EDF EN Guyana Project

Solar & Storage Power Plant TOUCAN

Location: French Guyane - South America

UNIT: 4,5 SPRING 164
ENERGY: 4,500 kWh
POWER: 1500kW x 3h

The production of electricity from renewable energy and local resources varies from 50 to 70% in primary energy consumption in Guyana in 2020.
It is possible to implant in 12 years 40 MW of photovoltaics.
The Toucan project integrates the policy of Guyana to meet increasing energy demand by promoting renewable energy through photovoltaic power plants.
TERNA: Grid Services (Energy LAB)

Location: Codrongianos, Sardinia - Italy

UNIT: 4 SPRING 364
ENERGY: 4.15 MWh
Constant POWER discharge: 1.2 MW

FIAMM has been awarded by Terna (TSO), dedicated to nickel sodium-chloride technology: the ZEBRA technology, commonly named “salt technology”, has been recognized as the most suitable to support the grid regulation.

Goal: to provide both Energy Intensive and Power Intensive Application
Project PRESTO

Primary Regulation Storage
Battery energy system is managed to provide regulation services for the electric grid.

- Voltage Control
- Frequency Control
- RES production shaping
Project PRESTO: Voltage regulation

Local Control law: based on PCC measurements, work on Battery Master Controller and ESS inverter

Goals:
- Manage over-voltages
- Improve the Hosting Capacity
- Minimize system losses deterioration

Real power curtailment: ESS stores energy surplus to reduce local over-voltages
Renewable Energy Sources cause a reduction of the primary frequency regulation reserve (energy balancing regulation capacity of the system).

Primary reserve duration curves: Clear reduction of availability of primary reserve due to the increase of RES production.

ESSs clearly depict higher performances with respect to traditional power plants.