Solar Payback

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“The heat is on”
Solar Heat for Industrial Processes (SHIP) for India

Jan Knaack, German Solar Association

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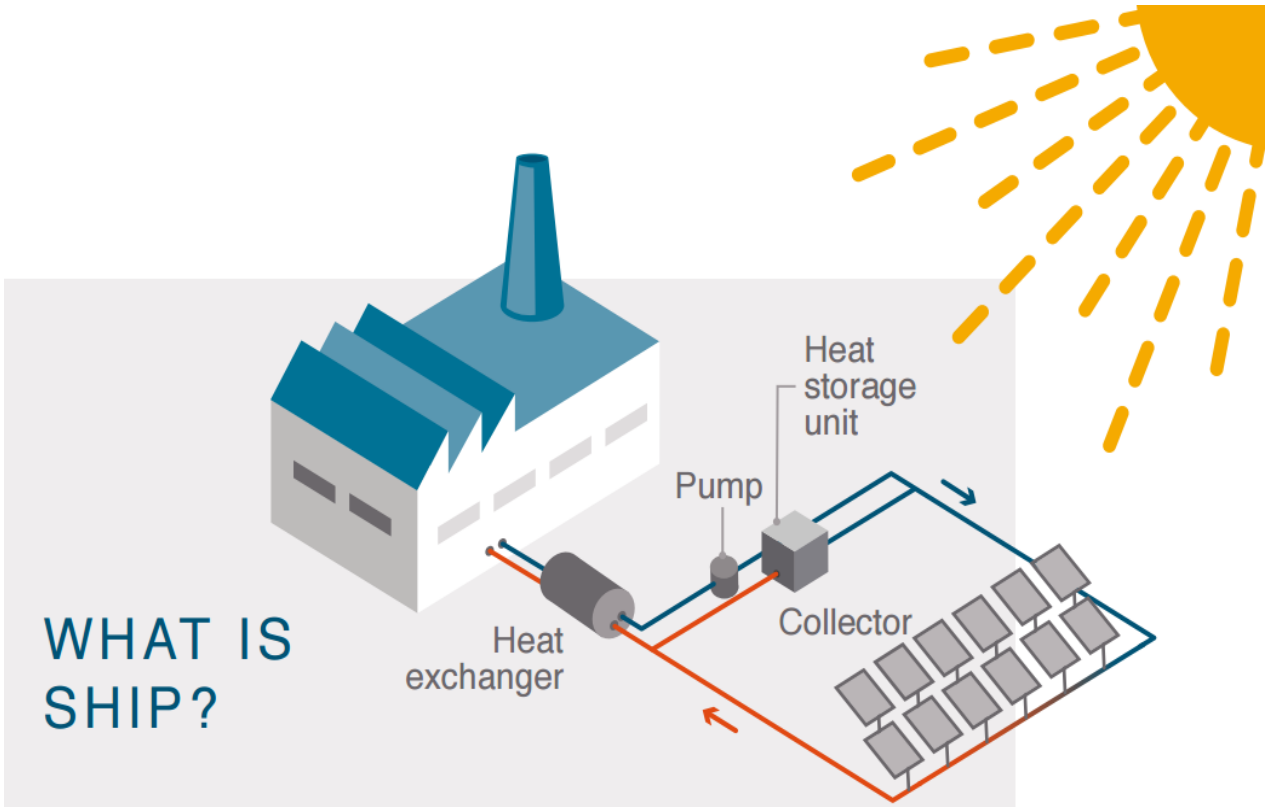
Solar thermal energy for industrial processes (SHIP)

Solar energy can be a low (<150°C) and medium temperature (< 400°C) heat source.



- There is enormous potential for SHIP and strong growth, but so far there are close to 930 plants worldwide (2020).

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State of SHIP in 2019 in the world

	No. of systems put up in 2018	Collector area added in 2018 [m^2]	**No. of systems put up in 2019**	Collector area added in 2019 [m^2]	Average system size in both years [m^2 per system]
China	15	28,813	**26**	76,182	2,561
Mexico	51	6,898	**26**	4,040	142
Germany	9	1,589	**11**	1,470	153
India	5	2,264	**7**	3,152	451
Spain	3	1,218	**3**	386	267

- Other countries with new SHIP installations in 2019: Belgium, Cyprus, France, Malaysia, Netherlands, Portugal, Saudi Arabia, Senegal, Turkey, USA
- Typical Industries: Food & Beverage, textile, chemical / pharmaceutical, automotive, mining

Source: Solar Payback surveys by solrico

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Suppliers are ready to deliver SHIP solutions

http://www.solar-payback.com/suppliers/

Solar supplier without references	11
Solar supplier with collector production and without references	4
Solar supplier with references	19
Solar supplier with collector production and references	42
Conventional energy suppliers with references	0
Conventional energy suppliers without references	0

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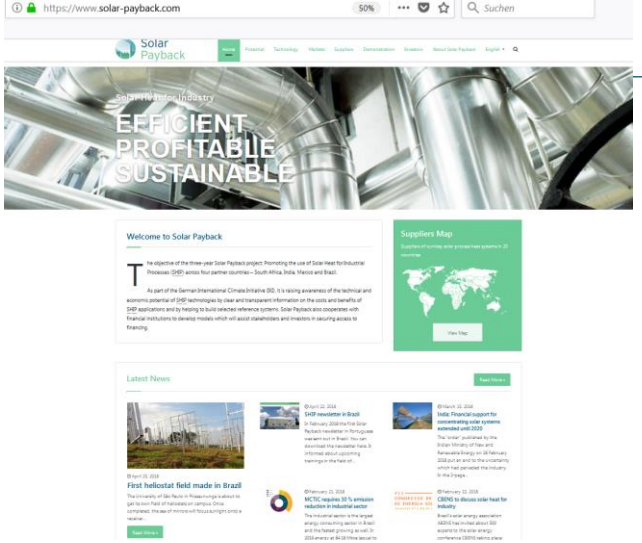

Products so far:

- Market studies (BR, MX, ZA, India)
- Marketing brochure
- Overview of SHIP-Industry and suppliers worldwide!
- Photo gallery!
- Online calculator with 5 sample sights in each country!
- Trainings for trainers and installers!
- Extensive social media campaign!
- Financial support to the construction of demo plant in up to 2 of the countries!

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Lessons from the 4 project countries Brazil, India, Mexico, South Africa

- Ship has a huge potential for market niches!
- SHIP can be competitive in industry sights with
  - excellent solar irradiation,
  - expensive, scarce, or restricted conventional fuels
- The lower the temperature the better - (Food / beverage, textiles, pharmaceutical, automotive)
- Keep SHIP simple - SHIP companies must guarantee affordable, reliable, clean, maintenance free heat to their customers
- Every SHIP plant requires careful engineering – economies of scale are difficult to reach (quality standards / training are very important for products and installations)
- First ESCO models to finance and run the systems – the operation risk has to be covered by the ESCO (soft loans and grants can be important to lower entrance barriers for these companies)
- Take the risk: Customers are interested in cheap heat readily delivered (re-engineering is seen extremely critical).
- SHIP needs successful reference projects and media coverage to successfully overcome technology scepticism

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Namaste • Thank you • Obrigado • Gracias

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