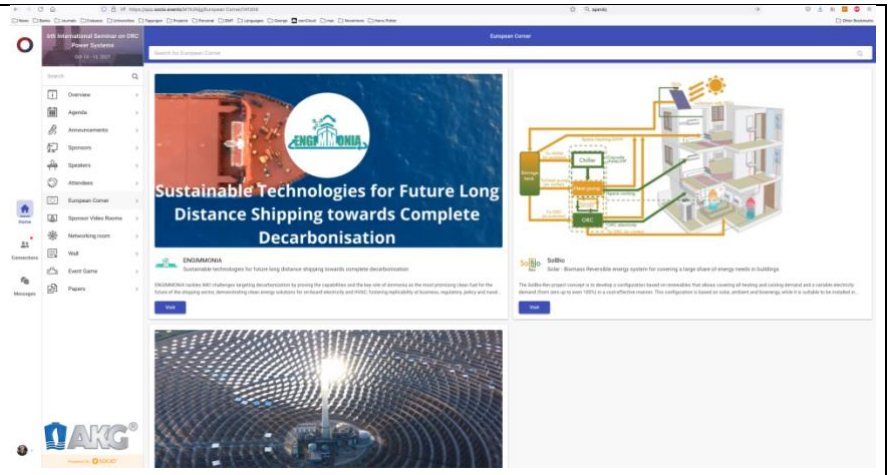
Date	11-13 October 2021
Event name	ORC 2021 – 6th International Seminar on ORC Power Systems
Event description	The event was the -biannually organized- international conference focusing on the subject of Organic Rankine Cycle (ORC) Power Systems. In particular, multiple parallel sessions were held, in which several scientific and industrial papers were presented, along with a poster session. The conference included a European corner, hosting scientific projects funded by the European Union, oriented towards ORC systems and energy efficiency, in general. The conference was attended by members of the ORC community from all over the world, including distinguished researchers from leading research institutes, as well as young researchers. Finally, it is underlined the Seminar was organized under the auspices of the Knowledge Center on Organic Rankine Cycle (KCORC), a scientific knowledge dissemination platform on issues concerning ORC technology.
Location	The Conference took place in virtual form
SolBio-Rev participants	NTUA, FAU, DBC
Nature of participation	Banner/Poster - European corner and paper presentation – Session "Concepts: Reversible ORC"
Number of attendees	250-300
Feedback & added-value	Based on the experience gained from the participation of the project in the European corner, it can be claimed that positive feedback was received about the technical aspects of the SolBio-Rev concept and the possibility for its exploitation. Namely, the added value from the conference can be concluded to the following: • Dissemination of the project across the scientific community. • Interaction with partners from other European projects of similar subject. • Contact with project officers of the European Commission (e.g. Daniel Maraver de Lemus). • Since ORC technology is an important part of the SolBio-Rev project, the knowledge and the ideas gained during the conference will enhance the implementation of innovative features and better results within the framework of the project. • Interaction with industrial members, realizing the next steps for the further exploitation of the concept.
Picture(s)	



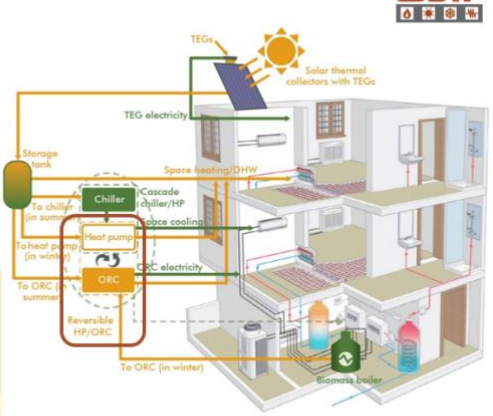
Concept – SolBio-Rev system

Multi-vector energy system

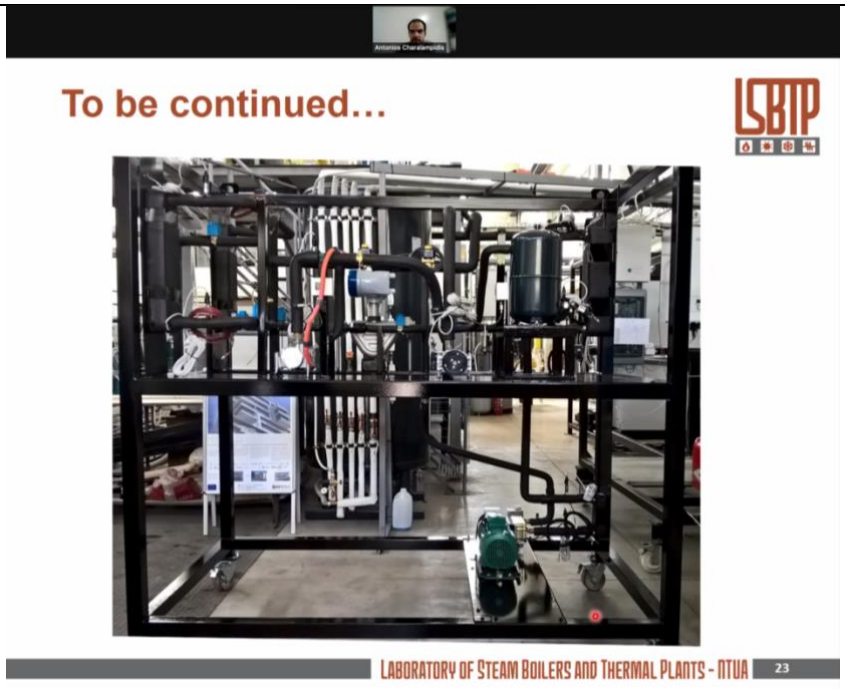
- RHP/ORC
- Evacuated tube solar collectors with thermoelectric generators
- Dual-temperature biomass boiler (80-120 °C)
- Adsorption chiller
- Water storage tanks

Space heating	DHW
• Solar collectors • Heat pump • Biomass boiler	• Solar collectors • Biomass boiler

Space cooling	Electricity
• Cascade adsorption chiller/heat pump • Heat pump	• ORC • TEGs



RHP/ORC in the spotlight


To be continued...
LSBTP
LABORATORY OF STEAM BOILERS AND THERMAL PLANTS - NTUA
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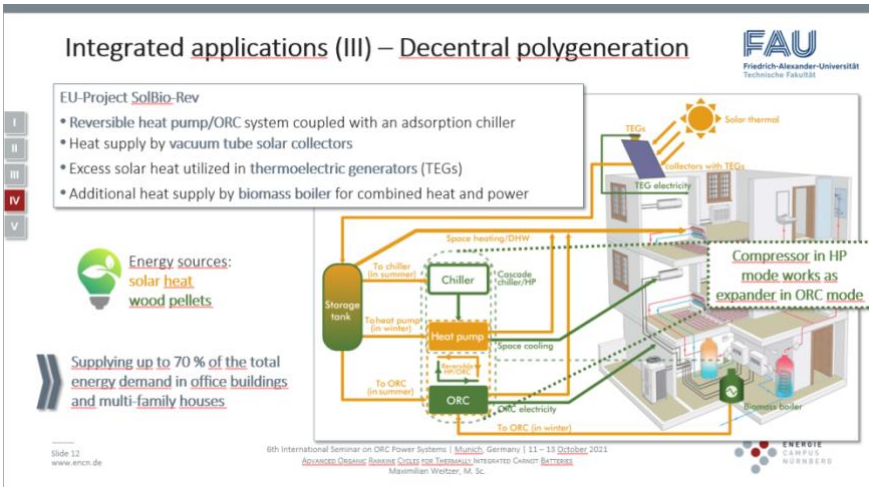
Integrated applications (III) – Decentral polygeneration
FAU
Friedrich-Alexander-Universität
Technische Fakultät
EU-Project SolBio-Rev
• Reversible heat pump/ORC system coupled with an adsorption chiller
• Heat supply by vacuum tube solar collectors
• Excess solar heat utilized in thermoelectric generators (TEGs)
• Additional heat supply by biomass boiler for combined heat and power
Energy sources:
solar heat
wood pellets
Supplying up to 70 % of the total energy demand in office buildings and multi-family houses
Solar thermal
TEGs
Collectors with TEGs
TEG electricity
Space heating/DHW
Chiller
Cascade chiller/HP
Storage tank
Heat pump
Space cooling
Sensible
ORC
ORC electricity
Biomass boiler
Compressor in HP mode works as expander in ORC mode
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www.encn.de
6th International Seminar on ORC Power Systems | Munich, Germany | 11 – 13 October 2021
Advanced Organic Rankine Cycles for Thermally Integrated Carnot Batteries
Maximilian Weitzer, M. Sc.
ENERGIE CAMPUS NÜRNBERG