

2023 Market Report

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Cu

International Copper
Association Europe

#HeatIsHalf



Representing the full value chain of the Solar Thermal (ST) sector since 30 years towards EU policy makers/influencers.



[Full list available here](#)

2023 was marked by:

- Lower investments due to higher interest rates leading also to a lower-than-expected pace of heat modernisation across Europe
- Unstable policy signals regarding fossil fuels and the decarbonisation of heating and cooling
- Stop and go market effect in some countries, due to inconsistent public policies and subventions
- A reduction of the gas prices and of the ETS carbon price (for industry), hampering the transition towards more sustainable supplies
- A fierce competition amongst heating and cooling technologies
- Dumping practices of solar PV panels, with very low prices indirectly affecting solar thermal sales
- Yet, a growing installed capacity for all Solar Thermal market segments and great new large scale projects commissioned, including growing share of some innovative technologies (e.g. solar PVT)

Europe	2021	2022	2023
Market growth trends	(vs 2020)	(vs 2021)	(vs 2022)
Newly installed capacity	+ 8%	+ 12%	- 22%
Total installed capacity	+ 1%	+ 2%	+ 0.6%

Our call to support Solar Thermal market growth is to:

- Prioritise the decarbonisation of heating and cooling, focusing on the decentralised supply of heat
- Give clear political signals to market players calling for a faster transition to renewable energy sources
- Recognise and raise awareness of the value of Solar Thermal to balance the grid (i.e. every system comes with heat storage built-in)
- Stop incentivising new fossil-fuel only systems
- Ensure Solar Thermal is granted with similar incentive conditions as other RES technologies (e.g. VAT rebate, building obligations/ solar mandate, access to funding, etc.)
- Have stable, predictive financial support for Solar Thermal, both for new systems in buildings and in industry
- Support EU Solar Thermal manufacturers on new investments to help protect them from unfair competition from Asian manufacturers, mainly those supplying solar PV and, in some cases, Solar Thermal
- Ensure Solar Thermal and hybrid solar PVT are well covered within one-stop shops (EPBD) and single contact points (NZIA)
- Ensure the development and availability of skilled workforce at local level on heating and cooling, including Solar Thermal, for public entities, consultancies and installation companies

Countries with the largest Solar Thermal installed capacity (in operation):

 DE **13 285 MW_{th}**

 GR **4 204 MW_{th}**

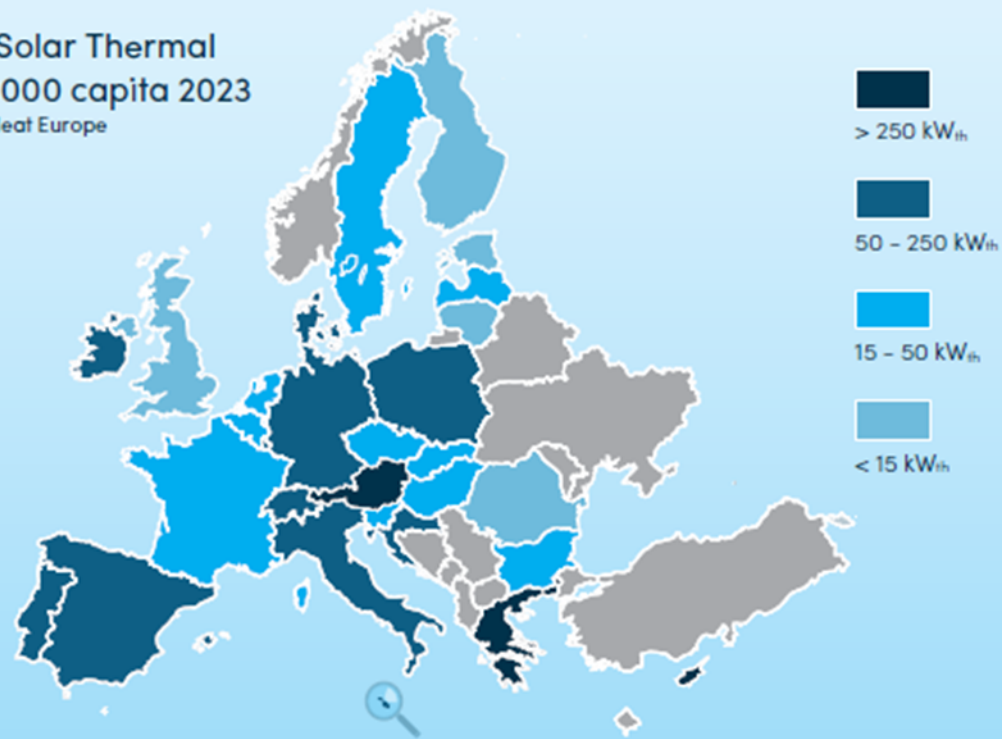
 IT **3 829 MW_{th}**

 ES **3 089 MW_{th}**

 AT **2 471 MW_{th}**

Installed Solar Thermal
kW_{th} per 1000 capita 2023

Source: Solar Heat Europe



11 million
rooftops in Europe are
equipped with solar thermal
& thermal storage

Total installed
capacity
in Europe
(mainland): **41** GW_{th}
That's **58 million m²** of collectors

Newly
installed
capacity
in 2023: **+ 1.27** GW_{th}
- 22.7 % of newly installed
capacity vs 2022
+ 0.6% of increase of the
total installed capacity
An increase of + 1.8 million m²

All is relative – Varying countries dynamics in Europe in 2023 vs 2022:



UK + 70%
+ 15 394 new m²
A new market
in growth



GR + 12%*
+ 469 280 new m²
Constant supportive
scheme for renovation



FR + 8%*
+ 114 669 new m²
"Ma Prime Rénove"
ongoing financing
support scheme
for various clean
heat options notably
solar thermal



NL + 3%*
+ 43 360 new m²
Supportive schemes
include Sustainable
Energy Incentive
Measure (SDE++) for
large scale projects
and Sustainable
Energy Investment
Subsidy (ISDE)
for buildings



DE - 47%
+ 367 000 new m²
An unfortunate
counter effect
of the Heating
Law (requiring 65%
RES heat supplies),
with increases of
sales of heat pumps
and... gas boilers



Solar Thermal District Heating (SDH)

256

towns and cities in Europe use solar heat¹, with

1 372

MW_{th}
in operation



In Germany:

- 56 SDH systems exist
- 8 projects are under development
- 70 projects in the pipeline totalling around 380k m²
- 6 SDH systems were commissioned in 2023 totalling 13 995 m²



In Austria:

2 expansions of existing systems in 2023 (newly installed collector area totalled 2 173 m² - 1.5 MW_{th})



In the Netherlands:

The fourth biggest SDH system in the world (48 000m²) is currently under finalisation in Groningen

Industry Decarbonisation



Worldwide data:

1 209

Solar Thermal systems in operation
(of at least 50 m² collector area or 35 kW_{th})

Examples of Large Scale SHIP projects commissioned in 2023:



Heineken, Sevilla, ES
43 000 m² (concentrating) solar collectors,
30 MW_{th} / 800 m³ storage tank

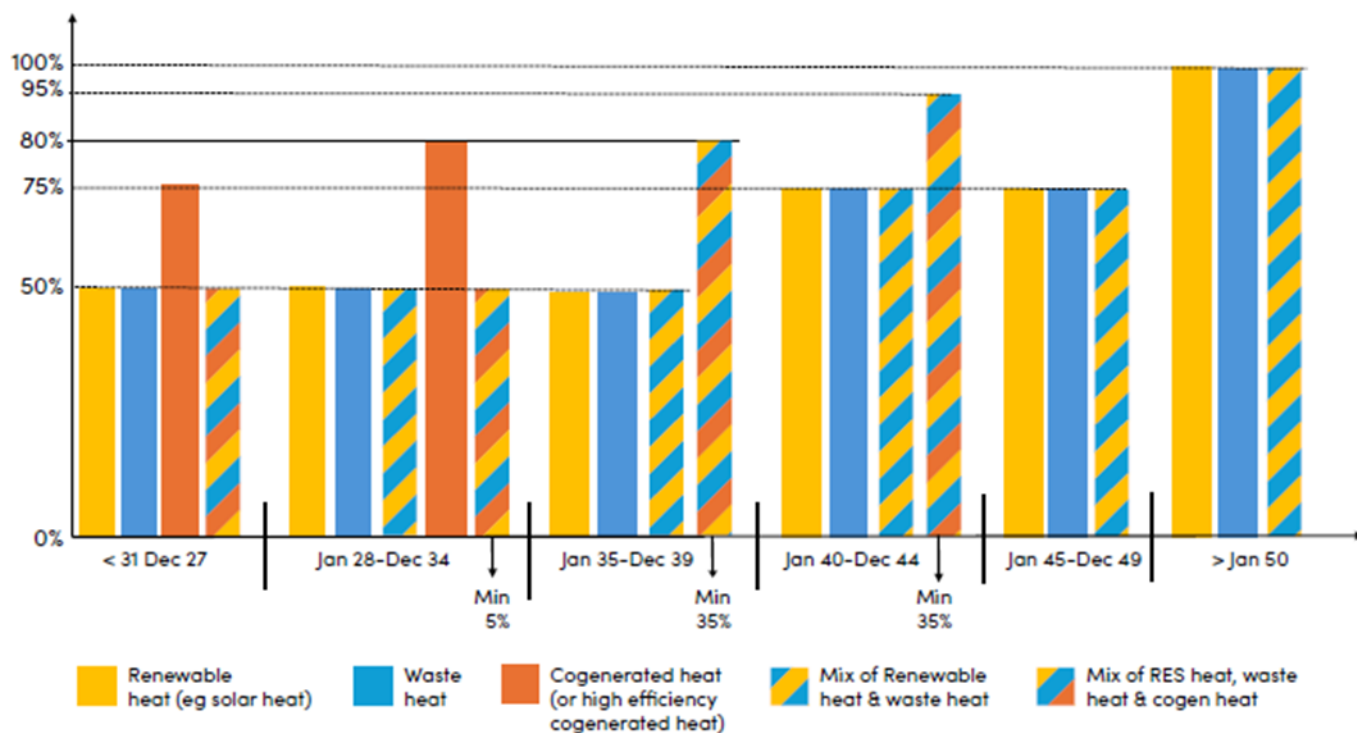
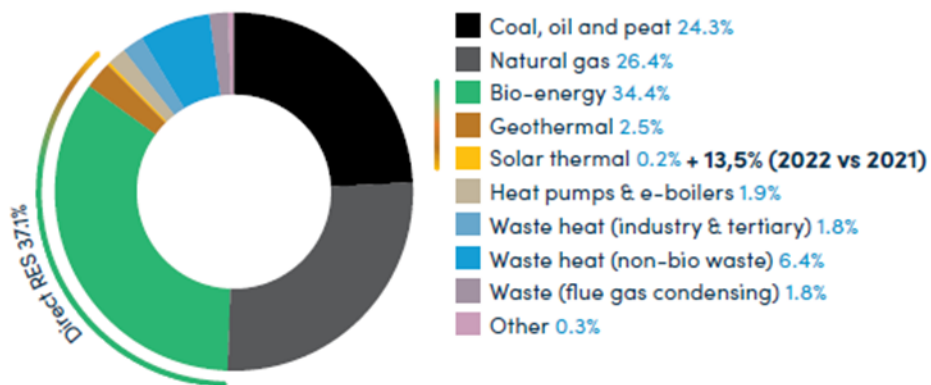


Lactalis Ingredients, Verdun, FR
15 000 m² (flat plate) solar collectors
11 MW_{th} / 3 000m³ storage tank

19 000* district heating networks now in Europe, looking for decarbonisation solutions & new ones keen to be developed

The path towards "efficient district heating", as per the requirements of the 2023 Energy Efficiency Directive

Energy sources in European district heating
(2022- Source EHP)

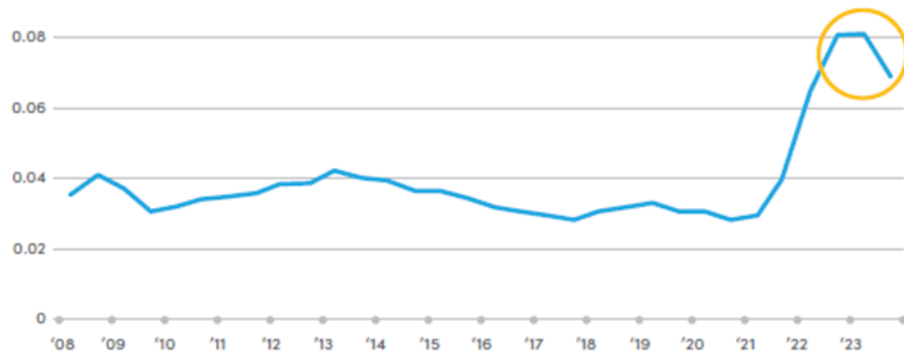


By specific deadlines, district heating networks will need to comply with any of the above options i.e. containing an increasing minimum share of RES heat (or others), reaching 100% in 2050

Learnings from 2023

What didn't help

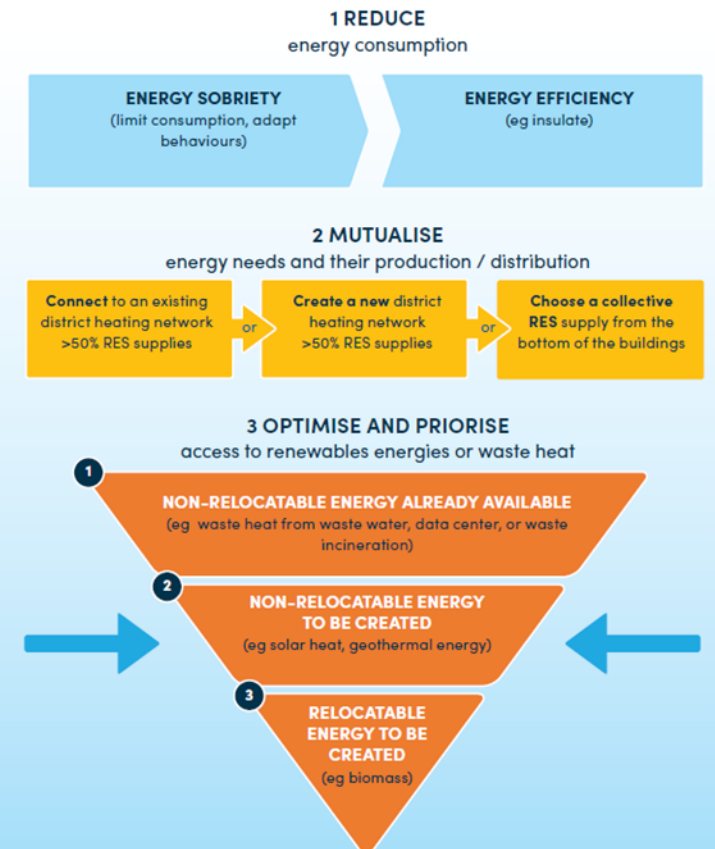
Development of natural gas prices for non-household consumers, EU, 2008-2023 (€ per kWh) Source: Eurostat



A serious diminution of the gas prices (vs 2022)

Learnings from 2023

What helped





EU Fit for 55: An opportunity for Solar Thermal

Energy Efficiency Directive	Renewable Energy Directive	Energy Performance of Building Directive
Adopted 09/2023, into force 10/10/23	Adopted 10/2023, into force 20/11/23	Adoption upcoming (Q1 2024)
11.7% reduction of energy consumption by 2030 (vs 2020) (art. 4)	42.5% target for RES in 2030 (art. 3) Binding target for RES in H&C (art. 23)	Solar Mandate (art. 10), requiring that rooftops above a certain surface be equipped with solar technologies (photovoltaic, solar thermal or PVT) by specific dates as from Dec. 26
National comprehensive assessments for efficient Heating & Cooling (H&C) (art. 25)	Indicative sub-sectoral targets for: • buildings (art. 15a): 49% RES by 2030 • for industry, • and district heating (art., 22a, 24)	Minimum energy performance standards (MEPS)
Mandatory H&C plans for cities above 45,000 inhabitants (art. 25)		Phase out financial incentives for stand-alone fossil boilers by 31/12/2024
Efficient District Heating & Cooling criteria (art. 26) for new or substantially refurbished systems	Streamlined permitting procedures for renewable acceleration areas (art. 15c); and provisions for the installation of solar energy equipment and co-located energy assets (art. 16c)	One-stop-shops for the provision of information to citizens and relevant local actors

EU Emissions Trading System (ETS) 2023 revision including Buildings

On **NEW** public and
non-residential
buildings >250 m²



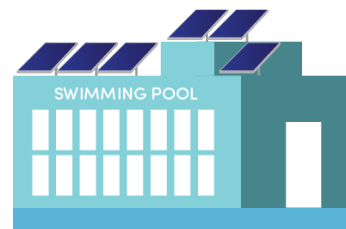
Dec 26

On **EXISTING**
public buildings
>2000 m² &
non-residential
buildings
> 500 m²*



Dec 27

On **EXISTING**
public buildings
> 750 m²



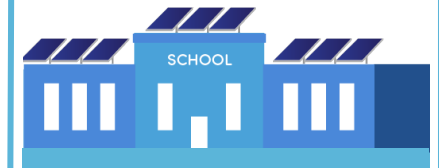
Dec 28

On **NEW**
residential
buildings
On **NEW** roofed
carparks adjacent
to buildings



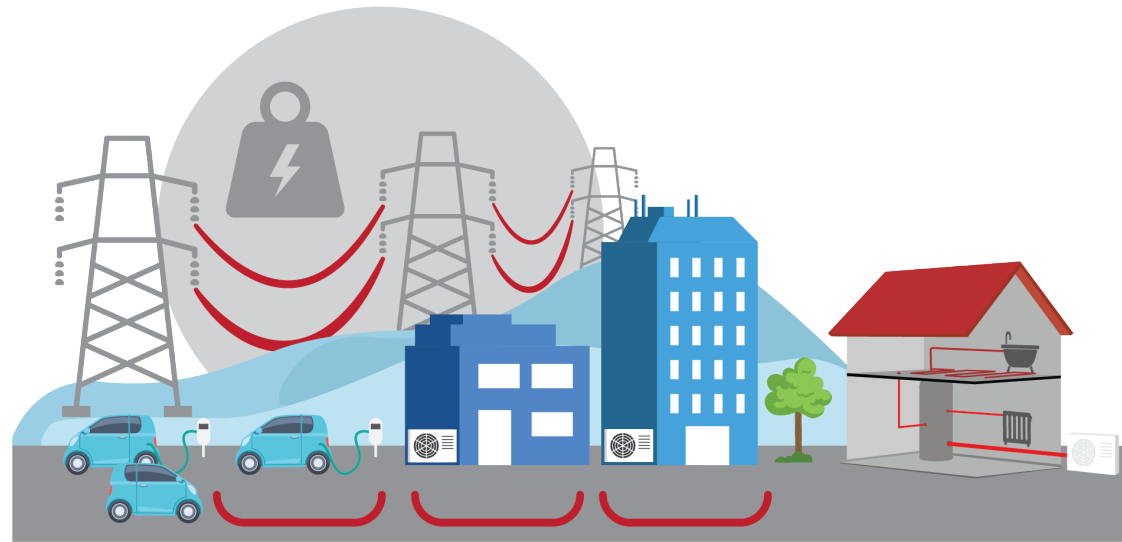
Dec 29

On public
buildings
> 250 m²



Dec 30

Solar Thermal: Off grid, decentralised, efficiency booster, hybridising with heat pumps



Excessive load on the grid



A more balanced approach

Solar Thermal
Thermal Energy Storage

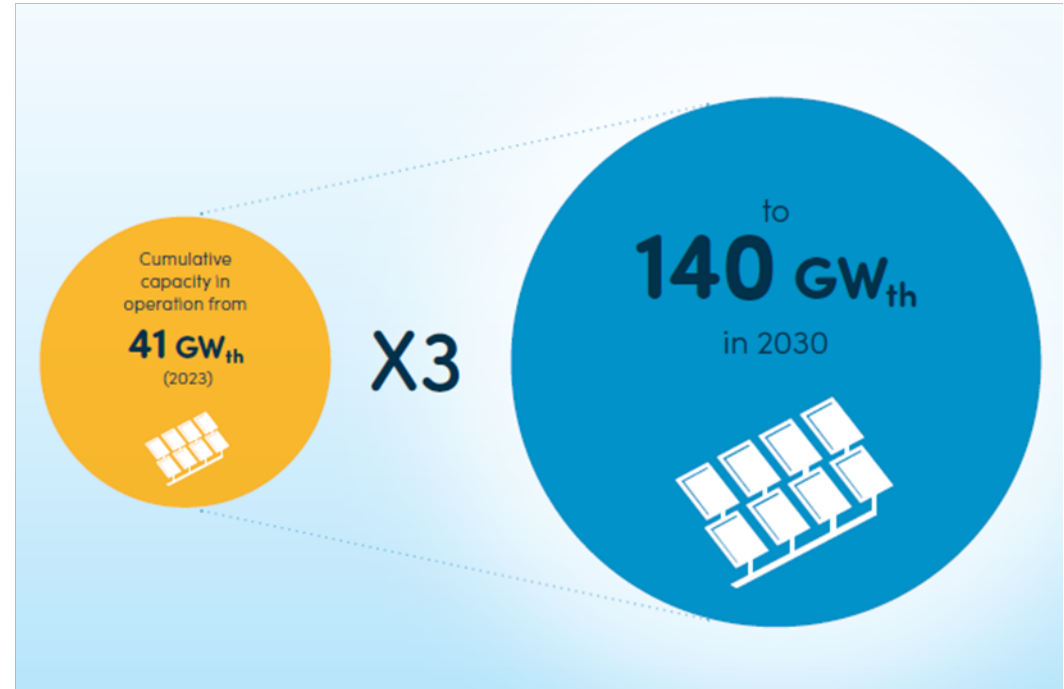


Solar Heat is SMART

Manifesto for the Incoming European Legislators



Solar Heat is SMART...	Our Policy Recommendations:
S ecuring the supply of heat, our main energy need	1 Urgently set a new Renewable Heating & Cooling strategy for Buildings & Industry
M anufactured in Europe by hundreds of companies	2 Protect, support and incentivise EU Cleantech SMEs
A ffordable energy source, thanks to the sun's energy	3 Prioritise the deployment of affordable renewable heat solutions
R esilient, reliable and recyclable	4 Emphasise positive externalities such as resilience and recyclability
T ripling its deployment is key	5 Enable and support the tripling of the solar thermal roll out



Thank you - Contact us!



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Solar Heat
Europe
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Solar thermal façade mounting for hot water and space heating on single-family house, Germany

SOLAR THERMAL: Examples on buildings



Solar photovoltaic

Solar thermal

Solar thermal and solar photovoltaic sharing the roof of a leisure centre, Southeast England

SOLAR THERMAL: Examples on buildings



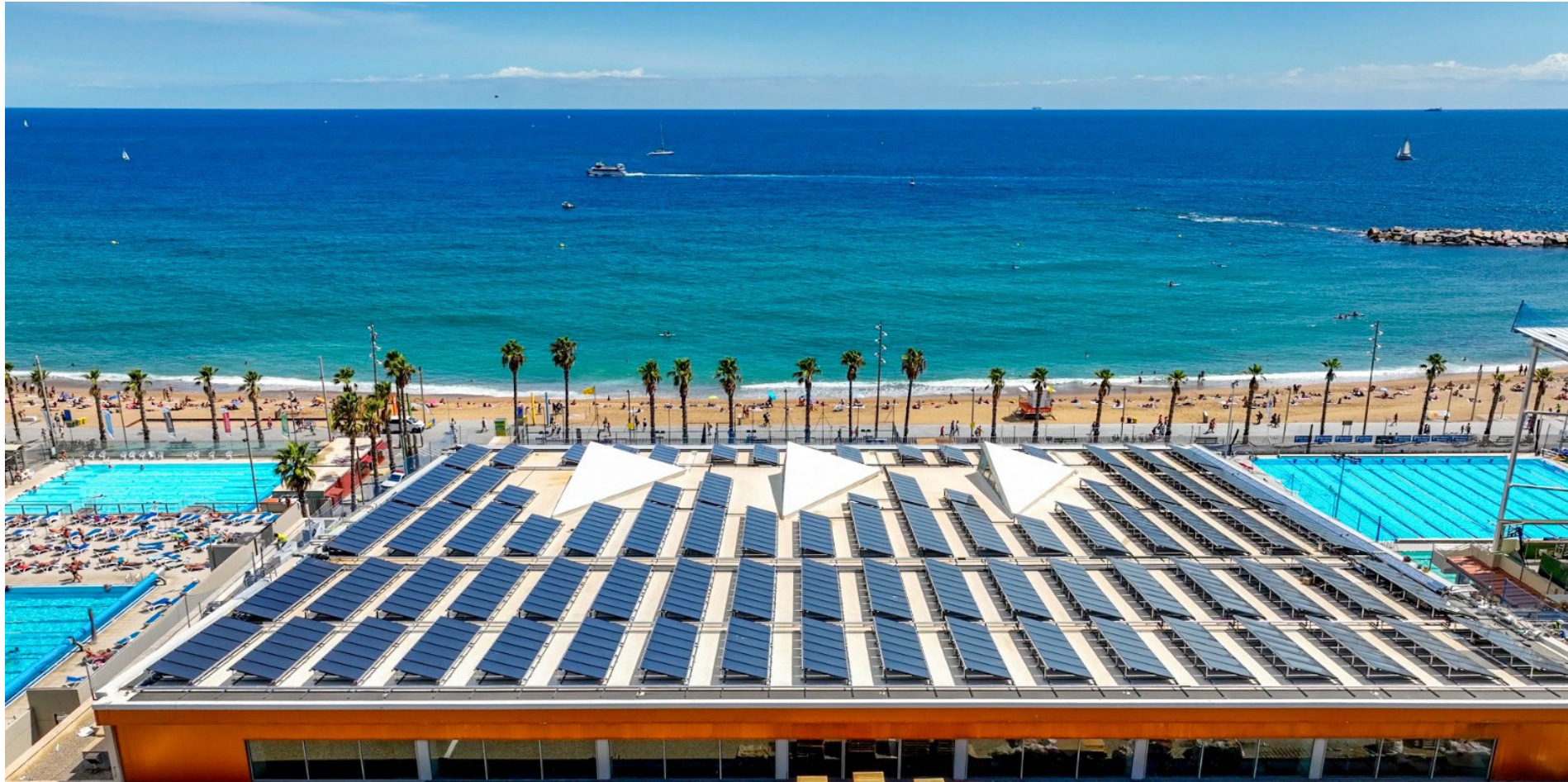
Solar thermal

Solar photovoltaic

Solar thermal and solar photovoltaic sharing the roof of residential building, Slovenia



Solar thermal façade collectors on apartment building, Switzerland



Hybrid solar – PVT installation at the Barcelona Olympic Swimming Club, Spain

SOLAR THERMAL: Examples on buildings



Hybrid solar – PVT installation on hotel roof, Spain.