



SUNSON outcomes pursue a technological breakthrough in compact Concentration solar power and Renewable Energy Sources conversion to generate electricity with a modular and scalable approach to increase its efficiency and cost-effectiveness. Operating at ultrahigh temperatures ($>1200^{\circ}\text{C}$) provides higher efficiency ratios in converters and it is of particular interest for latent heat storage systems, as they offer up to 10 times the storage capacity of current molten salt-based storages at $600\text{--}800^{\circ}\text{C}$, resulting in a decrease of 10 times the overall system size and reducing the scale-size associated costs.

6

PARTNERS

4

COUNTRIES

3€

MILLIONS

42

MONTHS

PARTNERS



POLITÉCNICA



NTNU



Project Coordinator

Universidad Politécnica de Madrid.
Instituto de Energía solar.
Ramiro de Maeztu 7 Edif.
Rectorado, Madrid.
28040, Spain.

Dissemination

IDENER
Early Ovington 24-8
41300 La Rinconada
(Seville), Spain
www.idener.es



Opening the path
towards the next
generation of
renewable energy
technologies



Funded by European Union's Horizon Europe Research and Innovation programme under Grant Agreement n° 101083827. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA. Neither the European Union nor the granting authority can be held responsible for them.

Follow us



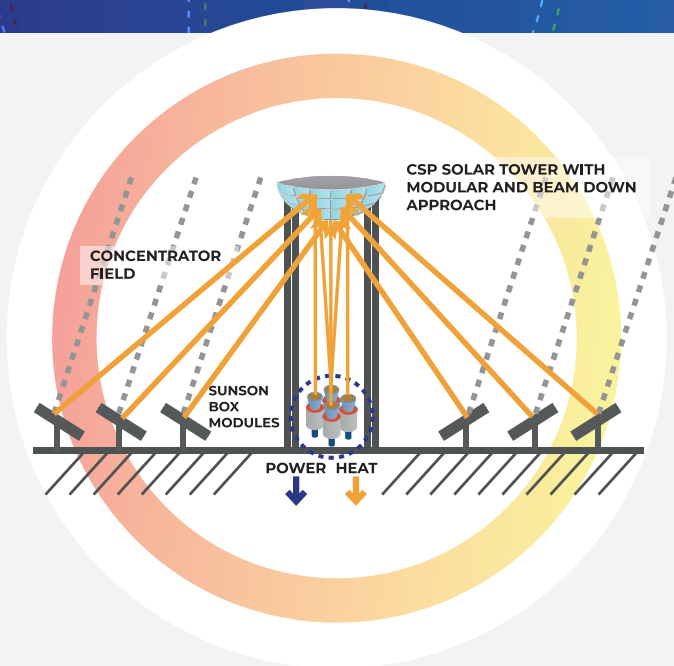
@SunsonProject



@sunson-project



sunson.eu

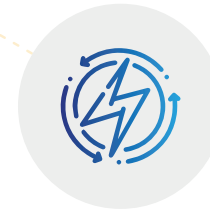


The SUNSON project will promote net-zero emission electrification through a smart combination of advanced concentration solar power with ultra-high temperature storage system for thermophotovoltaic generation. Increasing the European industrial leadership in key renewable energy integration enabling the transition to a net-zero emission economy by 2050.

OBJECTIVES



Design and development of a Solar to heat to power prototype as feasibility and scientific proof of a novel power generation technology from solar radiation.



Design and development of a suitable thermal storage system based on Phase Change Materials to be integrated into the SUNSON-BOX.



Flagship demonstration of a breakthrough and compact system (the SUNSON-BOX) integrating Renewable Energy Sources for power generation based on concentration solar power, Phase Change Materials-storage and Thermophotovoltaic conversion.



Development of a digital intelligence support system (the SUNSON-TOOL) to optimise the Renewable Energy Sources integration within the energy system and assess the feasibility and replicability of the SUNSON solutions.



Proof of sustainability of the SUNSON solutions by a holistic assessment of environmental, technical, social and economic feasibility.



Exploitation, Dissemination and Communication of the knowledge and results generated in SUNSON-Innovations.