



Webinar on the Joint Crediting Mechanism (JCM) Implementation in Costa Rica – Utilizing the JCM during the COVID-19 Period

**Introduction of 5MW Solar Power Plant in Belen, Costa Rica –
Coopeguanacaste, RL**

March 9, 2021

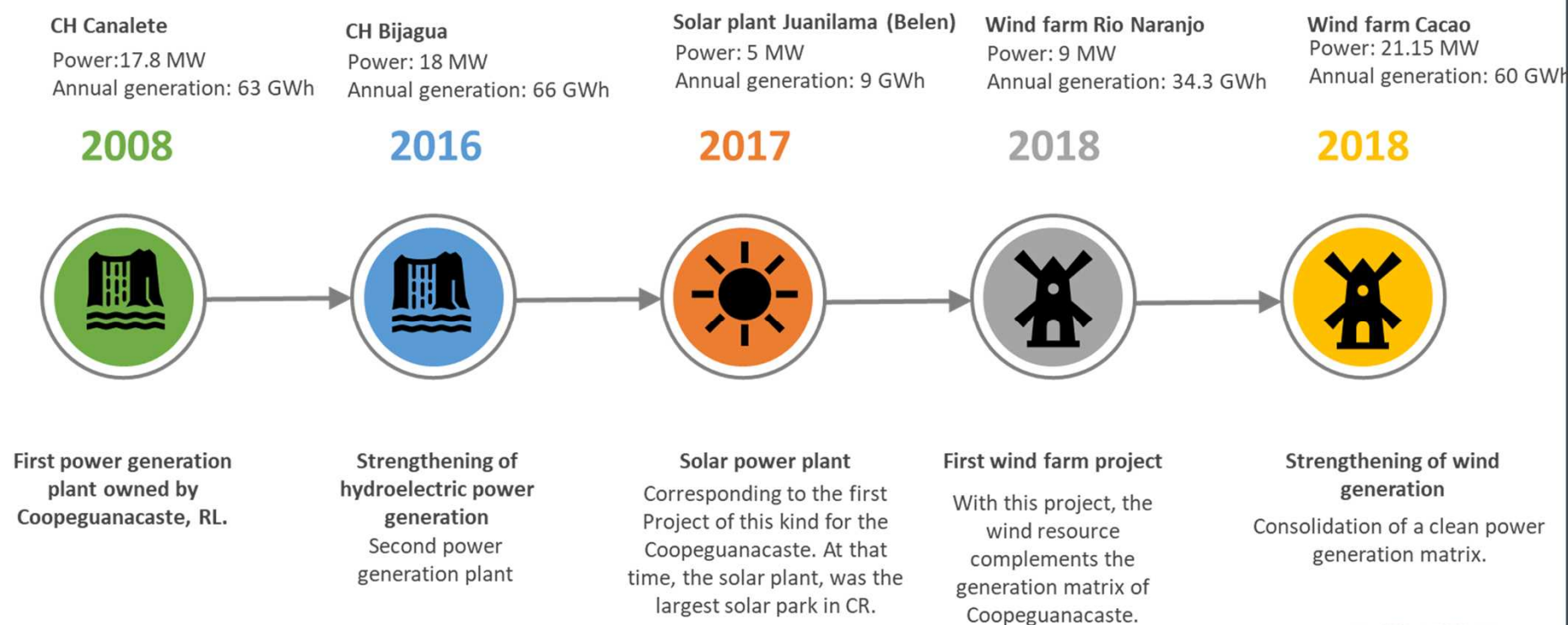
COOPEGUANACASTE – Who we are?



- We are a cooperative of power generation (Covering an area of 3,696 km²).
- Our corporate values are oriented in the service to the associate, environmental protection and power generation with renewable sources.
- Our core businesses are: generation, distribution, and commercialization of electricity, street lighting, telecommunications, mobile services and commercialization of appliances and electrical supplies/
- Social programs.
- More than 70,000 associates.

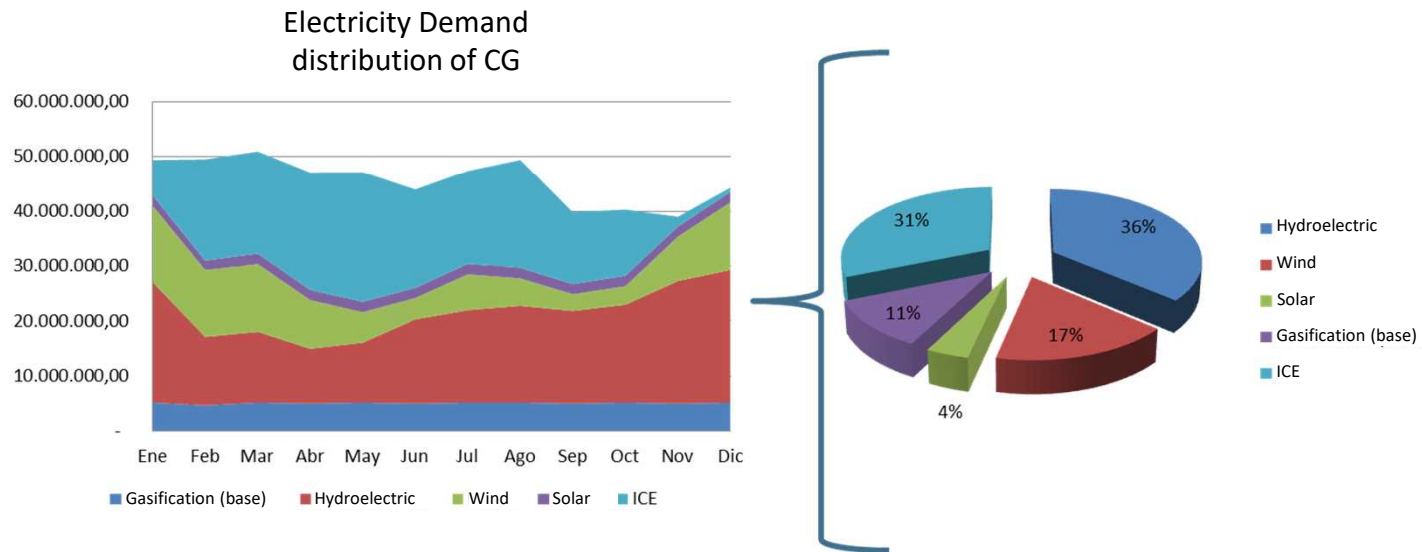
COOPEGUANACASTE – Path to Own Generation (1)

We generate 64% of the energy demand with renewable sources!



COOPEGUANACASTE – Path to own power generation (2)

Diversified and balanced generation





JCM BELEN 5MW Solar Power Plant Project

5MW SOLAR POWER PROJECT IN BELEN – General description

15,456 panels
With HIT Technology

15 456 paneles
con tecnología HIT

5.6 hectares
Solar farm area

5,6 hectáreas
es la extensión del Parque Solar

Control Room
The control room is the operation center of the plan, where production and dispatch are controlled. The plant is connected and permanently online with the National Center of Energy Control (CENCE)

Oficina de Control

La oficina de control, es el centro de operación del parque solar, donde se coordina el despacho de energía; y existe una comunicación constante entre los equipos del parque y el Centro Nacional de Control de Energía (CENCE).

Capacidad instalada:
5.02 MW
y una producción de
4.4 MW

Installed Capacity
5.02 MW
With production of
4.4 MW

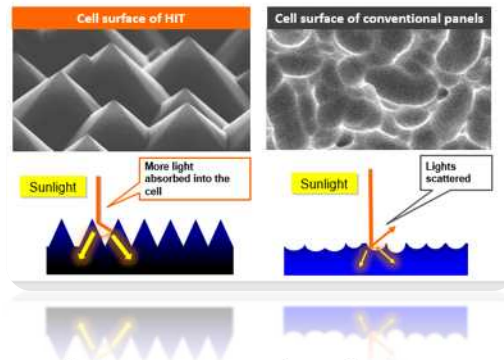
2100 hogares
serán beneficiados

2,100 homes
Served

Emission reductions:
2,000 tCO₂e/year

5MW SOLAR POWER PROJECT IN BELEN – Main equipment installed

Panels: 15,456 x HIT PANASONIC
Nominal power: 325 WP
Open circuit voltage: 69,6 V
Short-circuit current: 6,03 A



Inverters: 2 x SMA Sunny Central 2,200kW inverters with mid tension connection with two transformers of 2.5MVA.



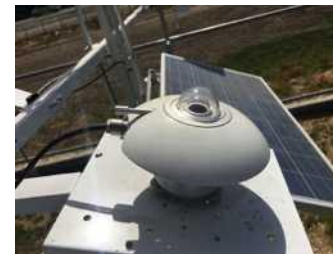
Combiner boxes:
32 x WEIDMULLER



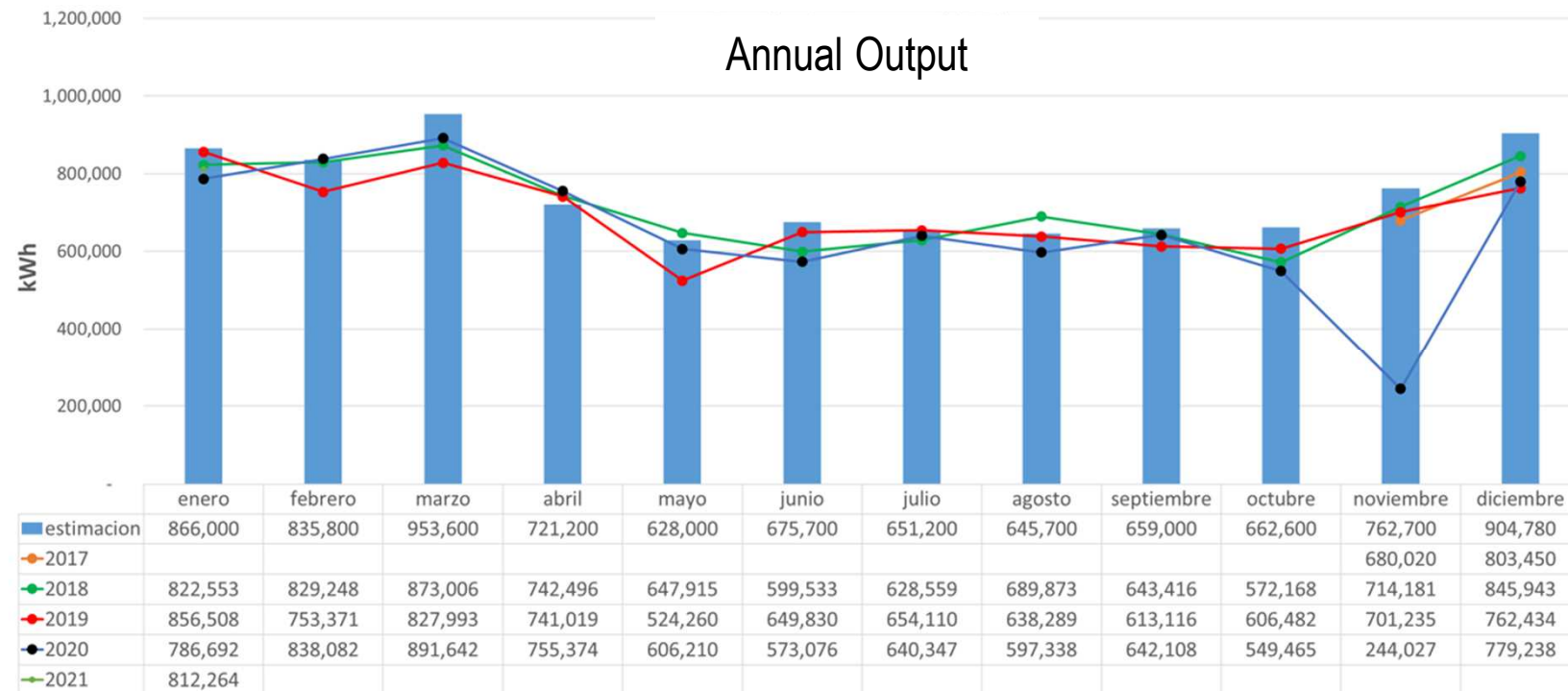
Weather station: Geonica weather tower

Variables been measured:

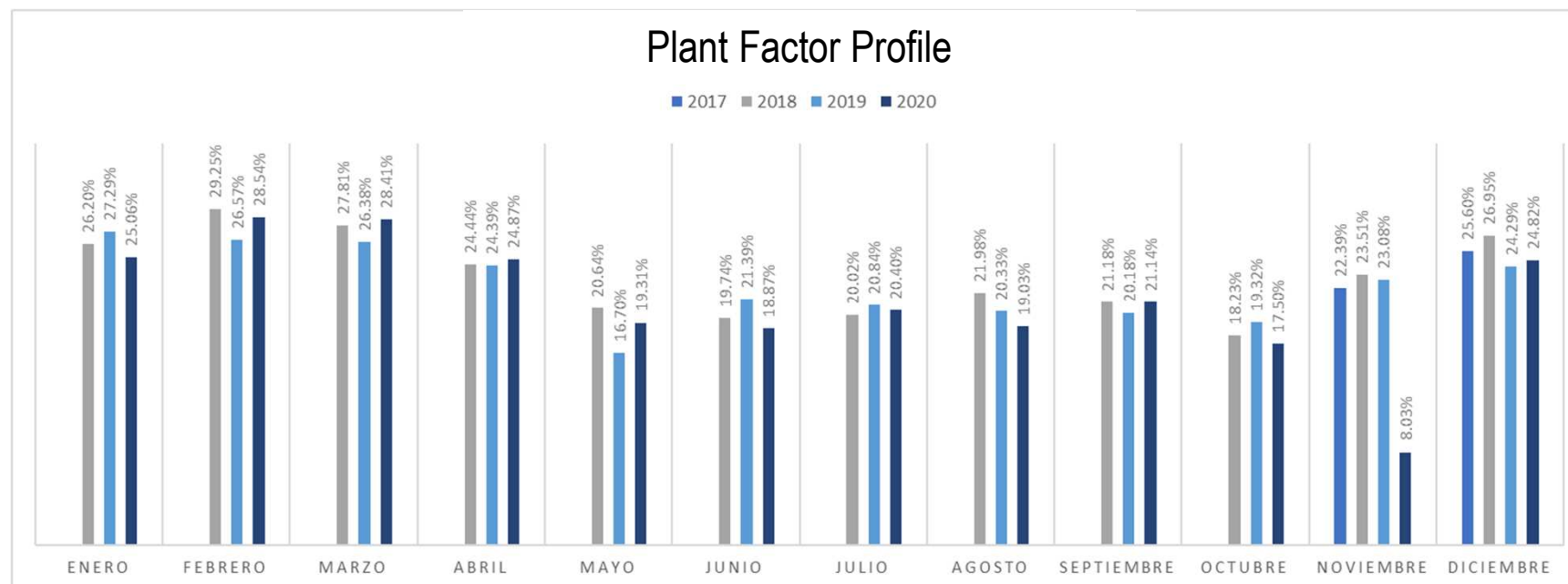
- Wind speed
- Wind direction
- Air temperature
- Horizontal radiation
- Tilt radiation
- Panel temperature



5MW SOLAR POWER PROJECT IN BELEN – Annual Generation



5MW SOLAR POWER PROJECT IN BELEN – Plant factor per year



JCM PROJECT STRUCTURE - Participants

International Consortium

NTT Data

Representative Company

- Support MRV for GHG emission reduction
- Report to GEC



JUANILAMA
PARQUE SOLAR

Project Developer

- Investment
- Project Development & Implementation
- Support MRV



Coopeguanacaste, R.L.

Project Partner

- Operations & Maintenance
- Project monitoring and reporting
- Electricity Dispatch and Sales

Panasonic

EPC

- Engineering
- Procurement
- Equipment Supply
- Construction
- Technical support



Coopeguanacaste, R.L.

OPERATION AND MAINTENANCE ACTIVITIES



Operation and maintenance

It takes into account preventive and corrective maintenance work, management of structures as well as green areas.

Among main activities we have: * Thermography, power transformer tests, CCTV review, panel cleaning, drain gutter cleaning.

UTILIZING THE JCM DURING THE COVID-19 PERIOD



Covid-19 has been a challenge to our operations. However, COOPEGUANACASTE has implemented a strict biosafety protocol in all our facilities, including the solar plant. To date we have zero cases of COVID-19 reported among our employees.

During the months of the pandemic, we have been able to operate normally and carry out all maintenance work at the solar plant, with continued monitoring and testing of employees.

Since power production is considered an essential activity and the plant is connected to the grid, we have not experienced any shut downs or interruptions in our operations due to the pandemic lockdowns.







Gracias !

Thank you !