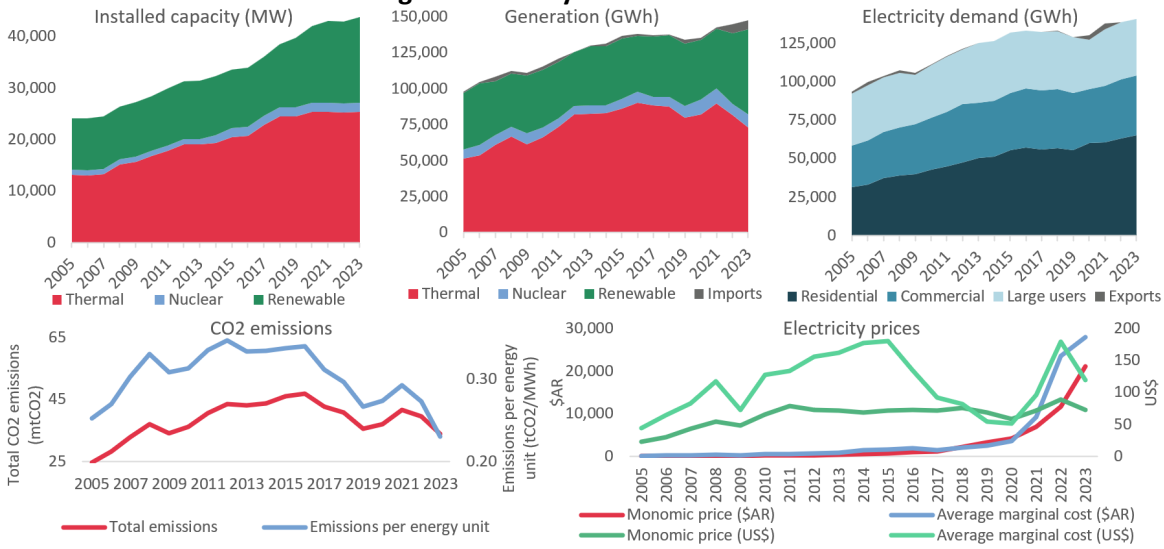
29. The SE will supervise, monitor, and report on the environmental and social (E&S) aspects of project activities, ensuring compliance with applicable environmental and social requirements and regulations. This responsibility is mainly outlined in the ESCP.

ANNEX 2. Energy Sector Background and Context

Sector context

1. Argentina's power sector has been open to private investment and competition since 1992 and is structured vertically into generation, transmission, and distribution businesses. It is the third largest power market in the region after Brazil and Mexico, with a total electricity demand of approximately 141 terawatt hours per year (TWh/yr), driven by the residential sector, which accounts for 46 percent of power consumption.[31] Although renewables share in the electricity mix has doubled in recent years, growing from just over 6 percent in 2019 to 14 percent in 2023 (excluding large hydro, which accounts for an additional 27 percent of total supply), fossil fuels still account for close to 50 percent of the total power supply.[32] The energy sector alone represents almost half of total Greenhouse Gas (GHG) emissions in the country; [33] power generation accounts for 10 percent of total emissions and fuels used in transport accounts for another 10 percent.[34] The sector's share of total emissions – and its net emissions- have consistently increased since 1990. Key sector statistics and performance over the last few decades are shown in Figure A2.1.

Figure A2.1. Key sector statistics[35]



2. Increased operational costs, collection issues and electricity losses have directly and negatively impacted the finances and efficiency of the electricity sector.[36] Together with tariffs, these factors have limited distribution entities from fully compensating CAMMESA for their electricity purchases and further explain the debt accrued to the *Compañía* in the last few years. This situation has prevented distribution entities from appropriately investing in the grid. The lack of

[31] CAMMESA, *Informe Anual 2023*, available online at: https://microfe.cammesa.com/static-content/CammesaWeb/download-manager-files/Informe%20Anual/2024/Informe%20Anual%202023.pdf.
[32] Ibid.
[33] MAyDS. 2023. *Quinto Informe Bienal de Actualización de Argentina a la Convención Marco de las Naciones Unidas sobre el Cambio Climático* (CMNUCC), available at: https://unfccc.int/sites/default/files/resource/5to%20Informe%20Bienal%20de%20Actualizaci%C3%B3n%20de%20la%20Rep%C3%BAblica%20Argentina.pdf.
[34] Ibid.
[35] Own elaboration with data from CAMMESA, *Informe Anual* 2023.
[36] Romero, *Estado de situación de las distribuidoras eléctricas en Argentina*, January 2021.

investment partly explains the high level of losses, which amount to 16 percent on average, ranging from slightly above 6 percent in some cooperatives to around 20 percent in EDESUR (the second-largest distribution company in the country).[37] Such losses (mostly non-technical) could dramatically increase if subsidies were to be removed without appropriate targeting and focalization.[38]

3. Sector sustainability is challenged by external factors, such as climate risks and rising fuel prices. Argentina faces various natural hazards, including flooding, water scarcity, extreme heat, wildfires, and extreme precipitation events.[39] The energy sector, which accounts for 51 percent of the nation's greenhouse gas emissions in Argentina,[40] is particularly exposed to climate change. The country's high reliance on hydropower generation makes it especially vulnerable to droughts. As average annual temperatures are expected to rise by 1.6°C by mid-century, accompanied by an increase in country-wide annual average precipitation and high variability,[41] generation capacity is expected to be impacted. Potential disruptions will increase Argentina's climate risks, particularly for vulnerable groups, and affect the government's capacity to deliver public services. This situation is worsened when coupled with fuel price volatility from external events (such as geopolitical conflicts).[42] These events typically result in larger subsidies or an additional burden on consumers and can potentially result in higher transmission and distribution losses. The fact that most power generation contracts are denominated in US dollars makes the sector further liable to exchange rate volatility.

Efforts to improve subsidies targeting

4. Subsidies in Argentina have been progressive but also flowed to middle- and upper-income households as well as non-residential consumers. Since generation cost subsidies were homogeneously applied, these were important for the poor in terms of expenditure shares but tended to favor middle and high-income households in absolute amounts. For example, the richest quintile of the population received 23 and 37 percent of the total subsidies for electricity and network-distributed gas, respectively, and while the lowest-income quintile received only 16.8 percent of electricity and 8 percent of network-distributed gas subsidies.[43]

5. The early 2016 efforts to rationalize subsidies were accompanied by the creation of a "social tariff" to target and protect vulnerable populations. Eligibility for this social tariff was determined based on categorical criteria verified by cross-referencing utility account holders' information with administrative records from the social security administration, including data on social transfer programs, formal incomes, pensions, and land and automobile registries. However, verifying eligibility faced significant challenges, such as the fragmentation of the databases across various government agencies and levels, the lack of household-level information, and discrepancies between the service account holders and actual residents of the dwelling. The national tax and social identification system (*Sistema de Identificación Nacional*

[37] Rivera, *Consultoría Pérdidas de Energía, Empresas Distribuidoras Argentina, Evaluación Programa de Inversiones*, November 2021.
[38] According to ADEERA (*Asociación de Distribuidores de Energía Eléctrica de la República Argentina*, distribution companies association) data form over 20 distribution companies and cooperatives, with data from 2022 and 2023.
[39] The World Bank Group (2021), Climate Risk Profile: Argentina, available online at: https://climateknowledgeportal.worldbank.org/country/argentina/vulnerability.
[40] World Bank Group (2022). Argentina Country Climate and Development Report. CCDR Series; World Bank, Washington, DC. © World Bank Group. https://openknowledge.worldbank.org/handle/10986/38252 License: CC BY-NC-ND, p. 6.
[41] The World Bank Group (2021), Climate Risk Profile: Argentina, available online at: https://climateknowledgeportal.worldbank.org/country/argentina/vulnerability.
[42] According to CAMMESA data, in periods when hydro participation on overall generation decreased (for example from 2019 to 2023), the correlation between generation costs (either measured by average marginal operated cost or *monomic* price) and oil costs is above 90 percent, while during periods of higher hydro participation (2005-2018) the correlation is below 50 percent.
[43] Lakner, Lugo, Puig, Salinardi and Viveros (2015). "The incidence of Subsidies to Residential Public Services in Argentina: the subsidy system in 2014 and some alternatives", working paper No. 201, CEDLAS.

Tributario y Social, SINTyS) oversaw verification of eligibility criteria, even though its capacity to effectively screen and determine potential households' eligibility was limited as the *Sistema* primarily relied on individual-level data.[44]

The RASE

6. Since RASE was established in 2022, subsidies targeting mechanisms have relied on households' self-reporting data and provincial registries of the social tariff regime, whose beneficiaries were automatically classified as N2. The *Registro* has become a key tool to improve subsidies targeting as it has complemented existing and dispersed individual administrative records and outdated information from distribution entities with self-reported household data. The eligibility criteria are further detailed in Box A2.1.

Box A2.1. RASE eligibility criteria

Based on the information self-reported to the RASE, users can be classified into three categories based on the following key criteria (additional details, conditions and exceptions can be found online in the devoted SE website):

- High-income (N1): Households with a total monthly income equivalent to or greater than 3.5 "basic baskets" (which measure households capacity to meet essential needs) for a type 2 household as defined by the National Institute of Statistics and Censuses (*Instituto Nacional de Estadísticas y Censos*) (i.e., four family members); or that own 3 or more vehicles less than 5 years old, 3 or more properties, a boat, a luxury aircraft, or corporate assets that demonstrate full economic capacity. N1 households are not subsidized.

- Low-income (N2): Households with a net income of less than 1 total basic basket for a type 2 household; or which own up to 1 property, or do not own a vehicle less than 3 years old. Subsidies for N2 households' electricity consumption cover up to 350 kWh per month.

- Middle-income (N3): Households that do not meet the N1 criteria and have a total monthly income between 1 to 3.5 basic baskets for a type 2 household; or own up to 2 properties, or up to 1 vehicle less than 3 years old. N3 households' electricity consumption is subsidized up to 250 kWh per month.

The SE assigns households to their respective category using the self-reported data. As of May 2024, N1 represented 31 percent of total households registered in the RASE, while N2 comprised 51 percent, and N3 accounted for the remaining 18 percent.

The RASE remains open for households to request subsidy support and to update relevant information. Social tariff beneficiaries which were automatically classified as N2, must also update their status before September 4th 2024 or risk losing access to the relevant subsidies.

Source: WB own elaboration based on SE information

7. The introduction of the RASE has also enhanced key stakeholders' understanding of households' sociodemographic characteristics. At the same time, it has created incentives to improve utility databases, as customers seek to update electricity bills and contracts, so these are addressed to the actual potential beneficiaries of subsidy schemes. Cross-referencing this database with other records should help address the information and data shortcomings the RASE currently presents, as described in Box A2.

[44] Romero, *Estado de situación de las distribuidoras eléctricas en Argentina – Parte 2*, August 2021, p. 9.

Box A2.2. Impact of low-quality data on energy consumption and expenditures

The GoA's testing of the RASE data has found there are roughly 1 million household RASE *registrants* or *titulares* (household members who registered their dwelling in the RASE) and resulting over 3 million *cohabitants* or *convivientes* (additional dwellers declared for each household in the RASE), who had no corresponding information in the administrative databases kept by SINTyS.

The testing exercise has also allowed the GoA to cross verify the RASE data for those *titulares* and *convivientes* that could be found in the administrative databases compiled by SINTyS. Based on the latter's data – and the existing RASE subsidy criteria – back in May 2024, close to 2.9 million households (30 percent of all those for which information in both RASE and SINTyS was available) were wrongly classified. Key errors found included:

- Roughly 1.7 million households should have been classified as N2 as per SINTyS administrative records yet were categorized as N1 or N3 in the RASE.
- Over 730 thousand households should be N3, instead of N1 or N2, as classified in the RASE.
- More than 450 thousand users should be N1, and not categorized as N2 or N3 in the RASE.

The average electricity consumption for N1, N2 and N3 households in May 2024 was 263 kWh/month, 440 kWh/month and 319 kWh/month[45]. Considering the electricity consumption subsidized that month for each segment (none for N1, no limits for N2, and up to 450 kWh/month for N3), the inclusion and exclusion errors ended up resulting in:

- Only partially subsidizing 582 GWh consumed by N2 users while also charging 159 GWh at full price for vulnerable users, resulting in additional energy expenditures for this segment of roughly US$9 milllion.
- Subsidizing 119 GWh consumed by high income users, amounting to US$6.3 million (equivalent to the consumption of over 270 thousand vulnerable households in Santiago del Estero).

Source: WB own elaboration based on SE information

[45] Based on CAMMESA's registries.

ANNEX 3: Economic and Financial Analyses

1. The Project has carried out a comprehensive analysis of the potential economic and financial impact of the operation with a focus on two main assessments: (i) distributional analysis of tariffs and demand-subsidies reform; and (ii) evaluation of the impact of subsidy reform on energy consumption and its subsequent positive effect on sectoral emissions. The purpose of each analysis was quite distinct: while the first sought to test if subsidy reform alone would be directly beneficial for lower income households – and under which circumstances it could not be so –, the second aimed to assess how a holistic approach to subsidy reform – as the one being advanced or supported under this Project – could deliver substantial energy consumption and emission reductions.

2. Given their distinctive scopes, both analyses used similar data but different fundamental considerations and methodologies. Under the first assessment, (a) subsidies for N2 and N3 were defined as the difference with the tariffs applied to the N1 segment; (b) only the changes made to subsidized energy caps were used to quantify the impact of the first step[46] of the reform process on households income; (c) potential consumption or behavioral changes after the implementation of the reform were not considered (all effects were interpreted as "next day" effects); (d) potential subsidy eligibility was determined based on income levels exclusively; and (e) the number of targeted households was kept constant at the 2024 levels. For the latter study, (a) subsidies were established as the percentage of generation costs not passed on to consumers; (b) caps and other subsidy reform efforts – ongoing and planned – were considered; (c) a price elasticity of demand was incorporated to account for behavioral changes and a reduced energy consumption post-reform; (d) subsidy eligibility considered all existing criteria; and (e) all households in Argentina were incorporated in the analysis in their – estimated – segment. The sections below show the methodologies and key findings of both analyses.

Distributional analysis of electricity tariffs and demand-subsidies reform

Background

3. The role of electricity subsidies in the context of a fiscal rationalization and stabilization program (which may include aligning costs and tariffs for other basic services) makes performing a distributional analysis a crucial element to assess the allocation of demand-side subsidies. While eliminating distortions in energy pricing would be favorable in distributive terms in the medium run, in the short run, protecting vulnerable households is fundamental to sustainably reverse a distorted system. Even if energy subsidies are an inefficient tool to support poor households, their phasing out could severely harm those at the bottom of the income distribution or near the poverty line. Evidence tends to point out that universal electricity subsidies tend to benefit better-off households, while targeted subsidies (such as social tariffs) favor households at the bottom of the income distribution.[47] As efficient and targeted allocation mechanisms are critical, overcoming the information-related challenges to identify and target beneficiaries is key.

4. The distributional analysis estimated the direct effects of the first steps of the electricity tariff reform implemented in June 2024 on households (see paragraph 14). The analytical approach focused on assessing the potential impacts by using micro-simulations to estimate: (a) the effects of consumption caps on household affordability given the mitigation scheme for the allocation of demand subsidies; (b) the distribution of existing electricity demand subsidies across the population by income level (absolute distributional incidence); and (c) the share subsidies represent – in terms of

[46] Defined in the Resolution 91/2024 issued on *June 2024.*

[47] *Rodriguez Chamussy, L. & E. Vezza (2021), Understanding the distributional incidence of electricity and piped gas subsidies in Buenos Aires Metropolitan Area (AMBA)*, World Bank; and Rodriguez Chamussy, L. & E. Vezza (2023), *Distributional analysis of energy subsidies in Argentina: a regional perspective*, World Bank.

household income – for different levels across the income distribution (relative distributional incidence). In addition, the analysis included a full reform scenario under which the potential effects of improved households' targeting (per their level of vulnerability) was modelled to illustrate the potential distributional gains the reform could deliver under strengthened design mechanisms (such as an incremental phase-out and subsidies impact monitoring).

5. The policy reform introduced in June 2024[48] lowered the cap on subsidized electricity consumption according to the RASE segments during the transition period until November 2024. Prior to the reform, an N3 household faced a cap of 400 kWh/month of subsidized consumption (baseline scenario). The reform introduced a cap of 350 kWh/month for N2 households and established the cap at 250 kWh/month for N3 households (reform scenario). In both the baseline and reform scenarios, the demand subsidies analyzed originate in the difference between the tariff charged to N1 users (non-targeted households) and the tariffs applied to N2 and N3 users; thus, the universal subsidy that originates in the difference between CAMMESA's selling price and the generation, is not assessed.[49]

6. Constructing a baseline scenario to assess reform effects relied on statistical and administrative data. The incidence analysis combined aggregate administrative records (consumption profiles, tariff schemes, and eligibility criteria for demand-side subsidies) with micro-data from available surveys (consumption, expenditure, income, and socio-economic profile) at the national level (EPH second semester 2023, and ENGHo 2017-18). Household incomes variables have been adjusted by estimating a factor of real change in income sources to provide updated assessments in a context of inflation and changing social protection parameters. Simulations involved adjusting household income vectors under different scenarios to estimate the reform and post-reform context (June 2024). Adjustment factors were used to generate a simulated income vector and household ordering based on more frequently available aggregate sources of information. These sources used the CPI and basic consumption basket, salary indexes, and changes in pensions and benefits.

7. The assessment of potential distributional impacts faces various challenges in terms of adequate and available data to identify household composition, their vulnerability level and their meeting of subsidy eligibility criteria. Thus, using statistical data required several assumptions given the lack of available administrative data at the time of this analysis. Two critical assumptions are related to the identification of eligible households for demand-side subsidies and the estimation of consumption levels (kWh/month).

Identification of households receiving subsidies

8. The total income reported by households in the survey was used to apply the eligibility criteria for subsidies (including formal and informal income sources). Households earning less than 1 basic basket were classified as N2 (the group eligible for the highest subsidy amount) and households earning less than 3.5 basic baskets were classified as N3. This assumes true and perfect reporting of household characteristics and their full enrolment in RASE or subnational social tariffs (which would have allowed them to be directly classified as N2 in the national subsidy scheme).

9. Under these assumptions, most or all households are eligible for demand subsidies. While 60 percent of the households would qualify as N2 and 37 percent as N3, only 3 percent would not be eligible to receive subsidies (N1). Sorting households by total family income – from lowest to highest income level – shows that meeting the N2 segment (a total family income of less than one basic basket), spans from the 1st to the 6th income distribution decile in the survey. From roughly half the households in the 6th decile to two-thirds of households in the 10th decile would be N3 as shown in figure A4.1a. When households are sorted by family income per capita (and family size is considered), most households

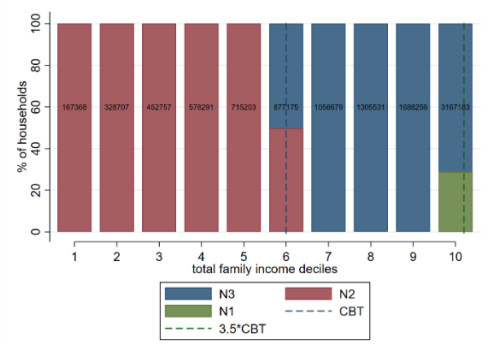
[48] Resolution N. 9/2024.

[49] However, such gap is addressed in the second assessment (together with other key subsidy reform elements) to estimate a potential impact on energy consumption and emissions.

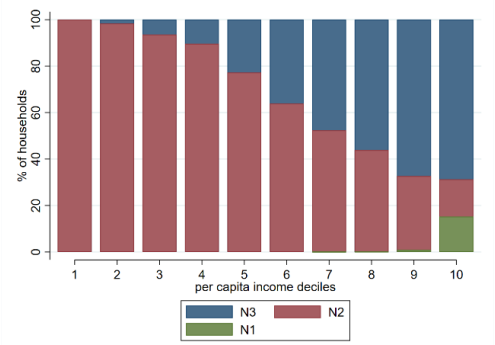
are N2 up to the 7th decile, while N3 households are in the upper deciles as seen in figure A3.1b). This is in part explained by missing population in the right tail of the distribution, a common and structural feature of households' surveys.

Figure A3.1. Households classification per segment along the income distribution[50]

a. Thresholds for N classification in the total family income distribution



b. Distribution of households by N classification in total family per capita income distribution

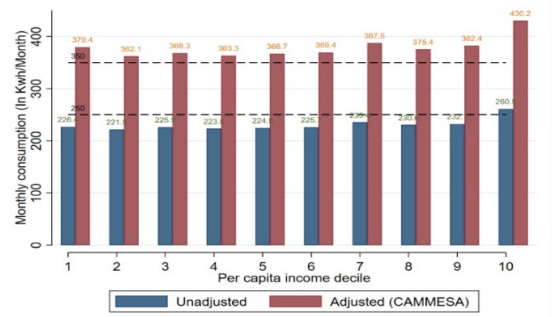


Estimation of household electricity consumption

10. Electricity consumption was derived from the latest available household consumption survey by estimating kWh/month through reported households' expenditure (ENGHo 2017-18) at the time of collection.[51] These patterns were imputed to the EPH 2023, and then calibrated to average consumption by jurisdiction based on aggregate administrative data at the provincial level. The use of administrative data to adjust consumption levels resulted in significant increases in the amount of kWh consumed by households as final consumption was about 60 percent higher along the income distribution as seen in Figure A3.2. The higher consumption has implications for the analysis, as the N2 segment consumption cap is close to the average adjusted consumption (and in fact, the 350-kWh cap for N2 households is below the average adjusted consumption across the whole income distribution).

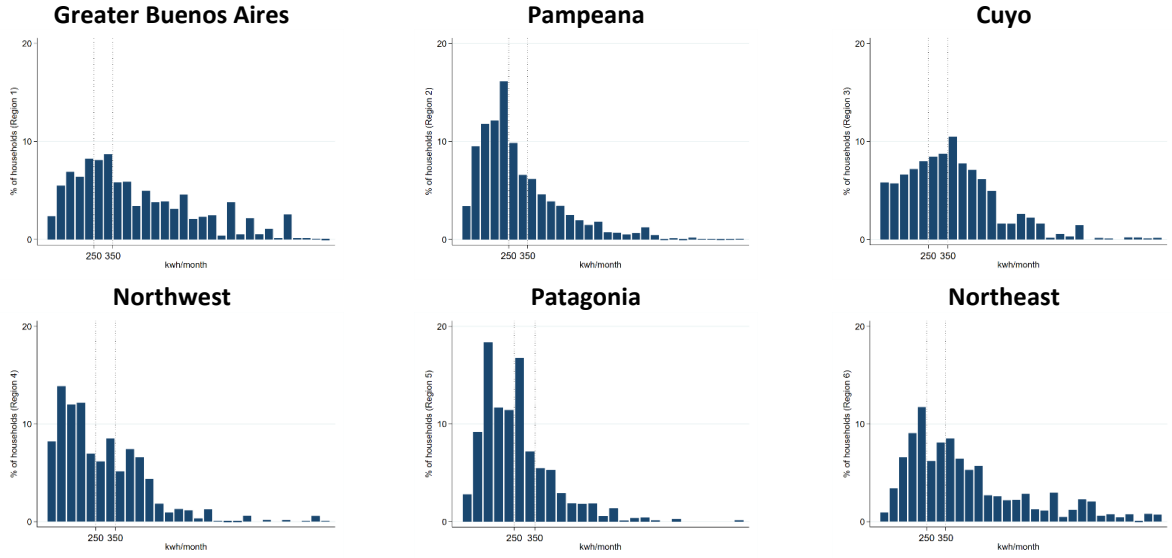
[50] Source: Own elaboration based on EPH and ENGHo. Note: reported incomes have been updated to June 2024 using adjustment factors.
[51] Porto, A., J. Puig, T. García, O. Bertín, and J. Puig (2023), "Documento Metodológico y Resultados Recupero de cantidades consumidas de energía en ENGHo 2018 e imputación en EPH 2018 y 2023", CEFIP & Banco Mundial.

Figure A3.2. Recovered and estimated consumption levels along the income distribution (kWh)[52]



11. The analysis found that the 350 kWh/month consumption cap would reduce subsidies for a large mass of households in most regions, including roughly half of N2 households in the Greater Buenos Aires, Cuyo and Northeast regions (48, 49 and 52.5 percent, respectively), as shown in figure A3.3.

Figure A3.3. Estimated consumption levels by region[53]



Key findings

<u>Uneven impacts across regions on household affordability</u>

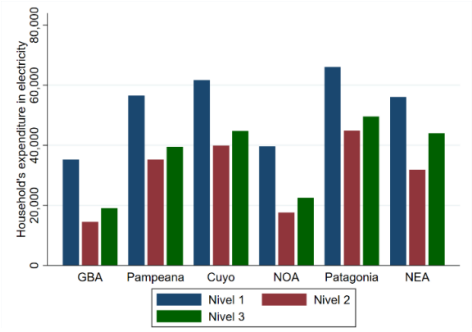
12. The level of electricity bills does not correlate with consumption across regions.[54] As shown in figure A3.4a, the pre-tax bill for households in Patagonia in the reform scenario would be roughly 2.5 times higher than a similar bill in the Greater Buenos Aires region due to lower tariffs and other charges. This would then amplify the impact of tariff updates

[52] Source: Own elaboration based on EPH, ENGHo and *Secretaría de Energía*. Note: unadjusted are the consumption levels obtained recovering KWh from household spending. Adjusted is the consumption provided by *Secretaría de Energía* based on CAMMESA. Dashed lines show the consumption caps for N2 and N3 households implemented by the reform. Reported incomes have been updated to June 2024 using adjustment factors.
[53] Source: Own elaboration based on EPH, ENGHo and *Secretaría de Energía*.
[54] As electricity tariffs vary considerably across the country, depending on the level at which regulatory agencies have set and updated the VAD, and the associated subnational taxes and fees for service provision.

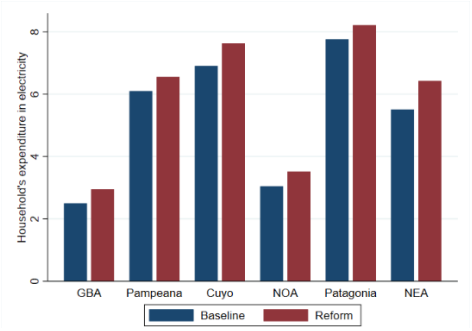
on household welfare. At the same time, under the reform scenario, households across Argentina would need to devote a larger share of income (15.4 percent against 8.9 percent pre-reform for the bottom 40 percent) to cover the same consumption levels. And as consumption levels and prices vary across regions, the electricity bills for some N2 households in areas such as Patagonia, Cuyo, the Pampa, or the Northeast could be 1 percentage point higher even than the bills for N1 households in Greater Buenos Aires or the Northwest, as shown in figure A3.4b.

FigureA3.4. Electricity bill by region and as a percentage of income[55]

a. Pre-tax electricity bill, baseline (consumption 400kwh/month)



b. Percentage of income, pre and post reform (consumption 400kwh/month- N2 household in the 4th decile)



Factors influencing the distributional effects

13. The model seeks to overcome key data gaps. For example, detailed administrative data could provide more accurate scenarios to assess the distributional effects of the reform and refine key assumptions. Consumption information could be calibrated at more disaggregated levels (such as consumption ranges for N2 and N3 users and by region), which would allow improved assessments. Further classifying households into subsidized groups based on different criteria (income, assets, or social tariff eligibility) and correlating such attributes with other socio-demographic characteristics would help better identify beneficiaries along the income distribution.

14. In addition, the tails of the income distribution are under-represented in the survey's microdata, leading to biases in the identification of low- and high-income groups.[56] However, the distribution of households by segment (N1, N2 or N3) does not significantly underestimate households not eligible for subsidies that have been enrolled in RASE: the N1 segment accounts for 4 percent in RASE (compared to 3 percent in the analysis). In contrast, there are larger differences in the classification of households as N2 or N3 segments. While 66 percent of households are N2 and 31 percent are N3 in the RASE, 60 percent are N2 and 37 percent are N3 per the microdata. Further distortions remain if households not enrolled in the RASE are considered, as it is likely most would be classified as N1.[57]

15. Finally, it is important to point out outputs based on RASE might be influenced by income misreporting, especially impacting the number of households classified as N2. Although self-reported data is collected in both household surveys and for the RASE, incentives to underreport income are more likely in the latter. At the same time, N1 households have

[55] Source: Own elaboration based on EPH and ENGHo and tariffs in June 2024. Note: EDENOR/EDESUR tariffs for GBA, EDEA/EPE/EPEC tariffs for Pampeana, EDEMSA tariffs for Cuyo, EJESA tariffs for NOA, EdERSA tariffs for Patagonia and DPEC tariffs for NEA.

[56] Albina, L., L. Laguinge, L. Gasparini, L. Tornarolli, G. Cruces, and S. Afonso (2024) adjust incomes reported by the EPH using social security records, specific surveys, and tax collection data as data sources. The authors find that incomes increased by 62% on average, with large heterogeneity across the income distribution. The adjustment increases incomes up to 250% in the higher percentiles.

[57] As incorporated in the second assessment included below.

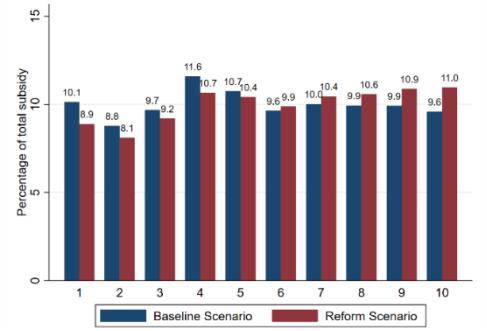
no incentives to register in the RASE, while other households may wish to provide false (or omit) information if this is not validated.

Total and relative incidence of demand-side subsidies

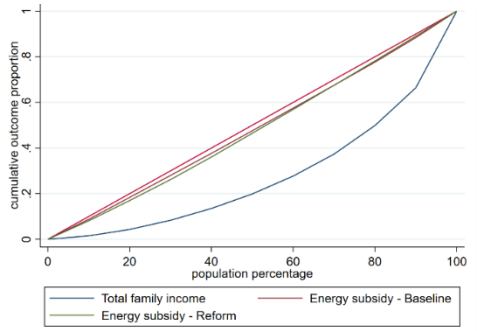
16. The analysis suggests that – assuming consumption remains the same pre- and post-reform – the subsidies (difference with the tariffs applied to the N1 segment) – would lose their mild pro-poor biases.[58] In the baseline scenario, as much as 40.2 percent of subsidies went to households in the bottom 40 percent. In contrast, households in relatively better socioeconomic conditions (top 20 percent) received 19.5% of such subsidies. The caps set in the 2024 reform seem to have reduced the amount of subsidy concentrated in the bottom 40 percent to 36.9 percent as shown in figure A3.5a. As households in the bottom of the income distribution in the baseline scenario had higher consumption (and qualified for subsidies under the N2 segment), the caps reduced their capture of energy subsidies. As figure A3.5b illustrates, while the baseline concentration curve lies above the line of perfect equality (this is, the cumulative share of subsidies is relatively higher than the cumulative share of households at the bottom of the income distribution), the reform scenario curve lies below it, thus reinforcing inequality patterns (as the cumulative share of subsidies is lower than the cumulative share of households at the bottom).[59]

Figure A3.5. Absolute incidence, pre and post reform[60]

a. Distribution of the demand subsidies by decile



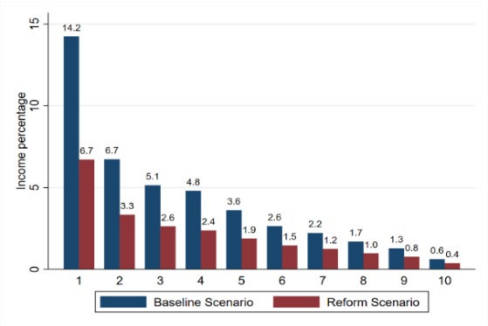
b. Subsidies concentration and Lorenz curves



17. Subsidies continue to be progressive in relative terms under such reform scenario. However, the relative incidence would halve for the bottom 40 percent. In the baseline scenario, the share of income received goes from 14.2 percent in the bottom, to 0.5 percent in the top income decile. In the reform scenario, these figures would be 6.7 and 0.4 percent, respectively, as seen in Figure A3.6.

[58] The incidence analysis assumes no behavioral changes; thus, all effects should be interpreted as "next day" effects. For poor and vulnerable population, it might be indeed difficult to adapt consumption in the short term as investing in more efficient use requires important fix costs.
[59] Concentration curves plot the cumulative share of subsidies received by income groups against the cumulative share of households, ranked from the poorest to the richest. The line of perfect equality represents an equal share of cumulative subsidies and households across the distribution.
[60] Source: Own elaboration based on EPH and ENGHo. Note: reported incomes have been updated to June 2024 using adjustment factors.

Figure A3.6. Relative incidence, pre and post reform[61]

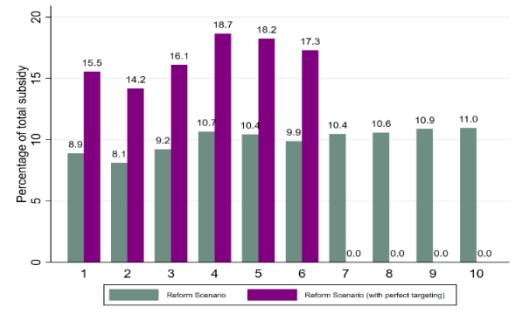


Conclusion

18. As stated before, even if this analysis focuses on certain aspects of the reform, such process goes beyond the introduction of caps to rationalize the allocation of subsidies. The efforts supported by the Project include activities to strengthen data cross-checking procedures to validate eligibility for subsidies. In a full reform scenario where households are better targeted, subsidies would change the distributional bias of the reform. The process towards such full-reform scenario will have to deal with several implementation challenges. Even when the reliance on self-reporting is replaced or cross- checked using existing administrative records, issues of data incompleteness and missing data sources on the socio-economic profile of households pose informational constraints to identifying prioritized households for subsidy allocation.

19. A simulation of a maximum distributional gain scenario – in which higher income households are not subsidized – illustrates the potential gains of and scope for improving targeting mechanisms. For example, if households in the upper tail of the income distribution – the 7th to 10th deciles – were to be excluded from subsidies and all were included in the N1 segment, about 64.5 percent of total subsidies would go to the bottom 40 percent of the population as shown in Figure A3.7.

Figure A3.7. Absolute reform incidence with a perfect targeting scenario[62]



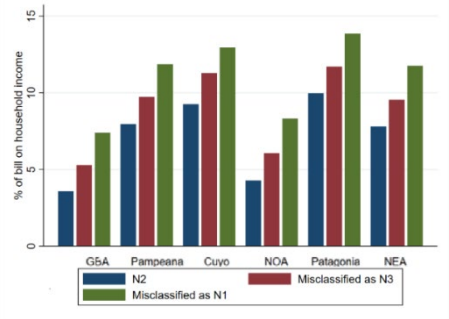
20. Improved targeting would also have significant implications on vulnerable household budget. Misclassification of households would imply significant increases in the bill's burden, especially in some regions. Errors in the classification of vulnerable households increase the burden on these households to particularly high levels in some regions. In the reform scenario, the electricity bill for N2 households in the 3rd decile living in Patagonia is 10% of their income. If they had been

[61] Source: Own elaboration based on EPH and ENGHo. Note: reported incomes have been updated to June 2024 using adjustment factors.
[62] Source: Own elaboration based on EPH and ENGHo. Note: reported incomes have been updated to June 2024 using adjustment factors.

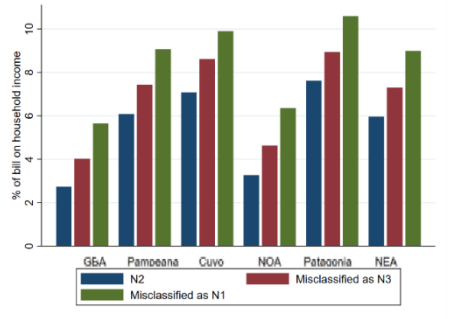
misclassified as N1, these households would have to spend an additional 4 pp of their income to afford the bill. The same type of household in the Pampeana region would have to spend five additional percentage points if misclassified as N1. Misclassifying N2 households as N1 would double the bill burden for these households in GBA, albeit at a lower level than in the other regions as shown in Figure A3.8a. The bill burden would be slightly lower if the N2 household is in the middle of the income distribution as shown in Figure A3.8b.

Figure A3.8: The electricity bill burden in the reform for N2 households by region -perfect targeting vis-à-vis misclassification[63]

a. KWh/month=400, N2 household in decile 3



b. KWh/month=400, N2 household in decile 5



21. Subsidy reform can be successful and benefit the most vulnerable population if identification gaps are addressed, data improved, a more efficient consumption is promoted (to ensure consumption is kept below the caps for – among others – the N2 segment) or a greater effort to alleviate energy price increases is made.

Evaluation of the impact of subsidy reform on energy consumption and emissions

Context

22. Subsidy reform has the potential to impact energy consumption (due to the price elasticity of demand), promote increased efficiency or improved energy use and have a positive effect on GHG emissions, particularly in a context where consumers have historically received generalized subsidized tariffs prior to the reform. This assessment thus compared "with" and "without" Project scenarios that modeled the potential impact of such reform in the residential subsector. The analysis compared the overall expected effect of improved electricity tariffs – due to electricity subsidies that are focalized and better target lower income households –against a business-as-usual scenario in which no subsidy reform happens.[64]

Methodological approach

23. The assessment used a timeframe of 12 years (from 2024 to 2035) to appropriately measure the long-lasting impact of subsidy reform and relied on a realistic price elasticity of demand (this is, the expected change in a product's demand due to a change in its price). Based on a review of the international literature and own estimates the model used a price elasticity of demand of 0.10 for the short term, 0.15 in the mid-term and 0.20 in the long-term. Key variables are presented in table A3.1.

[63] Source: Own elaboration based on EPH and ENGHo. Note: reported incomes have been updated to June 2024 using adjustment factors.
[64] The assessment also performed a cost-benefit economic and financial analysis of the GoA's subsidy reform efforts; further details are also included below.

Table A3.1. Key assumptions used

Variable	Value	Notes
Price elasticity of demand		
Short-term	0.10	2024
Mid-term	0.15	2025
Long-term	0.25	2026-onwards
Population		
Population growth rate	0.9%	Applicable to both scenarios
Residential consumers growth rate	0.3%	
Annual residential subsector demand growth		
2012-2023	3.22%	Applicable to both scenarios
2024-2026	3.22%	
2027-2035	3.00%	
Average household consumption growth		
Without (w/o) project scenario	2.96%	2025-2026, lower w/ project due to communication and awareness campaigns
With (w/) project scenario	2.40%	
W/o project scenario	2.74%	2027-2035, lower w/ project due to communication and awareness campaigns
W/ project scenario	1.50%	
Emissions		
Electricity generation emissions factor	0.27	ton CO2/MWh

Source: WB own elaboration

24. The models also relied on the observed impact of subsidy reform efforts undertaken in mid-2024 by the GoA.[65] These initiatives are attributed to the Project and consist on (i) the setting of caps to the energy consumption to be subsidized for the N2 and N3 segments (no subsidies apply to the N1 segment), (ii) increased registration in the RASE and the subsequent reclassification of users from the N1 to the N2 segment in mid-2024; and (iii) more ambitious generation cost passthrough to consumers from mid-2024. The following sections further present the effects of such measures as well as key inputs to both scenarios.

Residential subsector energy consumption

25. Energy consumption for the residential subsector was assessed considering:

- Energy consumption data for January-May 2024 from CAMMESA as well as June-July data (post-reforms) to extrapolate for the rest of the year and to measure potential Project impacts.
- Subsidized energy consumption caps of 350 kWh/month for N2 and 250 kWh/month for N3 users (“with” Project) and no caps for N2 and 450 kWh/month for N3 users (“without” Project).
- Average monthly consumption in 2024 of 244 kWh/month, 392 kWh/month, and 283 kWh/month for N1, N2 and N3 users, respectively (based on information from distribution companies reported to CAMMESA).

[65] As these results are planned to be incorporated in the Project and have already been achieved, their effects are also being used and considered in this analysis.

RASE

26. The evolution of the RASE was estimated by assessing key factors such as the number of households per RASE segment (considering the population growth rates trends), as well as the impact of households recategorization starting in 2025. Table A3.2 below showcases the number of households that were in each segment by May and by August 2024.

Table A3.2. Number of households per appropriate RASE segment

Segment	May 2024		August 2024	
	% of HHs	# of HHs	% of HHs	# of HHs
N1	**32%**	**5,244,506**	**30%**	4,912,834
N2	**50%**	**8,129,715**	**52%**	8,462,090
N3	**18%**	**2,855,504**	**18%**	2,905,241
Total		**16,229,725**		**16,280,165**

Source: WB own elaboration

Electricity costs and prices

27. The models calculated the expected generation costs to be passed through to consumers (seasonal price), expected generation costs (monomic price) and the final tariff to be paid by consumers per segment. Based on data from CAMMESA, seasonal prices varied from US$53/MWh for N1 segment users (prior to the first reform efforts) to US$3.8/MWh for N2 segment consumers. After the mid-year reform, prices increased for all consumers (excluding subsidies) from US$72 /MWh (N1) to US$30 /MWh (N2), as seen in table A3.3.

Table A3.3: Seasonal electricity tariffs per segment (US$/MWh)

Segment	2024 (pre-reform)	2024 (post-reform)
N1	52.6	72.1
N2 (subsidized)	3.8	23.0
N2 (above cap)	3.8	72.6
N2 average	3.8	30.4
N3 (subsidized)	4.7	34.0
N3 (above cap)	53.1	72.5
N3 average	12.6	44.5
Average	**16.6**	**41.2**

Source: WB own elaboration

28. The monomic price used for the first half of 2024 was US$66.4 per MWh, increasing to US$93.9 per MWh during June and July (based on CAMMESA data). The aggregate monomic price for 2024 is estimated to be US$75.6 per MWh and dropping towards US$66.2 per MWh by 2027 and onwards (according to data provided by SE), for both scenarios as shown in table A3.4.

Table A3.4. Monomic electricity price (US$/MWh)

2024 (pre-reform)	2024 (post-reform)	**2024**	**2025**	**2026**	**2027-onwards**
66.4	93.9	75.6	72.5	70.9	66.2

Source: WB own elaboration

29. The previous inputs allowed to estimate electricity tariffs paid by consumers in 2024 and which will evolve based on the expected passthrough mechanisms discussed below. The expected final tariffs were built based on the seasonal and monomic prices, as well as by considering that generation and transmission costs represent roughly 20 percent of electricity prices – with distribution accounting for the remaining 80 percent – for N2 and N3 users; while for N1 users these shares represent 60 and 40 percent, respectively. In all three cases an additional 25 percent was added to account for taxes and other charges. Table A3.5 summarizes final tariffs expected to be paid by consumers in 2024 by segment.

Table A3.5. Expected electricity tariff per residential segment (AR$/MWh)

Segment	2024 (pre-reform)	2024 (post-reform)	% change
N1	94.47	121.00	28%
N2	20.49	51.67	152%
N3	25.32	66.78	164%

Source: WB own elaboration

30. Finally, the analysis estimated the potential evolution of tariffs by 2035 based on the planned or expected passthrough of electricity costs to final consumers. As reform efforts require an acceleration in such rate from mid-2024, the expected values under both scenarios are presented in table A3.6.

Table A3.6. Passthrough evolution by scenario (percentage)

Segment	2024 (pre-reform)	2024 (post-reform)	2025	2026	2027	2028	2029	2030-onwards
W/o Project scenario								
N1	79%	79%	81%	83%	86%	99%	100%	100%
N2 (subsidized)	6%	20%	27%	45%	55%	65%	65%	70%
N2 (above cap)	6%	20%	27%	45%	55%	65%	65%	70%
N3 (subsidized)	7%	35%	45%	55%	60%	75%	75%	80%
N3 (above cap)	80%	80%	81%	83%	86%	99%	100%	100%
W/ Project scenario								
N1	79%	85%	86%	99%	100%	100%	100%	100%
N2 (subsidized)	6%	30%*	34%	58%	70%	70%	70%	70%
N2 (above cap)	6%	70%*	86%	99%	100%	100%	100%	100%
N3 (subsidized)	7%	46%	50%	74%	80%	80%	80%	80%
N3 (above cap)	80%	87%	86%	99%	100%	100%	100%	100%

*To reach 20 percent on the aggregate in 2024, as intended by the GoA.

Source: WB own elaboration

Key findings

<u>"Without" Project scenario</u>

31. In the "without" Project scenario, the model found that the number of households in the RASE, their average consumption, and total electricity demand would continue to grow based on existing socioeconomic trends observed in 2024. The percentage of generation costs to be recovered through consumer tariffs would also continue growing and effectively go from just 26 percent in 2024 to 81 percent by 2030 and onwards, for an accumulated effective passthrough (the aggregated value of tariffs across the 12 years assessed as a percentage of aggregated generation costs in that same period) of 68 percent by 2035. Key results are showcased in table A3.7.

Table A3.7. Key findings from the w/o Project scenario

Segment	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Households per segment (million)												
N1	5.24	5.26	5.27	5.29	5.30	5.31	5.33	5.34	5.35	5.37	5.38	5.39
N2	8.13	8.15	8.17	8.19	8.21	8.23	8.26	8.28	8.30	8.32	8.34	8.36
N3	2.86	2.86	2.87	2.88	2.88	2.89	2.90	2.91	2.91	2.92	2.93	2.94
Total	**16.23**	**16.27**	**16.31**	**16.36**	**16.40**	**16.44**	**16.48**	**16.52**	**16.57**	**16.61**	**16.65**	**16.69**
Average residential consumption per household												
N1	244	252	259	266	273	281	289	297	305	313	322	330
N2	392	401	355	345	340	345	348	355	362	369	377	384
N3	283	284	268	268	262	266	269	274	280	286	291	297
Total residential subsector consumption (TWh)												
N1	15.38	15.88	16.39	16.88	17.39	17.91	18.45	19.00	19.57	20.16	20.76	21.38
N2	38.23	39.22	34.79	33.88	33.49	34.11	34.51	35.26	36.07	36.89	37.72	38.56
N3	9.69	9.74	9.23	9.25	9.09	9.25	9.37	9.57	9.79	10.01	10.24	10.47
Total	**63.30**	**64.84**	**60.41**	**60.01**	**59.96**	**61.26**	**62.32**	**63.84**	**65.43**	**67.06**	**68.72**	**70.41**
Passthrough												
%	26%	43%	57%	64%	76%	77%	80%	80%	80%	81%	81%	81%

Source: WB own elaboration

"With" Project scenario

32. The "with" Project scenario shows the remarkable impact of subsidy reform. Overall, it showcases a higher share of households has been included in the N2 segment, meaning the reform has enabled an improved protection of lower-income households. At the same time, it reveals how the introduction of caps and other measures results in a slower pace of energy consumption growth for all segments and for the overall residential subsector. Key results are showcased in table A3.8.

Table A3.8. Key findings from the w/ Project scenario

Segment	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Households per segment (million)												
N1	5.08	5.04	5.05	5.06	5.08	5.09	5.10	5.11	5.13	5.14	5.15	5.17
N2	8.30	9.38	9.40	9.43	9.45	9.48	9.50	9.53	9.55	9.58	9.60	9.62
N3	2.88	1.90	1.91	1.91	1.92	1.92	1.93	1.93	1.94	1.94	1.95	1.95
Total	16.25	16.32	16.36	16.41	16.45	16.49	16.53	16.58	16.62	16.66	16.70	16.75
Average residential consumption per household												
N1	244	250	256	260	264	268	272	276	280	284	289	293
N2	392	382	338	331	332	334	335	337	339	341	343	345
N3	283	275	249	247	248	250	251	253	254	256	257	258
Total residential subsector consumption (TWh)												
N1	14.90	15.13	15.53	15.80	16.08	16.36	16.65	16.95	17.24	17.55	17.86	18.17
N2	39.01	43.05	38.10	37.41	37.64	37.94	38.20	38.53	38.86	39.19	39.50	39.80
N3	9.78	6.29	5.71	5.68	5.72	5.76	5.81	5.86	5.92	5.97	6.01	6.06
Total	63.68	64.47	59.35	58.89	59.44	60.07	60.67	61.34	62.03	62.70	63.37	64.02
Passthrough												
%	36%	51%	70%	79%	79%	79%	79%	79%	79%	79%	79%	80%

Source: WB own elaboration

33. Under this scenario the percentage of generation costs to be recovered through consumer tariffs shows a quick evolution from just 36 percent in 2024 to 80 percent by 2027 and onwards, for an accumulated effective passthrough of 72 percent by 2035. Though the passthrough improves at a faster speed (and is higher on the aggregate), by 2035 the values are higher in the "without" Project scenario. This is explained by two factors: (i) the positive social effect of the "with" Project scenario, which expands the number of low-income households (N2 segment) supported by – more efficient – subsidies; and the also positive "efficiency" effect of the Project design, in which the increase in tariffs for high-income households (N1 segment) results in a reduced use of – non-subsidized – energy.

Results

34. The Project will result in positive and significant benefits for Argentina and the residential subsector. The operation would result in energy savings, reduced generation costs, environmental benefits and avoided CO2 emissions, inter alia. Key results are shown in Table A3.9.

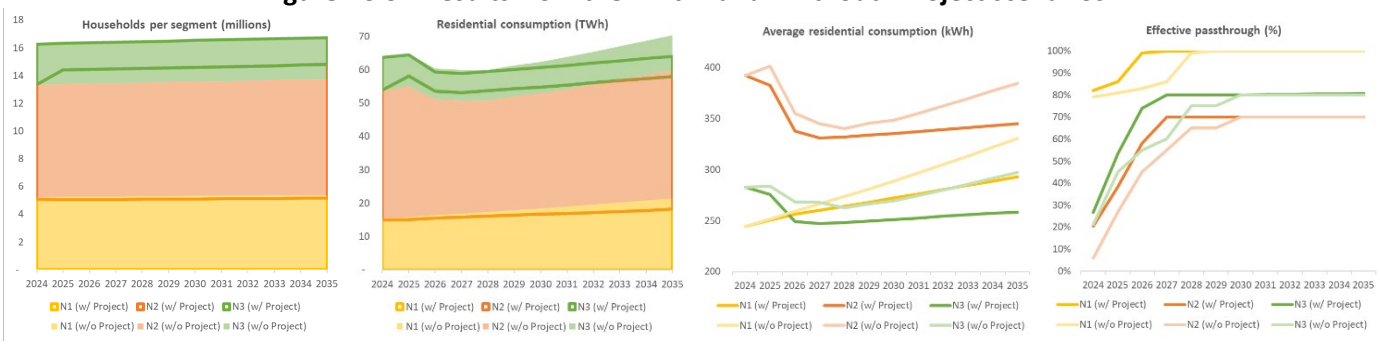
Table A3.9. Key Project Results

Variable	Unit	Results by 2035
Saved electricity	GWh	27,544
Reduced expenditures	M US$	3,061
Reduced subsidies	M US$	2,288
Avoided CO2 emisions	MtCO2	7.44
Environmental benefits	M US$	754

Source: WB own elaboration

35. The positive results arise from the better identification and categorization of consumers into their respective segment, the improved passthrough of generation costs to consumers, and resulting lower household consumption. Figure A3.9 illustrates the improved result by comparing the "with" and "without" Project scenarios.

Figure A3.9.: Results from the "with" and "without" Project scenarios[66]



Economic and financial analysis[67]

36. The assessment also included a cost-benefit analysis of the GoA's subsidy reform efforts compared the "with" and "without" scenarios to quantify key benefits. The key costs considered were the US$480 million in financing the Project is

[66] WB own elaboration

[67] Given the nature of the Project, such cost-benefit analysis of the GoA's subsidy reform efforts is not as relevant as the expected impacts and results presented before; however, key considerations and outcomes are included in this section.

providing to the GoA for the enactment of the subsidy reform through PBCs (96 percent of total Project financing – as it excludes Project management and technical assistance components.) Two types of direct benefits were considered in the economic analysis: (i) reduced energy expenditures; and (ii) emission reductions associated to such energy savings. The key benefits included in the financial analysis were the reduced subsidies to be spent by the GoA due to the Project.

37. The assessment relied on the following key assumptions:

- Discount rate of 5 percent.[68]
- Long-run marginal cost (to estimate savings) of US$98 in 2024 and growing according to the last 20-years trend.
- Shadow price of carbon of US$84 per ton of CO2 (average of the high and low values and increasing according to the 2024 World Bank guidance note).

38. Overall, the analysis found extremely positive NPVs and returns due to the large impact and effects of subsidy reform over time. Table A3.10 summarizes the economic and financial analysis results.

Table A3.10. Key findings from the economic and financial analysis

Scenario	Unit	Costs	Benefits	NPV	IRR
Economic analysis					
Base case: w/ 5% discount rate	M US$	$456	$2,539	$2,083	37.8%
Financial					
Base case: w/ 5% discount rate	M US$	$456	$2,073	$1,617	n/a

Source: WB own elaboration

GHG emissions

39. The Project is expected to result in a sizeable and significant reduction of GHG emissions given the positive impact of subsidy reform on energy use (reduced wasteful consumption due to the price elasticity of demand). The baseline GHG emissions and gross Project emissions were estimated by multiplying the electricity consumed by residential users targeted under the supported subsidy reform by the electricity generation emissions factor over a 12-year timeframe (2024-2035). Table A3.11 presents the GHG emissions estimates.

Table A3.11. Project GHG emissions

Baseline GHG emissions without Project (tCO2eq)	Gross GHG emissions with Project (tCO2eq)	Net GHG emissions (tCO2eq)	Annual net GHG emissions (tCO2eq)
-207,242,566	-199,805,589	-7,436,977	-619,748

Source: WB own elaboration

40. The emission reductions result from the roughly 3 percent drop in residential electricity consumption observed when comparing the "with" and "without" Project scenarios. This is an expected effect of a subsidy reform that would increase electricity prices for higher-income segments and introduce caps to the energy to be subsidized for lower-income households (among other initiatives). The Project only encompasses Scope 2 emissions (associated to electricity procured by the residential subsector); the Project does not involve any direct (Scope 1) or indirect (Scope 3) emissions.

[68] The discount rate is aligned with World Bank guidance *Discounting Costs and Benefits in Economic Analysis of World Bank Projects*. The World Bank guidance is based on the Ramsey formula, which depends on three elements: (i) estimated long-term economic growth, (ii) elasticity of marginal utility of consumption (θ) assumed to be 2.0 following World Bank guidance, and (iii) inter-temporal elasticity of substitution (ρ) of 0, also following World Bank guidance. Consistent with a 2.3 percent long-term real GDP growth rate for Argentina, a 5 percent discount rate was applied in the base scenario, and sensitivity analysis was carried out with alternative rates.