Solar Thermal Industry Pledge
Delivering a Green Recovery

Our society is facing unprecedented challenges requiring swift and decisive action. In dealing with a global public health crisis, we need to face its economic consequences, without undermining our efforts in fighting climate change. Everyone has been affected differently by the referred crisis and everyone shall contribute to a solution.

The Solar Thermal sector is strongly committed towards bringing positive change to our world and to our societies. We provide solutions that contribute to decarbonisation of the heating and cooling sector, which represents 51% of the final energy consumption and approximately 27% of the EU carbon emissions. Decarbonising this sector is critical for the European Carbon Neutrality goals. Furthermore, this decade is decisively important in reaching this transition, considering that new heating systems for residential, commercial, or industrial applications installed after 2030 must be carbon free, as they are likely to still be operating by 2050.

The current COVID19 pandemic showed us how resolute Governments and populations can be in addressing a crisis. That resolve and courage should be applied to the main crisis we all face: Climate Change.

Our Pledge

The solar heating and cooling industry looks confidently at this challenge, facing it as an opportunity to build our economic recovery based on our paramount climate goals. While aiming at reducing EU's energy needs and striving for a cost-efficient approach to clean, affordable and competitive solutions, the solar thermal sector commits to:

1

Promote a **multi-technology approach to heating and cooling** with the use of hybrid solar systems, combining solar thermal with other sustainable technologies, including heat recovery, and facilitating smart sector integration.

2

Introduce in the market **new solutions for decentralised, secured, decarbonised heat supply**, both small (e.g. 1.5 kW$_{th}$) and large scale (above 1 MW$_{th}$) for residential, commercial, industrial and district heating applications and include **thermal energy storage (TES)** with every new solar thermal system, as a key enabler for grid flexibility and technology integration.

3

Increase the **positive exporting balance** of our sector and strengthen its relevant contribution to the European economy by supplying the internal market with products manufactured in Europe, with components of EU origin and relying on European engineering resources.

4

Step up **research and development** activities in order to further enhance the current benefits provided from our technology and solutions, such as low levelised cost of energy (LCOE), low environmental footprint, high energy security and quick carbon payback time.

5

Support the objectives of a **sustainable, resource-efficient and circular economy** with durable and highly recyclable products.

In addition, the solar thermal sector will primarily focus on the supply of competitive solar heating and cooling solutions for priority sectors in Europe which were hit hard by the current emergency, such as health care, education and tourism, as well as heat supply for the industrial sector.

SolariseHeat.eu

Call for Action

The delivery of the expected results also implies the commitment and support from public authorities.
As such, the solar heating and cooling industry is calling on European, national, regional, and local policy makers to take decisive action. This call for action includes both demand- and supply-side-oriented measures:

EMISSIONS SAVED | 1 YEAR

A thermosiphon system, preparing hot water for a 4 persons household in Greece

1700 kg/a

1400 kg/a

Estimated savings of an electric car

Demand oriented measures

Such measures shall promote private investments in renewables and energy efficiency. They shall financially support consumers and businesses and incentivise them to make sustainable choices regarding their households or production sites. This can be done by recurring to:

A game changer carbon-pricing mechanism

Implement carbon-pricing mechanisms that consider negative externalities of fossil fuels and adjust their prices while protecting the global competitiveness of the European industry. Such revenues should be fully reverted to families and companies, to support their investments into energy efficiency and renewable energy sources.
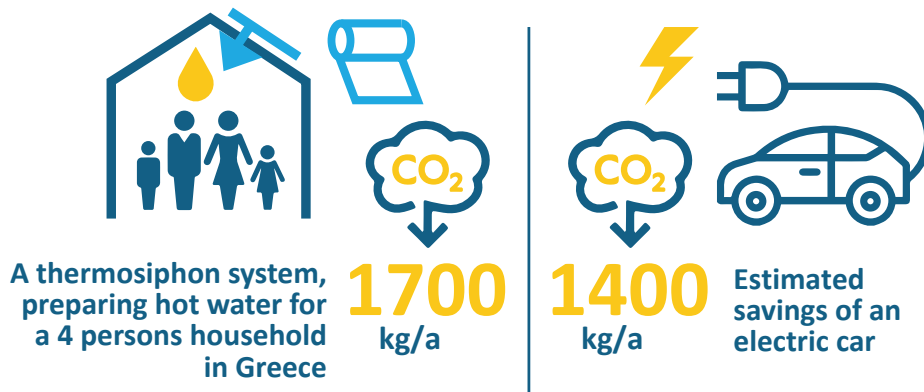
Phasing out of fossil fuels and actively promote planned replacement

Phase-out measures that promote the use of fossil fuels for space and water heating and actively promote the planned replacement of older space or water heating systems with efficient and renewable option, such as solar thermal. This can be done through awareness raising campaigns, coupled with measures tackling energy poverty as schemes (e.g.: cash-for-scrap) that compel consumers to replace their old and ineffective systems.
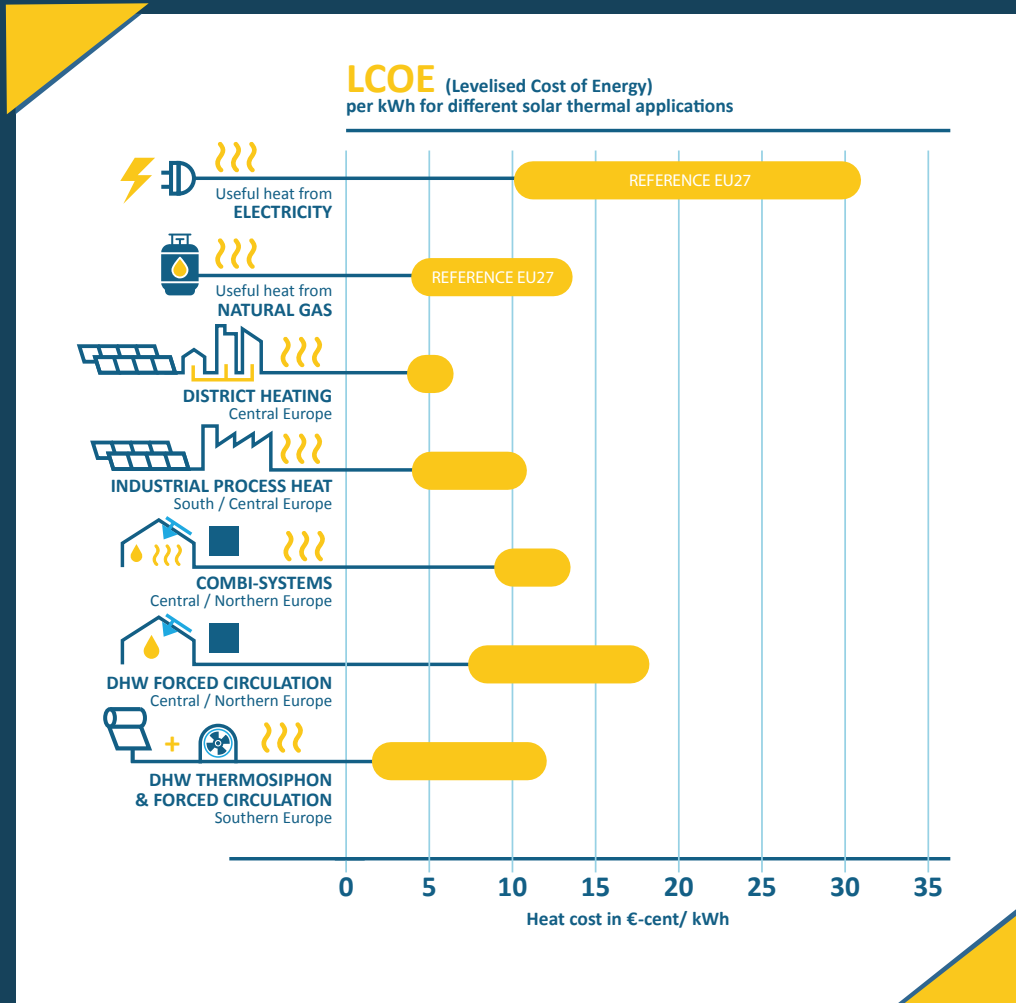
Soft loans

Provide citizens with soft loans (i.e. 3 to 5 years, with 0% interest) on top of other support schemes, thus incentivising consumers to opt for efficient and renewable solutions that, while implying a higher upfront investment in comparison with the incumbent options (fossil fuel based), offer significantly lower lifecycle costs to the users.

Additional measures shall focus on pushing companies to invest in locally generated efficient and renewable solutions. These shall help mobilise new investments and contribute to building a new Green Economy paradigm aligned with the decarbonised energy vector.

LCOE (Levelised Cost of Energy)
per kWh for different solar thermal applications

Useful heat from **ELECTRICITY** — REFERENCE EU27

Useful heat from **NATURAL GAS** — REFERENCE EU27

DISTRICT HEATING
Central Europe

INDUSTRIAL PROCESS HEAT
South / Central Europe

COMBI-SYSTEMS
Central / Northern Europe

DHW FORCED CIRCULATION
Central / Northern Europe

**DHW THERMOSIPHON
& FORCED CIRCULATION**
Southern Europe

0   5   10   15   20   25   30   35

Heat cost in €-cent/ kWh

Sectoral-oriented measures for investments in RES

Incorporate in economic stimulus packages, either general or for specific sectors (e.g. tourism) an incremental support applicable (and conditional) to investments in renewable energy (or RES supply), in particular, those promoting locally generated RES for heating and cooling. These can be applied both to commercial and industrial sectors.

Public sector investment

Step up the public sector efforts to invest in renovation of public buildings, with higher in-loco RES generation (heating), thus promoting reactivation of the construction sector.

Promote climate friendly infrastructural investments

General investments in infrastructure should be in line with our climate goals, focusing on solutions that allow for an uptake of renewable energy solutions. Therefore, investments in district heating networks using RES and/or thermal storage solutions in districts or buildings should be promoted and locally generated RES further integrated in hospitals and clinics.

Supply Oriented Measures

Support from European authorities should focus on companies manufacturing in Europe, such as solar heating and cooling. This is a relevant matter regarding job creation and bringing added value to European regions and cities. It is also strategically relevant in making Europe more competitive at a global scale.
As such, measures that support the demand-side in sectors where the proportion of European products is higher will also indirectly support EU-based companies.

Support industry reactivation

Locally generated RES should be a priority target (among other essential sectors) in terms of equity and debt financing tools, directed either to renewable industries or to renewable heat projects and utility-scale solar thermal installations.

Stimulate Research & Innovation

R&I funding with dedicated calls on RES-H are needed in order to keep EU companies competitive and facilitate their investments in R&I. This is even more challenging for SMEs in period of crisis when R&I is more affected by the reduction of the companies' turnover.
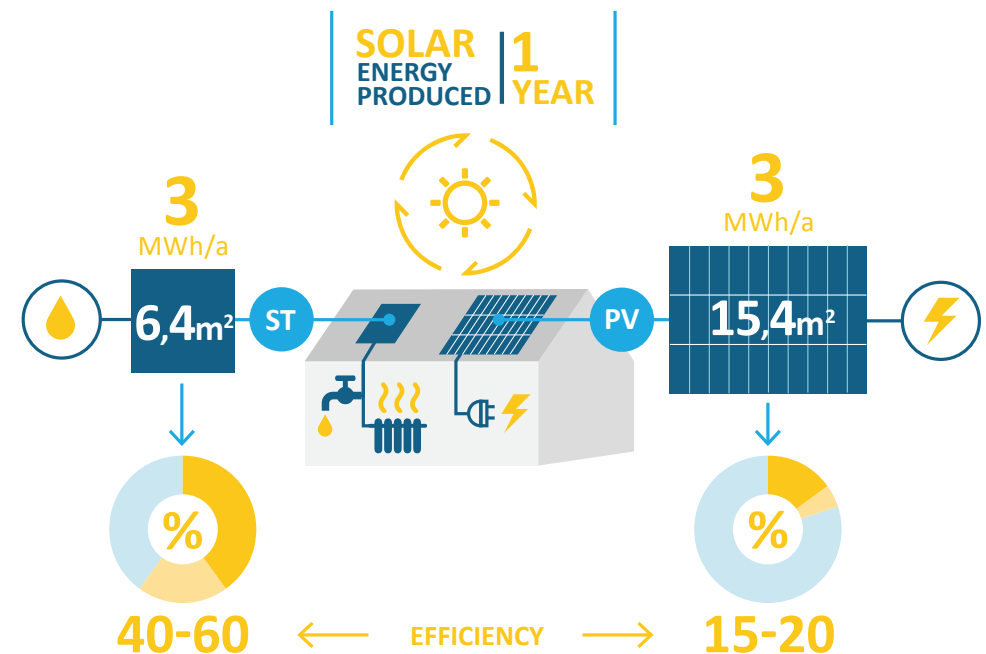
Reactivate exports channels

Help companies to re-activate or find new export channels by promoting European industry and financing of trade missions, including provision of financial support for exporting activities (e.g. financing up to 3 months of new orders) or providing credit insurance.

CO_2 emission abating projects, including those based on solar thermal solutions, should be further supported and the positive impact of these activities on climate properly monitored.

Help in creation of new channels to market

The Covid19 and climate emergencies have already changed the usual *modus operandi* of companies all over Europe (and beyond). Further changes will be required, and companies and sectors will develop new solutions, including new channels to market, supporting the digitalisation of European SMEs.
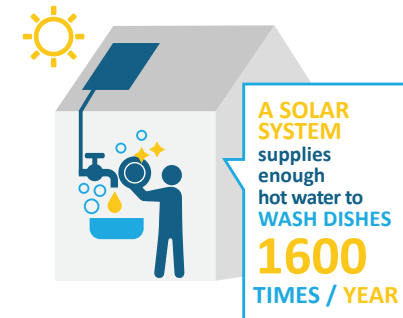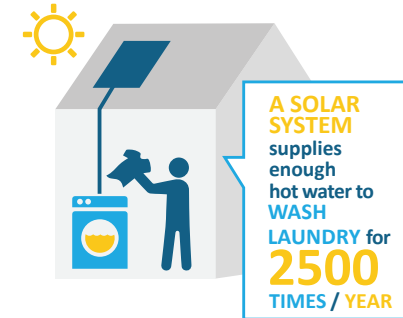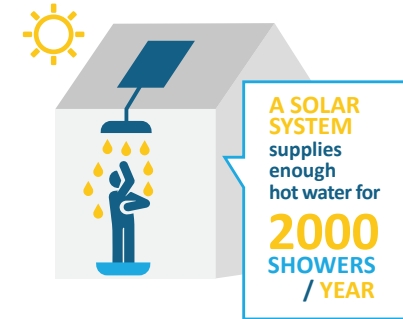
SOLAR ENERGY PRODUCED | **1** YEAR

3 MWh/a

6,4m² ST

3 MWh/a

PV **15,4m²**

%

%

40-60 ⟵ EFFICIENCY ⟶ **15-20**

Using existing solutions:
Solar Thermal

While aiming at carbon neutrality by 2050, we must be aware that we are dealing with a critical carbon budget, which must compel us to take urgent action and drastically reduce our carbon emissions during this decade. This is possible if we make use the already existing solutions to decarbonise the generation of heating and cooling in residential, commercial or industrial applications. Being effective in this transition in the coming years will also facilitate the efforts to develop mid to long term solutions for decarbonisation of the harder-to-abate sectors, such as heavy-industries or aviation.

Solar thermal systems do not produce any emission nor hazardous materials while in operation, and their components are almost entirely recyclable. In the context of the Green Deal it is clear that non-harmful solutions, such as solar heat, are needed.

There are more than 10 million solar thermal systems in operation in Europe, corresponding to over 36 GW$_{th}$ of local heat generation capacity. This sector has over 19 000 direct jobs, mostly in SMEs, which bring an added-value at local level, spread all over Europe. The turnover of the European solar thermal industry is estimated at over 2 billion euros. Annually, this industrial sector contributes to a CO$_2$ emission reduction of over 6.8 Mt, while providing the equivalent of 25.6 TWh$_{th}$ of thermal energy.

A SOLAR SYSTEM supplies enough hot water for
2000 SHOWERS / YEAR

A SOLAR SYSTEM supplies enough hot water to WASH LAUNDRY for
2500 TIMES / YEAR

A SOLAR SYSTEM supplies enough hot water to WASH DISHES
1600 TIMES / YEAR

Signatories of the
Solar Thermal Industry Pledge

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Full data is available from **solariseheat.eu**.

SolariseHeat.eu