

# 2023 HIGHLIGHTS

## Task 71 – Life Cycle and Cost Assessment for Heating and Cooling Technologies

### THE ISSUE

In response to the growing urgency of environmental challenges such as climate change, biodiversity loss, and resource scarcity, governments worldwide are intensifying efforts to regulate and standardize products to mitigate environmental impact. Among the promising avenues within clean energy, solar heating, and cooling systems stand out for their potential to contribute significantly to sustainable energy solutions. However, as advancements are made to increase their efficiency and affordability, it is necessary to ensure that these developments do not inadvertently introduce new environmental burdens. The heating and cooling sector, particularly air-conditioning, is witnessing rapid expansion propelled by technological innovations and increased efficiency. With this expansion comes an increased emphasis on environmental labeling tools, both compulsory and voluntary, aimed at ensuring product quality while supporting business opportunities for producers. Central to this effort is the need for standardized and reliable certification, which is essential for ensuring consumer trust.

### OUR WORK

SHC Task 71 addresses this by focusing on ecological and economic assessments and comprehensively examining regulatory landscapes. As countries adopt diverse approaches, including financial incentives and efficiency standards, to bolster renewable energy adoption and optimize ecological utilization, this task aims to equip stakeholders with the insights needed to promote suitable heating and cooling solutions, both from sustainability and economic points of view.

By providing a transparent methodology to compare heating and cooling options over time, Task 71 will support international collaboration between industry and research, promoting renewable heating technologies' sustainability and ensuring a cleaner, more sustainable future for all.

#### Participating Countries

*China*

*Denmark*

*France*

*Germany*

*Italy*

*Norway*

*Portugal*

*Spain*

*Switzerland*

*United Kingdom*

Task Period

2023 – 2025

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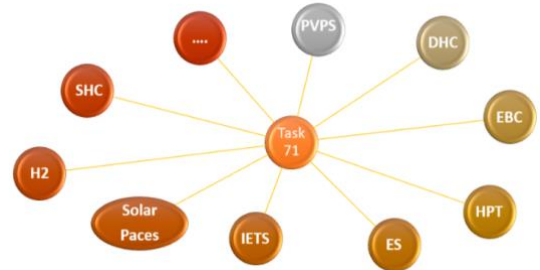


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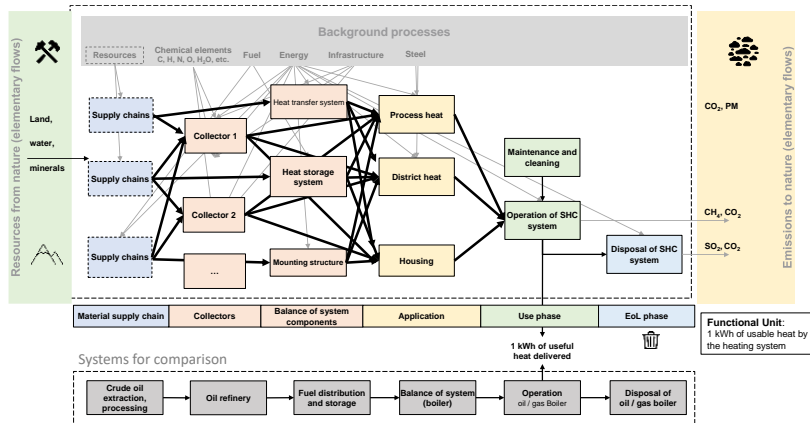
### KEY RESULTS IN 2023

#### Definition of cooperation with other SHC Tasks and IEA TCPS

SHC Task 71 has successfully made significant connections with other IEA TCPs and within SHC. Several meetings were held in 2023 to discuss upcoming collaborations. On September 25<sup>th</sup>, a SHC Task 71 Network Meeting served as an initiative for these interactions. Non-Task members have expressed interest in staying informed about the Task's developments, prompting the creation of a semi-internal newsletter for regular updates.



#### Methodology adaptation regarding LCA



Progress was made on the Task's methodology and adaptation work. Proposals on general recommendations for the LCA approach, applying the methodology guidelines with consensus to use the conventional process-based LCA developed by SETAC and standardized in the ISO standards 14040 and 14044. Furthermore, it was proposed to divide the product system into foreground and background processes, with the foreground processes, including the processes that decision-makers or product owners can influence directly, and the background processes as the remaining processes of the particular product system. In addition, it was proposed that input-output-based LCA methods or hybrid methods combining input-output-based LCA and process-based are excluded from SHC Task 71's scope.

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#### 1<sup>st</sup> workshop held in Freiburg in October 2023

In October 2023, the first Task workshop was held in Freiburg, Germany, focusing on the demand and supply sides for housing companies. The workshop revealed a need for a more simplified approach for both the demand and supply side and to focus on communicating/translating the LCA concept broadly.



Workshop and Task meeting in Freiburg October 2023.

**Save the date: 2<sup>nd</sup> Workshop will be on 8-9 October 2024 at DTU, Kgs in Lyngby, Denmark.**