

SunOyster Systems GmbH Hamburg, Germany

# Discover how the SunOyster generates MORE solar energy

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[SunOyster.com](http://SunOyster.com)

# SunOyster combines the best of solar thermal power plants (CSP), CPV and PV



## CSP

Cheap mirrors  
Glass tubes for receiver



## CPV

Bi-axial tracking  
Concentrator cells

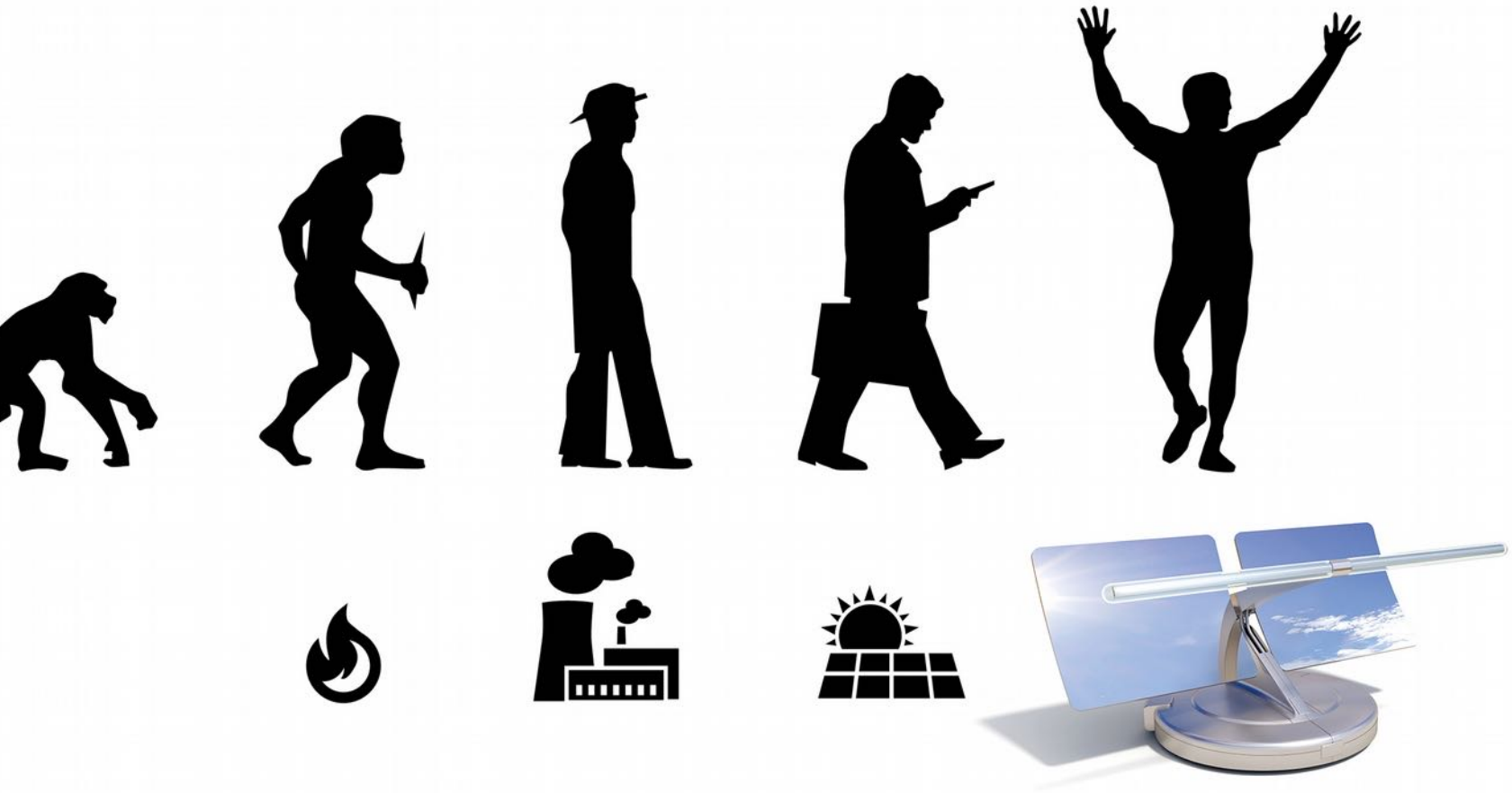


## PV

Modular  
Roof Installation  
Cost-efficient



# 5 competitive advantages of the SunOyster



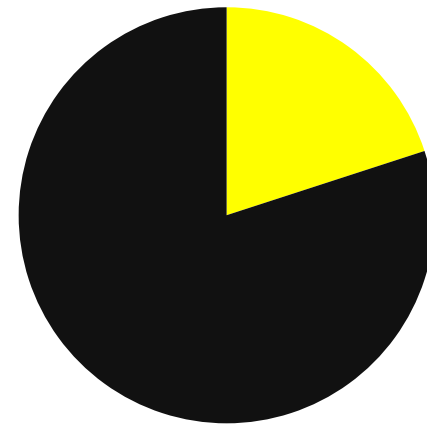



A close-up photograph of a human hand, palm facing the viewer, against a dark, textured background. The hand is open, with fingers spread. On the left side of the hand, there is a blue circle with a white border containing the white number '1'.


1

**High  
total  
efficiency**

**Photovoltaics is good and cheap. The but problem remains: PV still wastes approx. 80% of the solar radiation**



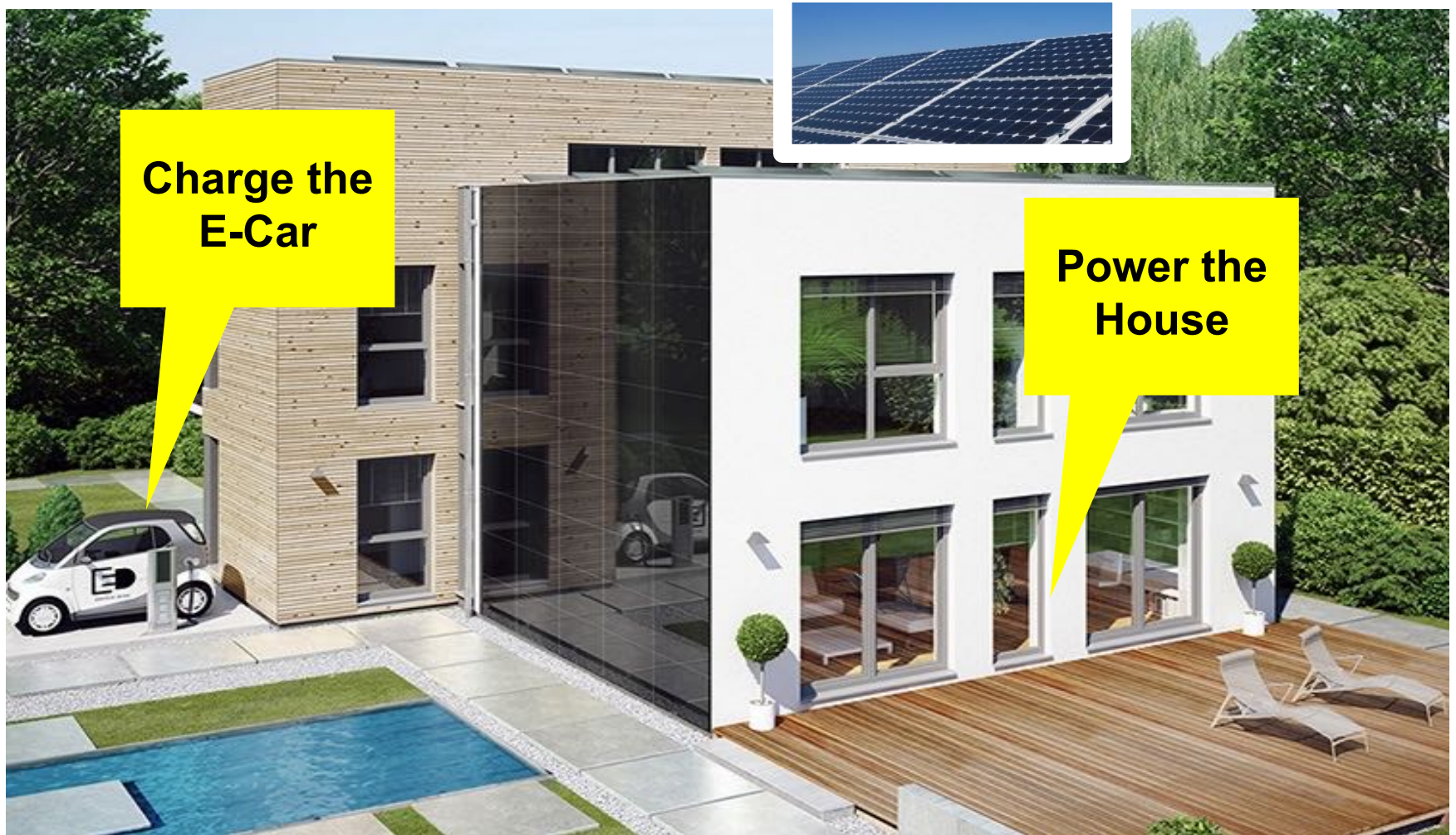
 **Power**

 **Waste**

**Solar Energy Balance**



**Therefore, generated PV electricity covers normally only a part of the total energy demand**



**The solution: Double the Power! SunOyster converts almost 80% of the solar radiation into heat + power**



**Power**

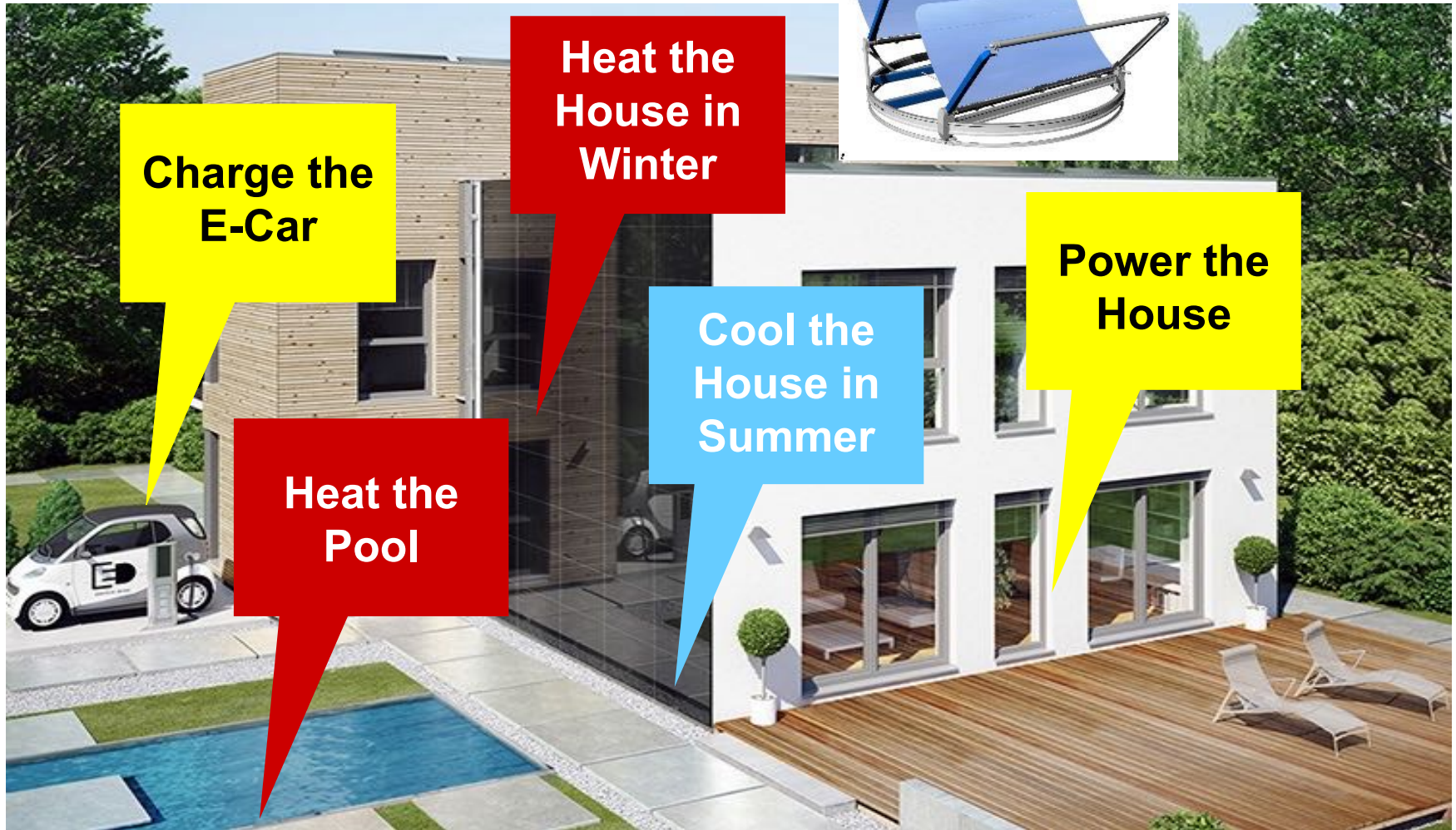
**Heat**

**Waste**

**Solar Energy Balance**



# The SunOyster can cover the complete energy demand of power, heat and cold





2

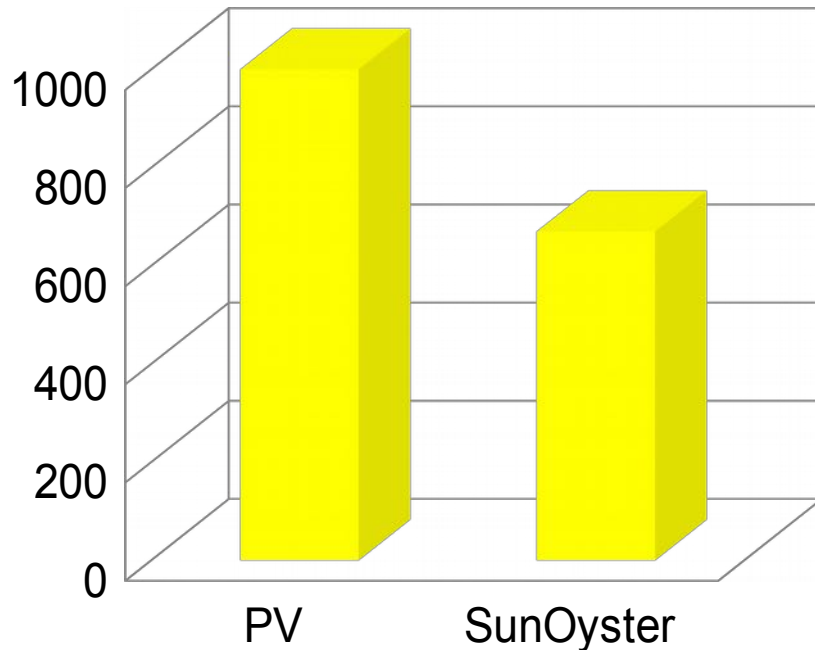
**Lowest  
Cost**

# Cheap energy, when heat or cold is needed

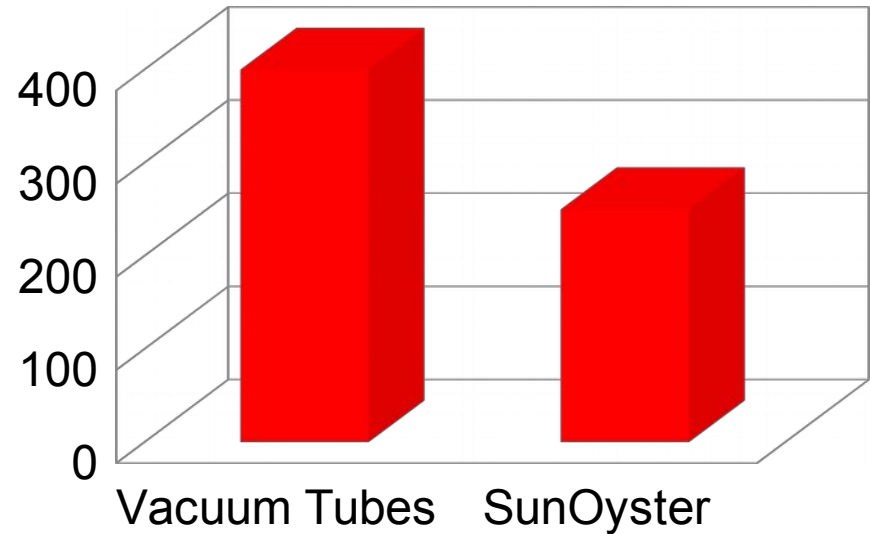
(example: SunOyster 16 *hybrid* in Germany for series price of 5,000 euros)

**In sunny regions, the SunOyster wants to be the cheapest solar energy wherever heat (cold) are needed**

**Cost of electrical power in €  
per kW for systems up to 10 kW el**



**Costs of the therm. Output in €  
per kW th for systems up to 10 kW th**



A close-up photograph of a human hand, palm facing up, against a dark, textured background. A blue circle with a white border and the white number '3' is positioned over the index finger. The text 'Best Surface efficiency' is centered on the palm, and 'SunOyster.com' is in the bottom right corner.

**3**

**Best  
Surface  
efficiency**



**16 m<sup>2</sup> of SunOyster mirrors from serial production shall generate up to 5 kW electric and 7.5 kW thermal power**



gefördert durch



Deutsche  
Bundesstiftung Umwelt

[www.dbu.de](http://www.dbu.de)

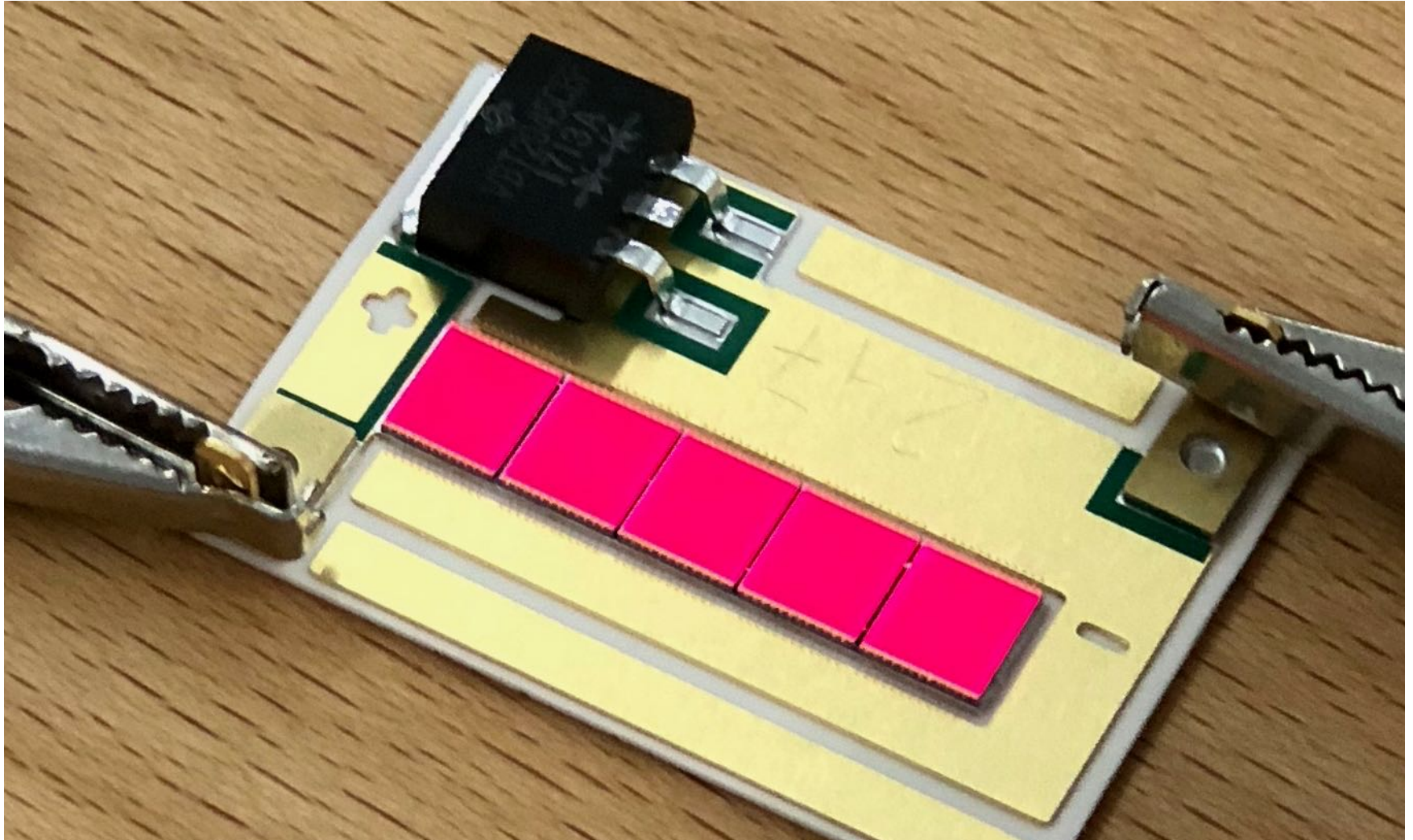
[SunOyster.com](http://SunOyster.com)

**16 m<sup>2</sup> mirror surface =  
16 horse power (hp)**



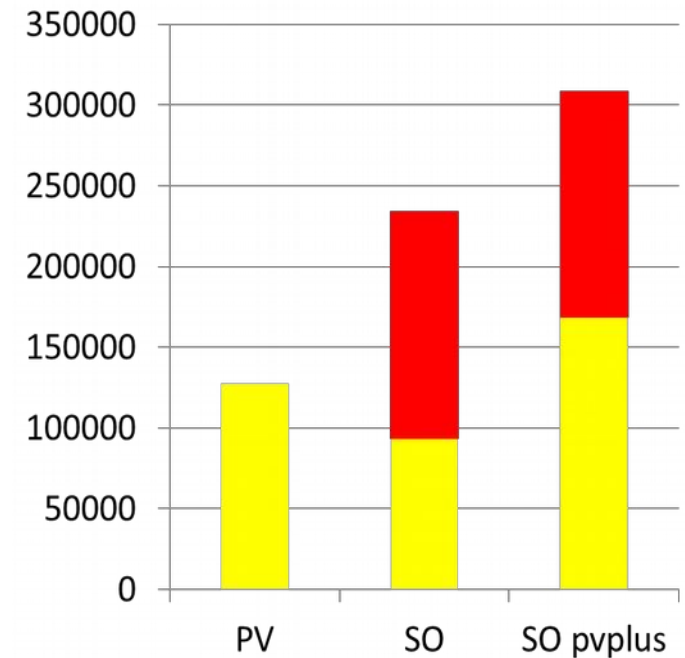


# SunOyster cell assembly using space cells with highest efficiencies





# SunOyster *pvplus* has 2.5 times the energy generation of normal photovoltaics (PV)



■ Heat Energy  
■ Electric Energy

A close-up photograph of a human hand, palm facing the viewer, against a dark, textured background. The hand is slightly spread, showing the fingers and the palm. In the upper right corner, there is a blue circle with a white border containing the white number '4'.

4

**Manifold  
heat  
applications**

**The SunOyster can reach higher temperatures than conventional thermal collectors. Optimal use for hotels, offices or residencials, but also for all kinds of industrial applications and agriculture ...**



**Room Heating**

**Warm Water**



**With the help of  
thermal chillers,  
Cooling**



# Manifold heat applications



Warm Water

50°C – 70°C



Room Heating

25°C – 90°C



Desalination

25°C – 120°C



Process Heat

60°C – 170°C

85

0°C

110°C

170°C

up to 110°C SunOyster *hybrid*

up to 170°C SunOyster *heat*



Cooling

55°C – 170°C



ORC Machine

90°C – 170°C



(Storage)

-30°C – 170°C



Pre-heating Steam Plants

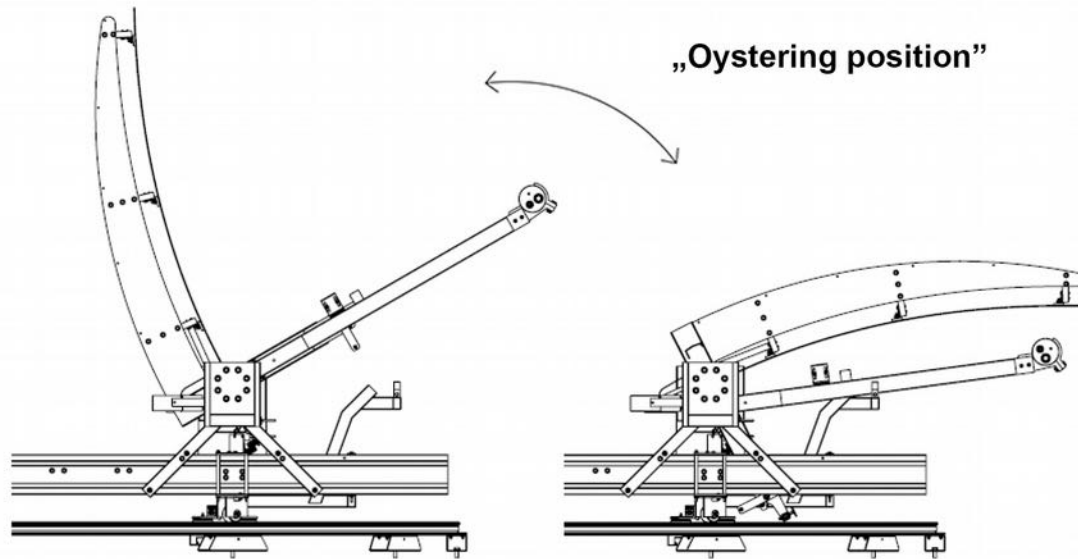
100°C – 170°C



**Self  
protection,  
attractive  
design**

**5**

# SunOyster closes in case of strong wind into a safe position





In parallel, we build prototypes of  
our second product, the stylish  
**SunOyster 8**



**Model Alu**

# SunOyster for the zoo & animal parc Nürnberg, Germany for heating the tropical house





**Yaobao project for 100 SunOysters for steam generation for a pharmaceutical company in Taiyuan, China – postponed because of Covid-19**





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**Danke! Thank you for your attention!**

