



STAGE-STE
European Energy Research Alliance



STAGE-STE PROJECT

The STAGE-STE Project: Towards a Common Approach to STE Research in Europe

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www.stage-ste.eu

Background

Concentrating Solar Thermal Energy encompasses: Solar Thermal Electricity (STE), also referred to as Concentrated Solar Power (CSP), Solar Thermochemical Fuels (STF), Solar Process Heat, Solar-Assisted and Hybrid Desalination, Thermal Energy Storage.



Rationale

- **STE is destined to play a major role for the achievement of energy sustainability because:**

- Solar energy provides the highest potential of renewable energy sources on our planet
- STE is the only renewable technology that can provide dispatchable (i.e. adjusting supply to demand) power in a technically and economically viable way, by means of:
 - **thermal storage and/or**
 - **hybridization (e.g. with biomass)**



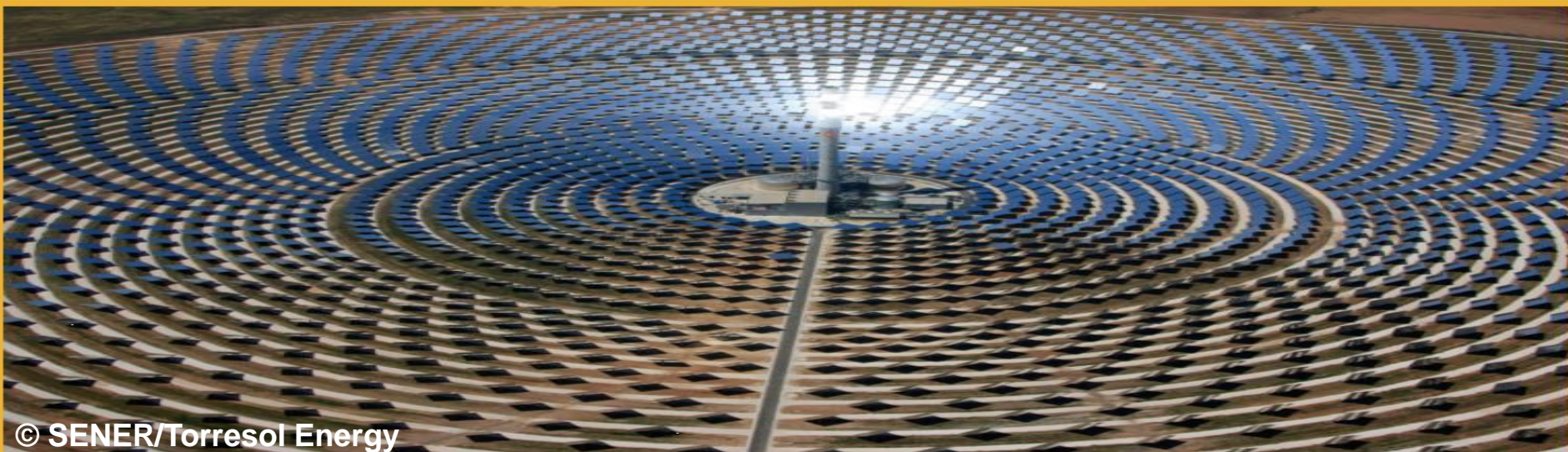
Opportunities and challenges

- The combination of these two factors provides a unique advantage for concentrating solar thermal energy to be a major technological global player in the medium to long term.
- Nevertheless, and besides the important advancement in the technology occurred during the last years, a significant research effort is still needed to achieve this goal.



Hence the STAGE project...

- The STAGE-STE project intends to engage all major European research institutes, with relevant and recognized activities on STE, into an integrated structure to meet these challenges.
- This can only be accomplished by achieving a more effective and intense cooperation between the EU research institutions participating.



The STAGE-STE project: overview

- **Scientific and Technological Alliance for Guaranteeing the European Excellence in Concentrating Solar Thermal Energy**
- **Overall project budget: €19,697,440**
 - Of which EU-funded: €9,997,207
- **Project duration: 4 years (Feb 2014 to Jan 2018)**
- **Project leader: CIEMAT-PSA**
- **Project partners: 40, many of them members of EERA**
- **Participating countries: 23**
- **Countries signed up for national working groups: 8**

General Project Objectives

- To convert the STAGE-STE consortium into the natural reference institution for CSP/STE research in Europe
- To provide a natural gatekeeper for R&D investment and technology transfer in the field.
- To achieve the alignment of different STE national research programmes, avoiding overlaps and duplications
- To provide a comprehensive portfolio of coordinated and complementary research capabilities
- To accelerate knowledge transfer to the industry and reinforce the current European leadership on STE
- To promote and coordinate international cooperation beyond EU borders

STAGE-STE Consortium (today)

Organisation name	Country
CIEMAT	SPAIN
DLR	GERMANY
PSI	SWITZERLAND
CNRS	FRANCE
FISE	GERMANY
ENEA	ITALY
ETHZ	SWITZERLAND
CEA	FRANCE
CYI	CYPRUS
LNEG	PORTUGAL
CTAER	SPAIN
CNR	ITALY
CENER	SPAIN
TECN	SPAIN
UEVORA	PORTUGAL
IMDEA	SPAIN
CRAN	UK
TKN	SPAIN
UNIPA	ITALY
CRS4	ITALY

Organisation name	Country
INESC-ID	PORTUGAL
IST-ID	PORTUGAL
SENER	SPAIN
HITIT	TURKEY
ACCIONA	SPAIN
SCHOTT	GERMANY
ASE	ITALY
ESTELA	BELGIUM
ASNT	SPAIN
KSU	SAUDI ARABIA
UNAM	MEXICO
SUN	SOUTH AFRICA
CSERS	LYBIA
CSIRO	AUSTRALIA
FUSP	BRAZIL
IIECAS	CHINA
UDC	CHILE
UCAM	MOROCCO
FBK	SPAIN

Work Packages & Coordinators

Work Package	Description	Lead Partner
WP1	Consortium governance and management issues	CIEMAT
WP2	Integrating Activities to Lay the Foundations for Long-lasting Research Cooperation	The Cyprus Institute
WP3	Enhancement of STE Research Facilities cooperation	CTAER
WP4	Capacity Building and Training Activities	CNRS
WP5	Relationship with Industry/Knowledge Transfer	CEA
WP6	International Cooperation Activities	Fraunhofer ISE
WP7	Thermal Energy Storage for STE Plants	ENEA
WP8	Materials for Solar Receivers and STE Components	DLR
WP9	Solar Fuels	PSI
WP10	STE plus Desalination	CIEMAT
WP11	Linear Focusing STE Technologies	CIEMAT
WP12	Point Focusing STE Technologies	CENER

Purpose of WP2

- To agree on creating national working groups including government, industry and academia in: Spain, Italy, France, Portugal, Cyprus, Switzerland, Germany and the UK.
- National working groups will:
 - Engage in policy dialogue to promote STE research
 - Cooperate to ensure complementarity of STE R&D efforts in the EU
 - Cooperate to converge towards the objectives of the EC SET plan
- Identify areas for STE research in line with national priorities
- Identify opportunities for further international cooperation
- Establish relations with potential donors

Progress so far and next steps

- National working groups established in Cyprus, Spain, Portugal
- Exploratory meetings held in Italy, Germany, Switzerland, UK
- Next steps:
 - National working groups to develop a concept note summarising STE research orientations in the country
 - National working groups to appoint a government representative to attend a workshop of all 8 working groups in Spain, on 20th April 2015, to draft a common European Strategy for STE research, under the auspices of the Spanish Ministry of Economy and Competitiveness (MINECO)



THANK YOU!

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