



Press Declaration

„SOcool“ plays in the Champions League of innovative SMEs

SunOyster Systems (SOS), manufacturer of the concentrating solar technology SunOyster for combined heat & power, succeeds under the EU SME instrument

Brussels/Hamburg, 19 May 2017: SunOyster Systems GmbH (SOS), developer of the CPVT technology SunOyster for the simultaneous generation of power and heat, qualified with its project “SunOyster cooling – SOcool” under the renowned SME instrument of the European Union and will receive over a period of two years a substantial grant.



The SME instrument was introduced under the framework research program HORIZON 2020. It supports small and medium enterprises to bring their innovative products from at least Technology Readiness Level TRL 6 (prototype) to a complete and qualified product (TRL 8). During the first phase – which SOS completed in February 2017 – the instrument promotes a feasibility study with a grant of 50,000 Euro. The second phase for implementation of the business plan is with a 70 per cent subsidy and a grant amount of up to 2.5 million Euro so attractive that the success rate of German companies is normally only 3 to 5%. The instrument is therefore also referred to as „Champions League“ of innovative SMEs. During the call of 6 April 2017 there were among totally hundreds of applications only two German companies successful – interestingly both of them in the segment energy transition. The application of SOS was accompanied by the Hamburg office of EurA AG.

After conclusion of the necessary grant agreement, SOS will work for a project period of two years on bringing combinations of the SunOyster with thermal chillers of different sizes and manufacturers to the market. The idea is to use especially the generated heat of up to 7.5 kW thermal power and at a maximum temperature of 170°C for generating cold. The heat has to be used locally, and in sunny and hot countries people need often more cold than heat. The co-generated SunOyster electricity of up to 5 kW can be used for other purposes – or for additional cooling with the help of conventional electric chillers (e.g. split air-conditioners).

Before this background, SOS wants to bring the following attractive **product packages** consisting of SunOysters, the optimal chillers and the other system components on the market:

- **Hotels** have a permanent high demand for heat and cold. Here, we can use the „waste heat“ from the thermal chillers – which is normally rejected in cooling towers – for pre-heating the sanitary warm water or for heating the pool. In this „tri-generation“ the magic SunOyster generates together already with a single stage chiller out of 15 kW direct radiation of the sun



a power output of 5 kW electric power, 5 kW cold and 12.5 kW usable heat. The altogether 22.5 kW of useful energy represent a total efficiency of 150 %!

- **Offices** in hot countries typically need the cooling at times when the sun is shining which enhances the economic viability. Here – just as in the other two applications – SOS expects for its customers using an investment loan a payback time of only one to two years.
- Task of SOcool **Pool** is the complete energy supply of villas with a pool with electricity, heat and cold. In some sunny markets such as the US and Australia most of the solar thermal systems installed serve already today as pool heaters. The SunOyster and the tri-generation in solar cooling can lift this to a totally new level. Looking at the same roof surface, the SunOyster can produce a multiple of the useful energy of a Tesla's solar shingles.

Founder Carsten Corino declares: "We are very happy that our four years of development efforts on the SunOyster are acknowledged. As our solar co-generation makes the heat a cheap by-product of electricity, we want to reach a breakthrough for the thermal version of solar cooling."

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Film link with thermal chiller: <https://youtu.be/hBSYI3lBciM> .

Link to the EU SME program: <http://ec.europa.eu/programmes/horizon2020/en/h2020-section/sme-instrument>

Please find on the following pages some photos.



SunOyster with team in Halstenbek near Hamburg (photo: Luftbild Crew)



Hybrid receiver of the SunOyster in operation in Halstenbek near Hamburg (Photo: SOS)



Lens of the SunOyster („SunOyster Crystal“) for the secondary concentration of the direct radiation, protected by a utility model (photo: Schulze-Alex).