



SOLAR HEATING & COOLING PROGRAMME
INTERNATIONAL ENERGY AGENCY

SHC Task 64 - Solar Process Heat Task Status Report

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IEA SHC Task 64 / SolarPACES Task IV

Joint Task: **SHC and SolarPACES** *TM SHC: Andreas Häberle, SPF, Switzerland*
TM SolarPACES: Tobias Hirsch, DLR, Germany

- Subtask A: **Integrated energy systems**, *Felix Pag, Uni Kassel, Germany*
- Subtask B: **Modularization**, *Diego Alarcón, Ciemat, Spain*
- Subtask C: **Simulation and design tools**, *José M. Cardemil, PUC, Chile*
- Subtask D: **Standardization/Certification**, *Vassiliki Drosou, CRES, Greece*
- Subtask E: **Guideline to market**, *Peter Nitz, Fraunhofer ISE, Germany and Wolfgang Gruber-Glatzl, AEE INTEC, Austria*

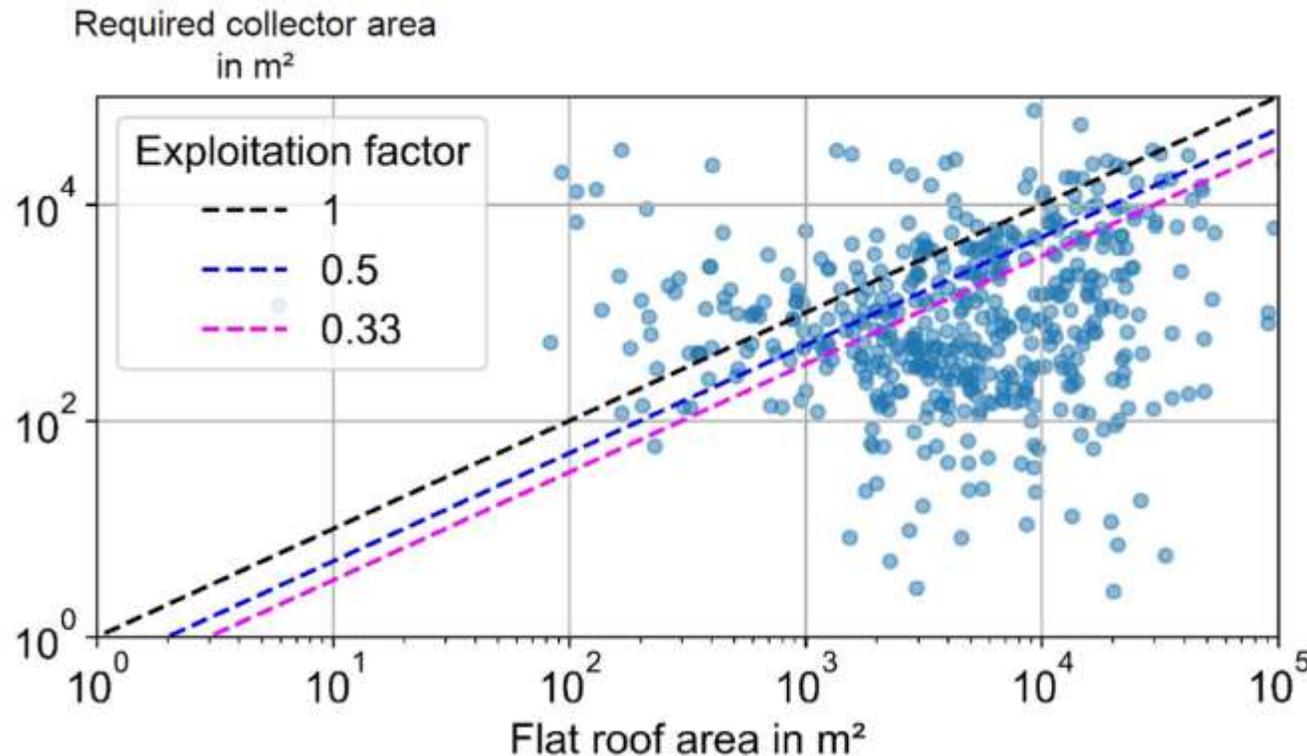
Significant Developments & Results Since Last ExCo Meeting

General

- Cancellation of Subtask D Standardization / Certification
- Subtask Meetings at EuroSun conference with very good attendance
- Experts Meeting No. 10: hybrid meeting partly in presence and partly online in November 2022 in Bordeaux, France with 35 participants. (14 in the room and 21 online). Site visit with NewHeat at Condat Paper mill.
- Deliverables on track

Subtask A: Integrated energy systems

How the available roof area and the heat load profile influence the potential of solar heat in industry

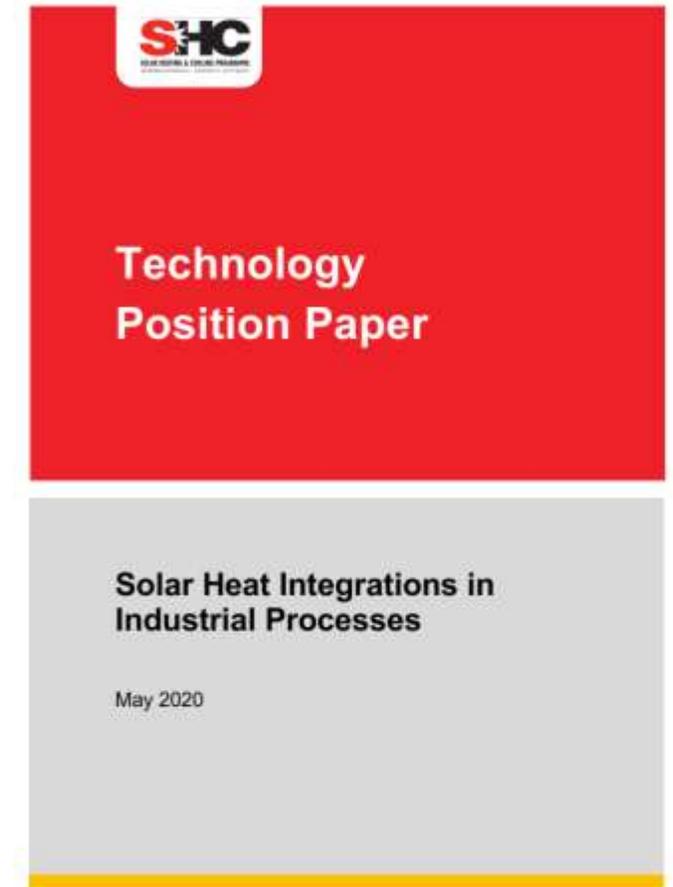


Source:
Felix Pag,
Uni Kassel,
Germany

Subtask A: Integrated energy systems

Technology Position Paper

- Complement the existing SHIP Position Paper
- Define and communicate what SHIP stands for
- Cover Subtasks without using Task-slang
- Short, precise answers to
 - What can SHIP provide?
 - Where does SHIP stand?
 - Why do we need SHIP?
 - How do we use SHIP?

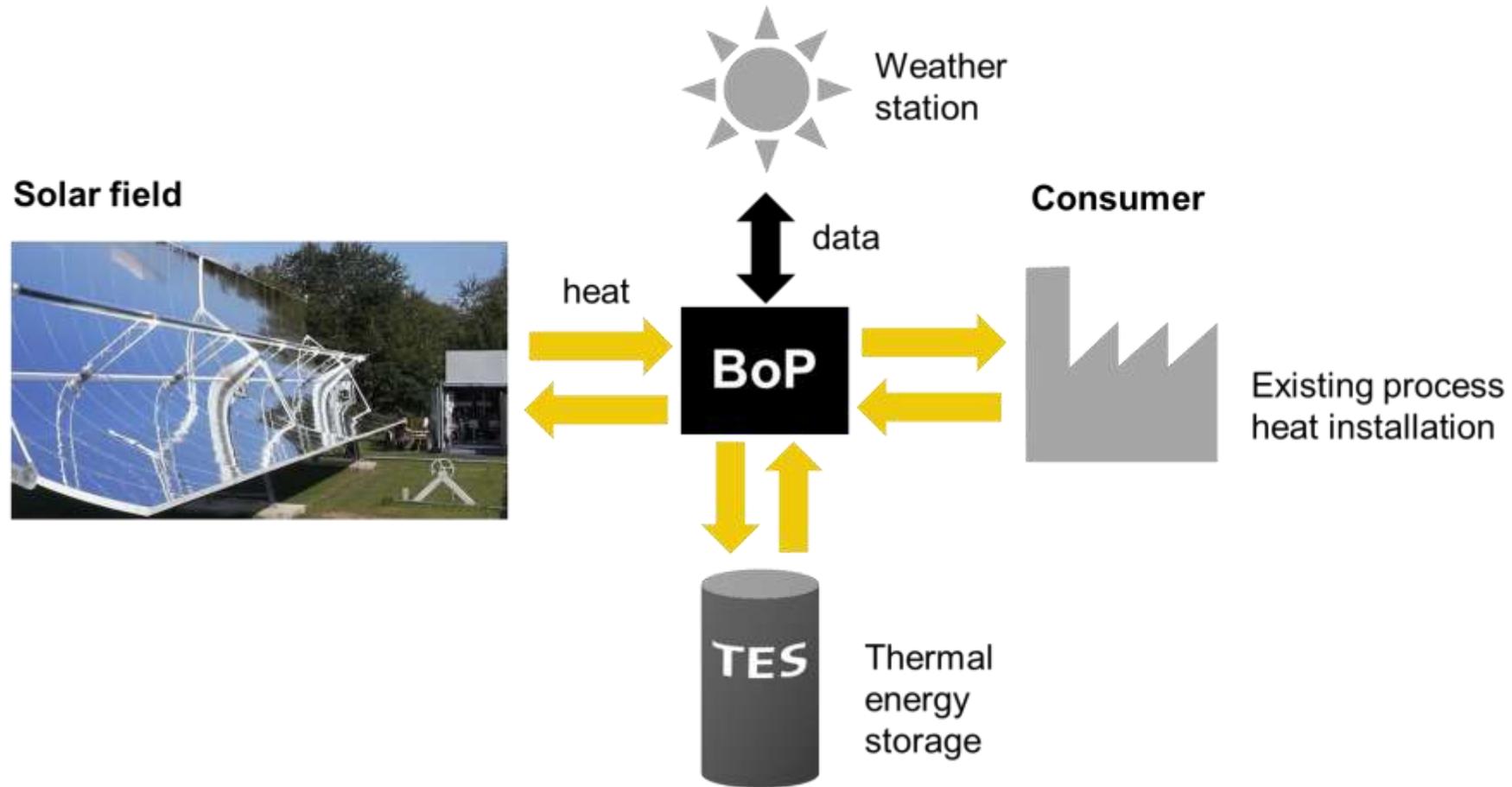


Subtask B: Modularization

Completed activity

- Deliverable D.B1
Integration schemes and BoPs more commonly used in commercial SHIP applications

What is a BoP?



Subtask B: Modularization

The remaining Subtask activities will focus on BoP.

Project «Modulus» in Germany is expected to deliver helpful results:

- Objective: reducing the costs of BoP engineering, manufacturing and commissioning by standardization
- focus on a power size of $0.5 \text{ MW}_{\text{th}}$ to $10 \text{ MW}_{\text{th}}$, piping system according to European standards
- 3 currently engineered demo plants serve as test case

Subtask C: Simulation and design tools

Develop new information about simulation and monitoring tools for assessing the potential of SHIP plants, with known sources of uncertainties.

Case Studies:

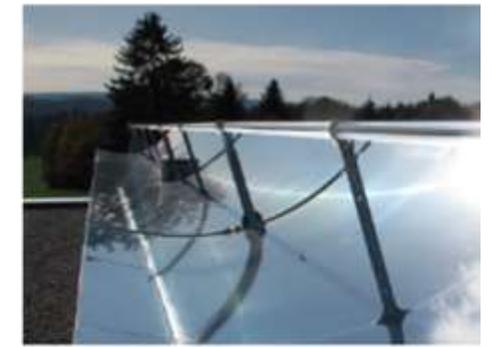
- Copper mining in Chile (Flat plate collectors)
- Paper mill in France (1axis tracking flat plate)
- DSG Linear Fresnel
- Dairy Factory in Switzerland (parabolic trough)

Inputs:

“Standardized” simulation parameters

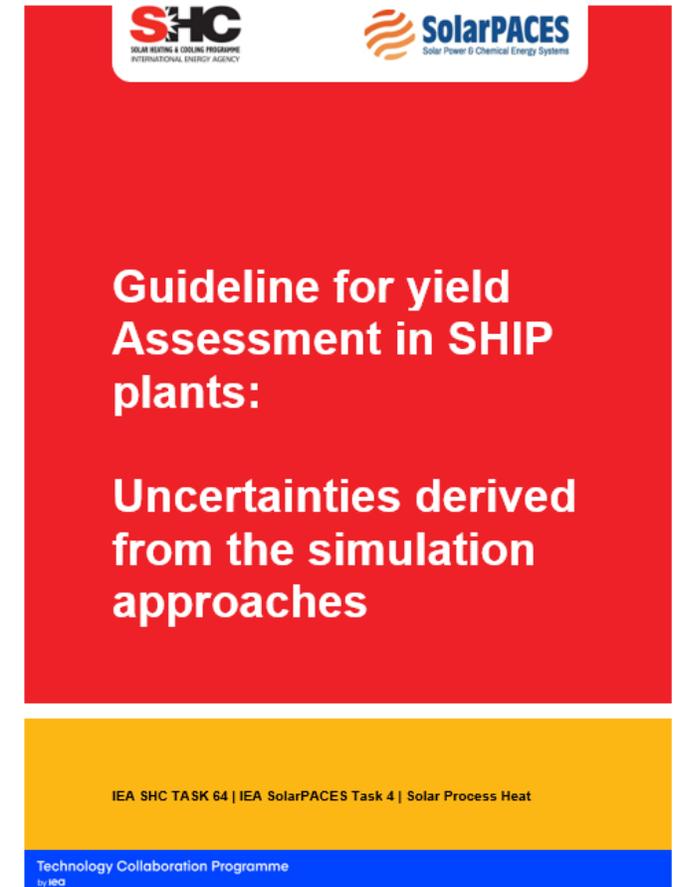
Expected outcome:

“Standardized” results from the assessment



Guidelines summary (deliverable C1)

- Methodology
- Case studies definition
- Deviation assessment results
- Impact of common assumptions in SHIP simulation
- Induced error assessment in SHIP simulation



Subtask E: Guideline to market

Conversion Factor for concentrating technologies for statistical purposes
1 m² \triangleq 0.7 kW (similar to non-concentrating technologies)

A „Draft Technical Note“ has been written and revised in several iterations within Task 64/IV including experts involved in standardization bodies

→ This is the recommendation from Task 64/IV Experts Group

Open Questions:

- Next Steps towards publication?
- SHC Newsletter?
- Technical position paper?

Follow up from June meeting

- Get the three pending deliverables done ✓
- Get ST B back on track with the help of the MODULUS project ✓
- Check with ST D. Worst case: cancel it. Better: reduce the goals ✓ 😞
- In Person ST Working meetings at EuroSun and SolarPACES ✓ 😞
- In Person Experts Meeting on Nov 8 in Spain or France (with site visit) ✓

Conclusions

- Compared to June we are “back on track”.
- We will try to get the best out of the remaining year

Feedback from the EXCO

- How best to finalize the publication of the conversion factor
- ...



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 IEA Solar Heating and Cooling Programme
(group 4230381)