



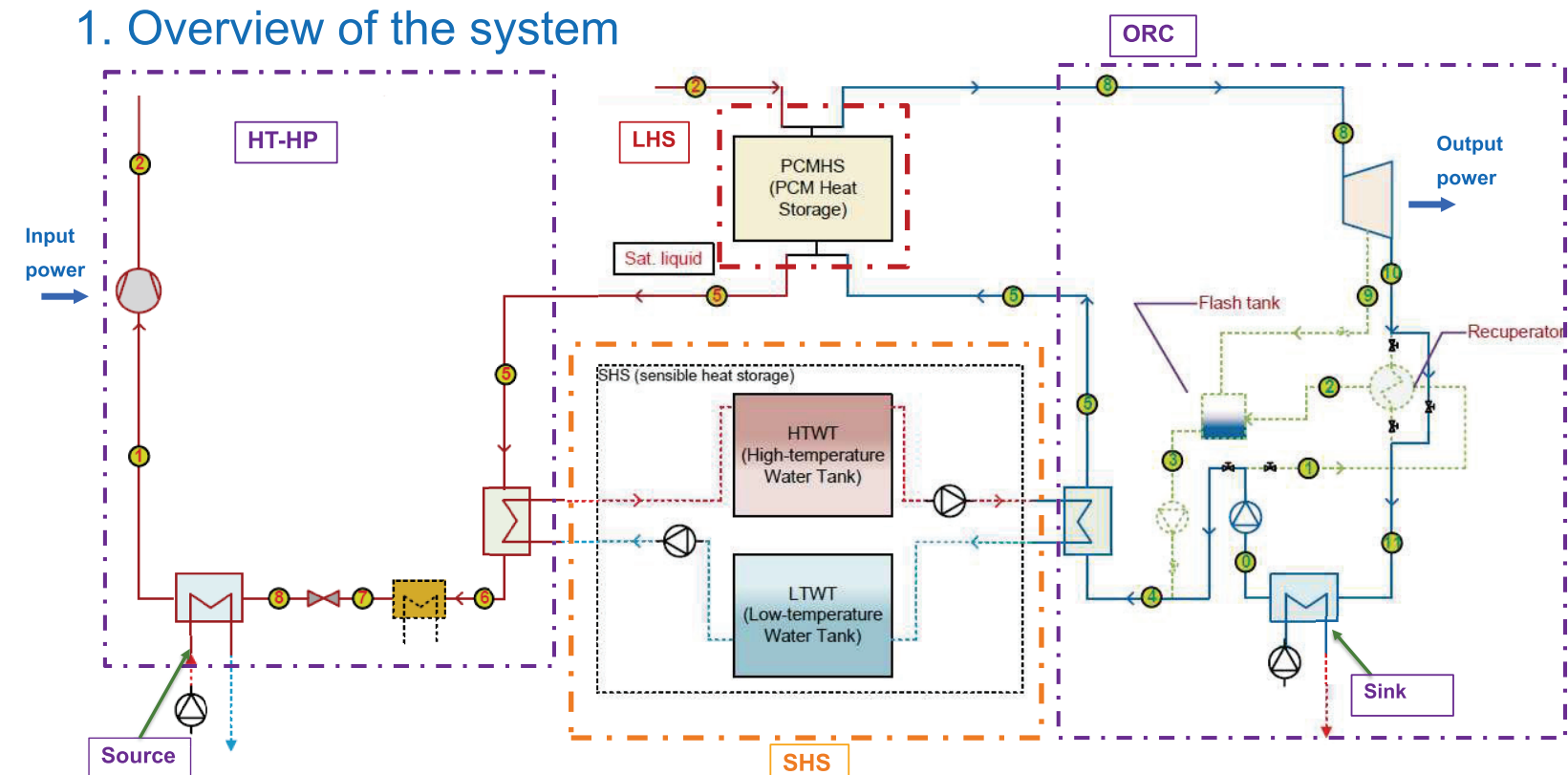
CHESTER

COMPRESSED HEAT ENERGY STORAGE FOR ENERGY FROM RENEWABLE SOURCES

THE PROJECT

Within the framework of energy consumption and 2020 targets for use of renewable energy sources in Europe, CHESTER project aims at developing a cost competitive innovative system that will increase the flexibility of the power grid by coupling electricity and heat. The CHEST system, combining high temperature Heat Pump and Thermal Energy Storage with an Organic Rankine Cycle units, provides a smart, dispatchable energy supply from different renewable energy sources.

1. Overview of the system



OBJECTIVES AND IMPACTS

Aims

- Assessing the integration of CHEST system into the smart boundary conditions of the future energy system through dynamic simulations.
- Creating the first-of-its-kind laboratory prototype to validate a large part of the theoretically performed research.
- Integrating CHEST system into a smart energy system to use the energy in a cost-optimal way and provide effective flexibility services to energy operators.
- Developing innovative business models for the new energy storage and management concept created by the high flexibility that the CHEST concept offers.

Expected impacts

- *Socioeconomical*: Lowering costs through increase in the use of the installed renewable energy capacity and offering of energy resource alternative, which will benefit direct end-users and energy system.
- *Environmental*: Maximizing use of various renewable energy sources and, thereby, decreasing Europe's dependence on imported fossil fuels.
- *Market Transformation*: Strengthening European industrial technology base by creating growth and jobs in Europe in the energy storage and management market.
- *Policy*: Achieving the ambitious 2030 Energy and Climate targets through support of energy initiatives (that are still under R&D) in development and market entry.

CONSORTIUM

tecnalia Inspiring Business

GHENT
UNIVERSITY

University of Stuttgart
Germany

DLR

Ulster
University

PlanEnergi

iren

UNIVERSITAT
POLITECNICA
DE VALÈNCIA

AIGUASOL

PNO

goiener
POWER TO THE PEOPLE

ENCONTECH B.V.
ENERGY CONVERSION TECHNOLOGIES



This project has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 764042

STAY IN TOUCH



www.chester-project.eu



info@chester-project.eu



[@chester_project](https://twitter.com/chester_project)



www.linkedin.com/company/chester-project/