

Solar Energy

Use of Solar Energy – we can do better!

A large portion of the potential to use solar energy still remains **unused!**



Barriers

Solar energy still remains unexploited, why?

Causes (IEA SHC):

1. Economical factors
2. Lack of technical knowledge
3. Reluctance to use “new” technologies
4. Architectural (aesthetic) factors



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Architects have a key role to play!

Solar Potential

EU EPBD 2010 on the energy performance of buildings

“Nearly zero-energy buildings” – EU goal to reach in 8 years.

The nearly zero or very low amount of energy required should be covered to a very significant extent by energy from renewable sources.

This will increase the use of the building envelope as an active solar collector!

Architectural consequences – and potentials

If a large part of the building envelope will be covered by solar thermal and/or PV collectors, it will highly influence the building's architecture and the urban landscape...

If building integration of solar systems is not accepted – no market penetration!

- Efficiency x Usability!

IEA Project

IEA SHC Task 41: Solar Energy and Architecture

Duration: 2009 - 2012

Subtask A: Criteria for architectural integration

Lead by Switzerland

Subtask B: Methods and tools for solar design

Lead by Canada

Subtask C: Case studies & communication

Lead by Denmark with support from Norway



Overall objectives of Task 41

1. Accelerate development of high-quality solar architecture
2. Improve qualifications of architects

Task 41 participants

Participating countries

Australia
Austria
Belgium
Canada
Denmark
Germany
Italy
Norway
Portugal
Singapore
Spain
Sweden
Switzerland
South Korea

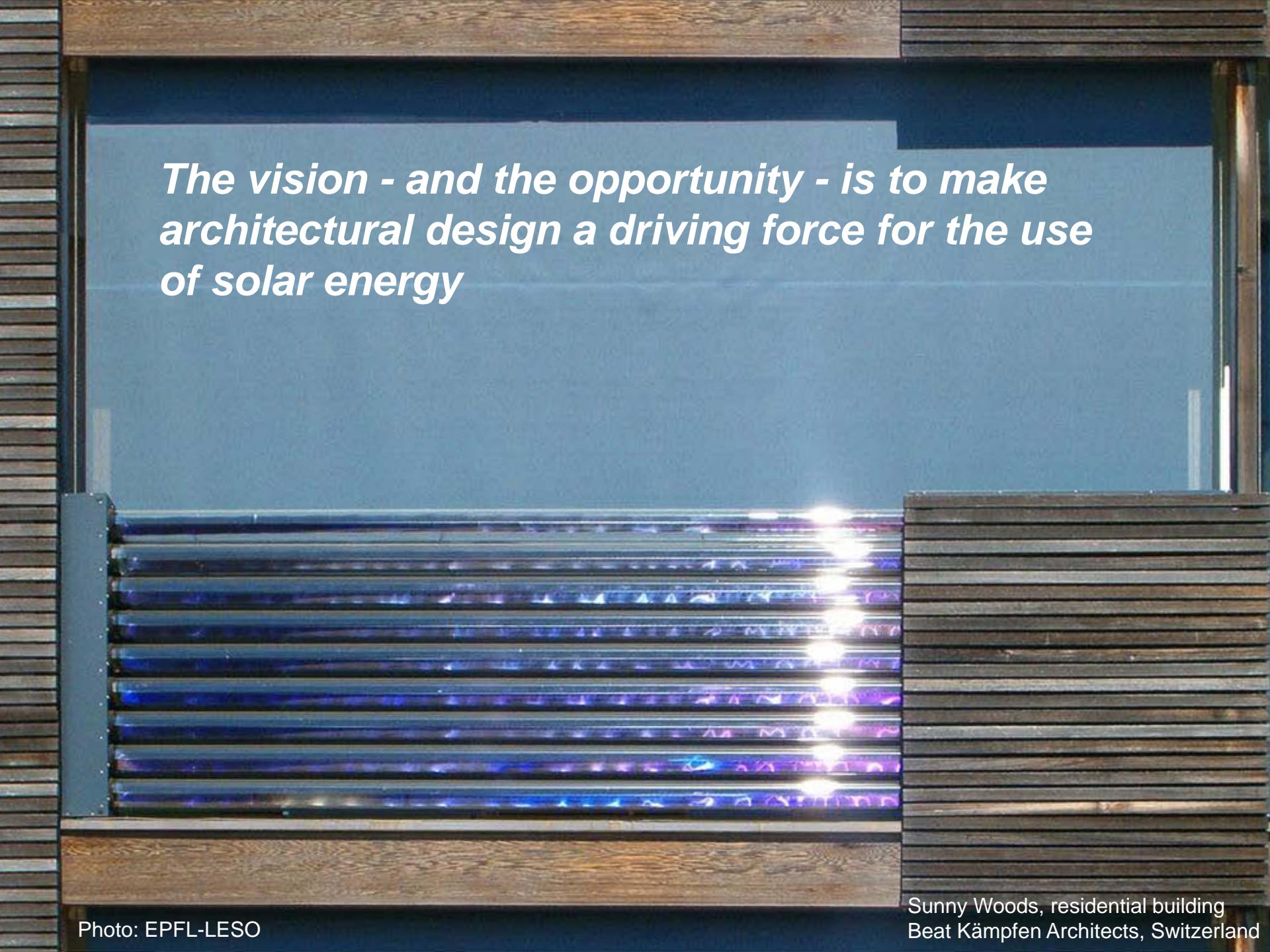
Find out more by visiting: www.iea-shc.org/task41



Task 41 contributions

Contribution of IEA Task 41 to remove barriers

- ❑ Seminars / Workshops - both national and international
- ❑ International surveys and state-of-the art
- ❑ Collection of high quality architectural examples
- ❑ Guidelines for architects about Solar Thermal and PV integration
- ❑ Guidelines for product developers of both technologies
- ❑ CAAD 3D objects of solar components, examples
- ❑ Architects' needs regarding digital tools for solar design of buildings.
Recommendations for developers of tools to be used by architects at an early design stage
- ❑ Guidelines for architects on digital tools for solar design of buildings.
- ❑ "Communication guideline" to support architects



The vision - and the opportunity - is to make architectural design a driving force for the use of solar energy