

Solar Heat for Industrial Process towards Food and Agro Industries commitment in Renewables

- SHIP -
stand for
Solar Heat for Industrial Process

Fostering the integration of solar heat in industrial process (SHIP) from agro-food sector, by developing and demonstrating a set of tools and methods for the development of industrial solar heat projects during its whole life-cycle.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 792276.
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The Replication Tool

A software developed to assess the **techno-economic pre-feasibility of SHIP** and to support their design by:

- Evaluation of **solar field parameters** (sizing, technology, storage requirements, etc.)
- Expected **energetic and environmental results** (solar fraction, energy savings, avoided GHG emissions, ...)
- Preliminary **economic figures** based on cost-effective solutions

This tool will be able to combine the data from the solar generation and the process features to provide a first outlook on the SHIP integration within the process and to optimise the system according to the user's needs



Replication Tool

Our offering and how to participate

SHIP2FAIR is looking for additional cases for testing and improving the Replication Tool (2020-2022)

1. **Preliminary analysis** of the potential for integration of solar heat in the process.
2. Free of charge **pre-feasibility study** elaborated by our experts, based on the use of the Replication Tool.
3. **Discussion of results** and refinement to meet your industrial site needs.
4. **Direct contact** with providers of solar heating technologies to get a more detailed evaluation.
5. **Confidential information is protected!** A non-disclosure agreement is available; in any case, every result will be discussed with industries before publishing and if requested the company name can be omitted.

What we need from you:

1. **Interest** in analyzing the potential for integration of solar heat in your process.
2. **Availability** to share data according to the available checklist.
3. **Support** in the realization of the pre-feasibility study.

How to participate, the relevant steps

1. **Contact us at info@ship2fair-h2020.eu** or any of SHIP2FAIR partners.
2. We will **set a telco** to discuss with you the opportunity and clarify any doubt.
3. **High level analysis** of requirement and data needed.
4. **Sign a nondisclosure agreement (NDA)** to protect your data.
5. **Data collection and potential site visit** (based on need and travel restrictions).
6. Elaboration of the **pre-feasibility study** for each use-case.
7. **Discussion of the results** and fine tuning.
8. Preparation of the **final report**.

Required input data:

- **Industrial site:** location, available surfaces, layout, production sector (NACE), etc.
- **Energy demands:** total energy consumption (electricity, fuels), price of energy carriers (electricity, fuels) purchased.
- **Production process block flow diagram:**
 - thermal energy inputs
 - list of installed thermal equipment
 - processes involved (cooling /heating)
 - type of heating fluid (water, steam, pressurized water, air, etc.)
 - Temperature and pressure level of operation (minimum, average, maximum)
- **Processes identified as interesting for solar heat integration:**
 - installed thermal power of process equipment
 - current source of heat (e.g.: steam produced from coal, hot water from natural gas condensing boiler, etc.)
 - thermal energy consumption at detailed timescale available (hourly if possible, otherwise daily or monthly)
 - typical thermal energy consumption profile (and temperature trend, if not constant) at daily scale



Thank you!

Website:

www.ship2fair-h2020.eu



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