IN POWER

Developing Highly Efficient Concentrated Solar Power Architecture

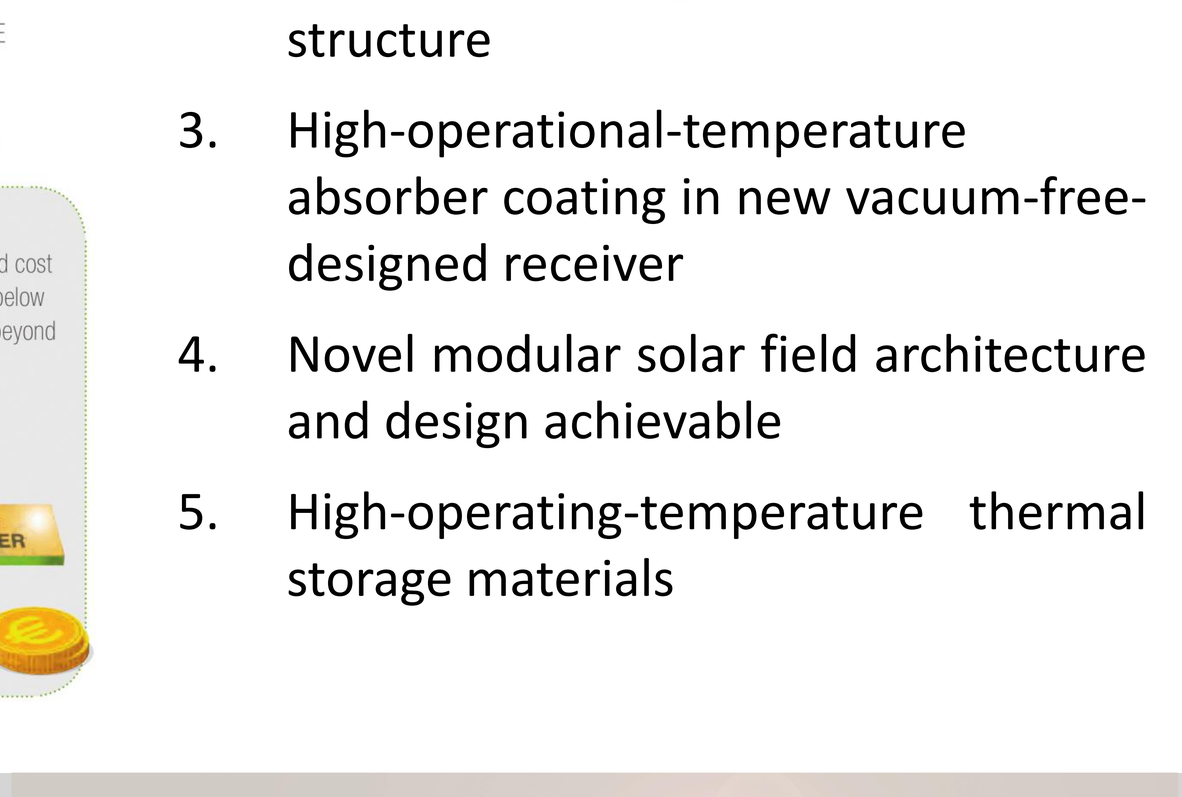
IN POWER project develops highly efficient concentrated solar power architectures. This consists in developing and integrating new innovative material solutions into concentrated solar technology to increase the efficiency while simultaneously decreasing the energy production cost.

Objectives

- IN POWER guarantees up to three-time increase in thermal capacity respect to standard thermal storage materials (TES), depending on Heat Transfer Fluid (HTF), also leading to the reduction of thermal storage system size.
- IN POWER is expected to decrease the land use by four-time while having the identical low associated environmental impact.
- IN-POWER will validate these novel functional materials and new manufacturing processes will guarantee decrease in Levelised Cost of Electricity below 0.10 €/KWh beyond 2020 by validating these technologies in Lineal Fresnel Collector and Parabolic through Collector pilot plants under 2100-2700 kWh/(m2a).

Advanced Materials Solutions

1. High reflectance, tailored shapes, self-healing and anti-soiling coated, light glass-free smart mirrors
2. Optimized and lighter mirror support structure
3. High-operational-temperature absorber coating in new vacuum-free-designed receiver
4. Novel modular solar field architecture and design achievable
5. High-operating-temperature thermal storage materials



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