

# EPBD and the Solar Mandate

Let's talk about it/heat !

Zero-Emissions Building Academy Webinar

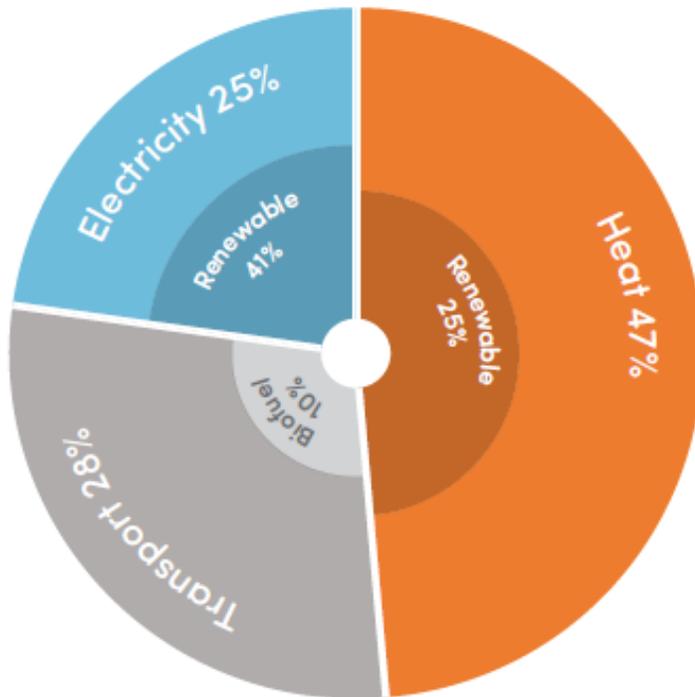
Valérie Séjourné, Managing Director

18 June 2024

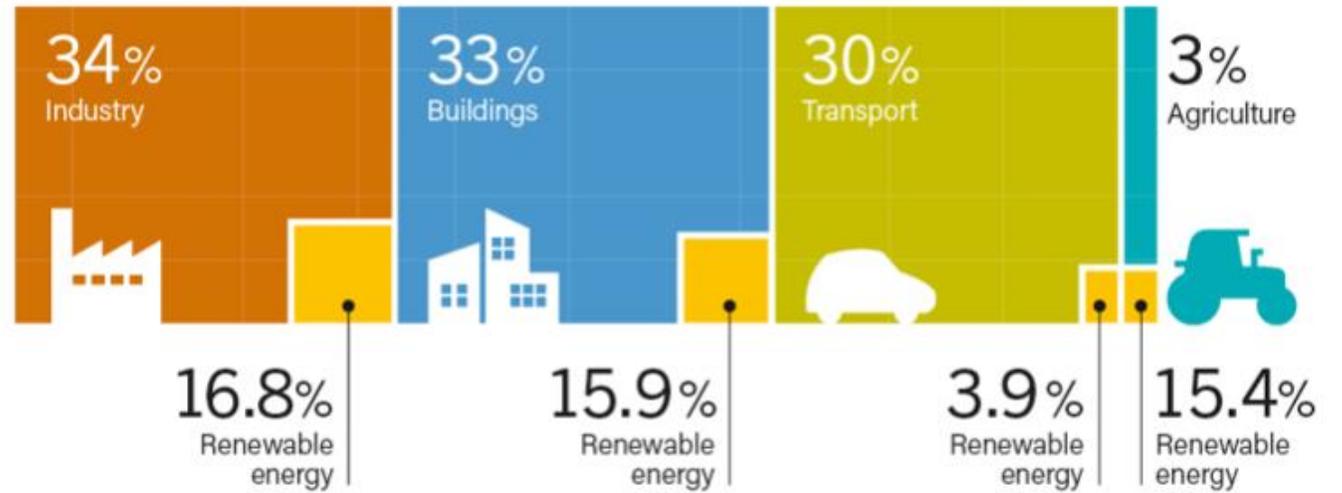


# HEAT IS HALF of our energy needs

Total final energy and total modern renewable energy share, by energy carrier, European data  
(Source: Eurostat for year 2022)



Renewable Share of Total Final Energy Consumption, by Sector, 2021



↓

**80% of energy needs = HEAT**

# CLEAN HEAT from different solar collectors

## Non concentrated technologies ( $T^{\circ}\text{C} < 120\text{-}180^{\circ}\text{C}$ ):



Flat Plate (with single-axis tracker)



High-Vacuum Flat Plate



Evacuated Tube



Hybrid / PVT (Photovoltaic-Thermal)

## Concentrated technologies $T^{\circ}\text{C} < 400^{\circ}\text{C}$ ):



Linear fresnel (concentrated solar heat)



Parabolic (concentrated solar heat)



- Certification standards in place since 20 years
- > 1150 certificates
- CEN scheme
- Transparent and open
- +300 stakeholders

## «Buildings»



**Residential**  
(houses, apartments)



**Tertiary/Commercial**  
(e.g. hotels, hospitals, leisure centers)

## «Large scale»



**District heating**  
(for cities, villages)



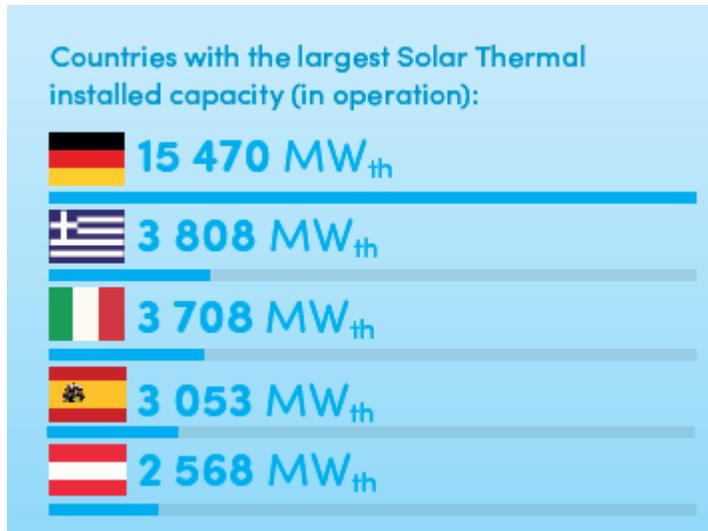
**Industrial**  
(eg. paper, food & drinks, textile, chemicals)

- Sales growing since 2018 (except pandemic)
- Total installed capacity growing for 3 decades

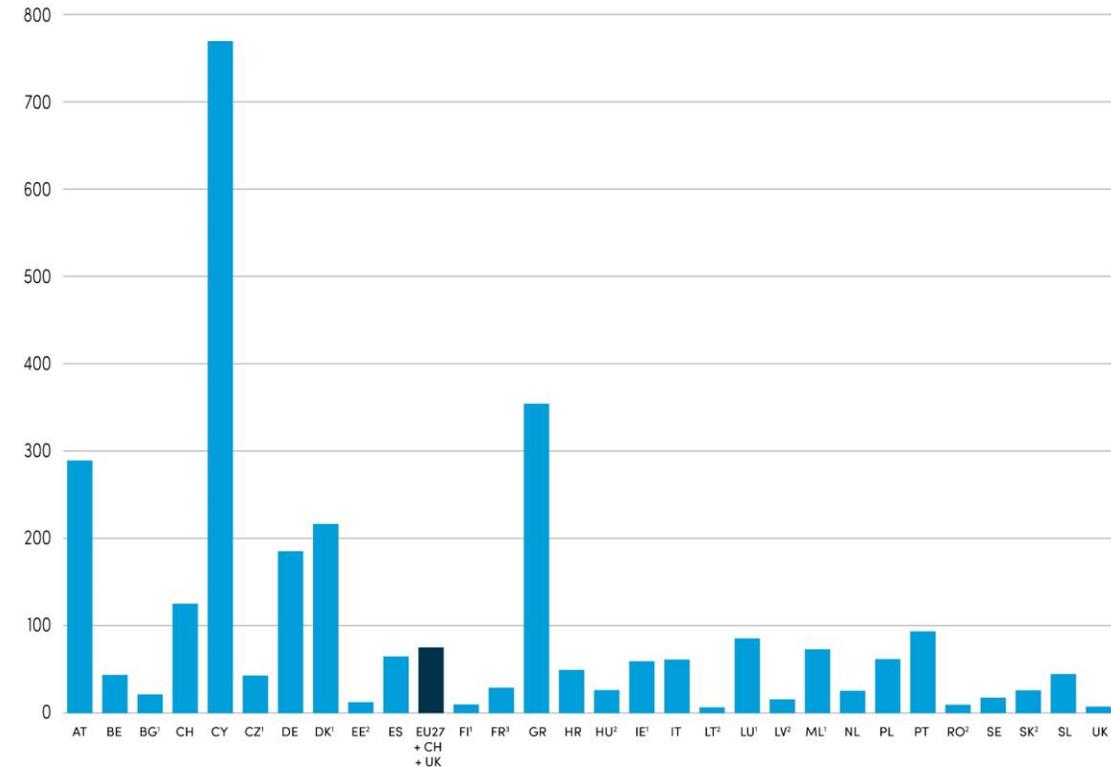
More than **10 million** rooftops in Europe are equipped with solar thermal & thermal storage

Total installed capacity in Europe (mainland): **40.5 GW<sub>th</sub>**

That's **58 million m<sup>2</sup>** of collectors



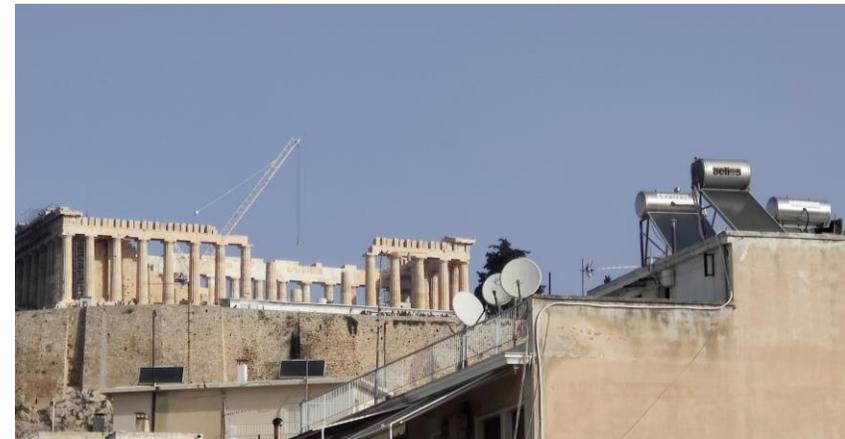
 **Use of Solar thermal per capita**  
in kW<sub>th</sub> per 1000 capita



<sup>1</sup> Based on the EurObserv'ER "Solar thermal and CSP Barometer" (2022).

<sup>2</sup> Solar Heat Europe estimations

<sup>3</sup> The figures shown here relate to Metropolitan France (mainland). As a reference, in 2021 the newly installed capacity in overseas departments is estimated to be around 60 MW<sub>th</sub> (86 000 m<sup>2</sup>).



Solar thermal thermosiphon systems for hot water in multi-family buildings, Greece



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



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



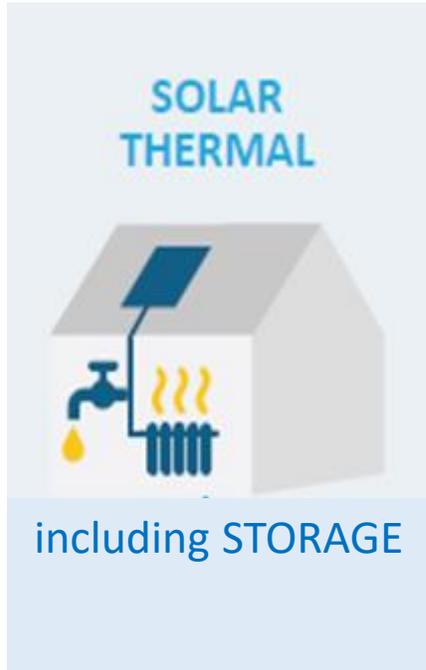
Hybrid solar – PVT installation on hotel roof, Spain.



Solar Heat  
Europe  
ESTIF

# Solar Thermal: a **direct** heat supply which **can be combined** with all energy sources

ENERGY SAVINGS & EFFICIENCY



**Fossil fuels**  
(gas, oil)

**Other direct renewable heat supplies**  
(geothermal, biomass)

**Other heat supplies**  
(eg waste heat, biogas etc)

**District heating networks**

**Heat pumps**

**Indirect renewable heat supplies**  
(solar PV)

**Other indirect heat supplies**  
(electricity eg nuclear)



CLEAN &  
RENEWABLE

# HEAT





## 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)
<b>11.7%</b> reduction of energy consumption by 2030 (vs 2020) (art. 4)	42.5% target for <b>RES in 2030</b> (art. 3) Binding target for <b>RES in H&amp;C</b> (art. 23)	<b>Solar Mandate</b> (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
<b>National comprehensive assessments</b> for efficient Heating & Cooling (H&C) (art. 25)	Indicative <b>sub-sectoral targets</b> for: • buildings (art. 15a): 49% RES by 2030 • for industry, • and district heating (art., 22a, 24)	Minimum energy performance standards (MEPS)
<b>Mandatory H&amp;C plans for cities</b> above 45,000 inhabitants (art. 25)		Phase out financial incentives for stand-alone fossil boilers by 31/12/2024
<b>Efficient District Heating &amp; Cooling criteria</b> (art. 26) for new or substantially refurbished systems	Streamlined <b>permitting</b> 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 m<sup>2</sup>



Dec 26

On **EXISTING** public buildings >2000 m<sup>2</sup> & non-residential buildings > 500 m<sup>2</sup>\*



Dec 27

On **EXISTING** public buildings > 750 m<sup>2</sup>



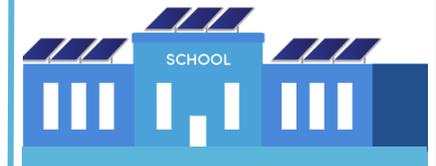
Dec 28

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



Dec 29

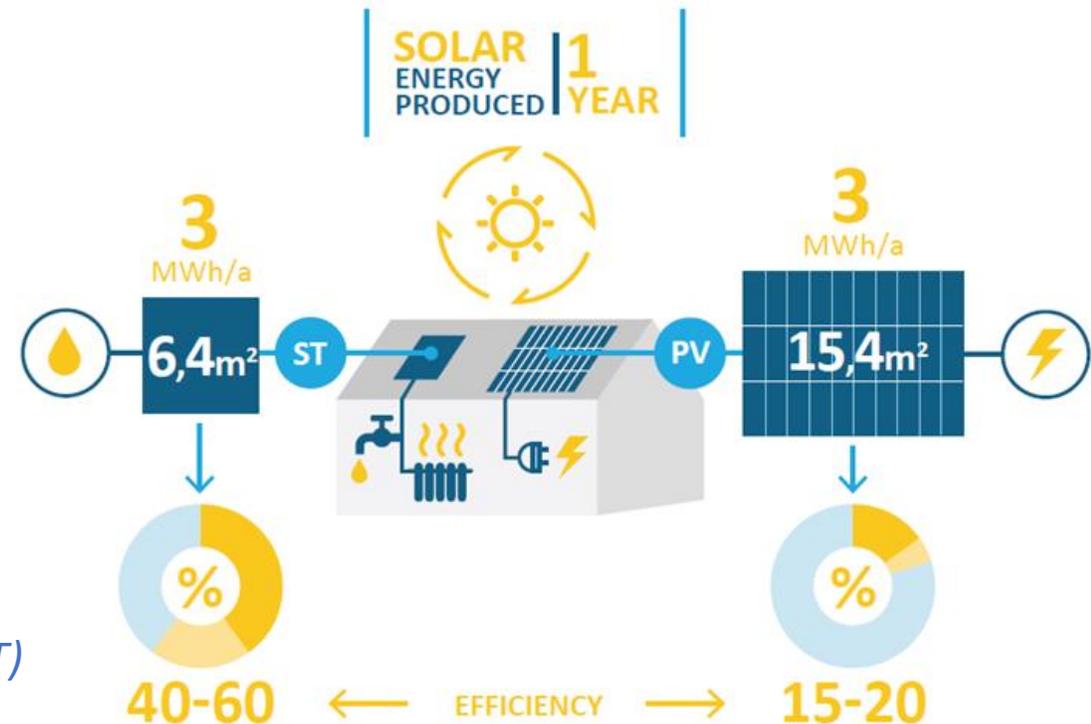
On public buildings > 250 m<sup>2</sup>



Dec 30

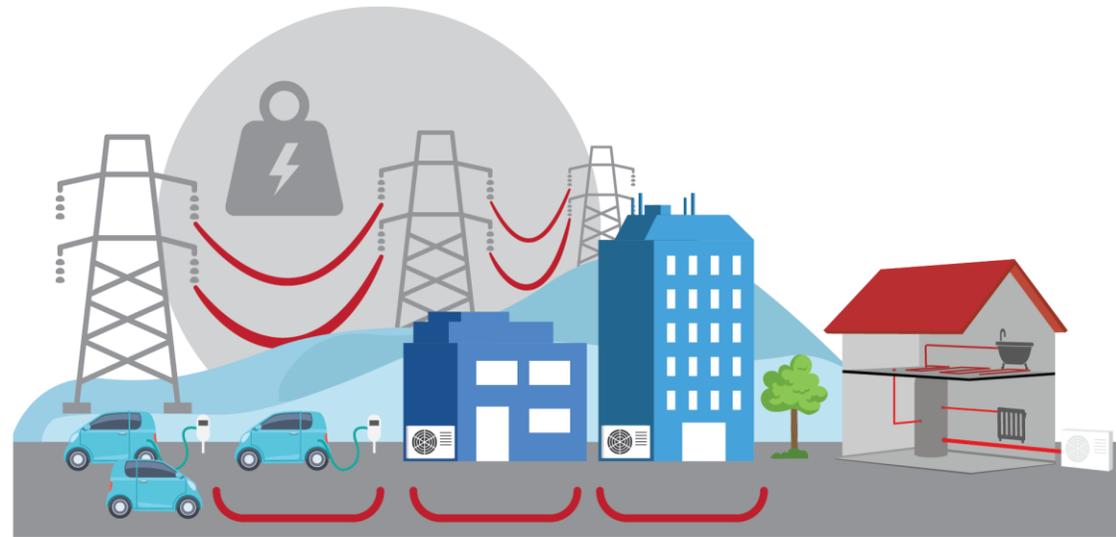
## EPBD guidelines/Solar Mandate:

- This is a mandate for BOTH photovoltaics & thermal, incl ST and PVT
- Fair national frameworks to be used when drafting their national transposition such as:
  - ✓ **“Energy produced”** (per available area) rather than (just) the rooftop area  
⇒ *e.g.: 30 watts per m<sup>2</sup> of rooftop are available*
  - ✓ **Heat and/or electricity generation**  
⇒ *Allow combined use of rooftop, including hybrid panels (PVT)*
- Stakeholder consultations
- Flanking measures, incentives and monitoring



## Solar Thermal:

Off grid, decentralised, efficiency booster, hybridising with heat pumps



Excessive load on the grid

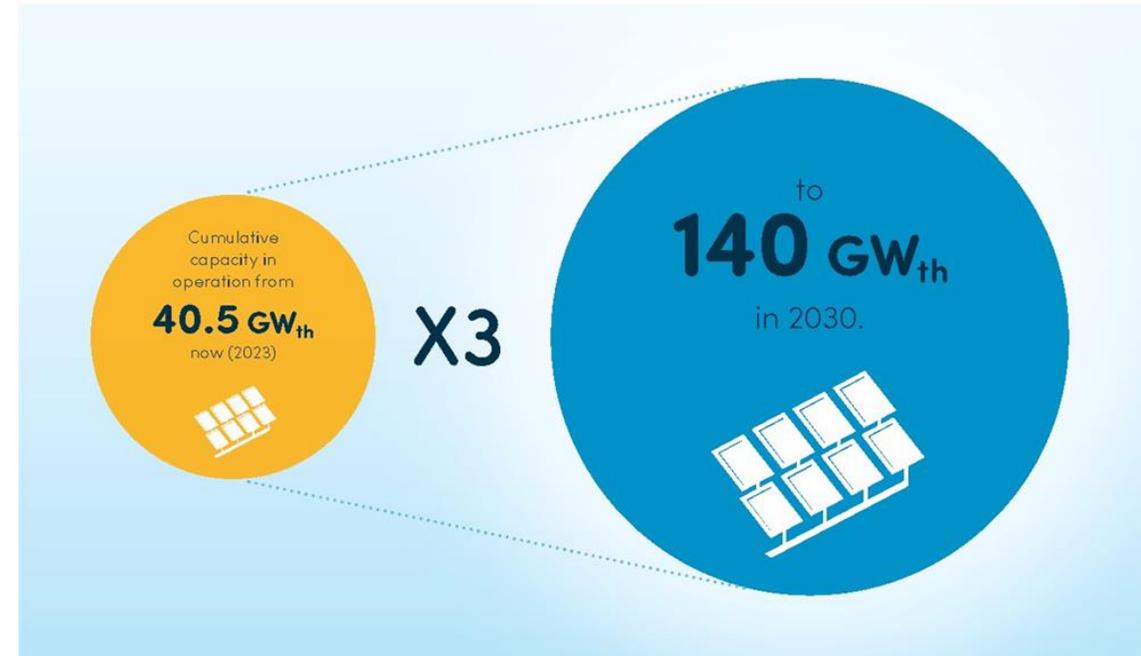


A more balanced approach

Thermal Energy  
Storage

## Solar Thermal:

- Has definitely its role in the **heat decarbonisation agenda**
- Current legislative package = clear opportunity => **Implementation is critical**
  
- **Fair treatment** of all technologies is key – Fair competition
- **Awareness** is key – Work with all partners, one-stop-shops etc
- **Enabling conditions** to support the adoption of the most efficient/suitable solutions (finances, skills)
- **All Renewable Energy Sources are needed!**



**Thank you - Contact us!**



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