

# THIRSTY AND ENERGY STARVED ISLANDS



The Greek government announced on Wednesday the introduction of a series of steps aimed at helping to increase water supplies on some of the country's more popular islands.

Eight desalination units, used to remove excess salt and other minerals from water in order to obtain fresh water suitable for irrigation, will be built on the Aegean islands of Myconos, Santorini, Tinos and Paros, among others.

Rainfall this winter has been lower than the average in a number of regions across Greece, as in many other parts of the world. As a matter of fact, this been the world's warmest winter since record-keeping began more than a century ago, as

the U.S. government agency that tracks weather (The National Oceanic and Atmospheric Administration or NOAA) reported on Thursday.

Climate change affects islands crucially, in matters such as sea level rise, fragile ecosystems and limited water resources.

There are different initiatives to help islands transform their energy systems from a fossil fuel base to renewable energy, such as the Global Sustainable Energy Island initiative by the Climate Institute or INSULA, the International Scientific Council for Island Development.

Crete, another Greek island, is a partner in a very interesting project that, if it succeeds, could hopefully be replicated in other islands around the world.

It is called El Hierro 100% RES.



El Hierro Originally uploaded by nightly for estelf.

El Hierro is the smallest of the Canary Islands (10,000 inhabitants). After it was declared “Worldwide reserve of the biosphere” by UNESCO in 2000, it decided to go for a self-sustaining energy model.

The project entails the construction of a **wind-hydro power station** equipped with three 3MW Pelton turbines. It will operate as follows: the hydro plant will be located between two man-made reservoirs placed at different levels, generating power through the hydro powered turbines, leveraging the different levels between the upper and lower reservoirs. The energy obtained from the wind farm will be used to pump the water in the opposite direction. That solution overcomes the usual problems of discontinuity and power fluctuacion characteristic of wind resources (for a map and scheme of how it works, [click here](#))

The project also includes a **desalination plant**, which will use water from the man-made reservoirs both to fill them up initially and for subsequent supply needs due to the evaporation caused by wind and heat. The surplus drinking water produced by the desalination plant will be used for irrigation on the island.



Nighfall in El Hierro from La Peña viewpoint

Originally uploaded by pcesarperez.

All these measures will be complemented by the installation in local homes of **pv solar panels** for heating and **solar collectors** to obtain hot water.

Dissemination activities and technology transfer are a vital in these endeavors and that is going to be the focus of the promoters of the project (Endesa, INSULA and the Canary Islands Institute of Technology, among others).

Hundreds of islands worldwide could benefit from the results, starting with Crete and Madeira (Portugal) and following by many more potential candidates with similar conditions.

Source: <https://technology4life.wordpress.com/2007/03/15/thirsty-and-energy-starved-islands/>