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# Solar Process Heat Market Development

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A close-up photograph of several large, shiny, metallic industrial pipes or heat exchangers, arranged in a curved pattern. The pipes have a brushed metal finish and are connected by various fittings and flanges. The background is slightly blurred, focusing attention on the pipes in the foreground.

**NAVIGATE  
THE WORLD  
OF SHIP**

➤ **736 SHIP systems**  
(end of 2018)

**125 SHIP systems**  
(end of 2012)



**+104 SHIP systems in 2018**

**Countries with the most systems added in 2018: Mexico (51), China (15), India (10)**

Source: Solar-payback.com

IKEA (Singapore), Nestle (Mexico), Philips (Brazil), Hatsun Agro Products (India), Unilever (India and Myanmar), Pepsi (USA), P&G (China), ECCO (Thailand)

More than 80 photos free for utilisation if copy right owner is mentioned:  
[https://www.solar-payback.com/gallery/gallery\\_en.php](https://www.solar-payback.com/gallery/gallery_en.php) (available in English, Spanish and Portuguese)

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by Supplier	<input type="text"/>	by Year	-Please Select- ▼	by Application	-Please Select- ▼
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Thailand, Retanning Process, 2012



Mexico, Painting workshop, 2017



Mexico, Painting workshop, 2017



Mexico, Painting workshop, 2017



Mexico, Painting workshop, 2017



Austria, Steam for test lab, 2017

## Suppliers of Turnkey Solar Process Heat Systems

Supplier ready-to-offer	13
Collector producer ready-to-offer	5
Supplier with references	22
Collector producer with references	42



<https://www.solar-payback.com/suppliers/>  
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## Suppliers of Turnkey Solar Process Heat

Supplier ready-to-offer	13
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Supplier with references	22
Collector producer with references	42



### Rackam, Canada

Number of references: 8

Total collector area of references:  
3,400m<sup>2</sup>

[Link to references](#)

Produced collector type:  
Parabolic Trough

[More info](#)



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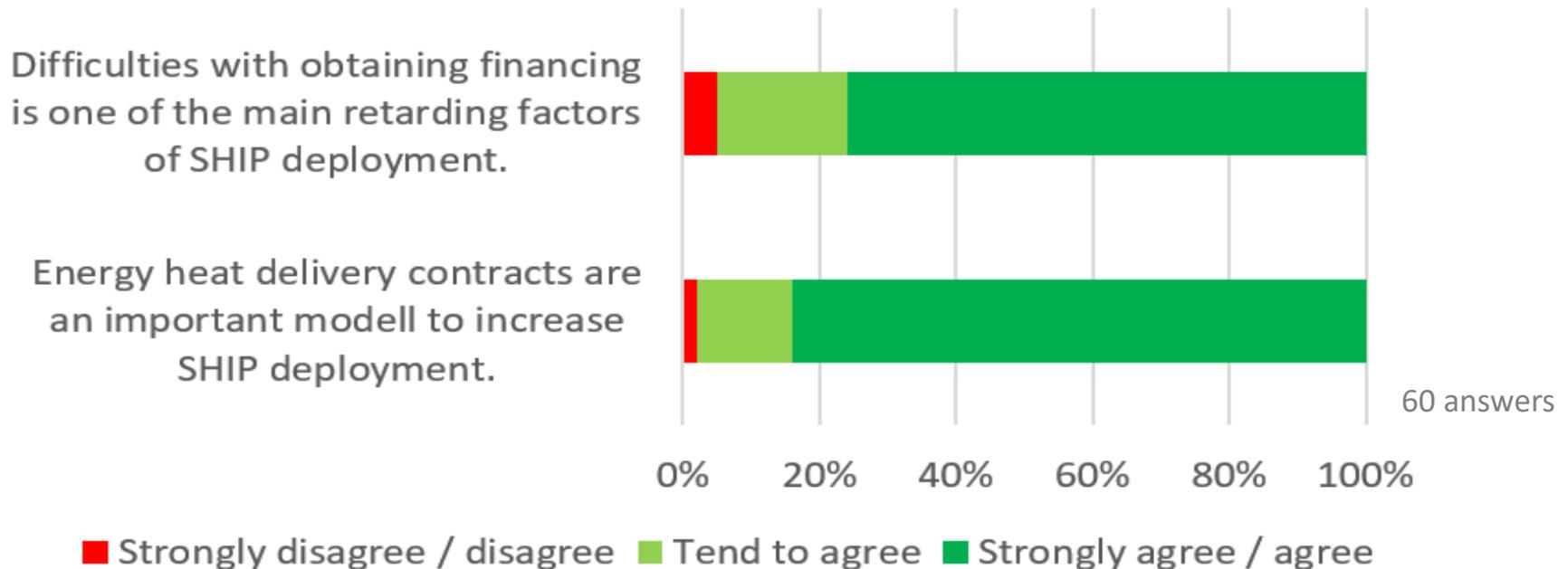
- 1 GW under construction in Oman (see photo)
- 850 MW in California in planning phase
- 2 GW in Oman in contracting phase

Photo: Glasspoint

Survey among 82 SHIP technology suppliers as part of Solar Payback Project:

- ▶ 93 % were not satisfied with their SHIP sales in 2018
- ▶ only 32 SHIP suppliers installed one SHIP system or more last year

## Can you agree with the following statements?



1. Several established suppliers of solar thermal technologies – such as Modulo Solar (Mexico), Linuo Paradigma (China) and Millennium Energy Industries (Jordan) added heat supply contracts to their portfolios.
2. A number of start-up companies emerged with a focus on the contracting of commercial and industrial heat supply (e.g. NewHeat in France and SWA Solar Wärme Austria)
3. Renewable financing facilitators broadened their sales strategies beyond electricity to include thermal energy (e.g. Kyotherm from France, ecoligo.investment)

Barriers for SHIP deployment	Drivers for SHIP deployment
Low fossil fuel prices	Direct subsidies (India, France, Germany, Austria, Netherlands, California etc)
Industrial expectation in short payback times	Economic competitiveness (Spain, Mexico)
Low awareness for SHIP among industry and (energy) consultants	Large and committed supply chain
Difficulty of obtaining financing	Cleaner air policy in China
Small share of energy costs within total costs	Green/sustainable marketing
High planning costs because every project is customer specifically engineered	Industrial low carbon networks (RE100, Science Based Targets, Renewable Thermal Collaboration, SPIRE)

# Brazil: Industrial Solar Heat Strategy

Adding 7.5 million m<sup>2</sup> of collector area in the next five years in the three major industries – pulp and paper, food and beverage, and chemicals



**GENERATE** private investment of BRL 14.9 billion

**DOUBLE** the annual solar thermal market volume

**CREATE** 45,000 new jobs in Brazil's solar thermal industry\*

**SAVE** 1.18 million tonnes of CO<sub>2</sub> emissions

\* The annual installation of 1 million m<sup>2</sup> of collector area creates approximately 30,000 jobs according to Solar Plan of São Paulo 2011.

## WHAT IS SHIP?

SHIP is the acronym for **Solar Heat for Industrial Processes** and describes systems which provide solar heat in a factory.

Strategy explained on only 8 pages for download:

[http://www.solrico.com/fileadmin/solrico/media/doc/Solar\\_payback/Brazil\\_Solar\\_Industrial\\_Heat\\_Strategy.pdf](http://www.solrico.com/fileadmin/solrico/media/doc/Solar_payback/Brazil_Solar_Industrial_Heat_Strategy.pdf)

A photograph of a complex industrial system featuring numerous large, polished metal pipes and ducts. The pipes are arranged in a dense, interconnected network, with some showing green directional arrows. The background is slightly blurred, emphasizing the metallic surfaces and the intricate layout of the machinery.

Solar Heat for Industry

# EFFICIENT PROFITABLE SUSTAINABLE

Thanks for your attention!

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Project website: [www.solar-payback.com](http://www.solar-payback.com)

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SHIP supplier world map: <https://www.solar-payback.com/suppliers/>