SOLAR HEATING & COOLING PROGRAMME
INTERNATIONAL ENERGY AGENCY

SHC
TASK 66
Solar Energy Buildings

IEA SHC Task 66: Solar Energy Buildings

Integrated solar energy supply concepts for climate-neutral buildings and communities for the "City of the Future"

IEA SHC Task 66: Solar Energy Buildings – Presentation of Final Results

Introduction to Task 66

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Motivation

Why Solar Energy Buildings?

Buildings are on global level responsible for

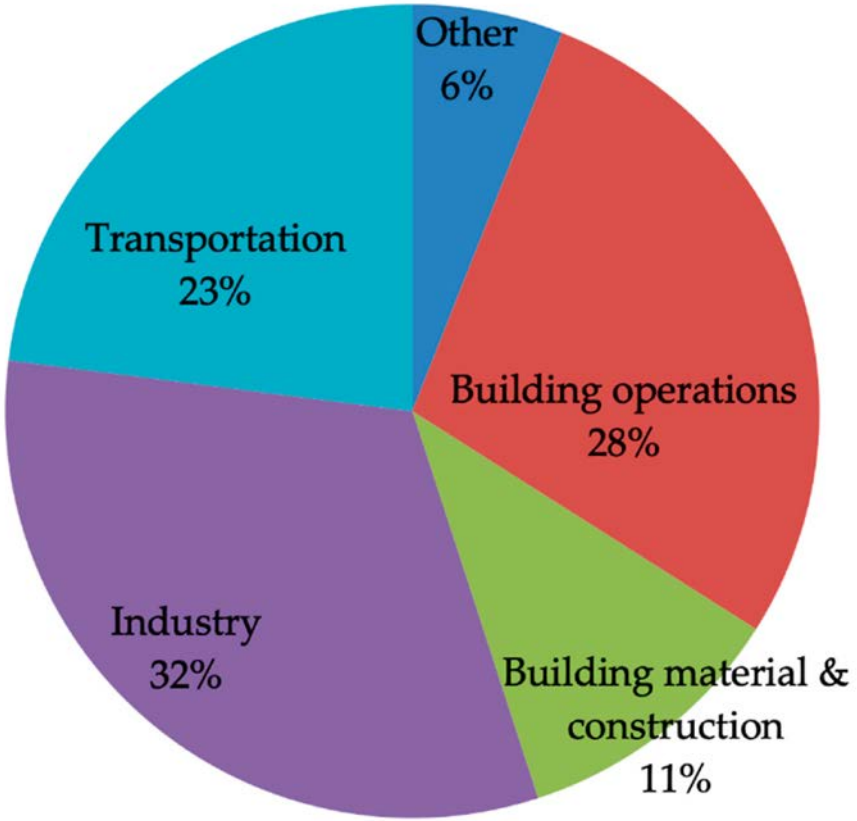
- **around 40 %**
  of the **energy consumption**

  and

- around **40 %** of the
  CO_2-emissions

Predominant part is related to operation!

CO_2-Emissions by sector



Source: https://www.mdpi.com/2071-1050/12/18/7427

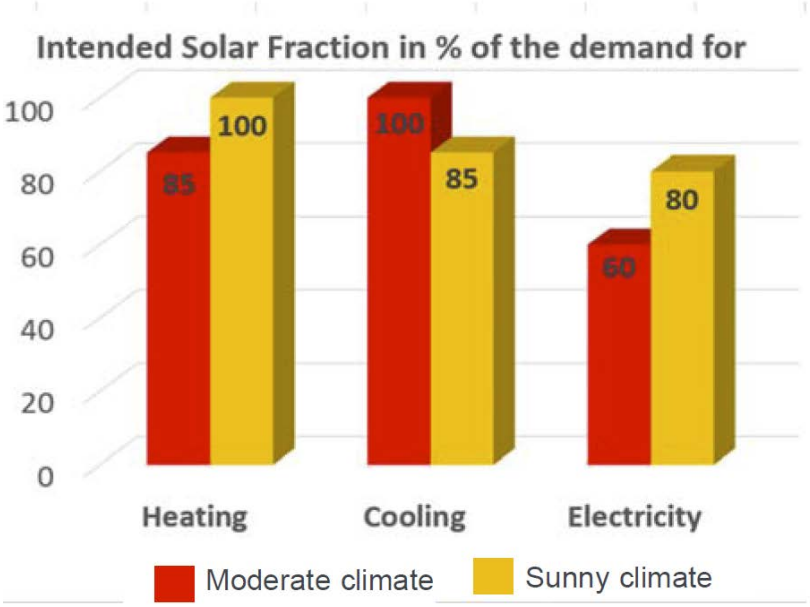
Introduction to Task 66

Targets

IEA SHC Task 66 focused on the development of economic and ecologic energy supply concepts for buildings with high solar fractions of

- at least 85% of the heat demand
- 100% of the cooling demand
- at least 60% of the electricity requirements

for moderate, e.g. central European climate conditions.



Moderate climate: e.g. central Europe, northern China and northern USA

Sunny climate: e.g. southern Europe, southern China and s. USA, Australia, Mexico

Introduction to Task 66

Team and organisation

Subtask A: Boundary Conditions, KPIs, Definitions and Dissemination
Lead: **Frank Späte,** OTH-AW, Germany

Subtask BC: New and existing buildings and building blocks / communities
Lead: **Elsabet Nielsen**, DTU, Denmark
Co-Lead: **Xinyu Zhang and Wenbo Cai**, China Academy of Building Research (CABR), Beijing, China

Subtask D: Current and future technologies and components
Lead: **Michael Gumhalter** AEE INTEC, Austria

Results of Task 66

…… will be presented in the following

Assessment of Solar Energy Buildings
Prof. Frank Späte, OTH-AW, Amberg, Germany

Towards Solar Energy Buildings
Elsabet Nielsen, Technical University of Denmark, Denmark

Current and future technologies for Solar Energy Buildings
Michael Gumhalter, Thomas Ramschak, AEE INTEC, Austria

Dissemination of Solar Energy Buildings
Prof. Frank Späte, OTH-AW, Amberg, Germany

Solar energy buildings with advanced solar thermal and photovoltaic-thermal (PVT) collectors, Zanil Narsing, Naked Energy, UK

Closing Remarks
Dr. Harald Drück, Task 66 Manager, IGTE, University of Stuttgart, Germany

Thank you for your attention

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