



## Renewable Energies and Clean Energies

The natural conditions of the Canary Islands make them unique for developing wind, solar, wave and tide energy. The Canary Islands are on the leading edge in water and clean energy technologies:

- World leaders in sea-water **desalination** technology with an installed capacity that can produce over 600,000 m<sup>3</sup> of desalinated water per day. The first desalination plant in Spain was opened on the island of Lanzarote in 1965. The Canary Islands currently top the rankings in the development of this kind of technology.
- The Canary Islands offer a high return per square metre on investments in sectors such as **wind, solar photo-voltaic and wave energy** and applied research is well advanced. By way of example:
  - Solar energy: over 2,500 hours of sunlight a year, with a radiation of 5-6 KWh/m<sup>2</sup> a day. Photo-voltaic facilities are powered by over 1,700 hours.
  - Wind energy: constant winds with average velocities of 6 to 8 m/s offer wind farms the equivalent of between 3,000 and 4,000 hours. The Canary Island Energy Plan is set to install 1,025 MW of wind power, increasing the 137 MW currently installed almost ten-fold.
- Some islands could become self-sufficient by using energy from underground (**geo-thermal energy**) as they are volcanic. The Canary Islands have enormous potential in this field, putting them at the head of Europe together with Iceland. The main advantage of this kind of renewable energy is its continuity, whereas the more conventional forms, such as solar and wind power, depend on the cycles of day and night and the wind respectively.

- **El Hierro 100% Sustainable Project:** the project became operational in the first quarter of 2013. Thanks to the agreement signed between the Cabildo of El Hierro, Endesa and Renault-Nissan Union, the first electric vehicle has been introduced on the island, which has three charging point. This project pursues the idea of completely replacing all energy sources based on fossil fuels. El Hierro is being used as a "macro-laboratory" for extensive testing to identify a new renewable energy formula based on sustainable development models.
- **The Canary Island Oceanic Platform (PLOCAN)** is one of the major keynote projects of Spanish science. The objective is that it will act as a base for testing and implementing international projects in the area of marine technologies. Thus, PLOCAN contributes to the development of new and emerging technologies and to bringing them to the market.

