

FROM RESEARCH TO INDUSTRY

cea tech

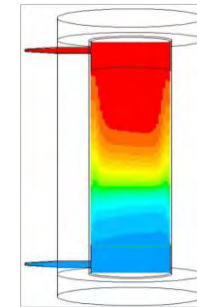
CONCENTRATED SOLAR THERMAL ENERGY: *CEA INES VISION AND ADDED VALUE*

19/11/2013 | DTS



A key issue for concentrated solar thermal energy:

- Allows dispatch ability and flexibility
- Gives higher value to energy
- Optimizes plant design and operation
- Should be environmental friendly



Technology development

- Single tank dual-media thermocline heat storage
- Direct steam generation heat storage using phase change materials
- High temperature heat storage using rock, bricks or solid wastes residues as storing media



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A key issue for concentrated solar thermal energy:

- Assess long term performance
- Qualify existing technologies (mirror and absorber)
- Develop innovative solutions

Indoor equipments

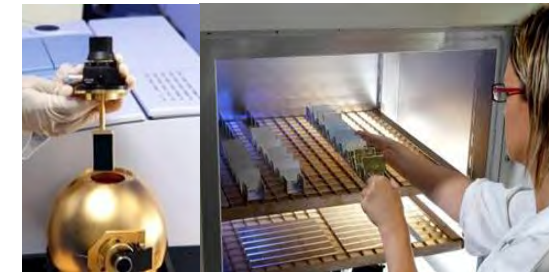
- Temperature (ambient up to 1200°C), Humidity, UV
- Saline mist, sand erosion
- Soiling and cleaning
- Thermal storage element

Outdoor equipments

- Test platform at CEA-Cadarache and CEA-Chambery
- Test platform in Morocco (Mascir collaboration)

Characterisation

- Optical performance of mirrors
- Thermal performance of absorbers
- Chemical analysis
- Structural characterisation



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