

## Minutes

### IEA SHC Task 73 PVT Heating Systems

Date/Time/Location: **13.02.2025/ 09:30 AM / Fraunhofer ENIQ Berlin**

Participants: **Industry, PVT, HP, policy, institutes**

Meeting link: <https://s.fhg.de/task73-kickoff-02-2025-digital>

TOP	Schedule	Topic	Speaker
1	09:30	<b>Welcome</b>	
30'	10:30	<p>Opening; housekeeping</p> <p>Mission</p> <p>Leadership Team and Round call</p> <p>Meeting rhythm</p> <p>Milestones – Workplan – Deliverables</p> <p>Recent information and highlights: Listing achievements in the subtasks focus</p> <p>Contacts: Who should be added to the distribution list?</p> <p>Picture material: Who has pictures including rights declaration towards the task?</p> <p>Sharing news about: Media presence, Videos, podcasts, articles Gather it on the task homepage</p>	Korbinian Kramer Fraunhofer ISE
1h	11:30	<p>Subtask A <b>PVT Systems (liquid)</b> Registration of ongoing projects willing to contribute and report into the subtask</p> <p>Ivan Acosta; PVT4U; - Identifying application for two different temperature levels,</p> <p>Bertran; Thermal Storage, Demonstration sites,</p> <p>Saarbrücken; Re-trofit PV power station, make a serial readiness of an absorber for low pressure drop...pilot project Local district heating in Saarbrücken,</p> <p>Azier, Tecnalía; Fassade integrated PVT, demonstrations</p> <p>Erik Parsons Corellian; absorption based</p> <p>Roman Moldavia, they make Air based PVT</p>	Corry De Keizer TNO  Laetitia Brottier DualSun

		<p>Czech Repub; unglazed +multivalent Heat and cold production simultaneous; unglazed+boreholes+SFH, 2025 glazed PVT+DHW, Sea</p> <p>Philipp Gradl, AIT; Sunpeak open for PVT</p> <p>Ryan, Solarus; Hotel, AirHP+PVT, 2025 high end hospitality direct heating and water/Water hP as back up,</p> <p>Gravle, Joao: Grant application,</p> <p>Matrix; Jörn: light weight PVT for Industrial installation</p> <p>Korbinian, ISE; integrate XL, 6-9 installation with monitoring by Fraunhofer, non-residential and retrofitting,</p> <p>Coolsheet; Sydney aquatic center</p> <p>Discussing the deliverables and the work plan; who is going into the lead?</p> <p>Who is contributing?</p> <p>What can be prepared until the next meeting?</p> <p>Our deliverables:</p> <table data-bbox="491 1070 1134 1196"> <tr> <td>A1 Review of existing and new systems</td> <td>M 16</td> </tr> <tr> <td>A2 Reporting field test results</td> <td>M 16</td> </tr> <tr> <td>A3 KPI in GIS or altera</td> <td>M 46</td> </tr> <tr> <td>A4 Subtask Report</td> <td>M 48</td> </tr> </table> <p>Intention:</p> <ul style="list-style-type: none"> <li>➤ Sharing information on PVT applications, collector types and system configurations.</li> <li>➤ Analyze and document installations and derive the competitive advantages of those.</li> <li>➤ Gather a catalogue of questions and answers market participants experienced.</li> <li>➤ Share methods how to provide buying decision relevant information.</li> </ul>	A1 Review of existing and new systems	M 16	A2 Reporting field test results	M 16	A3 KPI in GIS or altera	M 46	A4 Subtask Report	M 48	
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1h	12:30	<p>Subtask B <b>PVT Systems (air)</b></p> <p>Registration of ongoing projects willing to contribute and report into the subtask</p> <p>Discussing the deliverables and the work plan; who is going into the lead?</p> <p>Who is contributing?</p> <ul style="list-style-type: none"> <li>- PAIS Innovation: Biomass drying</li> <li>- Korbi; in application: PhD on ota PVT methodology</li> <li>- Steve Harrison: evaluating several Transpired collectors including PVT and focusing on Wind influences,</li> <li>- Systovi App; can we somehow get hold of that</li> </ul>	<p>Isabelle Kosteniuk CanmetENERGY - Ottawa NRCan</p> <p>Qian Wang KTH</p>								

		<p>server? ;o) - Sunnovate; Glen wants to support work</p> <p>What can be prepared until the next meeting?</p> <p>B1 Definition of performance indicators M 21 B2 Testing on stands - procedure and results M 39 B3 Standard test definition - pre normative M 46 B4 Listing of Installation in GIS or altera M 46 B5 Subtask Report M 48</p> <p>Intention:</p> <ul style="list-style-type: none"> <li>➤ Sharing information on PVT-SAH applications, collector types and system configurations</li> <li>➤ Analyze and document installations and derive the competitive advantages of those.</li> <li>➤ Gather a catalogue of questions and answers market participants experienced.</li> <li>➤ Share methods how to provide buying decision relevant information.</li> </ul>	
1h	13:30 -14:30	lunch	
1h	14:30	<p>Subtask C <b>PVT Awareness and Policy</b></p> <p>Registration of ongoing projects willing to contribute and report into the subtask</p> <p>Discussing the deliverables and the work plan; who is going into the lead?</p> <p>Who is contributing?</p> <ul style="list-style-type: none"> <li>- Find the right spot to get into the systematic which are relevant all around the world</li> <li>- Marketing friends; heat changers, ISES,</li> </ul> <p>What can be prepared until the next meeting?</p> <p>Our deliverables:</p> <p>C1 Infographics from M 10 -maybe include in comparison of different tec. Include ST and show what tec is doing what best - including cooling value - how to make an added value for everyone in the supply and sales line; can installer rates go up, when they are able and installing PVT, - decarbonization potential of some application; How much would it value if all leisure centers would run on 25% PVT... - Alliances with other technologies into their business case and marketing structure: Heat pump rating in energy design enhanced with elevated source temperature, or bringing the EPC to give a building better rating to get better funding conditions,</p> <ul style="list-style-type: none"> <li>- Time accelerations</li> <li>- Space efficiency</li> <li>- Simplification</li> <li>- "heatpump panel", EPV Enhanced PV,</li> </ul>	<p>Valérie Séjourné SHE</p> <p>Frank Bruce Naked Energy</p> <p>Doug Smith coolsheet</p>

		<p>C2 ChatBot M 29 &amp; M46  C3 Research Radar M 22  C4 System intercomparison data M 41  C5 Non Technical KPI M 21  C6 Subtask Report M 48</p> <p>Intention:</p> <ul style="list-style-type: none"> <li>➤ Provide KPIs for categories of PVT; like LCoH and LCoE, SPF, COP, GEY, GTY</li> <li>➤ Summarize and present competitive advantages of PVT categories for the end consumer.</li> <li>➤ Provide easy calculations for policy makers on CO<sub>2</sub> savings, renewable share, costs, tbd.</li> <li>➤ Monitor the market development and provide results including start-up scouting</li> </ul>	
1h	15:30	<p>Subtask D <b>PVT Modeling and Monitoring</b></p> <p>Registration of ongoing projects willing to contribute and report into the subtask</p> <p>Discussing the deliverables and the work plan; who is going into the lead?</p> <p>Who is contributing?</p> <ul style="list-style-type: none"> <li>- Selection of the most important, by suggesting a short list and let people re arrange their order? Do that address group specific</li> <li>- How to calculate and communicate “dynamic” advantages, meaning: dynamic electricity prices, storage capacity thermal electrical, what is good cases for PCVT</li> <li>- Bertran; trnsys simulations</li> <li>- Saarbrücken: trsnysy and polysun:</li> <li>- Distance between building envelope and Backside of PVT</li> <li>- District heating network</li> <li>- Azier: might have simulation</li> <li>- Steve: Facade integrated trnsys</li> <li>- Ice storage?</li> <li>- Radiation to the sky</li> <li>- Control strategies for multi source systems</li> <li>- Glen: happy to share data</li> <li>- Leaticia: polysun modell HP+PVT is not working properly...be aware!</li> <li>- Mark Danemann; trsnysy, polysun HP*PVT*Borehole</li> <li>- MG Sustainable; mapping the types and their description</li> <li>- Reduce complexity, only simulate effects if they are really relevant, discuss their relevance</li> <li>- Overlap Keymark and other market relevant Simulation results</li> <li>- Heat pump simulation; Bertran, Czeck, Fraunhofer</li> <li>- Czeck; Easy spread sheet calculation for planners</li> <li>- Listing the tools and their address group and sorting according to complexity and ease to use</li> </ul>	<p>María Herrando ITA</p> <p>Raquel Simòn Endef</p> <p>Isabel Guedea Endef</p>

		<ul style="list-style-type: none"> <li>- Bertran; Rule of thumbs</li> <li>- Maybe even offer a open source model</li> <li>- Can a chatbot do a planning calculation; KTH, Laetitia, maybe Ise could have a look</li> <li>- Data driven models, ROM; Matthias Teufel</li> <li>- IDAICE; should be addressed,</li> <li>- Naked Energy; using a excel based calculator</li> <li>- Have a differentiation for address groups also for the further monitoring discussion</li> </ul> <p>What can be prepared until the next meeting?</p> <p>Our deliverables:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td>D1 Map and Guide through the models in use</td> <td style="text-align: right;">M 31</td> </tr> <tr> <td>D2 Monitoring guideline and KPIs associated</td> <td style="text-align: right;">M 29</td> </tr> <tr> <td>D3 Basic calculation method for "CO2 Savings"</td> <td style="text-align: right;">M 29</td> </tr> <tr> <td>D4 Guideline for planners: Design, Standardization</td> <td style="text-align: right;">M 36</td> </tr> <tr> <td>D5: Subtask Report</td> <td style="text-align: right;">M 48</td> </tr> </table> <p>Intention:</p> <ul style="list-style-type: none"> <li>➤ Apply planning tools on standard cases of A and B</li> <li>➤ Provide Field measurement data in form of the KPIs of Subtask C</li> <li>➤ Provide method for „CO<sub>2</sub> Savings“</li> <li>➤ Map and Guide through the models in use (e.g. Scenocalc, polysun, tsol, trnsys, ...)</li> </ul> <p>Online meeting before the next Task meeting: Announce yourself, who wants to contribute: Fraunhofer will show HPPVT4.0</p>	D1 Map and Guide through the models in use	M 31	D2 Monitoring guideline and KPIs associated	M 29	D3 Basic calculation method for "CO2 Savings"	M 29	D4 Guideline for planners: Design, Standardization	M 36	D5: Subtask Report	M 48	
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30'	16:30	<p>De-briefing</p> <p>Launched the Task 73</p> <p>Next Meeting: Saragossa, 21.-23.10.2025, hybrid Meeting plan: Travel there Monday. Tuesday morning workshop on "Production", afternoon First task part Tuesday evening dinner, Wednesday morning visit at endef and abora, lunch on the way back afternoon task meeting part 2 finish around 17:00</p> <p>Tuesday 9:00-11:00 WS "EU production PVT as a value proposition" excursion to Endef/Abora</p> <p>Wednesday 9:00 Task D, A, B, C</p> <p>Expectations and wishes from German ExCo representative</p>	<p>Korbinian Kramer Fraunhofer ISE</p> <p>Kerstin Krüger (tbc) PTJ</p>										