PRESS RELEASE

October 31th, 2018

New Generation of Cleaning Tools for CSP Plants Reduces the Water Consumption

Tower & Parabolic Trough plants are the most common plants worldwide. ECILIMP Termosolar has developed a new generation of cleaning tools for CSP plants during the Horizon2020 MinWaterCSP project (Minimized Water Consumption in CSP plants). The EU funded project solution has been entirely developed in Spain and tested both in Spain and Morocco.

The optimization of cleaning water consumption in CSP plants is a huge effort considering these plants are increasing their mirror surface (size) while maintaining and reducing their cooling water consumption.

The consortium of the Horizon2020 project MinWaterCSP develops advanced cooling and mirror cleaning technologies as well as integrated water management plans to reduce cooling system water consumption by up to 95% in comparison to wet only cooling systems and / or mirror cleaning water consumption by up to 25%, while maintaining overall cycle efficiency.

Mirror cleaning goals

As partner of MinWaterCSP the Spanish company ECILIMP has developed new cleaning technics and hardware to reduce the actual overall water consumption in CSP plants.

Traditional cleaning activities generally are focused on two different approaches:

a) Reduce the water consumption itself due to improving the hardware and software
b) Improve the cleaning results to allow a reduction of cleaning cycles

These traditional cleaning technologies are reliable and can be implemented anywhere in the world.

ECILIMP Termosolar focuses on the developments in both approaches in order to provide the best cleaning services in order to improve the Average Cleaning Factor, and by using an optimized amount of water and always regarding the scratching effects and the mirror integrity.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 654443

HELIOS & CURVE!
The new cleaning solutions by ECILIMP for Heliostats and Parabolic Trough

Heliostat Cleaning Solution

The ECILIMP solution HELIOS has been entirely designed since it is available in two versions:

- HELIOS B: 4-wheel drive version with a water tank capacity of 10.000 l
- HELIOS B plus: 6-wheel drive version with a water tank capacity of 15.000 l

Both of them are able to clean more than 200 heliostats per shift both in brushes or spray. They incorporate a **new cleaning algorithm, called Smart Cleaning, which calculates the exact amount of water used to achieve the Cleaning Factor (CF) previously to cleaning.**

Also, it always maintains verticality independently of the slopes in the road. So, a better water use is performed.

Parabolic Trough Cleaning Solution

Using the best accomplishment to the Parabolic Trough, the cleaning solution CURVE always spend the optimized amount of water!

Also, thanks to the Smart Cleaning algorithm, the water use is always adapted to necessities as well as its new structure covers the 100% of the surface of the Parabolic Trough.

MinWaterCSP GOAL accomplished!

One of the main goals of the MinWaterCSP project is the reduction in a 25% of the cleaning water use.

The technology developed within the MinWaterCSP project has achieved this since ECILIMP has achieved a total reduction of 25% for sprays tools and 35% for brushes tools.

Main results:

- Average Cleaning Factor after Brushes: 98,85%
- Average Water Use with Brushes: 0,45 l/m^2
- Average Water Use with Spray: 0,65 l/m^2

ABOUT ECILIMP Termosolar SL (Spain)

ECILIMP Termosolar is located in Spain and belongs to a bigger group called ECILIMP which performs cleaning, waste management and industrial cleaning services since 1960's.

ECILIMP is a company, which has grown due to diversification through many years of excellent customer service.

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ECILIMP termosolar

Minimized water consumption in CSP plants
MinWaterCSP

ECILIMP Termosolar is the result of the above-mentioned diversifications of their industrial cleaning services. Nowadays they are considered the best mirror cleaning company and thanks to the EU project MinWaterCSP, the one with the one of the best cleaning technologies.

Thanks to these developments, ECILIMP has achieve important contracts with Moroccan CSP operators in order to supply their entire fleet for CSP plants, as well as many international supply and services contracts / request have been received during last months.

For more information, please contact:

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About MinWaterCSP

MinWaterCSP is a research and development project which aims at reducing water consumption and improving thermal cycle efficiencies of Concentrated Solar Power (CSP) plants. It has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 654443. The project started in January 2016 and will be completed in December 2018.

The MinWaterCSP project consortium consists of 13 partners from 6 different EU and non-EU countries. It is coordinated by Kelvion Holding GmbH (Project Coordinator, Germany) and ENEXIO Management GmbH (Technical Coordinator, Germany). Further partners of the consortium are: Kelvion Thermal Solutions (Pty) Ltd. (South Africa), Fraunhofer ISE (Germany), Sapienza University of Rome (Italy), ECILIMP Termosolar 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 2i GmbH (Germany) and Waterleau Group NV (Belgium).

Contact and further information

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Picture 1: CURVE B truck using HELIOS Cleaning Tools @Noor3 CSP plant (Copyright: ECILIMP Termosolar SL (Spain))

Picture 2: CURVE B Brushes - Details @ Noor 2 CSP plant (Copyright: ECILIMP Termosolar SL (Spain)

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