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SFERA-III 2nd Summer School
October, 5th- 6th, 2021
Almería (Spain)

Lecture:

The Joint Task 64/IV of SHC and SolarPACES

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The Joint Task 64/IV of SH&C and SolarPACES

Content:



- Introduction
- Objectives & organization of Task 64/IV
- Subtasks of Task 64/IV

Technology Collaborative Programs of IEA

- The International Energy Agency (IEA) promotes the so-called **Technology Collaborative Programs (TCP)**, which are proposed and developed by experts from those countries willing to collaborate (**in-kind collaboration**) in joint activities to achieve a specific objective.
- Activities in a TCP are grouped into Tasks. **Each Task has** its own objective and it is managed by **an Operating Agent**.
- Sometimes, two TCPs define a common Task.
- **Solar Heating & Cooling (SHC)**, (<https://www.iea-shc.org/>) is one of the IEA TCPs. It was launched in 1977 to promote the use of Solar Energy worldwide.
- **SolarPACES** (SHC, <https://www.solarpaces.org>) is another IEA TCP. Its objective is the promotion of Solar Power and Chemical Energy Systems.
- **Solar Heating & Cooling and SolarPACES** approved in 2019 the **joint Task 64/IV** with the name of **SHIP (Solar Heat for Industrial Processes)**.

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Objectives & Organization of Task 64/IV



- Task 64/IV is based on previous joint tasks 33/IV and 49/IV
- Vision: Solar heat to be recognized as a reliable (and affordable) source of energy for industry
- Task 64/IV is focussed on close-to-market technologies and applications (100°C ~ 400°C) to increase the number of solar systems in the Industry
- Balanced SolarPACES / SHC task management and structure
- Operating Agents:
 - SHC: Dr. Andreas Häberle
 - SolarPACES: Dr. Tobias Hirsch
- Web page: <http://task64.iea-shc.org>

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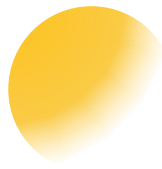




Subtasks of Task 64/IV

Task 64/IV is composed of five Subtasks:

- **Subtask A – Integrated energy systems** (Univ. Kassel, Ulrike Jordan and Felix Pag)
- **Subtask B – Modularization** (PSA-CIEMAT, Diego Alarcón)
- **Subtask C – Simulation and design tools** (Univ. Chile, José Miguel Cardemil)
- **Subtask D – Standardization and Certification** (CRES, Vassiliki Drosou)
- **Subtask E – Guideline to Market** (Fraunhofer ISE, Peter Nitz, and AEE-INTEC, Jürgen Fluch)

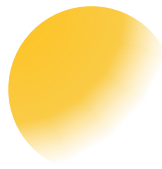


Subtasks of Task 64/IV

Subtask A – Integrated energy systems

Topics:

- Integration of solar heating plants in process heat systems (centralized / decentralized)
- Energy efficiency and heat recovery; Process integration and storage management
- The role of solar energy in hybrid energy supply systems; Combination with other heating technologies (Combined heat and power, high temperature heat pumps, Solar power/power-to-heat)
- Maximum impact (solar fraction) of solar energy based on specific boundary conditions such as location, sector, temperature demand and load profile

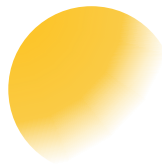


Subtasks of Task 64/IV

Subtask B – Modularization

Topics:

- Modular system concepts for solar process heat applications
- Collectors and hydraulics (standard packages; easy installation; easy dismantling)
- Development of “standard” (recommended) interfaces for solar process heat applications

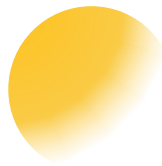


Subtasks of Task 64/IV

Subtask C – Simulation and design tools

Topics:

- System simulation
- Benchmarking of different system concepts
- Preparation of useful design tools
(useful for planners without system simulation skills)

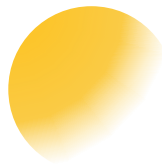


Subtasks of Task 64/IV

Subtask D – Standardization and Certification

Topics:

- Define KPIs for solar process heat systems
- Connect with relevant Technical Committees and Certification Bodies
- Work with current versions of relevant standards and legislation including EU regulations
- Provide information and contribute to the revision of relevant standards
- Develop Proposals for development of certification schemes



Subtasks of Task 64/IV

Subtask E – Guideline to Market

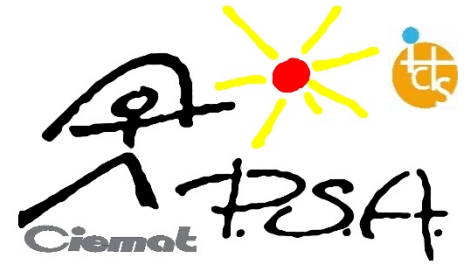
Topics:

- LCOH as benchmark for innovative systems
- Financing schemes and business models for hybrid energy supply
- Alignment of solar process heat related national research and funding programs, seeking synchronization with other worldwide programs
- Acceleration of knowledge transfer to industry
- Mapping of R&D infrastructure
- Establish communication structures for stakeholders (researcher/investor, supplier, industry, relevant international organizations)
- Best practice examples of successful installations and business models (e.g. www.ship-plants.info)



Further Information and Contacts

- **Web page:** <http://task64.iea-shc.org>
- **Operating Agents:** Andreas Häberle (andreas.haeberle@ost.ch)
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- **Subtask E – Guideline to Market**
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End of Presentation

- Thank you for your attention
- Questions ?

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