

Solar Process Heat Market Development

Author: Bärbel Epp,
solrico

Email: epp@solrico.com,
www.solar-payback.com

A close-up photograph of several large, shiny, metallic industrial pipes or heat exchangers, likely part of a solar thermal system. The pipes are arranged in a curved, overlapping fashion, reflecting light. In the background, some green pipes with white arrows are visible.

**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)

Photo Search

by Supplier	<input type="text"/>	by Year	-Please Select- ▼	by Application	-Please Select- ▼
by Country	<input type="text"/>	by Industry	-Please Select- ▼	by Collector Type	-Please Select- ▼



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

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https://www.solar-payback.com/gallery/gallery_en.php (available in English, Spanish and Portuguese)

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

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Collector producer with references	42



Rackam, Canada

Number of references: 8

Total collector area of references:
3,400m²

[Link to references](#)

Produced collector type:
Parabolic Trough

[More info](#)

<https://www.solar-payback.com/suppliers/>
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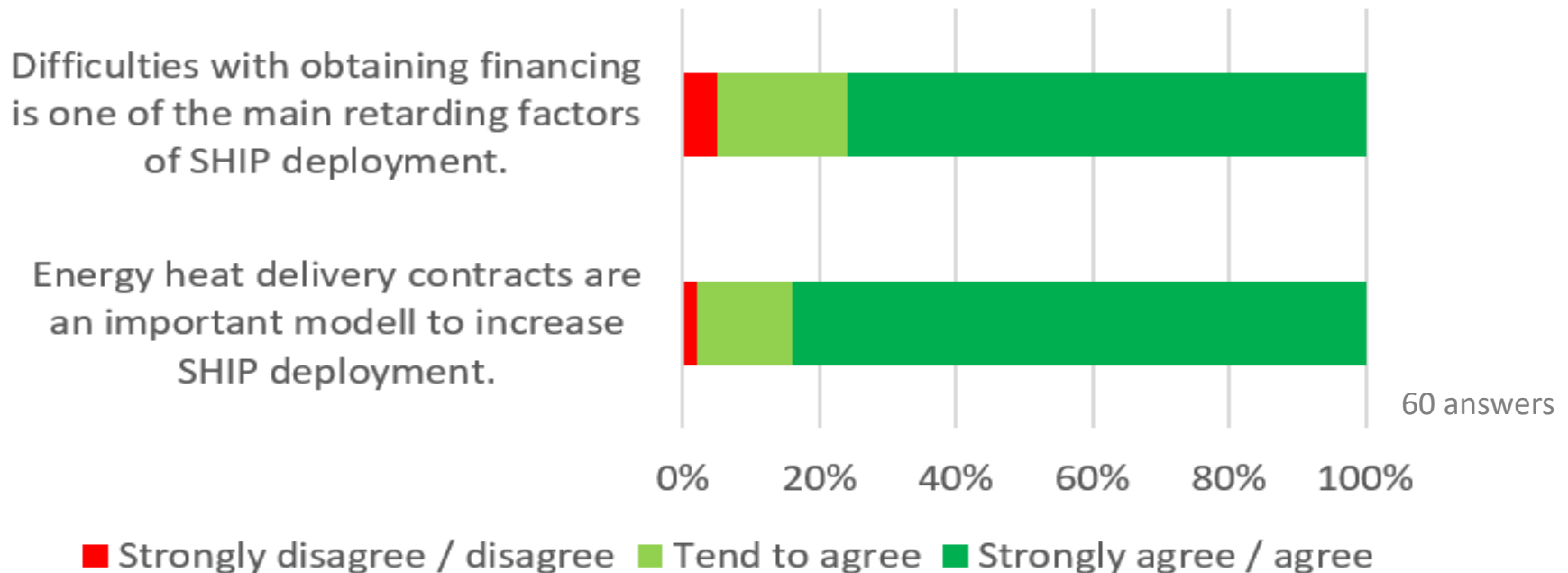
- 1 GW under construction in Oman (see photo)
- 850 MW in California in planning phase
- 2 GW in Oman in contracting phase

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?

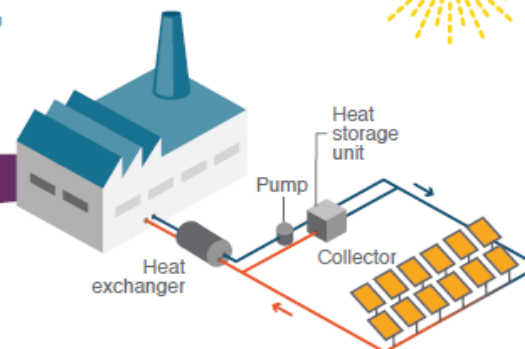


1. Several established suppliers of solar thermal technologies – such as Modulo Solar (Mexico), Linuo Paradigma (China) and Millennium Energy Industries (Jordan) added heat supply contracts to their portfolios.
2. A number of start-up companies emerged with a focus on the contracting of commercial and 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 m² 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 CO₂ emissions

* The annual installation of 1 million m² 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

A close-up photograph of industrial machinery featuring large, polished, curved metal pipes. The pipes are interconnected, and some have green directional arrows painted on them. The background shows more industrial structures and a bright light source, possibly the sun, creating a high-contrast scene.

Solar Heat for Industry

EFFICIENT PROFITABLE SUSTAINABLE

Thanks for your attention!

Bärbel Epp, epp@solrico.com, www.solrico.com

Project website: www.solar-payback.com

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