

Press Release

HELIOVIS successfully commissioned the world's biggest solar collector based on inflatable plastic films

For decades, little innovation in costly solar mirror fields

Vienna, June 23, 2017: If one visualizes a 200 MW_{p_{el}}-CSP (Concentrated Solar Power)-plant, it mainly consists of three technical parts: i) the solar field to collect the solar irradiation, ii) the thermal system with a thermal storage, and iii) the power block with the steam turbine. In the last decades, there had been tremendous innovation efforts in part ii) (e.g. thermo fluids, receivers, storage technologies) and part iii) (e.g. turbines) but practically none in part i), the solar field, causing a major part of total investment cost (CAPEX).

Radical mirror innovation cuts investment cost by 55 %

It was the Austrian engineering company HELIOVIS to develop the smartest and cheapest mirror technology with total investment cost reductions of up to 55 % compared to the most advanced glass mirror trough technologies. Using commercially available plastic films, HELIOVIS successfully commissioned the first industrial application of this technology in Spain with 220 m length, 9 m diameter, and a world-record homogenous mirror of about 1,600 m² (8 m width and 200 m length).

Smart tech for mass production, fast installation, and easy operation

These collectors are manufactured from roll-to-roll and in large quantities from commercially available, recyclable plastic films each extensively proven in various industrial applications and in desert environments. Every rolled-up and unbreakable collector can be shipped in a standard 40 foot container also to remote areas. On site, the solar collector is inflated by air instead of assembling and aligning thousands of glass mirrors which is very time consuming, costly, and open to mistakes. Through inflation the collector becomes self-supporting and aerodynamic.

Economies of scale like in the PV industry

“The basic idea of this technological approach is factory-based mass production and the utmost easy-to-achieve exploration of scale economies. Thus, CSP collectors shall experience a similar cost development as we saw in the PV industry”, says Dr. Felix Tiefenbacher, CEO of HELIOVIS.

New application: industrial heat from the sun

Whether it is creating local content by building production facilities and sourcing materials locally or producing the collectors in another country, whether it is 4 MW_{p_{th}} of steam for e.g. water treatment, solar cooling or enhanced oil recovery in remote areas or 200 MW_{p_{el}} with an 8h-thermal storage – everything is now possible in CSP with these inflatable collectors based on plastic films.

Advanced protection against sand storms and abrasion

The combination of the collector's aerodynamic shape, the well-placed conventional wind fences, and the protective stall positions with rotations of up to 340° creates a highly effective sandstorm protection system with cheap conventional materials. HELIOVIS's patented wind and sand protection system significantly reduces operation and maintenance costs and subsequently reduces precious fresh water consumption for cleaning activities.

Fully integrated hybrid plants (CSP + PV)

The smart integration of CSP and PV into a single solar hybrid system can generate both heat and electricity and – equipped with a thermal storage – providing energy when and in what form it is needed.

Partners for market entry required

“We are now looking for entrepreneurial partners both from the tech and the venture capital industry who help us push the technology into the growing CSP-markets”, says Dr. Wolfram Krendlesberger, CFO of HELIOVIS.

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Industrial application of HELIOVIS' collector technology in Spain (length 220 m, height 9 m)



About HELIOVIS

HELIOVIS AG is a technology and engineering company that develops and markets a new type of sun-light collector both for industrial applications (steam) and for utility-scale CSP plants (electricity). The collector is made of inflatable plastic films and allows significant cost reductions in both CAPEX and OPEX compared to the most advanced glass mirror-based trough technologies. The company is headquartered in the commercial district of Vienna, Austria, and currently employs 25 people.

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