

Industry and Market Trends 2018

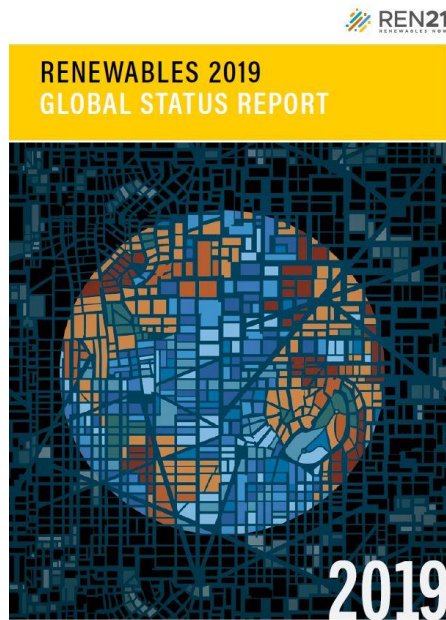
Author: Bärbel Epp, solrico

**Email: epp@solrico.com,
www.solrico.com**



Solrico – global solar market research network
focusing on the solar thermal sector

What is the Global Status Report?



- ▶ Annual policy advocacy report about the status of all renewable energies including energy efficiency and energy systems integration on 336 pages (including 80 pages endnotes)
- ▶ 70,000 downloads over the year
- ▶ Download report, summary and key charts: <http://www.ren21.net/gsr-2019/>

Key messages of the press release?

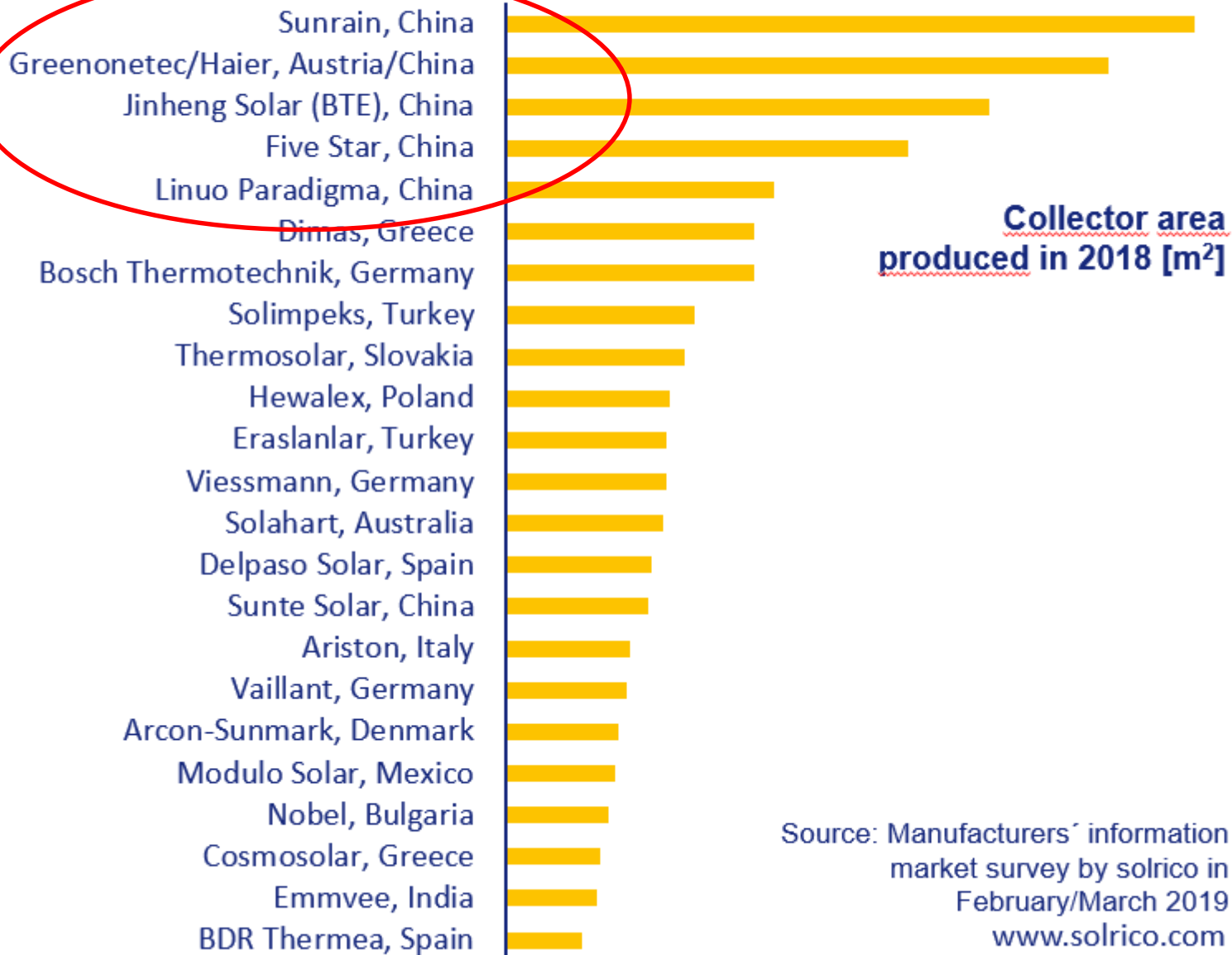
Report was launched mid June at five events around the world plus press releases in nine languages with the key message:

- ▶ “Solar PV and wind are now mainstream options in the power sector. For the fourth consecutive year, more renewable power capacity was installed than fossil fuel and nuclear power combined.” (98 GW PV and 52 GW Wind)
- ▶ “Renewables supply more than 26 % of global electricity, however only 10 % of heating and cooling and 3 % of transport. This imbalance between energy sectors is in large part due to insufficient or unstable policy support.”
- ▶ “A breakthrough could occur if countries cut their fossil fuel subsidies. In 2017, around USD 300 billion was used to subsidize fossil fuel consumption globally.”

<p>01 GLOBAL OVERVIEW</p> <p>Introduction Heating and Cooling Transport Power</p> <p>02 POLICY LANDSCAPE</p> <p>Targets Heating and Cooling Transport Power Policies to Integrate Variable Renewable Energy Climate Policy and Renewables</p>	<p>03 MARKET AND INDUSTRY TRENDS</p> <p>Bioenergy Geothermal Power and Heat Hydropower Ocean Power Solar Photovoltaics (PV) Concentrating Solar Thermal Power (CSP) Solar Thermal Heating and Cooling Wind Power</p> <p>04 DISTRIBUTED RENEWABLES FOR ENERGY ACCESS</p> <p>Overview of Energy Access Technologies and Markets Business Models Policy Developments Investment and Financing International Initiatives and Programmes Outlook</p> <p>05 INVESTMENT FLOWS</p> <p>Investment by Economy Investment by Technology Investment by Type Renewable Energy Investment in Perspective Early Investment Trends in 2019</p>	<p>06 ENERGY SYSTEMS INTEGRATION AND ENABLING TECHNOLOGIES</p> <p>Advances in the Integration of Variable Renewable Energy Enabling Technologies for Systems Integration</p> <p>07 ENERGY EFFICIENCY</p> <p>Overview Electricity Generation Buildings Industry Transport</p> <p>08 FEATURE: RENEWABLE ENERGY IN CITIES</p> <p>Drivers for Renewables in Cities Opportunities for Urban Renewable Energy City Ambition and Targets City Leadership in the Global Energy Transition</p> <p>Reference Tables Energy Units and Conversion Factors Data Collection and Validation Methodological Notes Glossary List of Abbreviations</p>
	<p>71 80 86 91 94 107 110 118</p> <p>133 134 136 139 140 141 144 145</p> <p>147 149 152 153 154 154</p>	<p>157 158 159</p> <p>169 169 173 174 176 177</p> <p>179 180 183 184 185</p> <p>186 237 238 239 242 249</p>






RANKING OF THE LARGEST FLAT PLATE COLLECTOR MANUFACTURERS

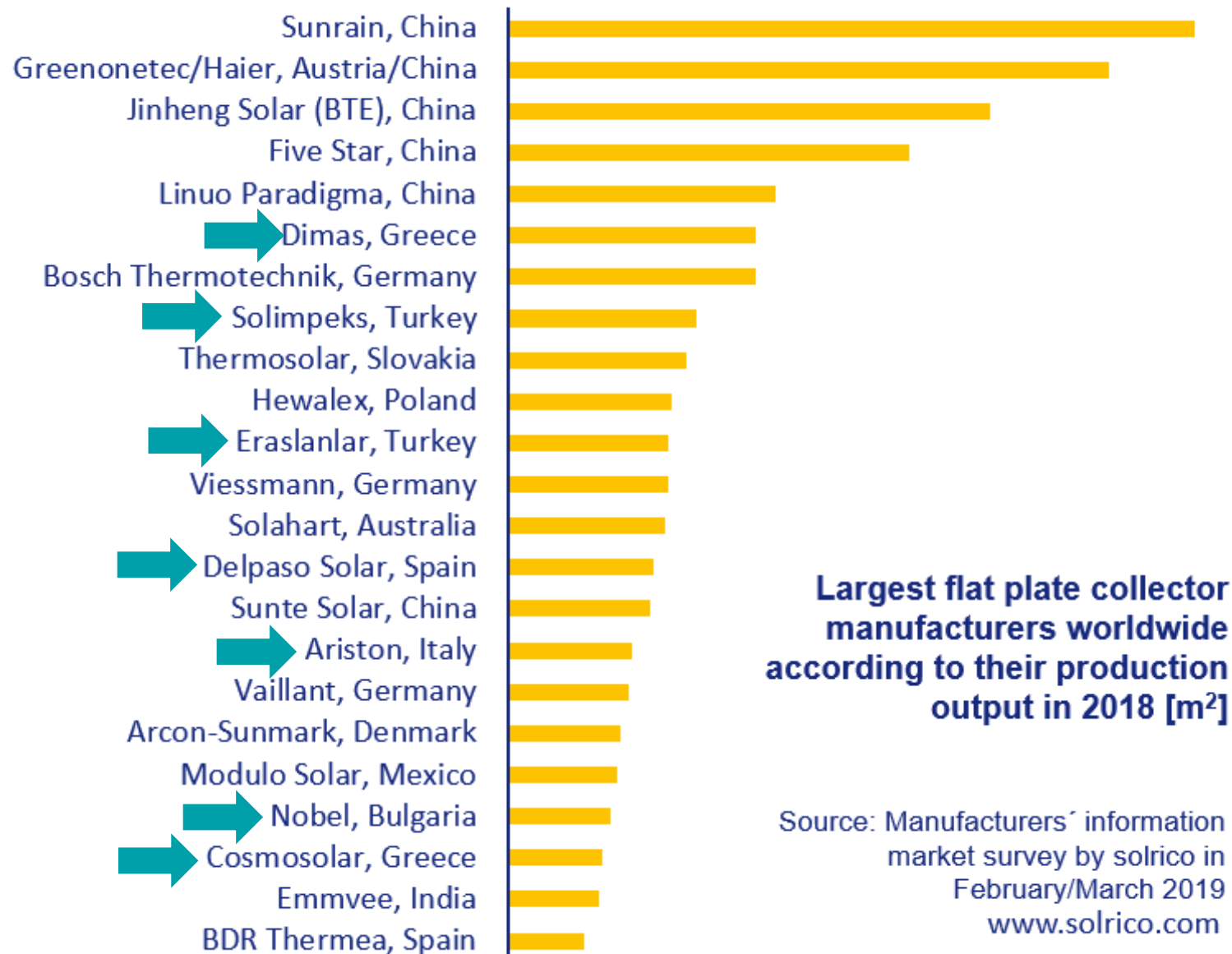
Ranking of the largest flat plate collector manufacturers worldwide



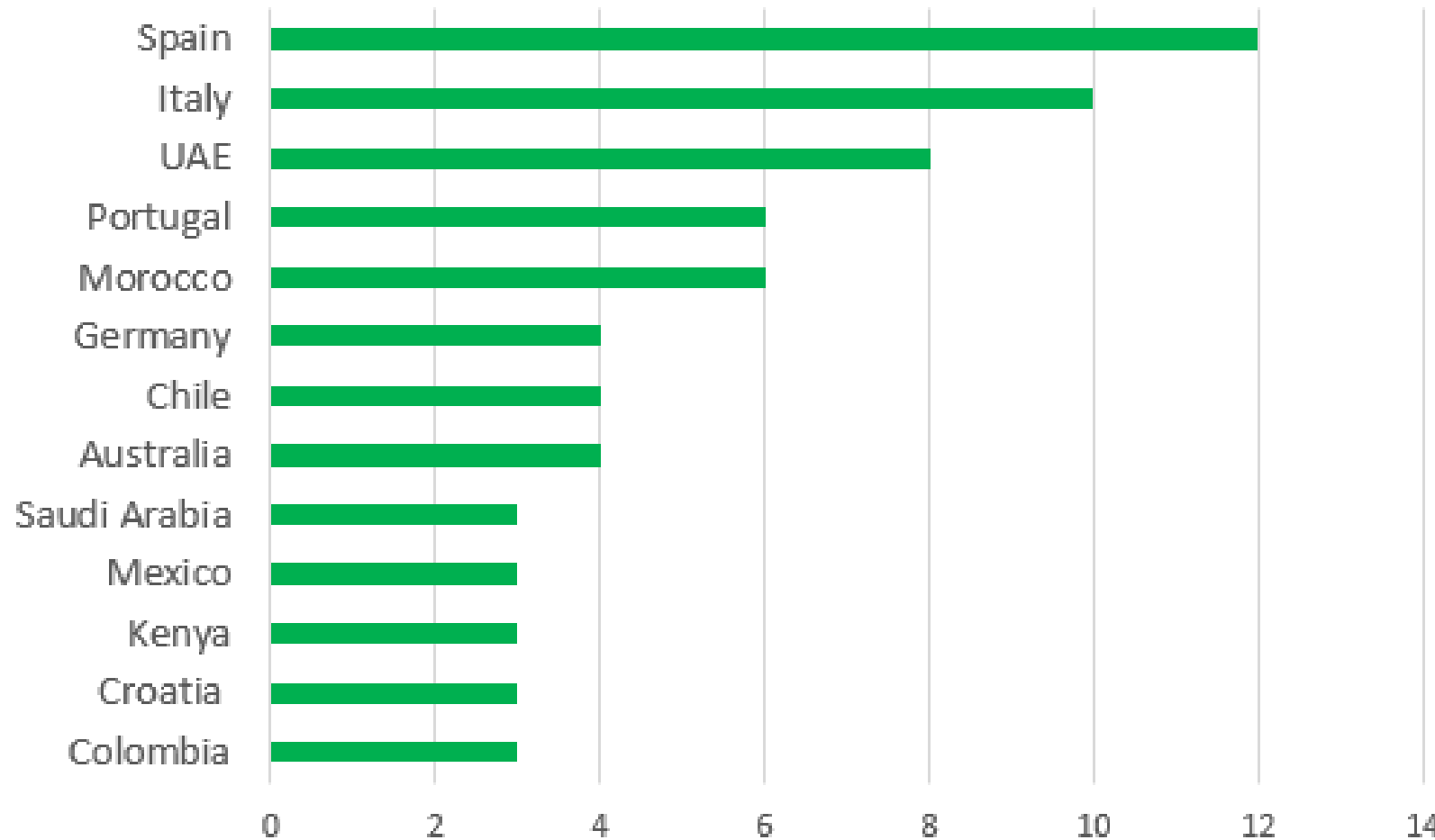
Collector area produced in 2018 [m²]

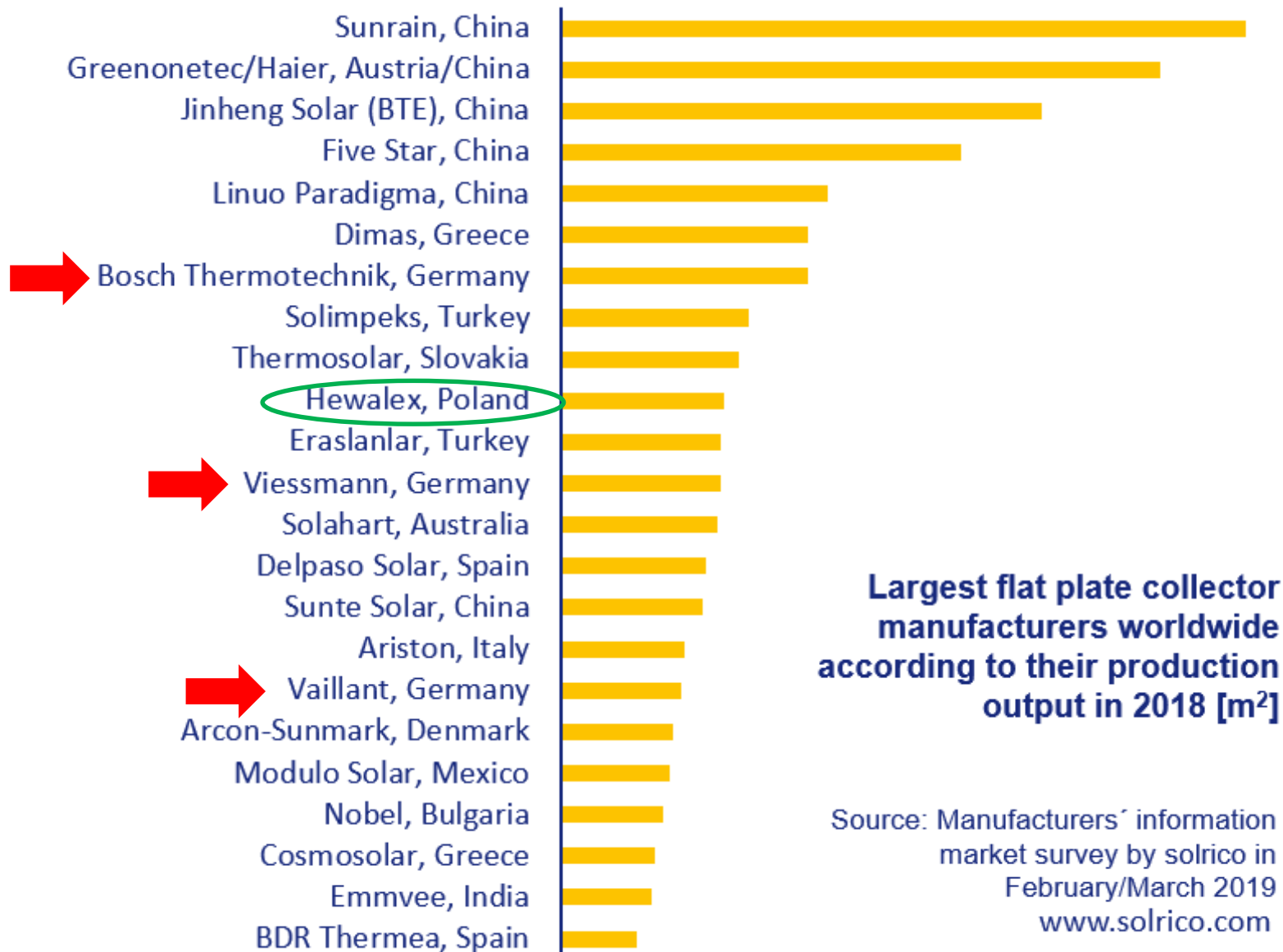
Source: Manufacturers' information market survey by solrico in February/March 2019
www.solrico.com

	2015 [m ²]	Share in 2015	Trend	2018 [m ²]	Share in 2018
Newly installed vacuum tube collectors	38 million	87.4 %		29.19 million	82.4 %
Newly installed flat plate collectors	5.5 million	12.7 %		6.24 million	17.6 %
Total newly installed collector area	43.5 million			35.43 million	
Collector area installed in engineering segment	26.535 million	61%		25.86 million	73%
Collector area installed in retail	16.965 million	39%		9.57 million	27%



Which were your key export markets for SWH kits 2018 globally?

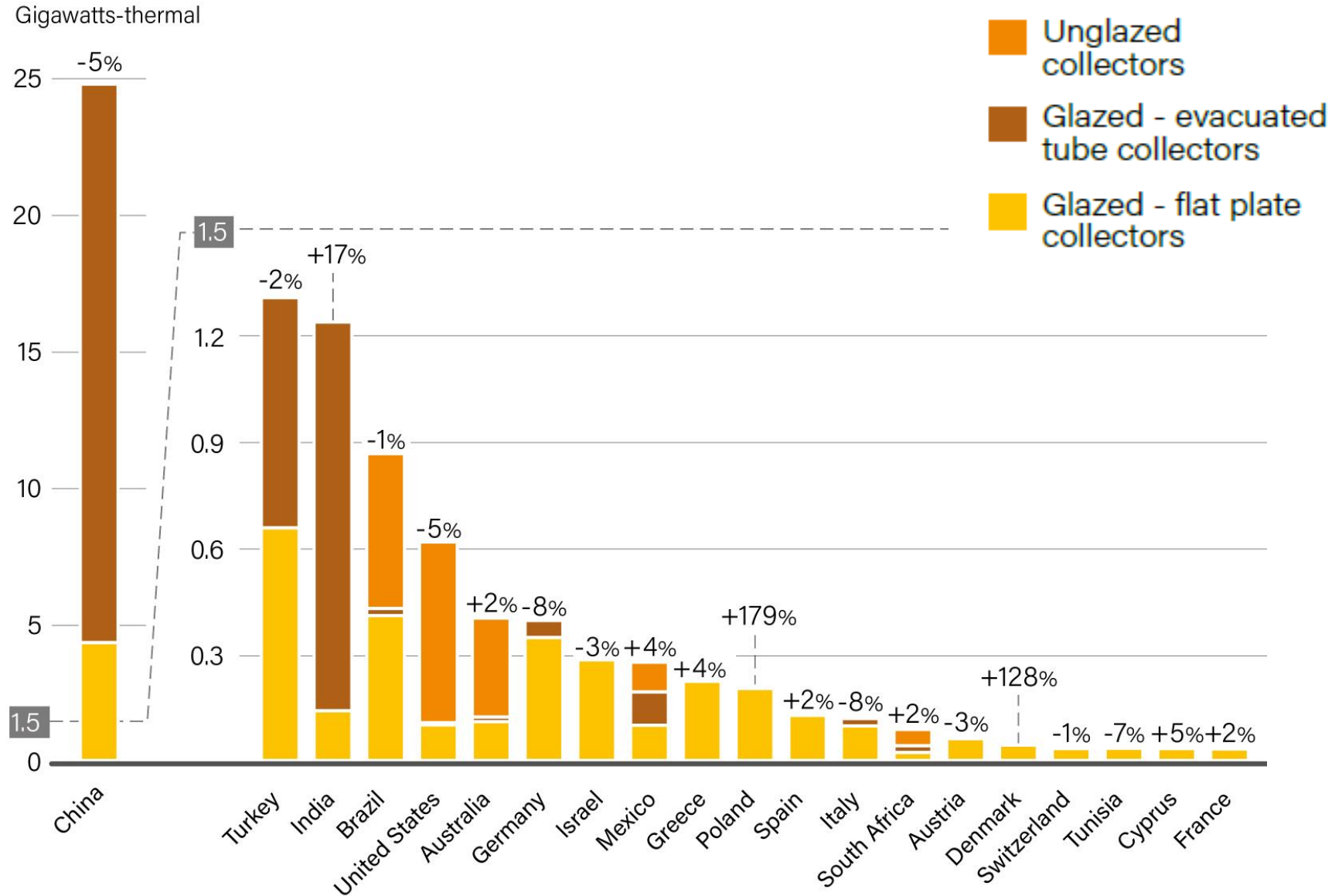




Largest flat plate collector manufacturers worldwide according to their production output in 2018 [m²]

Source: Manufacturers' information market survey by solrico in February/March 2019
www.solrico.com

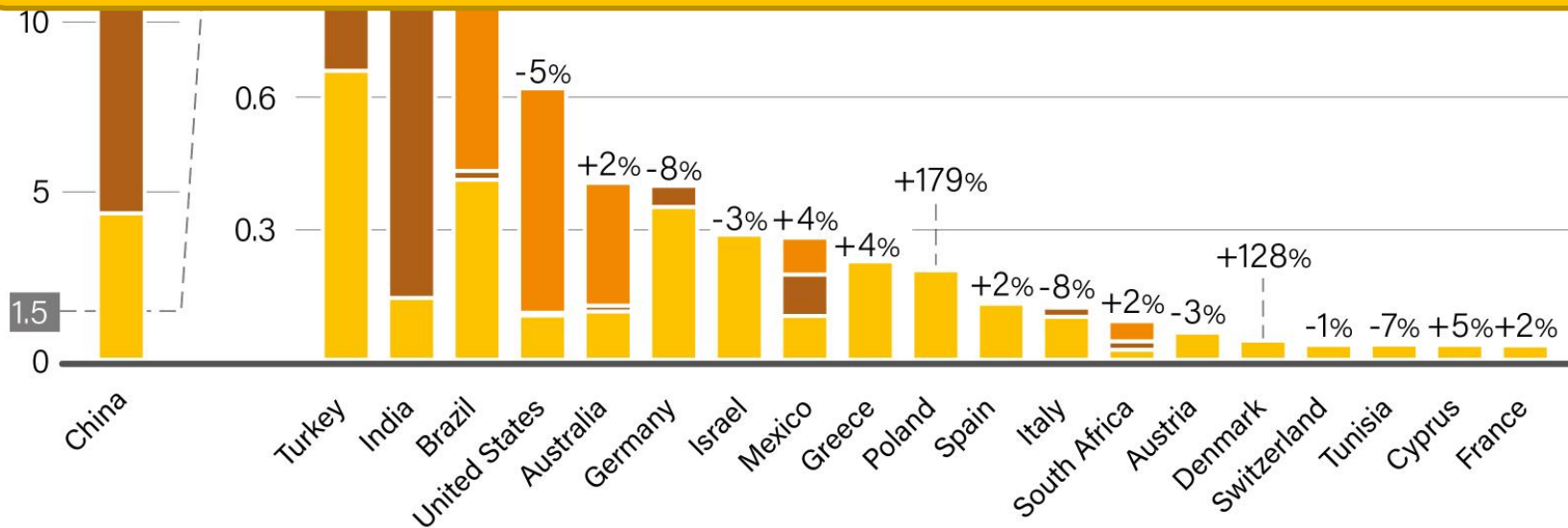
Solar Water Heating Collector Additions, Top 20 Countries for Capacity Added, 2018



Solar Water Heating Collector Additions, Top 20 Countries for Capacity Added, 2018

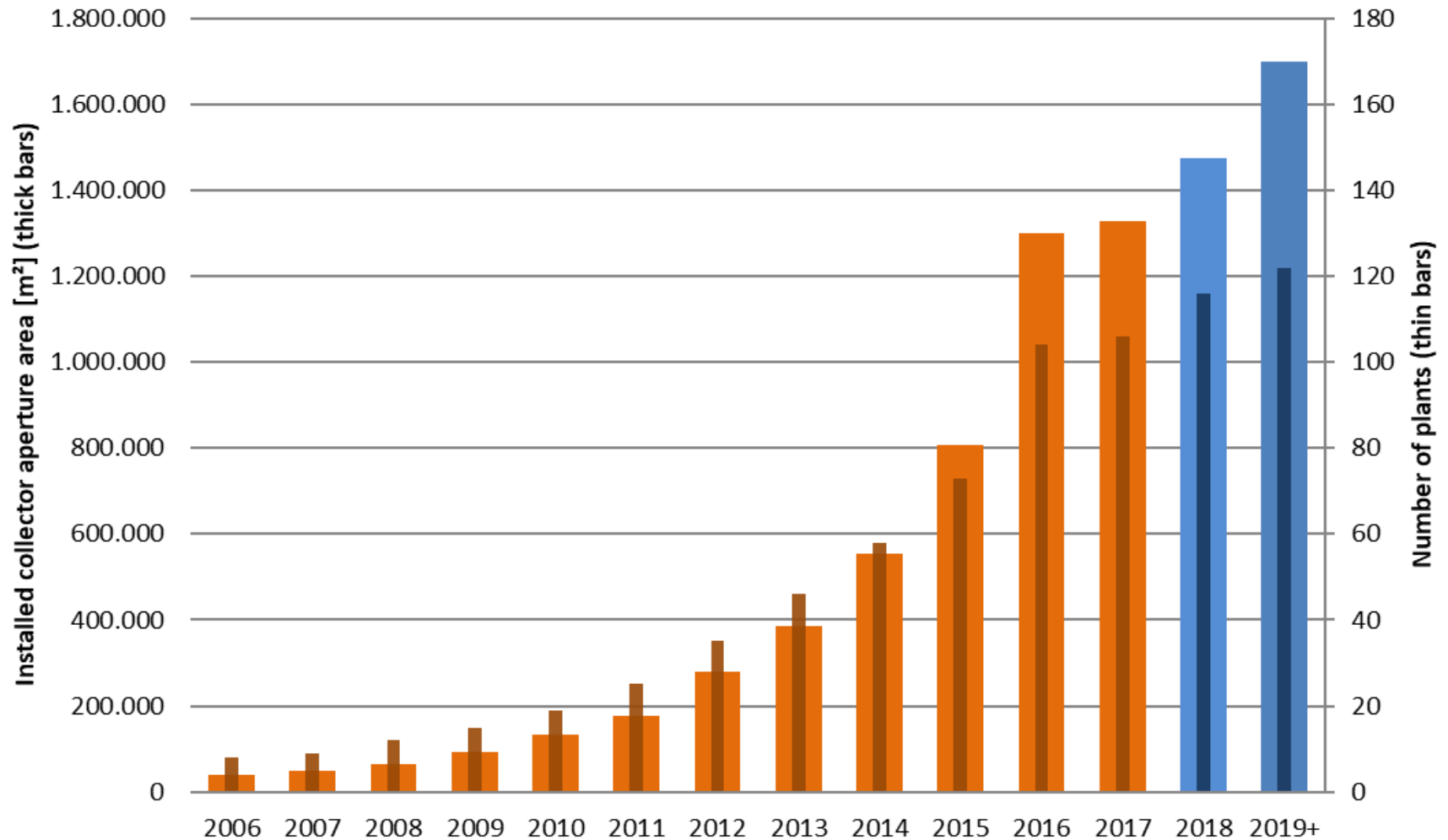


Find the figures of this chart in table Table R19 page 221 in the GSR.

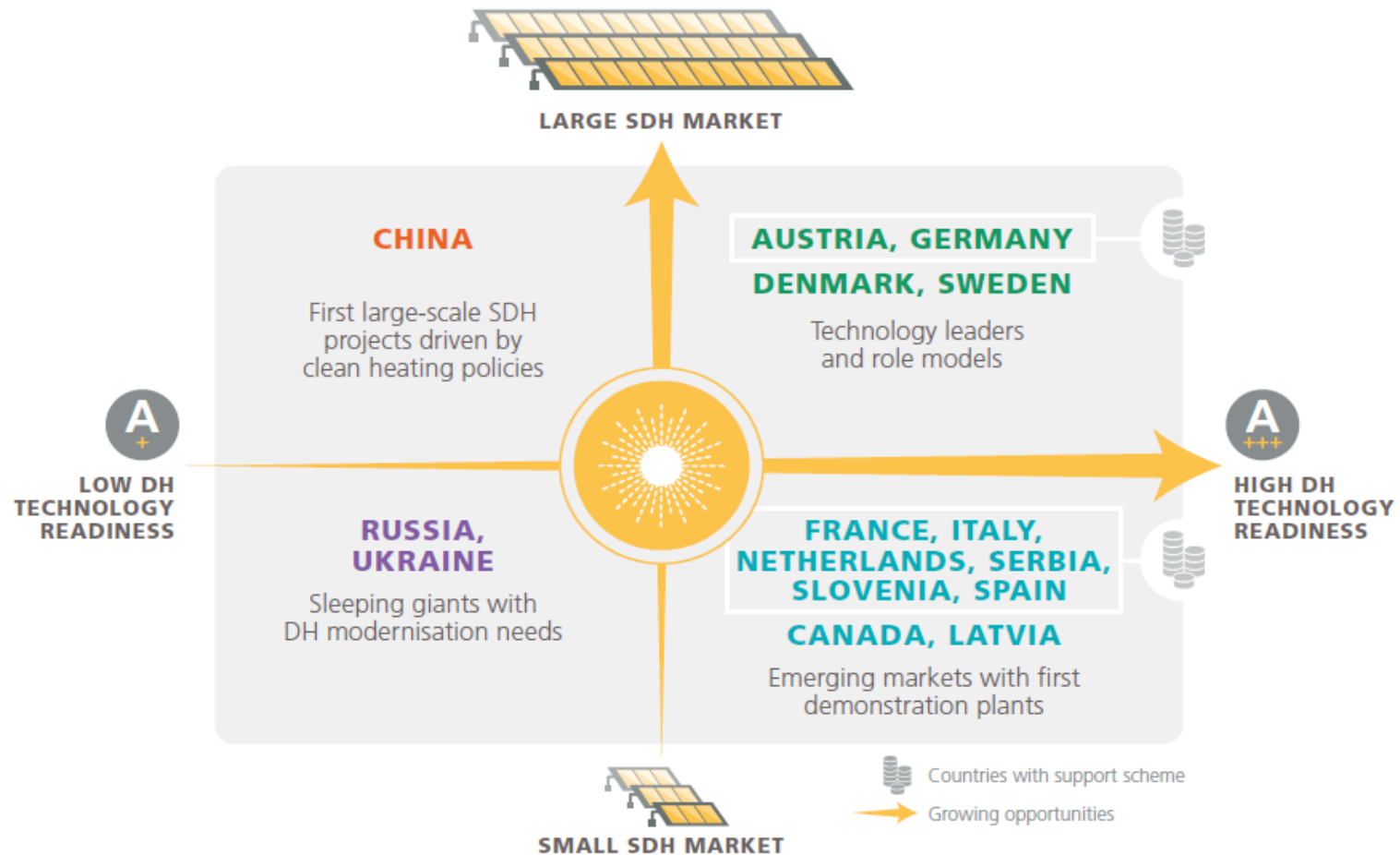


Solar District Heating in Denmark

Sum of collector area and the number of **operating** and **upcoming** plants



ATTRACTIVENESS OF SDH MARKETS



SOLAR INDUSTRIAL HEAT: A TOUGH BUSINESS

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

- ▶ 93 % were not satisfied with their sales in 2018
- ▶ only 32 SHIP suppliers (out of 82) installed one SHIP system or more last year
- ▶ Vacuum tube collectors dominate the market, followed by parabolic trough and flat plate collectors

	SHIP collector area installed in 2018 [m ²]	Percentage of total collector area
Vacuum tube	31,563	55%
Parabolic trough	11,414	20%
Flat plate	11,096	19%
Dish	2,775	5%
Linear Fresnel	360	1%
Total	57,209	

SHIP installations in 2018, broken down by type of collector

Source: Solar Payback SHIP Supplier Survey 2018



Supplier ready-to-offer	13
Collector producer ready-to-offer	5
Supplier with references	22
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](#)



67 photos free for utilisation if copy right owner is mentioned: https://www.solar-payback.com/gallery/gallone_en.php (available in English, Spanish and Portuguese)

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



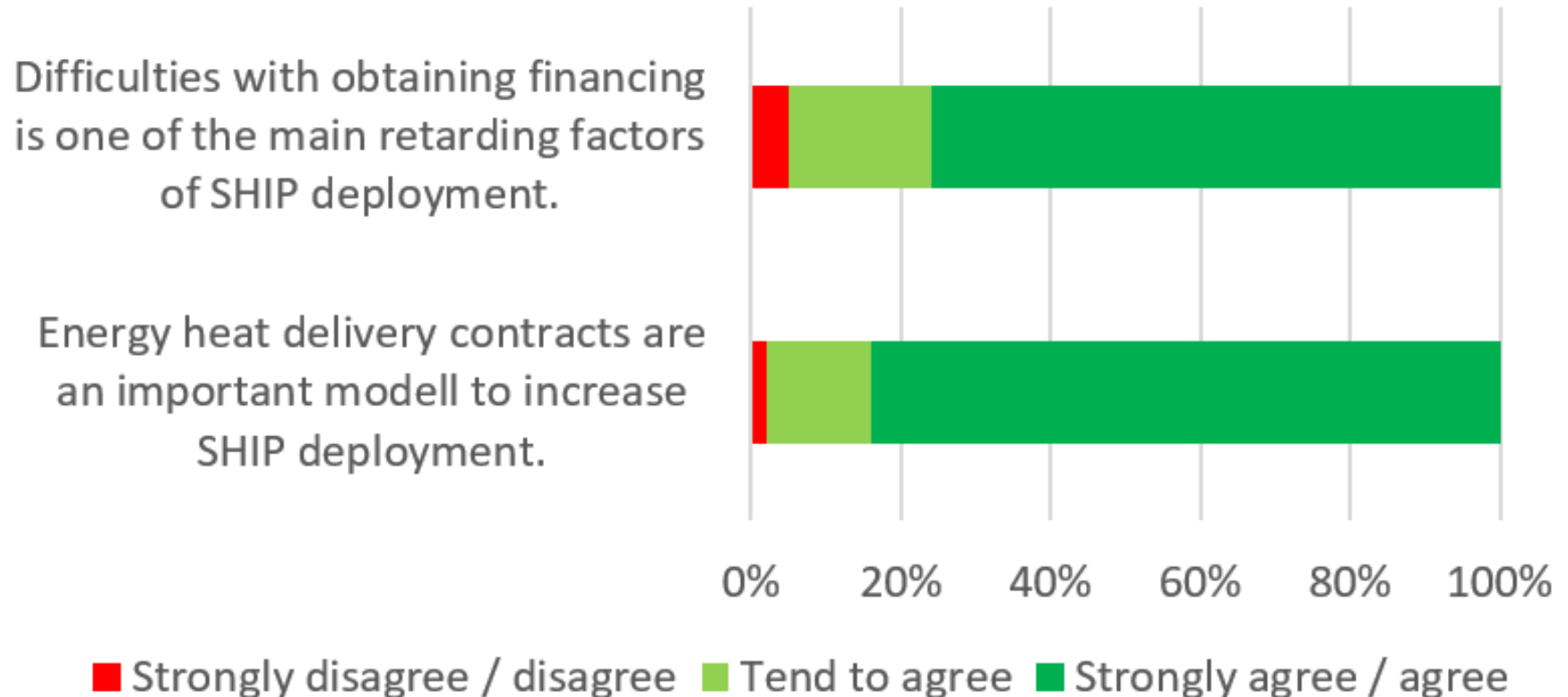
Mexico, Painting workshop, 2017



Austria, Steam for test lab, 2017

HEAT SUPPLY CONTRACTS: POPULAR BUT HARD TO IMPLEMENT

Can you agree with the following statements?



Three key trends drove the growth of ESCOs in the solar thermal supply chain in 2018.

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. New Heat 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)

NEW DEALS FOR SOLAR HEAT PROJECTS THAT USE CONCENTRATING TECHNOLOGIES

- ▶ US-based Glasspoint, which has constructed a 1 GW_{th} project in Oman since 2016, have signed two more deals: 850 MW_{th} plant is planned at Belridge oil field in California and Glasspoint signed a memorandum of understanding with the oil producer Occidental of Oman for a 2 GW_{th} system.
- ▶ Estimated 350 MW_{th} concentrating collector technology was in operation at the end of 2018.
- ▶ A relevant system for the SHIP market in Brazil is under construction with 8.3 MW_{th} with parabolic trough collectors for a farm to dry tobacco and to produce electricity.

- ▶ Rising interest among commercial and industrial clients result in a number of new deals also in new emerging markets (Oman, Spain, Latvia)
- ▶ Clean air policies drive markets in Poland and China
- ▶ Increasing demand for residential solar water heater kits in the Middle East and in East and Central Africa allowed several southern European collector producer to enlarge their production volumes
- ▶ A growing number of businesses offer solar heat supply contracts as ESCOs
- ▶ An increasing number of countries offer financial support installation and modernisation of district heating networks with a high share of renewables



Thanks for your attention!

Bärbel Epp, epp@solrico.com

www.solrico.com, www.solarthermalworld.org