

The key role of the final customer in Distributed Energy Resources management for Smart Grids

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In December 2008, with the Climate and Energy Package 20-20-20, the European Parliament has approved for the fight against climate changes and increasing energy security, the following objectives become mandatory in June 2009:

- reduction of at least 20% of emissions of greenhouse gases by 2020 compared to 2005, to be carried out with expenses shared between the Member States;
- 20% increase in the share of European consumption from renewable sources by 2020, to be carried out with equal commitments between the Member States;
- 20% decrease in energy consumption compared to levels in 2020 through an improvement of energy efficiency

The phenomenon of deregulation and liberalization of the electricity market in recent years is accelerating worldwide, and has led to an enrichment of the number of services for users and a growing competition in the sector that has led to lower prices for users.

While it is expected a radical transformation of the electricity distribution networks to the new model of smart grids, as indicated in the EU Technology Platform, the other is also expected to change, as radical, home users.

The views of users in residential electricity is, in fact, changing with the rapid spread of different tariff schemes including, for example, those multi-hour.

A change in end-user awareness with respect to issues relating to energy efficiency and environmental impact is also strongly expected.

During the last fifteen years, the automatic control systems have become increasingly common in homes, such as automatic management of the thermal plant rather than anti-fire or theft.

The trend is increasing computerization of portions of the house, to create an internal network that can be easily and conveniently managed centrally. However, these home automation systems are still lacking a global vision for energy optimization, including load control and integration with the counter and with operators of the electricity market liberalization.

The presentation describes ongoing projects in the Enel Group to allow the end user to take a key role in the future energy market.