# TC Document

## I. Basic Information for TC

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| ▪ Country/Region: | PERU |
| ▪ TC Name: | Energy Transition and Universal Access Program for the Peruvian Amazon |
| ▪ TC Number: | PE-T1515 |
| ▪ Team Leader/Members: | Gomez, Jose Ramon (INE/ENE) Team Leader; Cuervo, Javier (INE/ENE); Diaz Cabrera, Patricia (VPS/ESG); Jorge Luis Malpartida (INE/ENE); Leal Rosillo, Roberto (VPS/ESG); Leon Rodriguez, Lorena Marina (CAN/CPE); Paredes, Juan Roberto (INE/ENE); Patricia Elliot (INE/ENE); Vila Saint-Etienne, Sara (LEG/SGO); Ziza Machado (INE/ENE) Team Leader; Cuervo, Javier (INE/ENE); Diaz Cabrera, Patricia (VPS/ESG); Jorge Luis Malpartida (INE/ENE); Leal Rosillo, Roberto (VPS/ESG); Leon Rodriguez, Lorena Marina (CAN/CPE); Paredes, Juan Roberto (INE/ENE); Patricia Elliot (INE/ENE); Vila Saint-Etienne, Sara (LEG/SGO) |
| ▪ Taxonomy: | Client Support |
| ▪ Operation Supported by the TC: | N/A |
| ▪ Date of TC Abstract authorization: | 19 Sep 2022. |
| ▪ Beneficiary: | Ministry of Energy and Mines |
| ▪ Executing Agency and contact name: | Inter-American Development Bank |
| ▪ Donors providing funding: | OC SDP Window 3 - Sustainable Development in the Amazon(W3A) |
| ▪ IDB Funding Requested: | US$500,000.00 |
| ▪ Local counterpart funding, if any: | US$0 |
| ▪ Disbursement period (which includes the Execution period): | 24 months |
| ▪ Required start date: | January 2023 |
| ▪ Types of consultants: | Individuals; Firms |
| ▪ Prepared by Unit: | INE/ENE-Energy |
| ▪ Unit of Disbursement Responsibility: | CAN/CPE-Country Office Peru |
| ▪ TC included in Country Strategy (y/n): | Yes |
| ▪ TC included in CPD (y/n): | No |
| ▪ Alignment to the Update to the Institutional Strategy 2020-2023: | Social inclusion and equality |

## II. Objectives and Justification of the TC

2.1 The objective of this technical cooperation (TC) is to provide support to the Peruvian Government in identifying and developing public investment projects to achieve universal and sustainable access to electricity by 2030, focused on the Peruvian Amazon.

2.2 The General Policy of the Government of Peru aims at reducing the gap in access to energy infrastructure, creating jobs, formalizing productive units, promoting public and private investment, and boosting competitiveness, among others.

2.3 According to Infralatam between 2008 and 2016, public investments in infrastructure in Peru was 2.96% (3.63% including the private sector) of the country's Gross Domestic Product (GDP). The low productivity in Peru includes lags in rural productive development, particularly in remote areas such as the Amazon. In 2019, public

investment reached 2.15%. However, investments for about 7.5% of GDP are needed to address all infrastructure gaps.

2.4 In 2022 the High-Level Dialogue (HLD) was an important milestone in which energy was presented as a strategic area by the Government of Peru, represented by the Ministry of Finance and Economy, the Ministry of Environment and Proinversion.

2.5 According to the 2017 National Census in the Peruvian Amazon, there is a population of 2.7 million people, which represents 9.2% of the total population of Peru. It is estimated that 31% of the population is in monetary poverty (National Household Survey 2020 - ENAHO, prepared by the National Institute of Statistics and Informatics - INEI). According to the 2017 National Census, in the Amazon regions (Amazonas, Loreto, Madre de Dios, San Martin, and Ucayali) there are 21% of houses (650,000 houses approximately) without electricity. However, between 2018 and 2020, The Ministry of Energy and Mines (MINEM) carried out the Photovoltaic Massive Program, which allowed the installation of approximately 200,000 individual solar panels at the national level and in the Amazon regions. An estimated 72,000 individual solar panels were installed in the Amazon region with a high impact in reducing this gap.

2.6 The main objective of the Government of Peru through MINEM, and the General Directorate of Rural Electrification (DGER), which oversees rural electrification activities, is to achieve universal energy access by 2030. To achieve this goal, the MINEM initiated an aggressive program to reduce the electricity service gaps, diversify the energy matrix and improve the quality of service in the Amazon region (Amazonas, Loreto, Madre de Dios, San Martin, and Ucayali). Therefore, it requires technical and financial support to improve the service in approximately 30 isolated localities which currently use fossil fuels of very poor quality, high pollutants, and high operation and maintenance costs. Therefore, it is necessary to perform technical and economical evaluations that allow the implementation of a replacement program from the current diesel-based generators to solar photovoltaic (PV) systems and batteries to achieve a reduction of emissions as well as provision of 24 hours of electrical services and expand access in some areas. This TC will finance technical studies to be presented by MINEM to Peru's public investment system for financing.

2.7 Additionally, this TC will support the evaluation of the reduction of greenhouse gases due to the replacement of diesel generators with renewable energy and storage. This activity will determine the viability of the potential participation in the carbon bond market as well as the creation of natural capital investments.

2.8 Furthermore, this TC will transfer information and knowledge to the team of the General Directorate of Rural Electrification, through the participation of the MINEM team in the execution of the studies and once these studies have been completed, they will be delivered to the Ministry and will be part of the final repository of reports

2.9 Strategic Alignment. This TC is consistent with the Bank’s Institutional Strategy 2020–2023 (AB-3190-2) and is aligned with the development challenge of productivity and innovation, and the cross-cutting theme of climate change and environmental sustainability, by the promotion of NCRE in isolated localities instead of fossil fuel generation, the development of energy national strategy based on energy transition, and energy efficiency systems aimed to reduce GHG emissions. The TC is also consistent with the Energy Sector Framework document (GN-2830-8) and the Climate Change Sector Framework (GN-2835-8) on sustainability and renewable energies. The TC is in line with the IDB Group Country Strategy with Peru 2022-2026

(GN-3110-1) in the strategic area such as: (i) achieving sustained growth, and (ii) climate change through cost reduction and competitiveness improvement of energy transition projects. Additionally, it will contribute to the Corporate Results Framework (CRF) 2020-2023 (GN-2727-12) in the performance indicators of houselholds with improved access to energy services and with reduction of emissions for using power generation capacity from renewable sources. The TC is also aligned to the OC SDP Window 3 (GN-2819-14) because of it will develop projects oriented to sustainable development in the Amazon.

## III. Description of Activities/Components and Budget

3.1 **Component I. Identification of public investment projects (US $400,000).** This component will finance the pre-investment studies (technical, economical, institutional, social, and environmental) for rural electrification projects in the Amazon Region; design and definition of technical specifications for off-grid photovoltaic systems as well as the storage systems which will substitute fuel power generation. The projects will incorporate telecommunications, centralized generation nodes, and reaching isolated areas with the internet. The pre-investment studies that will be developed have to comply the methodology of public investment system of Peru (Invierte.pe) with the aim of achieving the viability of these projects in said system. The result of this component is to introduce these pre-investment studies in the public investment system of Peru (Invierte.pe).

3.2 **Component II. Emissions reduction and natural capital investments (US $50,000).** The component will finance the legal, financial, and technical studies for the feasibility of carbon reduction activities due to technological change. The potential proceeds of this component would be investments in projects aiming at protecting the Peruvian Amazon through natural capital investments. For that, this component will develop a study that evaluate the reduce of greenhouse gases (GHG) for the use of solar power instead of fossil power in this 30 amazonian localities and will evaluate the potential of participate in the carbon market.

3.3 **Component III. Rural electrification plan for the Peruvian Amazon (US $50,000).** Support the government of Peru in executing a rural electrification plan to provide Amazonian communities access to renewable energy through providing technical assistance and guidance. For that this component will finance a study that will identify the weaknesses of the General Directorate of Rural Electrification (DGER) in its organization, human resources, finance in order to make suggestions to improve and to strengthen its performance and ensure to comply the rural electrification plan for the Peruvian Amazon.

**Indicative Budget**

| Activity/Component | Description | IDB/Fund Funding | Total Funding |
|---|---|---|---|
| Identification of public investment projects | Pre investments studies that include technical, economic, social and environmental evaluation for obtaining viability in the Peruvian public investment system (Invierte.pe) | US$400,000.00 | US$400,000.00 |

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|---|---|---|---|
| Emissions Reduction and Carbon Bonds Potential | A study that evaluates the reduction of greenhouse gases and the viability of the carbon bonds | US$50,000.00 | US$50,000.00 |
| Rural Electrification Plan for the Peruvian Amazon | Strengthened capacities to support government of Perú in achieving the goal of 100% of rural electrification | US$50,000.00 | US$50,000.00 |
| **Total** | | **US$500,000.00** | **US$500,000.00** |

3.4 The total cost of this TC will be US$500,000, financed by the OC SDP Window 3 – Sustainable Development in the Amazon (W3A).

3.5 All knowledge products derived from this Technical Cooperation will be the Bank's intellectual property.

## IV. Executing agency and execution structure

4.1 The TC will be executed by the IDB, by request of the Ministry of Energy and Mines (MINEM), and will follow Appendix II (Procurement Criteria by the Bank) of the Operational Guidelines for TC Products (OP-619-4). The IDB will execute this TC to: (i) avoid lengthy internal budgeting procedures that can jeopardize the achievement of its objectives by delaying the start of procurement of crucial studies and consultant's payments, and (ii) to facilitate coordination with the Ministry of Energy and Mines.

4.2 The Energy Division (INE/ENE) will be responsible for its execution, in coordination with the IDB Country Office in Peru (CAN/CPE). The Bank will contract individual consultants, consulting firms, and non-consulting services in accordance with the Bank's current procurement policies and procedures: (i) the individual consultants will be hired in accordance with the guidelines set out in the AM-650; (ii) the procurement process for consulting firms will follow the Bank Policy for the Selection and Contracting of Consulting Firms for Bank-executed Operational Work (GN-2765-4) and the related Operational Guidelines (OP-1155-4), and (iii) the procurement of non-consultant services will follow the Bank Corporate Procurement Policy (GN-2303-28).

4.3 In compliance with the Operational Guidelines for Technical Cooperation Products Revised version (GN-2629-1), this TC is classified as Client Support. The technical responsibility is in INE/ENE.

4.4 The focal point designated and sector specialist responsible for executing and supervising this TC will be the Lead Energy Specialist based in Quito, Ecuador, with the support of the Bank Country Office in Peru (CAN/CPE) and the INE/ENE Team.

4.5 All knowledge products derived from this Technical Cooperation will be the Bank's intellectual property.

## V. Major Issues

5.1 One of the main risks associated with this TC is the scattered nature of Amazonian communities. To this end, the TC will take advantage of RG-T4133 georeferenced studies for rural communities. This will require the frequent engagement of the IDB energy specialist with the DGER. Also, considering the areas of the programs, there

has to be special attention to Amazonian communities, including indigenous communities, as well as spatial relations with protected areas and other critical habitats. To address these concerns, during the TC preparation of the specific activities, detail on the specific locations will be gathered.

## VI. Exceptions to Bank Policy

6.1 There are no exceptions to the Bank Policy.

## VII. Environmental and Social Strategy

7.1 Given that this TC will finance feasibility studies of specific investments that may finance solar PV systems that will substitute fuel power generation in isolated localities of the Peruvian Amazon, the terms of reference and outputs of these studies will be consistent with the applicable requirements of the Bank's Environmental and Social Framework Policy. The primary risks and impacts are associated with minor land use changes and land acquisition in the event of community solar PV systems, supply chain issues relating to PV cells and storage batteries and ensuring culturally appropriate participation of indigenous communities. Overall impacts of any future investment projects should be positive due to the reduction of greenhouse gases through the replacement of fossil fuel-based generation and the socioeconomic benefits of increased access to reliable sources of electricity.

**Required Annexes:**

Request from the Client - PE-T1515

Results Matrix - PE-T1515

Terms of Reference - PE-T1515

Procurement Plan - PE-T1515

* If TC Document is sent for BOD approval, the only Annexes that need to be translated are the Results Matrix and the Procurement Plan. The Request from Client and the ToRs should be included as links and no translation is required.