

## Task 66

# Solar Energy Buildings

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

Developing economic and ecologic feasible energy supply concepts with high solar fractions

### Areas of Work

The Task focuses on single-family buildings, multi-storey residential buildings, building blocks, and communities for both new and existing buildings.

#### Subtask A: Boundary Conditions, KPIs, Definitions & Dissemination

Frank Späte (OTH Amberg-Weiden, Germany, [f.spaeete@oth-aw.de](mailto:f.spaeete@oth-aw.de))

- Defining performance assessment methodology for Solar Energy Buildings (SEBs), including KPIs (Key Performance Indicator)
- Organizing Industry workshops and preparing guidelines for policy makers, municipalities and energy-related companies

#### Subtask B: Thermal Stand-alone Buildings and Building Blocks / Communities

Xinyu Zhang (China Academy of Building Research, China, [zxyhit@163.com](mailto:zxyhit@163.com))

- Developing and defining sample cases and identifying demonstration projects
- Planning and implementation methodology and modeling, simulation and optimization tools

#### Subtask C: Thermal Grid Connected Buildings and Building Blocks / Communities

Elsabet Nielsen (Technical University of Denmark, Denmark, [ean@byg.dtu.dk](mailto:ean@byg.dtu.dk))

- Developing and defining sample cases and identifying demonstration projects
- Planning and implementation methodology and modeling, simulation and optimization tools

#### Subtask D: Current and Future Technologies and Components

Thomas Ramschak (AEE - Institute for Sustainable Technologies, Austria, [t.ramschak@aee.at](mailto:t.ramschak@aee.at))

- Documenting and analyzing current and future technologies
- Classifying/assessing techno-economic technology and developing SEBs solution sets and guidelines

### Deliverables

Summary of KPIs. Definition of Reference Buildings. SEB promotion documents. Demonstration cases (Case Studies). Processes and tools currently used to design new SEBs and convert existing buildings into SEBs. Catalog describing optimized solutions of SEBs and communities. Description of available technology portfolio, future technologies and components.

### Duration

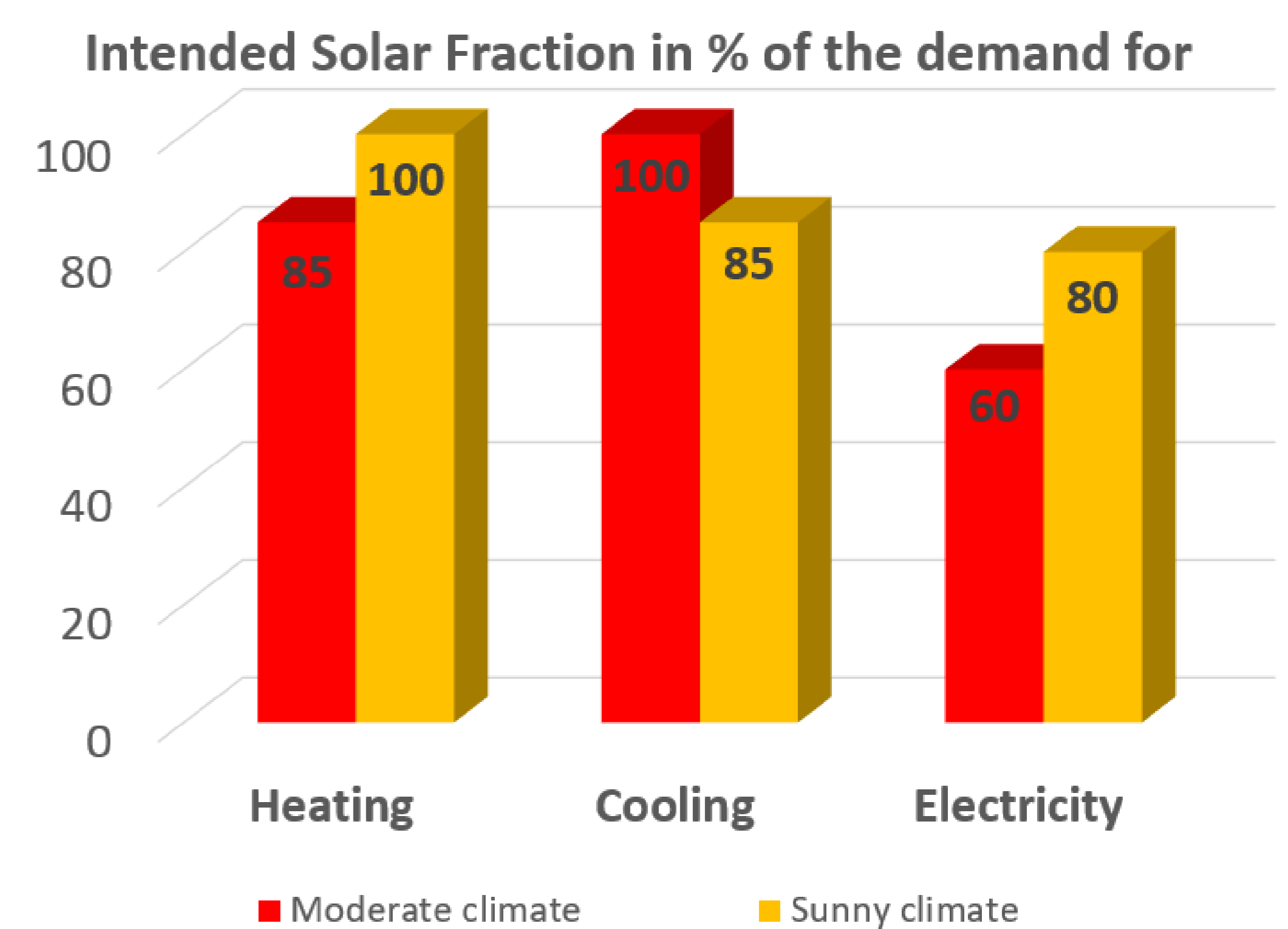
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#### Task Manager

Harald Drück  
University of Stuttgart, Germany  
[harald.drueck@igte.uni-stuttgart.de](mailto:harald.drueck@igte.uni-stuttgart.de)



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

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

Source: SHC Task 66



**Net-zero-energy multi-storey building, Copenhagen, Denmark**

Source: Yakov Safir, CEO Racell via Elsabet Nielsen, Technical University of Denmark, Denmark

### Participating Countries

Australia  
Austria  
China  
Denmark  
France  
Germany  
Italy  
Portugal  
Slovakia  
Switzerland  
United Kingdom