

Industrial Thermal Energy Recovery Conversion and Management 'I-ThERM'

www.itherm-project.eu

Prof. Savvas Tassou
Brunel University London
Institute of Energy Futures



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 680599.



4.0 € H2020 Project (2015-2019)

Aim

Investigate, design, build and demonstrate innovative plug and play waste heat recovery solutions to facilitate optimum utilisation of energy in selected industrial applications with high replicability and energy recovery potential in the temperature range 70 °C-1000 °C.



Objectives:

- Identify and quantify streams of waste heat from industrial processes in the EU 28 and potential for energy recovery
- Use the 'EINSTEIN' toolkit to carry out energy audits, analyse the technical potential and economic viability of heat recovery.
- Develop heat recovery technologies and equipment in packaged or easily customisable plug and play forms that can readily be selected and applied in industry.



I-ThERM Aims and Objectives



Objectives:

- Develop an intelligent system for monitoring and on-line integration and control of the operation of these technologies to maximise heat recovery and minimise operating costs and emissions.
- Investigate and evaluate organisational, technoeconomic and socioeconomic barriers to the wide adoption of advanced heat recovery technologies and ways of overcoming these barriers.



I-ThERM Aims and Objectives



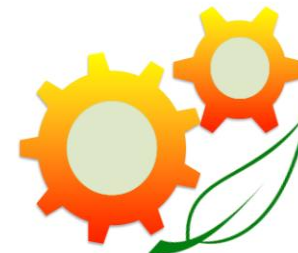
Objectives:

- Implement, monitor and evaluate the performance of heat recovery applications, evaluate their impact on overall energy consumption and CO₂ emissions and disseminate the outputs widely to industry, other key stakeholders and policy makers.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 680599.

Partners

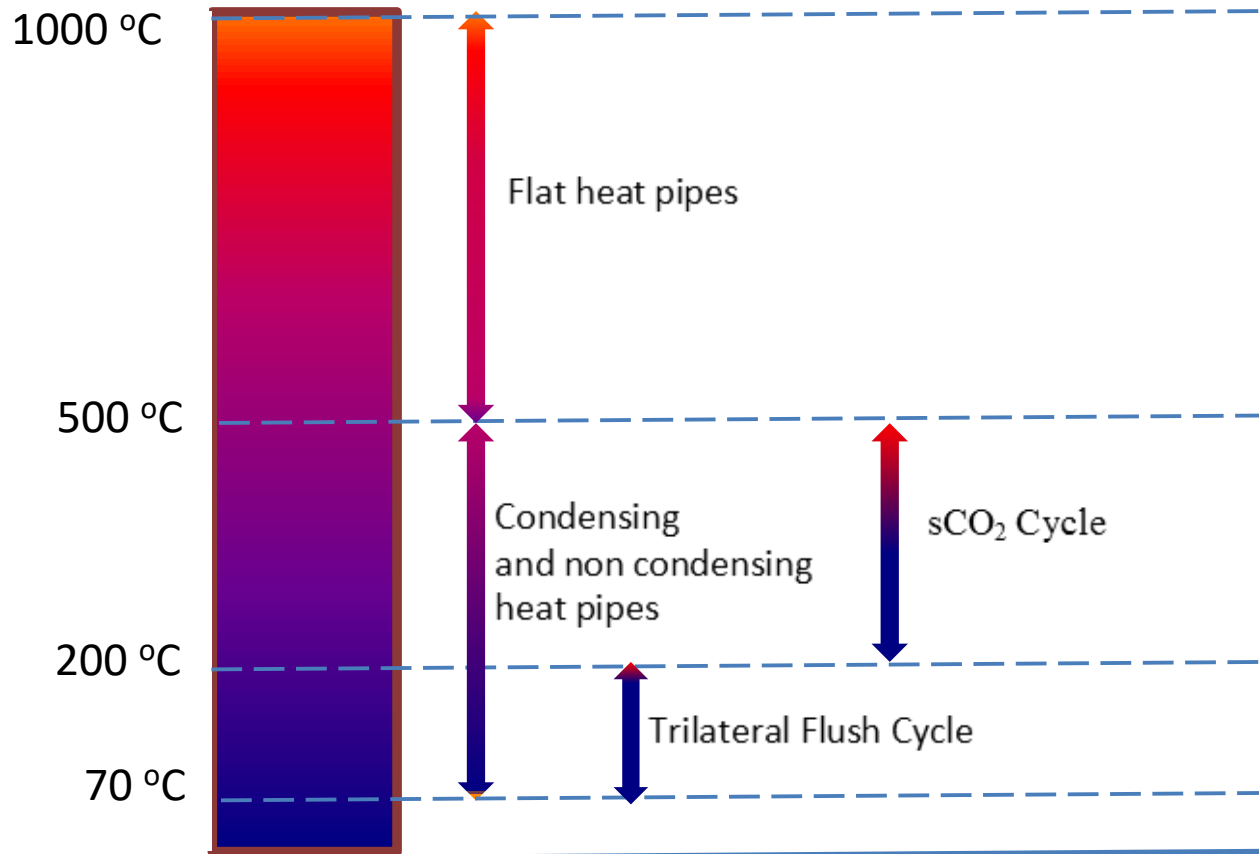


Participant Number	Organisation Name	Acronym	Type	Country
1	Brunel University London	UBRUN	RTD	UK
2	Spirax Sarco Ltd	Spirax	LE	UK
3	TATA Steel UK Ltd	Tata Steel	LE	UK
4	Synesis S.C. a r.l.	Synesis	SME	Italy
5	Enogia SAS	Enogia	SME	France
6	E4-Experts GmbH	EXP	SME	Germany
7	Arcelormittal Espana, S.A.	AME	LE	Spain
8	Econotherm (UK) Ltd	Etherm	SME	UK
9	Avanzare Innovación Tecnológica S.L.	AIT	SME	Spain
10	Cyprus University of Technology	CUT	RTD	Cyprus
11	Centre for Technology, Research and Innovation	CETRI	SME	Cyprus
12	Technological Educational Institute of Sterea Ellada	TEISTE	RTD	Greece
13	ARLUY S.L.	ARLUY	SME	Spain



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 680599.

Technologies to be investigated

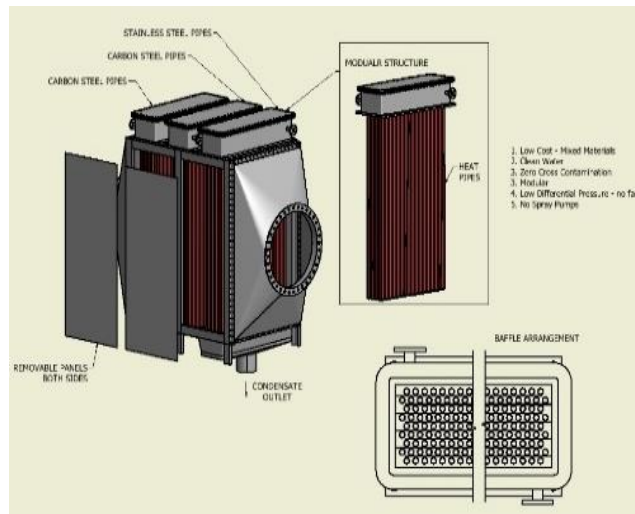


Technologies

Heat Recovery Technologies



Two-phase heat transfer



Condensing heat pipe economiser



Flat heat pipe exchangers

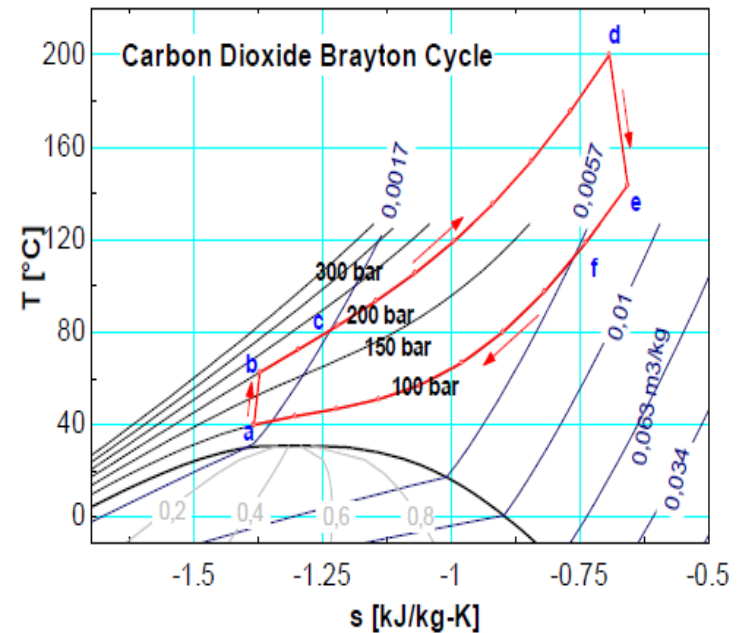
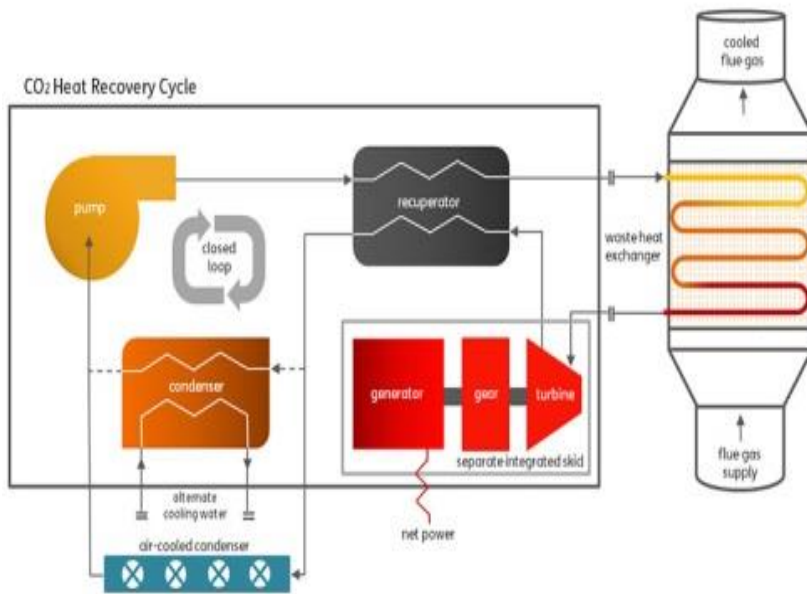


This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 680599.

Technologies



sCO₂ Cycle Heat to Power Conversion System

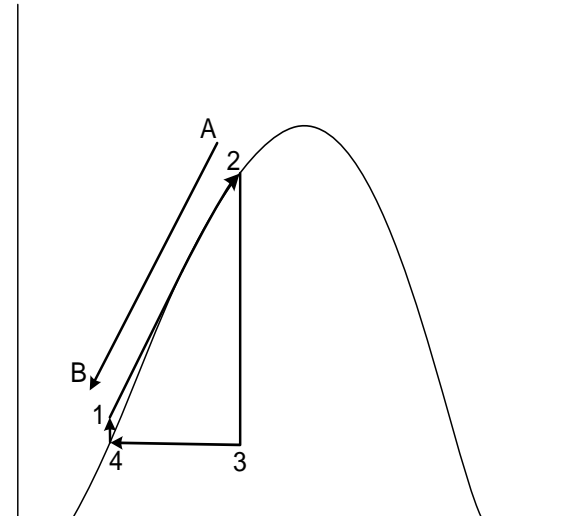
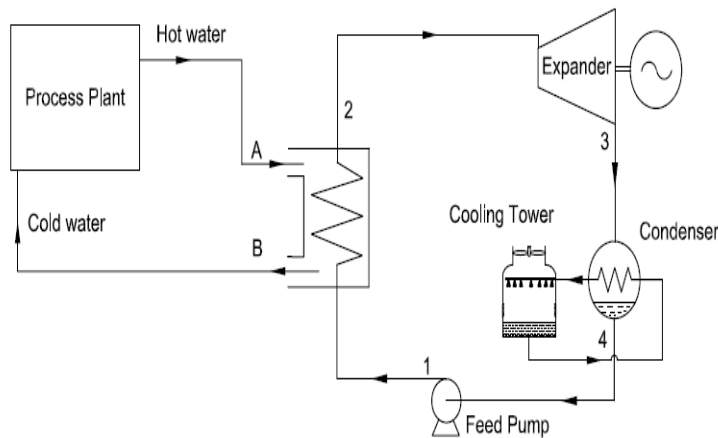


This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 680599.

Technologies



Trilateral Flash Cycle



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 680599.

Thank You

Questions?



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 680599.