



Green energy and storage integration on the island of Icaria

The Hellenic Electricity Distribution Network Operator (HEDNO), as the non-interconnected islands operator, in close cooperation with the Independent Power Transmission Operator (IPTO), the TSO of Greece, the Centre of Research and Technology Hellas (CERTH) and CIRCE – Centro Tecnológico aim to increase the island’s grid efficiency and decrease its environmental footprint by combining the existing Hybrid Power Plant (HPP) installation and the digital tools that are being developed during the project.

Storage INNOvations for Green ENERGY Systems

HPP

A Hybrid Power Plant installation that utilizes water storage, hydroelectric energy production and wind potential to store and produce green energy

Digital Tools developed for the SINNOGENES project

- A Digital twin of the electricity grid of Icaria
- An optimizer tool
- A load forecasting tool

FOLLOW ON SOCIAL



Storage INNOvations for Green ENERGY Systems.



Co-funded by the European Union

This project has received co-funding from the European Union’s Horizon programme under the Grant Agreement No. 101096992

Partners



Technical description and implementation

Meet our demos

Demo site #1: Maia, Portugal, Industrial Park



Demo site #2: Soria, Spain, Microgrid Facility



Demo site #3: Huesca, Spain, Walqa Technology Park



Demo site #4: Herzberg, Germany, SAND production site



Demo site #5: Ikaria, Greece, Hydro-Pumped storage plant



Demo site #6: Geneva Canton, Switzerland, Public Transport services



1. Implementation of the developed digital tools for efficient grid management
2. Study for provision of local Auxiliary services, such as frequency and voltage control from the HPP
3. Decarbonization by increasing green energy penetration
4. Time horizon:
 - Short term (Intra day)
 - Medium term (Day ahead)
 - Long term (Planning)

Demo #5

Optimal utilization of the hydro pumped electricity production and storage in tandem with the RES of the island

