



PRESS RELEASE

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Enel launches smart energy network project showroom in Ceará

- The pilot venture will benefit around 300 high-consumption homes in Ceará, as well as leisure zones, common areas and internal paths in a housing project.

- Homes will generate solar power and have a system capable of supplying energy even without a connection to the concessionaire's electrical grid.

Enel Distribuição Ceará will launch this Thursday (9) an operational lab for a smart energy microgrid, a pioneering project in the country that is anticipating smart technologies and transforming the consumption relationship of residential customers. The lab, installed in the company's headquarters in Ceará, will be used as a showroom for the technologies employed in the pilot venture, which is being installed in a housing project in the outskirts of Fortaleza.

As part of the project, homes will generate solar energy and will have a system capable of supplying the customers even without a connection to the distributor's electrical grid. In addition to the potential of presenting new solutions for the national energy sector, the pilot project is developing ways of bringing smart digital solutions to the company's customers, promoting a more active role in the management of their energy consumption.

Smart microgrid

The pilot venture will benefit around 300 high-consumption homes (average of 780kWh/month) in a housing project in the town of Eusébio, 27km from the capital, as well as leisure zones, common areas and internal paths of the development. The goal is to transform the internal electrical infrastructure of the condominium into an automatic microgrid capable of working whether or not it is connected to the distributor's electrical grid.

When connected to the distributor, the microgrid stores energy so it can be consumed during a blackout or to reduce the demands on the system that supplies the town. In the case of an eventual drop in supply from the concessionaire, the microgrid works in the automatic mode and is able to, for example, maintain the energy supply to the priority loads (fridges, security equipment, lighting) during at least an hour.



The microgrid uses renewable energy sources (solar and wind) and battery storage systems. While the houses produce energy through solar sources, customers will be able to monitor in real time the generation and consumption levels with the help of apps for mobiles and tablets, in addition to being able to control their loads remotely. The volume of energy that isn't instantly consumed is stored in high-tech batteries and can be sent to the Enel Distribuição Ceará grid, generating credits for the residents' energy bills.

The first stage of the project comprised the installation of the renewable generation systems at the residences and common areas of the housing development. The next steps will be the modernisation of the energy meters of the whole condominium, the installation of a centralised energy storage system with lithium technology and of the public lighting remote management system for more than 300 lighting spot, as well as a fibre optic data and communication network and supervision and management software.

"This project anticipates important changes through which the energy market will go. It is already noticeable that the relationship between energy distributors and customers is changing. Society's demands for the use of renewable sources are ever bigger and, because of that, our group's companies are putting themselves at the forefront of this process," highlights Carlo Zorzoli, Enel Brasil Country Manager.

The solar energy system fuelling the common areas of the condominium was supplied by Enel Soluções. It includes 96 photovoltaic panels with output of 24.96kWp, able to generate 37.98MW/h of energy a year – enough to power 21 residences. In the first month of operation of the system savings of 30% were recorded in the development's energy bill. In addition to the financial benefit, the adoption of clean energy in those areas will prevent emissions of 4.78T of CO2 into the atmosphere every year – equivalent to 22 fewer cars on the road

Pioneering spirit

The Smart Microgrid Project relies on financing from ANEEL's Research and Development (R&D) programme and represents a breakthrough compared with similar initiatives. In Brazil there are few instances of hybrid systems (with photovoltaic generation, diesel and batteries) operating as isolated projects in the Northern region of the country and in some maritime islands, but with technologically simpler systems with no connection to the electrical grid.

In the international arena, microgrids can be found in experimental research and development stages. The first pre-commercial applications are happening primarily in Japan, the US, Germany, Italy and other European countries.

Service:

Event: Launch of the Smart Microgrid Project

Date: 09/03/2017

Time: 16h

Location: Enel Distribuição Ceará's headquarters



Address: Rua Padre Valdevino, número 150 – Joaquim Távora. Fortaleza – Ceará