



LC-SC3-RES-7-2019

ASTEP

Full Title: Application of Solar Thermal Energy to Processes

Aim:

The EU-funded ASTEP project aims to develop novel concept for solar heating for industrial processes. The project will combine a rotary Fresnel solar collector and thermal energy storage technology based on phase change materials (PCM). This innovative system will be able to cover a proportion of the process industry's heat demand at temperatures and latitudes where current designs have failed.

Concept:

ASTEP will create a new innovative Solar Heating for Industrial Processes (SHIP) concept focused on overcoming the current limitations of these systems. This solution is based on modular and flexible integration of two innovative designs for the solar collector, SunDial, and the Thermal Energy Storage system, integrated via a control system which will allow flexible operation to maintain continuous service. ASTEP will demonstrate its capability to cover a substantial part of the heat demand of the process industry at temperatures above 150 °C and for latitudes where current designs are not able to supply. Its modularity and compactness will also enable easy installation and repair with reduced space requirements, while most components can be sourced locally. The ASTEP's process integration will allow full compatibility with the existing systems of potential SHIP end-users. These aspects will provide a very competitive solution to substitute fossil fuel consumption. The concept will be tested at two industrial sites to demonstrate the projects objectives at TRL5.

Start date:

01/05/2020

End date:

30/08/2024