

2024 HIGHLIGHTS

Task 66 – SOLAR ENERGY BUILDINGS

THE ISSUE

On global level the operation of buildings accounts for around 30 % of the final energy consumption and 26 % of the greenhouse gas emissions. Additionally, large amounts of energy is embodied in the building's construction materials. A significant reductions of the non-renewable energy consumption of buildings is necessary in order to reduce greenhouse gas emissions in a substantial way. One excellent way to do this is to use solar energy to heat and cool our buildings as well as to produce the electricity required for the operation of the buildings.

OUR WORK

Task 66's main objective was the development of economic and ecologic feasible solar energy supply concepts for heat and electricity with high solar fractions. Within this framework, the task addresses single-family buildings, multi-story residential buildings, building blocks and communities, with regard to both, new and existing buildings. This included e. g. to give an overview on various technology options and the available technology portfolio, taking into account existing and emerging technologies with the potential to be successfully applied within the context of Task 66. The Task 66 consisted of three subtasks:

Participating Countries

Australia

Austria

China

Denmark

Germany

Italy

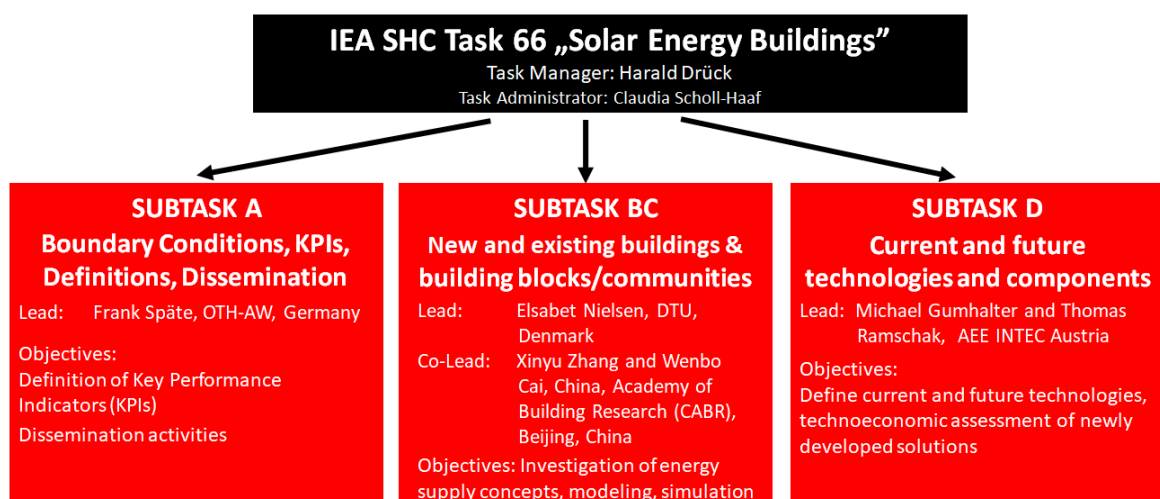
Mexico

Portugal

Slovakia

Switzerland

United Kingdom



Task Period

2021 – 2024

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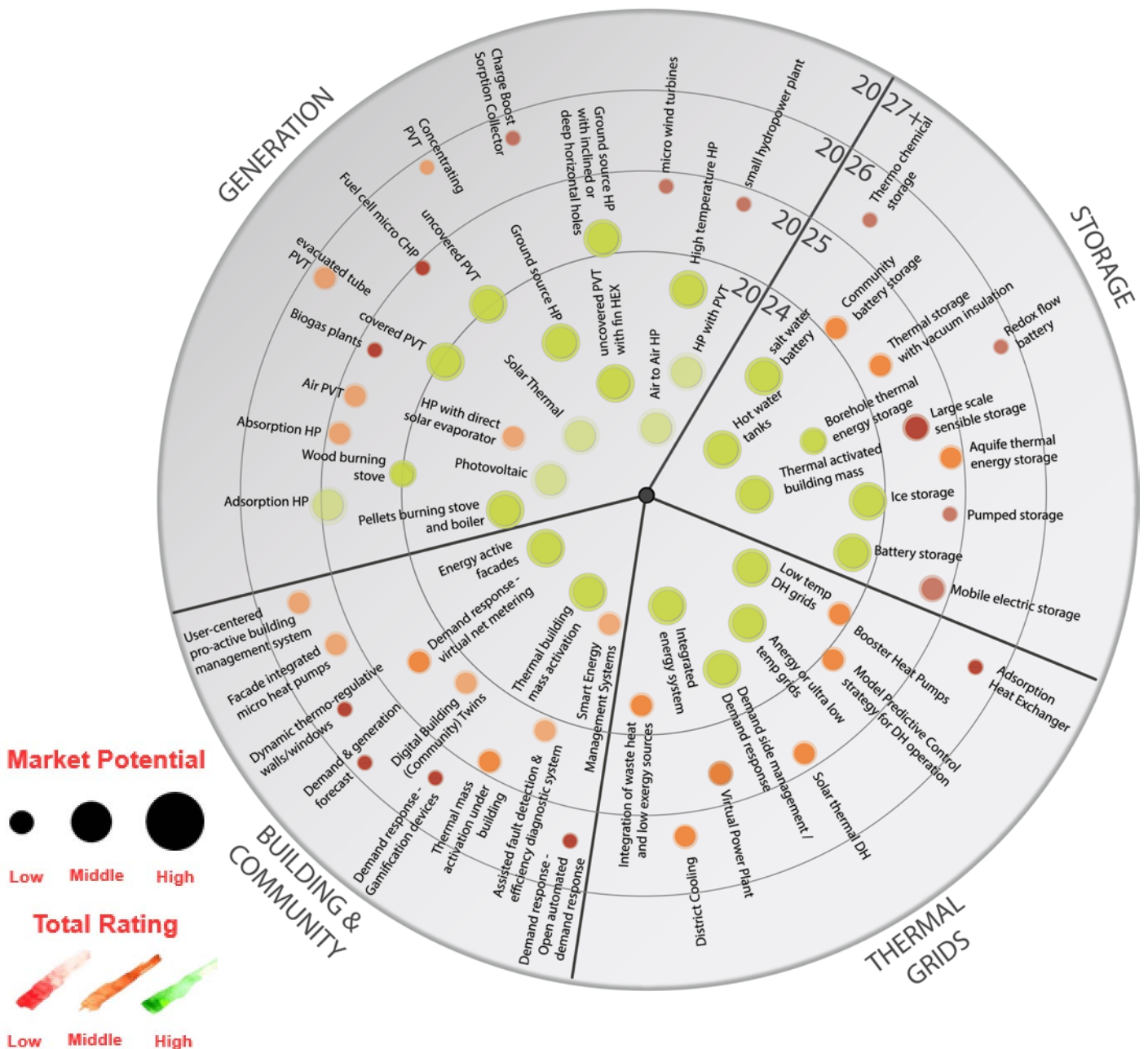
<https://task66.iea-shc.org/>



KEY RESULTS IN 2024

Technology Radar for Solar Energy Buildings

An important result of the Task66 work in 2024 was the preparation of the Technology Radar for Solar Energy Buildings within Subtask D, headed by Michael Gumhalter and Thomas Ramschak from AEE INTEC in Austria. The radar is used to assess the potential of the various technologies for solar energy buildings and was developed on the basis of a detailed technology assessment. It is divided into four main areas: Generation, Storage, Thermal Grids and Buildings & Communities. In these four main areas, technological solutions, for example, energy facades and ice storage, are presented with their market potential for specific years by the size of the corresponding dot. The technology radar clearly shows a high to market potential for many technologies, such as PVT collectors, heat pumps, and various types of energy storage, in expected to be the near future.



Promotion material for Solar Energy Buildings

In order to increase the number of solar energy buildings and the investment in solar technology in buildings, it is necessary to foster the commitment of certain target groups. To achieve this goal, the relevant stakeholders need to be convinced of the benefits of solar buildings. Hence, two other important key results of Task 66 work in 2024 are the preparation of the brochures for investors and policymakers developed in Subtask A, led by Prof. Frank Späte.

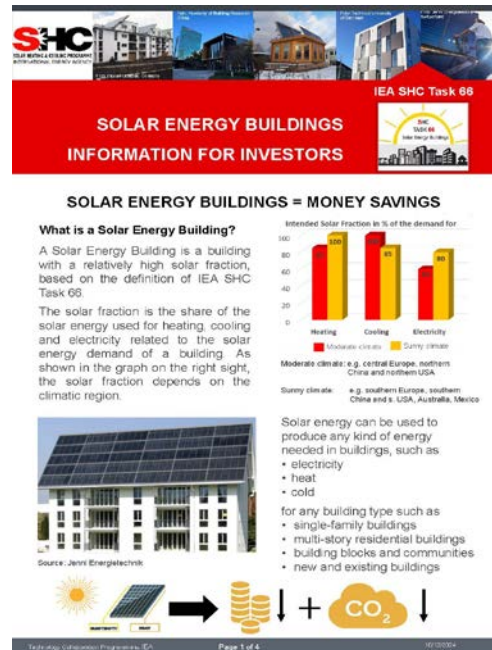
Solar Energy Buildings - Information for Investors (Deliverable A5)

One important target group with regard to increasing the market share of solar energy in buildings is the group of investors, who need to be convinced of the benefits of solar energy buildings. For this reason, the deliverable A5: Solar Energy Buildings - Information for Investors was prepared. In order to attract this target group. The brochure contains general basic information as well as arguments and information that are of special relevance for potential investors.

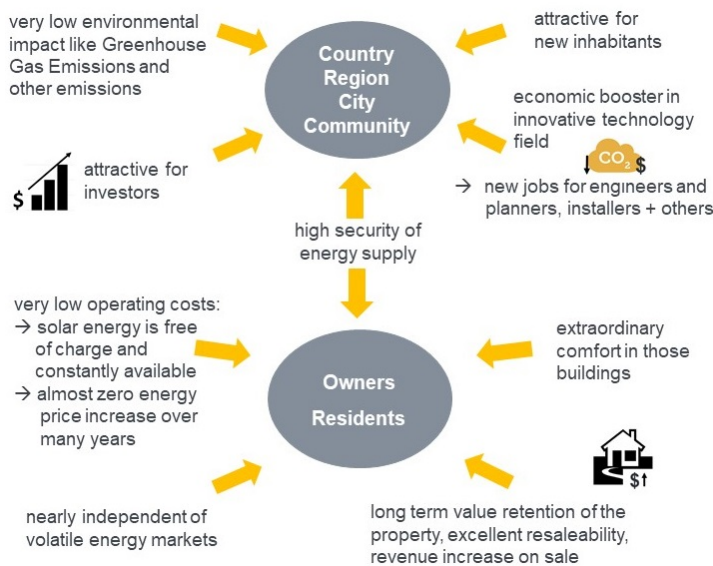
The cover page of the information brochure for investors is shown on the right.

The deliverable A5: "Solar Energy Buildings - Information for Investors" is available via the following link:

https://task66.iea-shc.org/Data/Sites/1/publications/Task66_D.A5_info_invest1.pdf



Solar Energy Buildings - Information for Policymakers (Deliverable A6)



Another important target group with regard to the market growth of solar energy buildings is the group of policymakers. This target group also needs to be convinced with target group-specific information and arguments. For this reason, the deliverable A6 "Solar Energy Buildings - Information for Policymakers" has been prepared, in which the relevant decision criteria for this group are addressed in particular.

The illustration on the left shows an extract of the brochure for policymakers related to the benefits of Solar Energy Buildings for the region and for the owners and residents.

The deliverable A6: "Solar Energy Buildings - Information for Policymakers" is available via the following link:
https://task66.iea-shc.org/Data/Sites/1/publications/Task66_D.A6_info_policij1.pdf