

SECTION A. Description of project activity

A.1. Purpose and general description of project activity

>> The Chancay Hydroelectric Power Plant (hereafter referred to as the Project), developed by Sindicato Energético S.A. (Project Developer), is a run-of-river reservoir hydroelectric power plant located in Peru, in the district of San Miguel de Acos, province of Huaral, and department of Lima. The purpose of the Project is to generate electricity using renewable energy sources to be supplied to Peru's National Interconnected Electric Grid (hereafter referred to as SEIN). The Project's expected installed capacity is 19.8 MW, with an expected average generation of 142,963 MWh/yr.

The purpose of the Project is to reduce greenhouse gas (GHG) emission by generate electricity using renewable energy sources to be supplied to SEIN instead of using fossil fuel power generation.

As per the applicable methodology ACM0002 (Version 12.3.0), the project activity is the installation of a new grid-connected renewable power plant/unit, the baseline scenario is electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin. The emission sources and gases included are none for the project activity (as per the applicable methodology) and CO₂ emissions from the current fuel mix in the grid in the baseline.

The Project is estimated to displace 87,762 tCO₂e per year, which will add up to 614,334tCO₂e for the first 7-year crediting period.

Methane and carbon dioxide that may be emitted to the atmosphere as a result of the construction and operation of the Project are negligible. Therefore, there is no need to monitor leakage, and such emissions will not be taken into account when calculating emission reductions (ERs).

The Project will use proven technologies for hydroelectric energy generation. Chancay is a run-of-river reservoir hydroelectric power plant, and as such, it will take advantage of the natural downward flow of the Chancay River by guiding water through a 13.5 kilometer (km) conducting channel that includes two tunnels. From there, the water is conducted through a penstock to the powerhouse. The powerhouse of Chancay will host two horizontal Pelton turbines with a total expected installed capacity of 19.8 MW, including all auxiliary systems, accessories and instruments. The Project will use around 3.4 cubic meters per second (m³/sec) of water flow and a minimum ecological flow of 0.2¹ m³/sec will be maintained. The Project will have a small reservoir² for hourly regulation with 95,000 m³ of capacity. The load factor of the Project is estimated at close to 82.42 %.

The spatial extent of the project boundary is the SEIN. The generated electricity will be supplied to the SEIN through a 60.45 km, 60 kV transmission line to the Huaral sub-station.

The Project is expected to have a minimum plant operating life of 50 years.

The Project contributes to sustainable development by:

- a) helping SEIN avoid broad use of thermal power plants and reserve them only for stand-by generation, thus displacing expensive generation fired by heavy fuel, diesel, coal and natural gas, while reducing GHG emissions;
- b) utilizing domestic and renewable resources, thus contributing to fuel diversification and resource independence for the Peruvian electricity sector;
- c) employing local labor in construction and plant management;
- d) supporting local development through an annual contribution to benefit local communities.
- e) adding revenue to Peru's fiscal accounts through the payment of taxes; and,
- f) helping Peru improve its hydrocarbon trade balance through reduction of oil imports in electricity generation.

¹ Although the obligation is to maintain a ecological flow of 0.2 m³/sec, the project will maintain a higher ecological flow of 0.25 m³/sec

² This reservoir will be used for two hydropower plant, but only Chancay belongs to the project developer.