# The Next-CSP Project

## Project Data

9 Partners

5 Countries

4,9M€

01 oct 2016
31 sept 2020

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

800°C

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.

3 MWth

## 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

## 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

## Partners

comessa
cnrs
INP TOULOUSE
EDF
KU LEUVEN
euronovia
institute IMdea energy
WHITTAKER

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

- **Seminar date:** Wednesday 6 June 2018 **More information:** https://goo.gl/PBJyiW
- **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

**NO Registration FEE**

## 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, Belgium

**09:40 - 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

**12:15 – 13:15 Buffet lunch**

**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**

next-CSP

THE UNIVERSITY of EDINBURGH

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