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## PUBLIC PRIVATE PARTNERSHIP

### PROJECTS

“500 kV Huánuco  
– Tocache –

Celendín – Trujillo  
Link, extensions  
and associated  
substations”

&

“500 kV Celendín –  
Piura Link, extensions  
and associated  
substations”



PERÚ

Ministerio  
de Economía y Finanzas



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Private Investment Promotion Agency - Peru



Siempre  
con el pueblo

The projects seek to meet the following main objectives:

**I. 500 kV Huánuco – Tocache – Celendín – Trujillo link, extensions and associated substations:**

- Enable an alternate transmission axis of electricity, between the central and northern zones of the country, which will start from the Huánuco 500/220/138 kV Substation and will link the new Tocache 500 kV and Celendín 500/220 kV Substations, to finally connect with the New Trujillo Substation 500/220 kV.
- From the Trujillo Nueva arrival substation, energy will be supplied in case of contingency, to the 500 kV connected substations: La Niña, Piura Nueva and Chimbote.

**II. Link 500 kV Celendín – Piura, extensions and associated substations:**

- Enable an alternate axis of electric power transmission, between the central and extreme north zones of the country, which will start from the Celendín 500/220 kV Substation and will link this new substation with the Piura Nueva 500/220 kV Substation.
- From the Piura Nueva arrival substation, energy will be supplied in case of contingency, to the 500 kV connected substations: La Niña and Trujillo Nueva.

The project  
**“500 kV Huánuco –  
 Tocache – Celendín –  
 Trujillo Link, extensions  
 and associated  
 substations”**

The estimated investment in this project is US\$ 411.47 million and it will be developed in the departments of Huánuco, San Martín, Cajamarca and La Libertad



## 500 kV Huánuco – Tocache – Celendín – Trujillo Link, extensions and associated substations



### Scope

These projects were conceived with the criterion of reliability in case of contingencies of the National Power Grid (SEIN, by its acronym in Spanish), the area of influence is in the north of the country, in particular in the areas that are served by the 500 kV Chimbote, Trujillo, La Niña and Piura Substations.



### Area of influence

Departments of Huánuco, San Martín, Cajamarca and La Libertad.



### Granting entity

Ministry of Energy and Mines – MINEM



## APP eligibility

According to the evaluation carried out through the Eligibility Criteria of the MEF (value for money), it was verified that the project meets the necessary conditions so that it can be developed under the PPP modality.



## Components

The project is divided into the following main components:

- i. Expansion of the Nueva Huánuco Substation 500/220/138 kV
- ii. Tocache Substation 500 kV
- iii. Celendín Substation 500/220 kV
- iv. Expansion of the New Trujillo Substation 500/220 kV
- v. 500 kV Transmission Lines with a total length of 662.35 km, distributed as follows:
  - Line 1. Nueva Huánuco-Tocache: 193.32 km in length approx.
  - Line 2. Tocache-Celendín: 294.70 km in length approx.
  - Line 3. Celendín-Trujillo Nueva: 174.33 km in length approx.
- vi. 220 kV Cajamarca Norte - Cádiz Transmission Line Variant (L-2192): made up of two sections of line in double triple configuration of approximately 11.1 km in length.



## Project features

- i. Expansion of the Nueva Huánuco Substation 500/220/138 kV (\*)  
Double bar with a switch and a half with GIS equipment
- ii. Substation 500 kV  
Double busbar connection configuration with a breaker and a half in 500 kV
- iii. Celendín Substation 500/220 kV
  - 500 kV side  
Double busbar connection configuration with a breaker and a half in 500 kV
  - 220 kV side  
Double bar connection configuration with transfer switch in 220 kV
- iv. Expansion of the New Trujillo Substation 500/220kV  
Double bar connection configuration with a switch and a half with AIS equipment.
- v. 500 kV Transmission Lines
  - 500 kV Transmission Line Nueva Huánuco – Tocache  
Simple triple configuration and approximately 193.32 km in length, with 1400 MVA of design power.
  - 500 kV Transmission Line Tocache – Celendín  
Simple triple configuration and approximately 294.7 km long, with 1400 MVA of design power.

(\*) Name of the Nueva Huánuco 500/220/138 kV Substation corresponds to the Yaros 500/220/138 kV Substation according to COES registration.



## Project features

- 500 kV Transmission Line Celendín – New Trujillo  
Simple triple configuration and approximately 174.33 km long, with 1400 MVA of design power.
- vi. 220 kV Transmission Line Variant Cajamarca Norte - Cállic (L-2192)  
Made up of two sections of line in a double triple configuration approximately 11.1 km long, with a design power of 220 MVA/ternary that will link said line with the Celendín substation from a bypass or sectioning point.



## Deadlines

The term of the concession includes:

- Period of implementation and construction of the project: 60 months from the signing of the Contract
- Period of operation and maintenance: 30 years counted from the Date of Commercial Operation (DOC) of the project.



### Payment mechanism

The project is self-financed, so it will be paid for with the transmission toll that is included in the electricity rates.



### Land

The Concessionaire will obtain and maintain ownership of the rights over the land required for the project and its future extensions and, if applicable, will carry out the corresponding legal physical sanitation, in accordance with the applicable laws.



### Benefits

It increases the transmission capacity, providing greater reliability in the supply in large energy blocks in the north of the SEIN, in the event of a contingency due to the outage of the Carabayllo-Chimbote 500 kV Transmission Line.



### Financing

The Concessionaire defines the financing structure according to the requirements established in the Contract.



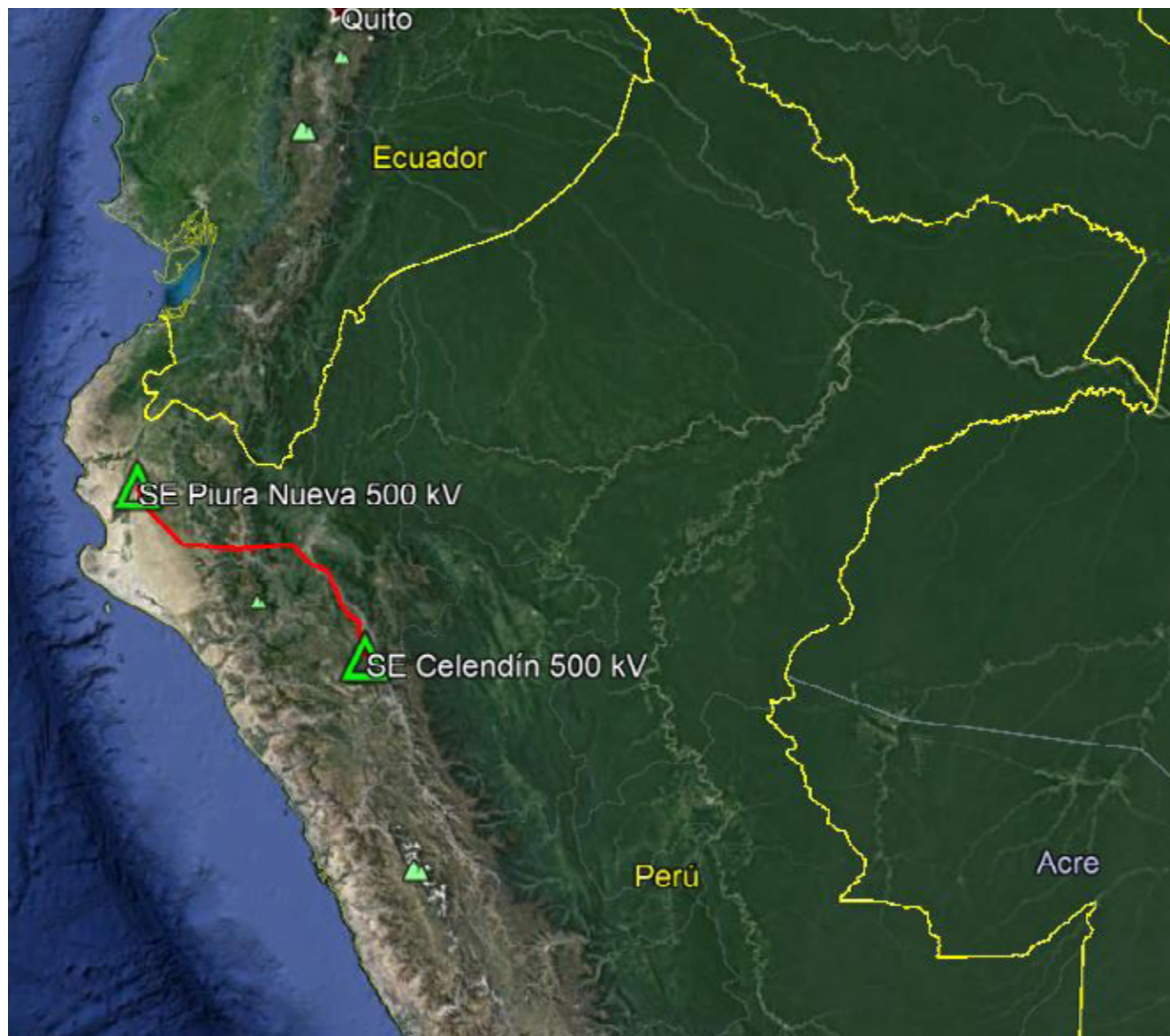
### Estimated investment

The total investment amount of the project is estimated at 411.47 million dollars of the United States of America (without VAT).

## The project “500 kV Celendín-Piura Link, extensions and associated substations”

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The estimated investment in this project is US\$199.96 million and will be developed in the departments of Cajamarca, Amazonas, Lambayeque and Piura.



## Link 500 kV Celendín-Piura, extensions and associated substations



### Scope

The project corresponds to the expansion of the SEIN, the same one that is developed in the northern area from the country. In this sense, it is limited to said area, in particular to the areas that are served by the 500 kV La Niña and Piura Substations.



### Area of influence

Departments of Cajamarca, Amazonas, Lambayeque and Piura



### Granting entity

Ministry of Energy and Mines - MINEM



## APP eligibility

According to the evaluation carried out through the Eligibility Criteria of the MEF (value for money), it was verified that the project meets the necessary conditions so that it can be developed under the PPP modality.



## Components

The project is divided into the following main components:

- i. Expansion of the Celendín 500/220 kV Substation
- ii. Expansion of the Piura Nueva Substation 500/220 kV
- iii. Transmission Lines in 500 kV:
  - Celendín – Piura Line: 381.3 km in length approx.



## Project features

- i. Expansion of the Celendín 500/220 kV Substation  
Connection configuration with a breaker and a half in 500 kV with AIS equipment
- ii. Expansion of the Piura Nueva Substation 500/220 kV (\*)  
Connection configuration with a switch and a half with AIS equipment,
- iii. 500 kV Transmission Line Celendín - Piura  
Simple triple configuration and approximately 381.3 km in length, with 1400 MVA of design power.

(\*) Name of the Piura Nueva 500/220 kV Substation corresponds to the Miguel Grau 500/220kV Substation according to COES registration.



## Deadlines

The term of the concession includes:

- Period of implementation and construction of the project: 60 months from the signing of the Contract
- Period of operation and maintenance: 30 years counted from the Date of Commercial Operation (DOC) of the project.



### Payment mechanism

The project is self-financed, so it will be paid for with the transmission toll that is included in the electricity rates.



### Land

The Concessionaire will obtain and maintain ownership of the rights over the land required for the project and its future extensions and, if applicable, will carry out the corresponding legal physical sanitation, in accordance with the applicable laws.



### Benefits

- It increases the transmission capacity, providing greater reliability in the supply of large energy blocks in the north of the SEIN, in the event of a contingency due to the outage of the Trujillo-La Niña 500 kV or La Niña-Piura 500 kV transmission lines.
- Likewise, it will improve reliability and increase transfers in the future 500 kV Peru-Ecuador interconnection, and will increase the transport capacity of energy from wind generation projects, at the 220 kV level, in La Niña zones, Piura and Talara.



## Financing

The Concessionaire defines the financing structure according to the requirements established in the Contract.



## Estimated investment

The total investment amount of the project is estimated at 199.96 million dollars of the United States of America (excluding VAT).



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