

Solar horticulture in Northern European countries

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Starting date: Autumn 2020

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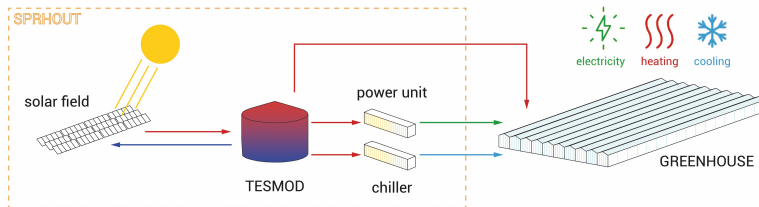
Location: Yes!Delft, Delft The Netherlands

SOLHO

In 30 years from now, there will be 9 bn people living on the planet. Agriculture must **double food production** with **fewer resources** and **lower environmental impact**.

Greenhouse farms are a proven solution to **sustainably intensify** the production of food. Europe leads the greenhouse industry and greenhouse manufacturers are our customers. They are receiving increasing demand for their facilities in sun-belt regions, that they cannot meet due to a lack of reliable gas and electricity network.

SOLHO has developed an innovative energy system called **SPRHOUT** (Solar PowerRed Horticultural Off-grid UniT), the most effective renewable-based system to to power greenhouse farms .



By using solar power and thanks to an innovative Thermal Energy Storage (TESMOD), the system enables the energy self-sufficiency of greenhouse farms, boosting the transition towards sustainable food provision.

Project overview

The student will work on investigating the potential of the SPRHOUT system for Northern European countries.

1. Work with the team on defining the SPRHOUT best configuration for northern European countries. Investigating the combination with heat-pumps
2. Implement a steady-state techno-economic model for the novel SPRHOUT configuration (Python/Excel visual studio)
3. Define a real case-study for a European greenhouse
4. Techno-economic analysis on the defined case-study

