



CST4ALL

Support to the Activities of the
Concentrated Solar Thermal
Technology Area of the SET Plan



SolarPACES

Concentrating Solar Power, Thermal,
and Chemical Energy Systems

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SIDE EVENT ON EU-FUNDED CST PROJECTS

MSA-TROUGH

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PROJECT OVERVIEW



- **Full title:** Development of a parabolic Trough concentrator system for Molten Salt Application
- **Consortium:** UEVORA [PT, COORD.], DLR [DE], ENEA [IT], FERRUM [ES], RODAMA [ES], SOLARLITE [GE], OME [FR]
- **Duration:** 01.10.2023 – 31.03.2027
- **Total Cost:** 6 535 765,00€ | **Eligible Cost:** 5 421 360,25€
- **Funding:** European Climate, Infrastructure and Environment Executive Agency (CINEA), GA N° 101122276
- **Topic:** Concentrated Solar Power technologies
- **TRL advance:** TRL 4-5 to TRL 7

PROJECT OBJECTIVES



→ **Goals:** The global objective of the MSA-Trough project is to develop and demonstrate a novel cost-competitive parabolic trough collector (targets: LCOE to 8,4 €Cent/kWhel | LCOH to 2,1 €Cent/kWhth)

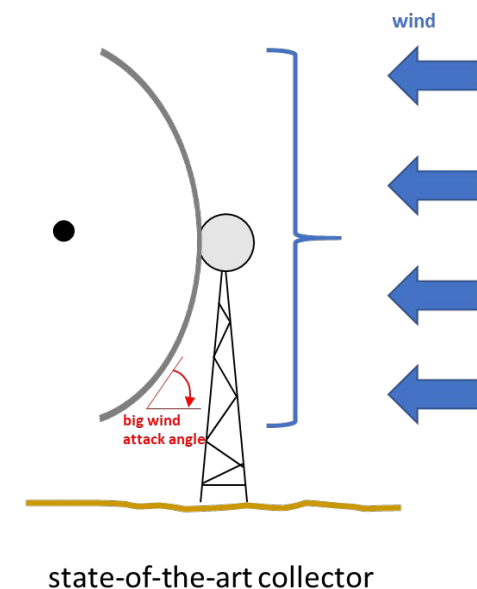
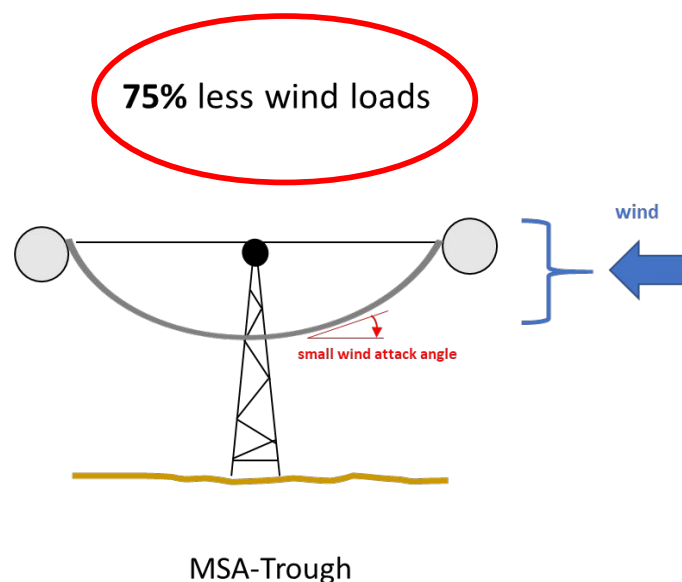
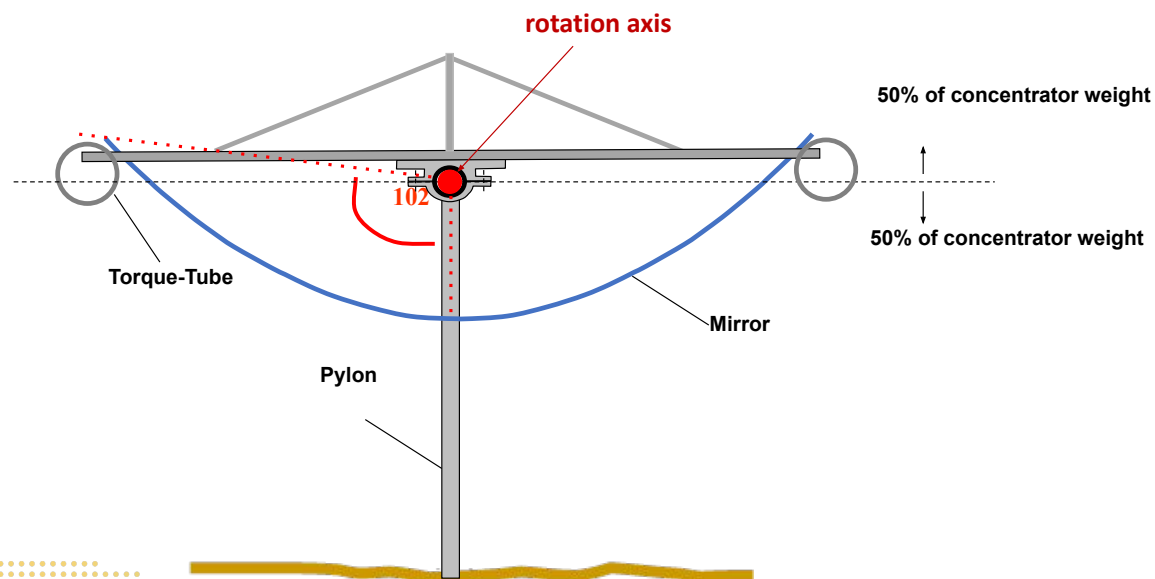
→ **Demonstration:** To reach this goal a 350m-long MSA-Trough Prototype will be tested and demonstrated at the Évora Molten Salt Platform (EMSP) located in Évora, Portugal.

→ **Relation to the CSP Implementation Plan R&I Activities:** A1 - Line-focus solar power plants technology

PROJECT OBJECTIVES



→ **Technological development:** Parabolic trough with fixed focus, steel and concrete reduction (>35% and 75%, respectively), wind loads reduction, torsion compensators, thin mirror glass, automatic mirror washing system.



PROJECT OBJECTIVES



→ **Technological development:** A scale-up from the German national precursor project “Molten Salt Trough - Development of a Parabolic Trough Collector” (Funding number 03EE5082) in Tabernas, Spain.



OUTCOMES & IMPACTS



- **Full MSA-Trough redesign:** Scale-up from the national project in Tabernas (Spain) for a 350-m long collector. This included collector structure, bearing and torsion compensators, absorber sliding system and “secondary mirror cones”, foundations, mirror design, P&ID revision, etc.
- **Collector implementation:** Upon the resumption of the project, the EMSP platform is ready to start the civil construction of the collector and its coupling to the existing molten salt loop of HPS-2 project.
- **Experimental demonstration:** optical assessment, thermal assessment, pre-heating and draining strategies will be developed and implemented.

CONCLUSIONS AND OUTLOOK



- The MSA-Trough project has so far achieved significant progress in the **re-design and scale-up** of the solar collector originally developed under the national project in Tabernas.
- The departure of one partner temporarily slowed down project development. Nevertheless, activities are scheduled to resume in October 2025, **with the same overall ambition and objectives.**
- A successful demonstration of the MSA-Trough concept is expected to generate a major positive impact on the CSP field, thanks to its potential **for increased technological efficiency and reduced costs.**

THANK YOU FOR YOUR ATTENTION!

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