Project Information Document (PID)

Concept Stage | Date Prepared/Updated: 15-Sep-2020 | Report No: PIDC30269

Public Disclosure Authorized

BASIC INFORMATION

A. Basic Project Data

Country	Project ID	Parent Project ID (if any)	Project Name
Peru	P174812		Resilient Electricity Service to support Post-COVID-19 Recovery in Vulnerable Regions in Peru (P174812)
Region	**Estimated Appraisal Date**	**Estimated Board Date**	**Practice Area (Lead)**
LATIN AMERICA AND CARIBBEAN	Jan 25, 2021	Mar 31, 2021	Energy & Extractives
Financing Instrument	**Borrower(s)**	**Implementing Agency**	
Investment Project Financing	Ministry of Economy and Finance	Ministry of Energy and Mines	

Proposed Development Objective(s)

To improve electricity service quality and reliability in selected vulnerable urban and rural areas in Peru.

PROJECT FINANCING DATA (US$, Millions)

SUMMARY

Total Project Cost	75.00
Total Financing	75.00
of which IBRD/IDA	70.00
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Bank for Reconstruction and Development (IBRD)	70.00

Non-World Bank Group Financing

Counterpart Funding	5.00
Borrower/Recipient	5.00

Environmental and Social Risk Classification	Concept Review Decision
Moderate	Track II-The review did authorize the preparation to continue

Other Decision (as needed)

B. Introduction and Context

Country Context

1. **Peru has been one of the fastest growing economies in the Latin American and Caribbean (LAC) region over the past several decades.** With a population of 32 million, Peru has been one of the best performing economies in Latin America with real gross domestic product (GDP) growing at an average annual rate of 5.3 percent from 2002 to 2018. Peru experienced significant gains in poverty reduction from 2007 to 2018, seeing a reduction in national poverty from 42.4 percent to 20.5 percent of the population. Although poverty and inequality at the national level has declined substantially since 2007,[1] large spatial disparities in poverty and income levels remain, especially between urban and rural areas.[2] Peru economic activities and opportunities are also highly concentrated in major cities and metropolitan areas in the coast, like Lima,[3] contributing to the large development disparities across the country.[4]

2. **Peru had one of the most stringent lockdowns in the LAC region, but despite these efforts the country has been one of the hardest hit countries in terms of the number of COVID-19 cases per inhabitant.** Peru declared a national health state of emergency on March 16, 2020, imposing national lockdown measures in response to the COVID-19 pandemic. Peru imposed a longer and more generalized lockdown than many countries, but this has come at a high economic and social cost. The COVID-19 pandemic is expected to cause a deep economic recession during 2020, due to both the reduction in global demand and the impact of the lockdown measures. GDP is expected to contract around 12.5 percent in 2020, but expected to begin rebounding in 2021.[5] However, the economy is not expected to fully return to pre-COVID output level until 2023.[6] To mitigate the adverse impact of the COVID-19 crisis on the poor and the economy, the Government introduced a strong economic policy package of monetary, fiscal and financial measures, equivalent to around 16 percent of GDP.[7] Given these measures, Peru is expected to have one of the highest public deficits in the region in 2020[8] and public debt is also expected to increase to between 35 to 41 percent of GDP in 2020.[9]

[1] Gini coefficient declined from 51.2 in 2007 to 42.9 in 2018.
[2] World Bank. "Peru Poverty Update". July 2019. World Bank calculations based on Peru's household survey: ENAHO, 2007-2018.
[3] Lima accounts for an estimated 42 percent of the country' GDP *(source: Peru Systematic Country Diagnostic. WBG. 2017).*
[4] Peru - Systematic Country Diagnostic (English). Washington, D.C.: World Bank Group. 2017.
[5] Given the uncertainties regarding the economic situation in 2021, preliminary GDP growth estimates range from 5-7 percent of GDP growth (World Bank), 6.5% GDP growth according to IMF, and as high as 11% GDP growth in 2021 according to Central Bank estimates.
[6] World Bank staff estimate from EFI.
[7] Based on World Bank staff estimates from Equitable Growth, Finance and Institutions (EFI) unit analysis of Peruvian Economy in the midst of COVID-19.
[8] World Bank staff estimate from EFI.
[9] Consejo Fiscal Peru. "Deuda pública del SNIP (porcentaje del PBI)". 2020.

3. **The power sector in particular is a key driver of most productive activities in Peru and ensuring high-quality and reliable electricity supply will be crucial to economic recovery and improved productivity, particularly in the country's poorest regions**. Investing in resilient infrastructure services will be key to support Peru's post-COVID-19 economic recovery. Peru continues to face significant gaps in infrastructure access and the quality of service provision, including for the energy sector. The electricity sector powers the country's main productive activities, including the industrial and services sector,[10] which account for the bulk of the country's GDP. The mining sector, which accounts for 61 percent of Peru's exports, is also an intensive end-user of electricity. Furthermore, reliable electricity service is critical to provide internet service, enable home-based work and continuous functioning of health facilities, especially in the areas outside the Lima region where much of the country's poor and more vulnerable population lives.

Sectoral and Institutional Context

4. **Peru's energy sector institutional and regulatory framework supports a modern electricity market and institutions.** The Ministry of Energy and Mines (MINEM) is the main policy institution in charge of energy sector policies, planning, and investment promotion. The Supervisory Body of Investment in Energy and Mining (OSINERGMIN) is the independent regulator responsible for tariff setting and supervising service quality, including information on systems interruptions and outage indicators throughout the country. The electricity sector is unbundled with separate generation, transmission, and distribution companies. There is substantial private sector participation in the generation and transmission segments. In contrast, the distribution sector is operated by private and public companies, with private companies serving the major cities and the public companies serving the rest of the country.

5. **There are significant disparities in electricity service quality provided to clients served by public electricity distribution companies compared to those served by the private distribution companies.** Although the private distribution companies operating in the Lima and Ica region provide service quality at the top of the benchmark across the LAC region, in contrast the public distribution companies (FONAFE managed) whom serve the majority of Peru's electricity consumers are ranked much lower. The public utilities are responsible for serving the country's poorest regions, including Amazonas, Ayachuco, Ancash, Cajamarca, Junin, La Libertad, Piura, and San Martin. The frequency and duration of electricity interruption from the public distribution companies far exceed that of the private distribution companies in Peru. The number of complaints by the public distribution companies' customers has also increased more than threefold over the 2013-2018 period.

6. **The disparities in electricity service quality provided by the public distribution poses a constraint to achieving more inclusive growth and shared prosperity, particularly in the context of post-COVID-19 economic reactivation.** Over half of businesses with electricity participating in Peru's national enterprise survey indicated that they had electricity service issues. The main electricity service issues indicated by these businesses included: (i) non-programmed interruptions/cuts in electricity service; (ii) programmed interruptions/cuts in electricity service, and (iii) fluctuating voltage intensity.[11] The interruptions impact the operations and productivity of these enterprises, which in turn has a negative impact on the local economies in these regions. Moreover, reliable electricity service is needed for powering critical health, water and sanitation facilities in these regions and to enable virtual learning while schools remain closed due to health concerns. Crucial action is needed to implement the critical investments to prevent supply issues that could affect productivity and the economy, as well as the welfare of the population living in these areas.

[10] In 2018, the Services sector value added was 53.7 percent, and industry sector value added was 31.5 percent of GDP *(Source: World Development Indicators database).*

[11] Instituto Nacional de Estadística e Informática – Encuesta Nacional de Empresas 2015. (accessed at: https://www.inei.gob.pe/media/MenuRecursivo/publicaciones_digitales/Est/Lib1430/index.html)

7. **An important factor contributing to lower service quality is limited implementation of the public distribution companies' investment plans.** There is an estimated US$360 million of delayed sub-transmission investments in Peru's Transmission Investment Plans (PITs)[12] 2013-2017 and 2017-2021. These delays have been caused by a number of factors including: (i) public distribution companies have insufficient funding to fund these critical investments in the short-term; (ii) public distribution companies cannot access debt financing exceeding 12 months maturity; and (iii) sub-transmission investments are not large enough to attract public private partnerships to raise private financing to make these investments. As a result, only 33.2 percent of the 2017-2021 PIT investments have been executed overall, with the public distribution companies only executing 9.6 percent of their investments in this plan.

8. **The lack of investments by the public distribution company has resulted in demand curtailments and emergency situations that often require diesel-based generation to address.** The potential impacts of this lack of investment includes risk of service cuts, including to major secondary cities in Peru, and unmet and suppressed electricity demand due the lack of electricity. Furthermore, the sub-transmission investment delays already led to various emergency situations in 2019, including in Piura and Ica during 2019, which required the implementation of temporary emergency measures including installation of diesel-based emergency generation in Piura. Although these measures helped alleviate the emergency situations, they also have drawbacks including increased electricity supply costs, global emissions, and local pollution.

9. **The public distribution companies' financial situation has been negatively impacted by the COVID-19 pandemic due to lower collections and lower demand**. The government implemented various measures to help mitigate the impacts of the COVID-19 crisis including related to the electricity sector, including deferring electricity payments during the lockdown for regulated electricity customers consuming up to 300 kWh/month and allowing for spreading repayments over a 24-month period.[13] Furthermore, the adverse impacts on the electricity sector have been compounded by reduced demand caused by the COVID-19 lockdown measures. With the gradual economic reactivation of the economy and lifting of the national lockdown electricity demand has started recovering, but not yet returned to pre-COVID-19 levels. It is unlikely that electricity demand will fully recover before the end of 2020 or first half of 2021.[14]

10. **The government has taken several actions to address the electricity sector's short-term liquidity needs due to COVID-19, however, the medium to long-term financing needs of the distribution companies will also be impacted further delaying investments to ensure quality service.** The GoP launched a *bono electricidad* to help address short-term liquidity gaps caused by payment deferrals and low collection levels from low income electricity customers and short-term financing credit lines. However, the impact of overall reduced demand and revenues is still causing electricity distribution companies to further delay essential investments needed to maintain electricity service quality and reliability. As a result, the public distribution companies' service quality indicators are likely to worsen, exacerbating the inequities in electricity service availability and quality at the regional level. This may affect economic recovery efforts and the prospects for shared prosperity, particularly for the poor and vulnerable customers served primarily by these public utilities.

11. **In addition, Peru still needs to close the electrification gap, especially in rural areas, which further limits access**

[12] This is limited to the Transmission Investment Plan (PIT) investments of the public distribution companies that are part of the Secondary Transmission System (SST) and Complementary Transmission System (SCT) that are part of the concession areas of the distribution companies.

[13] This payment deferments were initially limited to customers with electricity consumption up to 100 kWh/month (lowest consumption bracket) beginning in March 2020 for the duration of the national state of emergency. The consumption level was later increased to 300 kWh/month in May 2020 to benefit virtually all residential electricity consumers.

[14] Many energy experts have made projections confirming this in various virtual seminars regarding COVID-19 impact on the electricity sector, and the WB energy team also did its own assessment with simulations with three different scenarios indicating that electricity demand could return to pre-COVID-19 levels by June 2021.

to critical services and impacts social welfare for the more vulnerable population. Although Peru has made important strides in increasing access to electricity through a combination of supporting policies and investments, additional work is required to achieve universal electricity access. Peru still has one of the lowest rural electrification rates in South America, limiting opportunities for social and economic development. According to survey data from the 2017 census, the Amazon, Sierra, and frontier regions of Peru have the lowest electrification rates that limits vulnerable communities' access to essential health, water and sanitation services, and access to virtual learning which is critical today as school remain closed due to the COVID-19 crisis. The financial impacts of the COVID situation on the public distribution companies, as well as the construction restrictions during the lockdown period have delayed important electrification investments and attainment of the Government's initial goal of reaching universal electrification access by 2021.

12. **Given this context, there is an urgent need to make critical electricity infrastructure investments to prevent major disruptions in electricity supply and expand access in Peru to ensure that post-COVID-19 economic reactivation does not leave regions behind**. The critical and delayed investments in public distribution infrastructure and to expand access are essential to ensuring effective COVID-19 response efforts, sustaining critical services, supporting economic reactivation. Furthermore, the investments can also help drive job creation. The realization of these priority investments is thus critical to support the economic recovery in Peru in post-COVID-19 scenario as well as closing the country's electricity service quality and access gaps to promote more sustainable and equitable development moving forward.

Relationship to CPF

13. The project is aligned with the World Bank Group's Country Partnership Framework (FY17-FY21) and contributes to meeting Objective 4 to '*Enhance the environment for sustainable private sector investments'* under Pillar I '*Productivity for Growth*.' Specifically, the proposed Project will improve service continuity and reliability at the regional level for key cities and rural areas, which is essential to enhancing business productivity and overcoming suppressed electricity demand, that is already preventing expansion of businesses and industries and constraining output in these areas. The project will also support investments needed to expand access, which will facilitate creation of new private businesses and income generating activities for households. Furthermore, it is aligned with the Government's PNIC, the National Competitiveness and Productivity Plan, and the MINEM's National Rural Electrification Strategy (2016-2025).

C. Proposed Development Objective(s)

To improve electricity service quality and reliability in the more vulnerable urban and rural regions in Peru.

Key Results (From PCN)

14. The key outcome indicators include:

- Indicator One: People provided with new or improved electricity service (number, gender disaggregated). The indicator measures the number of people that have received new or improved electricity service due to the project.
- Indicator Two: Improvement in the System Average Interruption Frequency Index (SAIFI) in the targeted electricity systems covered by project (number).
- Indicator Three: Improvement to the System Average Interruption Duration Index (SAIDI) in the targeted electricity systems covered by the project (number).

- Indicator Four: Annual Greenhouse Gas Emissions Reductions (Tons of carbon dioxide equivalent avoided per year)

D. Concept Description

15. The proposed Project would finance priority electricity system investments needed to improve the country's electricity service reliability and quality of service. The proposed Project would include the following project components: (i) Existing substation strengthening, and transformer replacement and expansion; (ii) sustainable electrification pilot; and (iii) project management and capacity building. The MINEM, through its General Directorate of Rural Electrification (DGER) would be the implementing agency for the project. The DGER's Directorate of Competitive Funds (DFC) would be the Project implementing unit. The proposed Project components would comprise the following:

16. **Component 1: Existing substation strengthening and transformer replacement and expansion (US$65 million IBRD, US$5 million GoP).** This component would finance priority sub-transmission investments identified by MINEM that would include power transformer replacement, rehabilitation and capacity expansion of existing substations and could include expansion of transmission lines within the existing Right of Ways (ROWs) of the public distribution companies (FONAFE managed). The investments would increase the load capacity of existing substations of the public distribution companies to improve operating conditions and facilitate meeting projected expanded demand in the medium-term to ensure optimal electricity service quality.

17. **Component 2: Sustainable electrification pilot (US$ 2.5 million IBRD, US$0.5 million GoP)**. This component would support a pilot project that would finance one or two mini-grid hybrid systems with renewable energy (i.e. solar, wind) in the Amazon region that would reduce the use of diesel generation to power existing mini-grids or a solar home system (SHS) pilot in the Sierra region. The pilot would allow for testing a sustainable service delivery model for mini-grid or SHS deployment in Peru to help improve the quality of electricity supply and expand access in underserved areas of the jungle and highlands.

18. **Component 3: Project management, technical assistance and capacity building (US$ 2.5 million IBRD, US$0.5 million GoP).** This component would support effective Project implementation and management, including: (i) project management unit; (ii) project-related operating costs; (iii) fiduciary and safeguards capacity, and (iv) project monitoring and evaluation activities, and would include citizen engagement activities to engage with beneficiaries in the specific context of the project. In addition, the component would finance activities to enhance the public distribution companies' capacity to help overcome implementation capacity gaps, including corporate governance human resources management, operational efficiency and technology innovation. These activities will be defined during project preparation.

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

Summary of Screening of Environmental and Social Risks and Impacts

Safeguard Policies	Triggered
Projects on International Waterways OP 7.50	No
Projects in Disputed Areas OP 7.60	No

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APPROVAL

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