



# Sifnos Island Cooperative



**The Energy Autonomy of Sifnos Island  
through the development and utilization of  
RES.**



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Sifnos is a small Greek island (74 km<sup>2</sup>) on the southwest part of the Aegean Sea, 77 nm from Piraeus port and belongs to the Cyclades group of islands. The current population is approximately 2,500 permanent residents, whose main source of income is tourism.

Even though almost all of the active residents engage themselves in tourism in one way or another, at the same time many are also involved in small scale agriculture, livestock, fishing, pottery, and building. During the past few years an average of 85,000 travelers visit Sifnos annually between the months of April and October.

Sifnian society in its collective wisdom has developed over the years certain disciplines that have proven to be sustainable. The island is famous for being remarkably clean and tidy, for its traditional bioclimatic architecture, and for its residents' respect for the environment.

Crime is almost unknown on the island which has contributed to having about 430 pupils aged between 6 and 18 years old attending the island's schools.



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Sifnos is a Non Connected Island (NCI) to the mainland electricity grid of Greece, and like on most NCIs in the Aegean Sea, the electric power on Sifno's isolated micro grid is produced by the Public Power Company (PPC) autonomous local power station with diesel generators at a production cost considerably higher than the price charged to electricity consumers on the island, thanks to substitutions paid by all electricity consumers in Greece.

The concerns raised by the probability that the subsidies scheme will eventually terminate, resulting in sharp rises in the electricity bills on Sifnos Island, the official RES development targets laid for EU by the EC until 2080 and the very rich RES potential of Sifnos Island, led to the foundation in January 2014 of Sifnos Island (Energy & Development) Cooperative (SIC) in accordance with the Greek Legislation for Civil Cooperatives and the International Cooperative Alliance Principles.

**SIC's main constitutional objective is to achieve the Energy Autonomy of Sifnos Island through the development and utilization of RES.**



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To achieve this objective, SIC has signed a Memorandum of Collaboration with the **Municipality of Sifnos**, became a member of **REScoop.eu** (the European federation for groups and cooperatives of citizens for renewable energy and energy efficiency), conducted a comprehensive study for the gradual energy autonomy of Sifnos Island from RES and in September 2016 the application and the project study file were submitted to the Greek Regulatory Authority of Energy (RAE) for a Production License for a Hybrid RES Power Station.

The proposed Hybrid station with Guaranteed Power of 8MW is consisted of a **Wind Park** of 11.5MW, a **sea water Pumped Hydro Storage Plant** with guaranteed Hydro Power Plant of 8MW and a Pump Plant of 10.8MW incorporating a 1.1 million cubic meters sea water reservoir.

The Hybrid Station, besides being a long term infrastructure work with the perspective of serving the generations to come, was designed in a manner that it will have **zero environmental impact**, including any aesthetic nuisance, as it will not be visible from any of the Island's settlements, fully safeguarding the character of the island as a tourist destination.



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Furthermore, it is an innovative proposal, in the sense that sea water for RES generated guaranteed electricity has never before been used globally, which could provide a very useful example for many non interconnected islands and coastal territories around the World.

The conducted project studies, specify that the total installation costs for the proposed Hybrid RES Power Station in Sifnos Island will be € 37.255.000 and the production cost has been calculated to be just under 130€/MWh.

The Sifnos Hybrid RES Power Station is designed to meet the summer time high demand (6,5 MW) and during the eight months long low demand period (2MW) there will be ample surplus energy for heating and electric vehicles, rendering the island almost 100% carbon free.

Also, whenever the sea water reservoir is full and no more wind power can be stored, the wind power surplus can be used for other applications such as desalination and hydrogen production, which could eventually also be used as fuel for a community-owned small ferry.



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In our Annual Assembly of Sifnos Island Cooperative Members, held on the 04/03/2018 it was unanimously decided to change the legal statute of our Cooperative in accordance to the new law 4513/2018 for the Energy Communities.

SIC members have participated since 2016 in the work group that drafted this new legal framework for the development of energy democracy in Greece and we are very happy that 5/6 proposals we made were included in the new law.

Unfortunately, neither us nor the Ministry of Energy considered the issue of our application to RAE for the Production Permit of Sifnos Hybrid Station with our current legal statute, which might raise certain legal issues if we change it before we acquire the Production Permit, and for this reason we have not as yet proceeded into becoming an Energy Community and accelerate a success story that could become a viable example for the establishment of many more new Energy Communities in Greece.



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## Thank you for your attention



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