



IEA-SHC Task Solar Envelope Systems Definition meeting

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International Energy Agency



The International Energy Agency (IEA) is an autonomous body within the framework of the Organisation for Economic Co-operation and Development (OECD)

It was established in 1974



Basic aims of IEA

- To maintain and improve systems for coping with oil supply disruptions
- To promote rational energy policies in a global context through co-operative relations with non-member countries, industry and international organisations
- To operate a permanent information system on the international oil market
- To improve the world's energy supply and demand structure by developing **alternative energy sources** and increasing the **efficiency of energy use**
- To assist in the integration of environmental and energy policies



The IEA Research Programme

The primary mechanism for co-operation on technology matters thus far has been the co-operative Research-, Development- and Demonstration- (*RD&D*) programmes carried out in the Implementing Agreements

45 Implementing Agreements

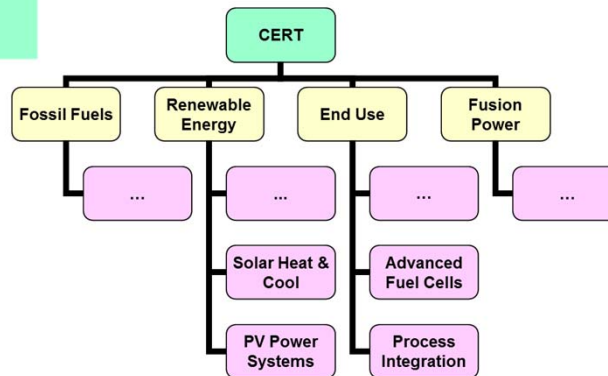


International Energy Technology Co-operation

IEA Committee on
Energy Research
and Technology

Working
Parties

Implementing
Agreements
(Examples)



Renewable Energy

Bioenergy

Geothermal Energy Research Technology

Hydropower Technologies and Programmes

Ocean Energy Systems

Photovoltaic Power System (PVPS)

Production and Utilization of Hydrogen

Solar Heating and Cooling Systems (SHC)

Solar Power and Chemical Energy Systems (SolarPACES)

Wind Turbine Systems

SHC Strategic Plan

The Solar Heating and Cooling Agreement's mission assumes a systematic approach to the application of solar technologies and designs to whole buildings, and industrial and agricultural process heat.

By concentrating on the built environment, the Task addresses all the mentioned support actions:

- providing reliable information on solar system performance
- delivering design guidelines and tools
- delivering data and market approaches
- developing and integrating solar energy technologies and design strategies.

SHC Strategic Plan

Objectives

In particular the following strategic objectives are pursued:

- To be the primary source of high quality technical information and analysis on solar heating and cooling and daylighting technologies, designs and applications
- To enhance cooperation with industry on increasing the market share of solar heating and cooling technologies and designs
- To contribute to cost reduction of solar thermal components and systems in order to increase their market competitiveness.

Task xx - definition phase

Integrated Solar Envelope Systems (for HVAC and lighting)

The Task will focus on the critical analysis, simulation and laboratory test of envelope systems entailing elements exploiting and/or controlling incident solar energy, having one or more of the following uses:

- To deliver renewable thermal or/and electric energy to systems providing heating, cooling and ventilation to buildings
- To reduce heating and cooling demands of buildings, while controlling daylight

Task xx - definition phase

Integrated Solar Envelope Systems (for HVAC and lighting)

- Residential and non-residential buildings (offices, schools, hospitals, factories) are addressed.
- Techniques for new-built and renovated constructions are analysed.
- The Task will pose the attention on solutions looking at the mass market through an industrialised integration of active components into envelope modules.
Best practices in terms of customised solutions will be also analysed.

Task xx - definition phase

Integrated Solar Envelope Systems (for HVAC and lighting)

Specific objectives :

- To gather relevant information on market available and “under-development” solar envelope systems
- To develop test methods for the performance characterization of solar envelope elements (thermal, electric and daylighting performance characterization)
- To develop simulation models for the performance characterization of solar envelope elements (thermal, electric and daylighting performance characterization)
- To develop design, manufacturing and installation guidelines

Task xx - definition phase

Integrated Solar Envelope Systems (for HVAC and lighting)

- Subtask A: Solar envelope systems classification and communication (market available and laboratory developed)
- Subtask B: Performance characterisation of solar envelope systems
 - Simulations and test methods
- Subtask C: Assessment of solar envelope systems at building level
 - Simulations and monitoring



Thank you for your attention

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