

THE WINNING FORMULA

RENEWABLE ENERGY INTEGRATION

Cover up to 40% of the heat demand from processes of the agro-food industry by solar energy.

MARKET UPTAKE

Design simple solutions, easy to install and operate also by SMEs thanks to tailored financial schemes, business models & training.

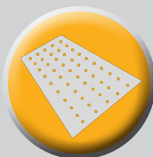
NEW BUSINESS LINES

Ensure the cost-effectiveness of investment in solar heat integration into industrial processes thanks to:

- Competitive solar thermal technologies
- Optimal heat integration
- Tailored control strategies

SOLAR THERMAL TECHNOLOGIES

High Vacuum technology



Linear Fresnel technology



Evacuated tubes technology



THE TEAM

Coordination



Demo-sites hosts & agro-food experts



Solar thermal technologies providers



Research & Innovation



Dissemination & training



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SHIP2FAIR

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Decarbonisation of industrial processes with Solar Heat

WWW.SHIP2FAIR-H2020.EU



SHIP TOOLS



The **replication tool** is a software that evaluates the techno-economic potential of a Solar Heat technology based on local solar potential and process heat demand.

This tool is able to provide a first outlook on the SHIP integration within the process and to optimise the system according to the user's needs.



The **control tool** enables the integration of Solar Heat into Industrial Processes:

- From low-level control aspects
- To the system as a whole
- Using advanced data-mining techniques

The tool aims to be as flexible as possible so that it can be applied to a multiplicity of systems, depending on user needs, plant design and level of automation.

DEMO-SITES & RESULTS



Wine making process - Bodegas Roda
La Rioja, Spain

CO₂ emission
réduction:
13 tons/year

20 vacuum tubes solar collectors
Total opening area: 65.2 m²
Energy produced: 60 MWh/year
Saving of propane gas: 4,500 kg/year
Solar fraction: 39% average, 74% peak



Spirits distillation - Martini & Rossi
Pessione, Italy

298 panels
Occupied surface: 1,073 m²
Steam production at 3.7 bar
394 MWh/year energy saving
55k m³/year natural gas saving
Solar Field Peak Efficiency: 56%

CO₂ emission
réduction:
93 tons/year



Foie gras manufacturing - Larnaudie
Figeac, France

CO₂ emission
réduction:
63 tons/year

260 panels
3700 m² of panels surface
300kW peak power
Boiler preheating up to 150°C
257MWh annual production
31'518 m³/year fuel savings
2.7% heat demand satisfied by the solar system

SUPPORT FOR SHIP



TRAINING MODULES

Five training modules, along with recordings of webinars organised during the project, are available on the project website (under the "E-learning" section):

1. How to investigate our energy consumption, and the potential of SHIP technologies
2. The Replication Tool
3. Control strategies for SHIP installations
4. Demo-sites good practices
5. Suitable Business and Financing Schemes for SHIP installation

REPLICATION STUDIES

The 10 replication studies, prepared by SHIP2FAIR partners, aim at showing the potential replicability and techno-economic viability, maturity and affordability of solar heat technology for industrial process.

They include the following key findings in 8 different industrial sectors (textile, chemical, laboratory, wastewater, dairy, food, brewery, meat processing) and 6 countries (Europe and worldwide):

- Thermal demand temperature between 35 and 195°C
- Solar collectors for an area of 76,000 m²
- Avoided GHG emissions for 14,300 tCO₂e/y
- Average investment payback time of 10 years

Solar thermal technologies have a good potential for all industries with significant heat demand, especially where solar resource and space (for the installation of solar thermal collectors) are available.

FUNDING PROGRAMMES & INCENTIVES

Innovation Fund (small-scale and large-scale projects)
LIFE Programme
National financing resources