



Press Release
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H2020 Project to minimize the water consumption in CSP plants has started

In January 2016 the EU funded project MinWaterCSP - Minimized water consumption in CSP plants - has started.

In the coming three years the MinWaterCSP consortium will address the challenge of significantly reducing the water consumption of CSP plants while maintaining their overall efficiency. Our objective is to reduce evaporation losses and mirror cleaning water usage for small- and large-scale CSP plants through a holistic combination of next generation technologies in the fields of:

- i) hybrid dry/wet cooling systems
- ii) wire structure heat transfer surfaces
- iii) axial flow fans
- iv) mirror cleaning techniques and
- v) optimized water management.

MinWaterCSP activities will reduce water evaporation losses by 75 to 95% compared to wet cooling systems. It aims to increase the net efficiency of the steam Rankine cycle by 2%, while maintaining cycle efficiency.

To complement this, mirror cleaning water consumption will be reduced by 25% through an improved mirror cleaning process for parabolic trough collectors, the development of a cleaning robot for linear Fresnel collectors and a reduced number of cleaning cycles enabled by an enhanced monitoring of the reflectance of the mirrors.

Also, comprehensive water management plans for CSP plants in various locations will be developed and will be combined with plant performance simulations to maximize the impact of the achieved design improvements in a complete system context. Zero liquid discharge and the option of making use of solar energy or low grade waste heat for water treatment will be considered.

The MinWaterCSP consortium will make CSP more attractive for investment purposes and will drive growth in the CSP plant business as well as job creation at European companies which provide technologically advanced CSP plant components.



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The MinWaterCSP project is coordinated by Kelvion Holding GmbH (Germany) and consists of 12 partners in an international consortium of 6 different EU-Member and Non-EU countries. Further partners of the consortium are: Kelvion Thermal Solutions Pty Ltd. (South Africa), Fraunhofer ISE (Germany), Sapienza - Università di Roma (Italy), ECILIMP Thermosolar SL (Spain), Stellenbosch University (South Africa), Notus Fan Engineering (South Africa), Laterizi Gambettola SRL – SOLTIGUA (Italy), Enexio Germany GmbH (Germany), Institut de Recherches en Energie solaire et Energy Nouvelles - IRESEN (Morocco), Steinbeis-Europa-Zentrum der Steinbeis Innovation gGmbH (Germany), Waterleau Group NV (Belgium).

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