



Advanced materials solutions for NEXT generation high efficiency concentrated solar power (CSP) tower systems

NEXTOWER brings together researchers and practitioners in order to develop high-performance durable materials for the next generation of concentrated solar power (CSP) air-based tower systems, making them commercially competitive in the energy market beyond 2020.

Objectives

NEXTOWER aims at:

- **Durable solar receivers.** New ceramic receivers, working under extreme thermal cycling at a maximum materials of at least 800°C over 20 years of continued operations
- **High temperature steels for thermal storage by liquid lead.** Coextruded-tubes and liner technologies from corrosion-resistant alumina forming steels (FeCrAl by SMT) to build high-capacity, high-efficiency lead-based heat storage
- **New SOLEAD demo of CSP with lead loop.** Set up a full scale CSP demonstrator (SOLEAD) for unprecedented field testing of materials for CSP lead-towers, encompassing a large solar receiver (ca 4 m², 100 tiles, up to 500 KWth for parallel testing of several receiver types)
- **Proving long term operations.** Non-destructive testing and multi-scale modeling are intertwined synergically to optimize resources and provide predictive engineering tools.
- **Exploitation and Standardization.** NEXTOWER will establish and maintain an exploitation culture throughout the project, treating IPR in a way that maximizes impact, and addressing the integration of NEXTOWER with the standardization system.

Call: H2020-NMBP-2016-two-stage

Type of Action: Innovation Action

Acronym: NEXTOWER

Duration: 48 months

Start Date: Jan 2017

Estimated Project Costs: € 6.307.851,25

Requested EU Contribution: € 4.999.777,88

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<http://www.h2020-nexttower.eu>

Partners

