

The Next-CSP Project

Project Data



9 Partners



5 Countries



4,9M€





48 Months

Objectives



To improve the reliability and performance of Concentrated Solar Power (CSP) plants

To develop and integrate a new technology into CSP plants





To use high temperature particles as heat transfer fluid and storage medium

To demonstrate the technology in a relevant environment and at a significant size.



Technology



A two-tank particle heat storage and a particle-to-pressurized air heat exchanger coupled to a 1.2 MWel gas turbine



A 4-MWth tubular solar receiver able to heat particles up to 800°C

Impact



The development of a new generation of CSP plants to boost the EU industrial competitiveness

High efficiency new cycles (>50%) and 20% overall improvement of efficiency of CSP plants





Reducing renewable energy
O&M costs to ease the
deployment of renewable
energy sources

A breakthrough innovation to contribute to solve the global climate change



Partners











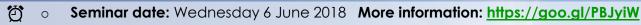






The Next-CSP project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 727762.

Dispatchable Renewable Energies: From a Myth to Reality



o Location: Hilton Carlton Hotel, North Bridge, Edinburgh, UK

Registration: https://goo.gl/forms/37Wq4wc9HrfsQlNO2 Deadline: 28 May 2018

Organisers: The University of Edinburgh and the Next-CSP project

Seminar Programme

09:00 – 09:30 Registration of participants

Morning session – Chaired by Nicola Henderson and Jan Baeyens

09:30 - 09:40 Introduction by Jan Baeyens, European Powder and Process Technology, Belgium09:40 - 10:00 Opening of the seminar by Garreth Harrison, Director of R&D of the University of Edinburgh, UK

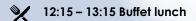
10:00 - 10:30 New services and measurands for converter-dominated power systems, Andrew Roscoe, University of Strathclyde, UK

10:30 – 10:45 Coffee break

10:45 - 11:15 Effect of CO2 phase on CO2 storage at pore level", Xianfeng Fan, University of Edinburgh, UK

11:15 - 11:45 From biomass to biofuel and bio-chemicals, Lise Appels, Raf Dewil, University of Leuven, Belgium

11:45 - 12:15 From excess energy to heat storage and power generation, Frederic Pitié, Whittaker Engineering, UK



Afternoon session - Chaired by Marie Prouteau and Jan Baeyens

13:15 - 13:25 Introduction by Jan Baeyens, European Powder and Process Technology, Belgium

13:25 - 13:55 Concentrated solar power (CSP): the general context and the particle option, Gilles Flamant, Inma Perez-Lopez, CNRS, France

13:55 - 14:25 Options for high efficiency thermodynamic cycles associated with the particle-in-tube Next-CSP concept, Miguel A. Reyes, IMDEA, Spain

14:25 - 14:55 The Neptune software solids-gas modeling, and its applications to the particle-in-tube Next-CSP solar receiver", Renaud Ansart, LGC-University of Toulouse, France

14:55 – 15:10 Coffee break

15.10 - 15:40 Materials' selection for high temperature solar receivers and storage applications, Ken Whittaker, Whittaker Engineering, UK

15:40 - 16:10 Economic forecasts of the future CSP plants: case study of the Next-CSP process, by Frédéric Siros, EDF, France

16:10 - 16:30 Summary and concluding remarks, Jan Baeyens

17:00 End of seminar





THE UNIVERSITY of EDINBURGH

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