

# SOLAR THERMAL AND CONCENTRATED SOLAR POWER BAROMETERS 2023

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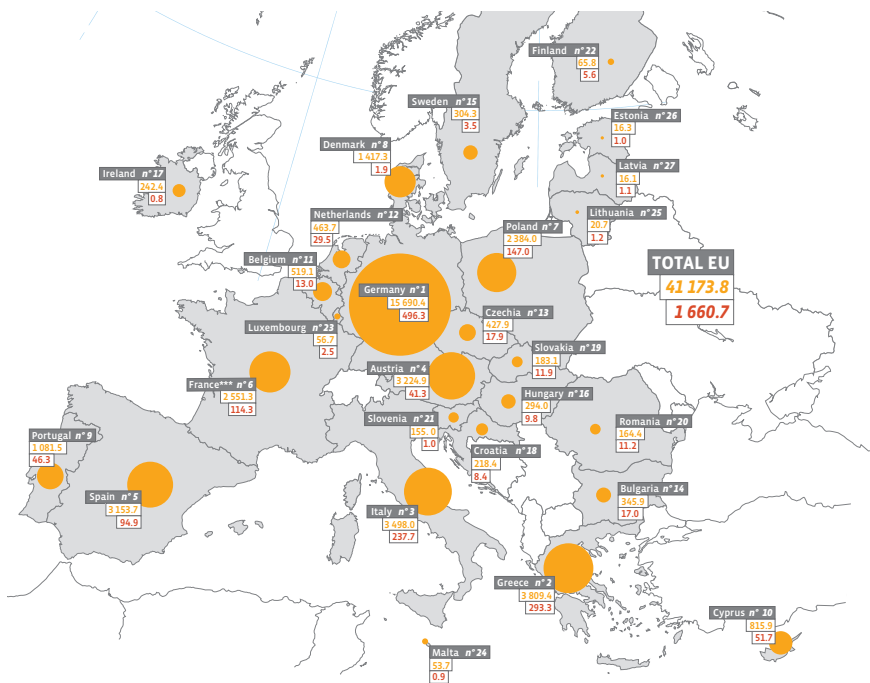
## Solar Thermal

The energy crisis that is hitting Europe and which is worsening climate “overheating” has propelled renewable solar thermal heat encompassing all its components to centre stage, wherever it is applied in the individual and collective residential segment, district heating networks or to meet industrial heat requirements. The sector has picked up over the last two years in a much

more promising context – that of the sharp rise in energy prices and the determination of the European Union countries to wean themselves off imports of Russian natural gas. According to EurObserv'ER, the solar thermal market recovery triggered in 2021 was confirmed in 2022 with 12% growth in the annual installed capacity figure, i.e., 1 660.7 MWth installed. This capacity equates to a collector area of almost 2.4 million m<sup>2</sup>.

### Graph No. 1

Solar thermal capacity installed in the European Union at the end of 2022\* (MWth)



41 173.8 Total solar thermal capacity installed at the end of 2022 (MWth).

1 660.7 Solar thermal capacity installed during the year 2022 (MWth).

\* All technologies included unglazed collectors. \*\* Estimation. \*\*\* Overseas departments included for France. Source: EurObserv'ER 2023.

## Concentrated Solar Power

Only one single thermodynamic solar power plant (also known as a concentrated solar power plant) was commissioned in Europe in 2022, making it a slow year. The plant (SOLINPAR CSP) is located in Italy, and takes the country's concentrated solar power capacity to 12.4 MW and the European Union's CSP capacity to 2 333.1 MW. One great advantage of CSP is that it can be the perfect complement to photovoltaic. Hybridizing the two solar technologies, photovoltaic and solar

thermal, could serve as a competitive solution to provide electricity systems with flexibility. Some plants, primarily in China, are betting on hybrid designs that only generate power by PV in the daytime and with energy stored by CSP during nighttime. In Spain, new regulations have introduced the hybridization concept of the connection point to maximize the existing grid's actual capacity.

58.8 MILLION M<sup>2</sup>

The cumulated surfaces of solar thermal in operation in the European Union in 2022

2 333.1 MWe

Total CSP capacity in operation in the European Union in 2022

### Table No. 1

Cumulated capacity of thermal solar collectors\* installed in the European Union in 2022\*\* (in m<sup>2</sup> and in MWth)

Country	2022 m <sup>2</sup>	2022 MWth
Germany***	22 414 890	15 690.4
Greece	5 442 000	3 809.4
Italy	4 997 122	3 498.0
Austria	4 607 016	3 224.9
Spain	4 505 243	3 153.7
France	3 644 700	2 551.3
Poland	3 405 690	2 384.0
Denmark	2 024 760	1 417.3
Rest of EU	7 778 228	5 444.8
<b>Total EU 27</b>	<b>58 819 649</b>	<b>41 173.8</b>

\* All technologies included unglazed collectors. \*\* Estimation. \*\*\* The German official figures have been revised including unglazed collectors, i.e. 437,190 m<sup>2</sup> of unglazed collectors in 2021 and 432,190 m<sup>2</sup> of unglazed collectors in 2022. Source: EurObserv'ER 2023.

## FURTHER INFORMATION

ANNUAL REPORT: “The State of renewable energies in Europe”, 21st edition, [www.eurobserv-er.org/21st-annual-overview-barometer](http://www.eurobserv-er.org/21st-annual-overview-barometer)

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The next barometer will be about biogas.

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