

Enel Green Power : Solar innovation, renewing renewables

08/03/2015 | 11:10am EDT

07/07/2015 Improving the performance of solar fields or individual modules. Integrating solar PV plants with energy storage systems. Building hybrid facilities where consumption is met more effectively through the coexistence of various renewables. EGP's solar innovation projects in Europe and Latin America

Innovation is crucial for energy competitiveness. The improved plant performance, the evolution of existing technologies and the conception of solutions that had never been experimented before are three paths also followed by the 'renewal of renewables', a continual and mandatory process that involves both consolidated sources such as solar, wind, hydro and geothermal and those that are still being tested, such as marine energy.

EGP's innovation in the solar field is an all-round experience: it is being developed in different geographical areas and environments and is promoted to improve online plant effectiveness and efficiency, to test 100% sustainable generation and distribution systems and to identify new technological solutions and hybridisations with other renewable sources.

Performance improvement is at the centre of the constant research and development activity that 3SUN carries out directly by manufacturing solar PV modules at EGP's factory in Catania, which are and then installed in the company's plants in Africa and in Latin America. **Generation efficiency and optimisation are also at the centre of projects such as that involving the use of ultrasolar technologies in a number of EGP's solar PV fields in Italy, applying a detection tool called quantum booster that can produce high-frequency waves, enabling the boosting of the capacity that can be obtained from panels.**

[The integration between solar power and storage systems](#) is another development field in which Enel Green Power operates with projects and tests. In Chile it has launched the [Ollagüe project](#), in the region of Antofagasta, where sodium nickel chloride batteries store the energy generated by the hybrid wind-solar power plant, thus providing round-the-clock electricity to the inhabitants of the small remote village of Ollagüe. In Italy, storage combined with solar power is at the centre of a projects that has been launched in Catania (Sicilia) to assess the benefits of storage in electricity dispatching, regarding both the possibility of storing it when the source is most abundant and the interaction of plants with the grid.

Hybridisation with other renewables is another path followed by solar innovation. In the United States, for instance, EGP has built the first plant in the world that integrates 26MW of solar PV with 33MW of geothermal capacity. [The Stillwater hybrid facility](#), in Churchill County in Nevada, combines the continual geothermal capacity of middle enthalpy binary cycle geothermal power with the peak capacity of solar power, enabling the better satisfaction of the needs of the customers of NV Energy, owner of the purchase contract for all the energy generated by this plant.

distributed by