Strategic Work Plan
2019-2024
Main Focus and Current Tasks of the IEA SHC TCP

Solar Heat Farm: 156,694 m²
Silkeborg, Denmark
Source: Arcon-Sunmark

Richard Hall
Alternate Vice Chair, IEA SHC
Director of Solar Governance, Energy Transitions
What do we mean by solar heating and cooling?
Is sunlight involved in a thermal process?

Source: nasa.gov
Why use sunlight to drive thermal process?
Global energy demand rose by 2.3% in 2018, its fastest pace in the last decade

26 March 2019

“as a result, global energy-related CO₂ emissions rose by 1.7% to 33 Gigatonnes (Gt) in 2018”
Latest data shows steep rises in CO2 for seventh year

Readings from Hawaii observatory bring threshold of 450ppm closer sooner than had been anticipated

The concentration of carbon dioxide in the atmosphere has increased by the second highest annual rise in the past six decades, according to new data.

Atmospheric concentrations of the greenhouse gas were 414.8 parts per million in May, which was 3.5ppm higher than the same time last year, according to readings from the Mauna Loa observatory in Hawaii, where carbon dioxide has been monitored continuously since 1958.
The UK has declared a state of emergency on climate change


Did the protests work?

02 May 2019

Elizabeth Piper
UK Chief Political Correspondent, Reuters

Britain’s parliament declared a symbolic climate change “emergency” on Wednesday, backing a call by opposition Labour leader Jeremy Corbyn for “rapid and dramatic action” to protect the environment for generations to come.

Climate change activists from the Extinction Rebellion protest at the Parliament Square in London, Britain May 1, 2019.
Not on track

Sales of heat pumps and renewable heating equipment such as solar hot water systems have continued to increase by around 5% per year since 2010, representing 10% of overall sales in 2018. Fossil fuel-based equipment, however, still makes up more than 50% of sales, while less-efficient, conventional electric heating equipment adds another 30%. To be in line with the SDS, the share of heat pumps and renewable heating needs to reach 25% of new sales by 2030.

Contributors: John Dulac, Chiara Delmastro

Note: excludes traditional use of biomass. 2018 estimated.
What is the IEA Solar Heating and Cooling (SHC) TCP?

What do we mean by solar heating and cooling?

Solar heating and cooling market drivers and segments

Vision, mission and strategic objectives
IEA SHC Snapshot

- 20 member countries, EC and 4 Sponsors (ECREEE, RCREEE, ISES, ECI)

- 7 Tasks focused on:
  - Solar heating and cooling technologies for residential, commercial, industrial and agricultural end-uses
  - Capacity building projects for all solar technologies
  - Market information and projects to support global market deployment.

- Experts participating in Tasks:
  - **Formally participating**
    - Total approx. 300
    - 28% from Industry
  - **Informally engaged**
    - Total approx. 1,000
    - 35% from Industry
IEA SHC Members & Reach

20 Member Countries + EC
+ 5 Sponsor Organizations

Sponsors – 47 additional Countries

RCREEE  ECREEE  ISES

Map is without prejudice to status of or sovereignty over any territory, to delimitation of international frontiers/boundaries and to name of any territory/area.
**SHC TCP Mission**

Through multi-disciplinary international collaborative research and knowledge exchange, as well as market and policy recommendations, the SHC TCP will **work to increase the deployment rate of solar heating and cooling systems by breaking down the technical and non-technical barriers to increase deployment.**

**Objective 1:** To remain the primary source worldwide of **high quality technical information and analysis** on solar heating and cooling and daylighting technologies and markets.

**Objective 2:** To contribute to a significant increase in the **cost effectiveness** of solar heating and cooling technologies and designs through **increased performance and reduced costs** to increase their **market competitiveness** in heating and cooling applications.

**Objective 3:** To enhance **cooperation** with stakeholders, namely industry, international organizations and local, regional and national governments, potential customers, energy and urban planners.

**Objective 4:** To increase **awareness and understanding** on the potential and value of solar heating and cooling systems with thermal and PV technologies by providing information to non-technical stakeholders such as decision makers and the public.
International Conference on Solar Heating and Cooling for Buildings and Industries
2012: San Francisco
2013: Freiburg
2014: Beijing
2015: Istanbul
2017: Abu Dhabi
2019: Santiago

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Themes

- Solar Heating and Cooling Technologies
- Solar Heating and Cooling Applications
- Solar and Renewable Electricity
- Energy Storage for Heat and Electricity
- Solar Energy Markets and Policies
- Energy Systems and Sector Coupling
- Off-Grid & Rural Energy Access
- Solar Architecture
- Clean Water Technologies
IEA SHC Solar Award 2017 – Austria’s Climate and Energy Fund wins for large-scale solar thermal plant subsidy program

Abu Dhabi, UAE, 3 November 2017. The Climate and Energy Fund of Austria wins the International Energy Agency Solar Heating Programme (IEA SHC) SHC SOLAR AWARD. The Climate and Energy Fund challenged how subsidies are implemented. Its national support program for large-scale solar thermal plants in commercial applications is based on a 3-pronged approach – financial and technical support, quality assurance and communication. Mr. Ingmar Höl Barth, Managing Director, received the award on behalf of the Climate and Energy Fund during SHC 2017, the IEA SHC’s International Conference on Solar Heating and Cooling for Buildings and Industry held this year in Abu Dhabi, UAE.

"This year’s SHC Solar Award shines a light on a successful government solar thermal support scheme. The recipient, Climate and Energy Fund, understands the potential of large-scale solar plants for Austria’s economy and has created an innovative subsidy program to support market expansion of large-scale solar thermal systems", IEA SHC Chairman Ken Guthrie.

The IEA SHC Solar Award is given to an individual, company, or private/public institution that has shown outstanding leadership or achievements in the field of solar heating and cooling. With this year’s award, the IEA SHC recognizes not only a government agency implementing a successful support scheme, but also a best
The highest quality source of data on solar heating and cooling deployment
Sub-Saharan Africa: Botswana, Burkina Faso, Ghana, Lesotho, Mauritius, Mozambique, Namibia, Senegal, South Africa, Zimbabwe
Asia w/o China: India, Japan, South Korea, Taiwan, Thailand
Latin America: Barbados, Brazil, Chile, Mexico, Uruguay
Europe: EU 28, Albania, Macedonia, Norway, Russia, Switzerland, Turkey
MENA countries: Israel, Jordan, Lebanon, Morocco, Palestinian Territories, Tunisia

Share of the total installed capacity in operation (glazed and unglazed water and air collectors) by economic region in 2016
Large-scale systems for solar district heating and large residential, commercial and public buildings worldwide – annual achievements and cumulated area in operation in 2017 (Data source: Jan-Olof Dalenbäck – Chalmers University of Technology, SE and Sabine Putz – IEA SHC Task 55, Bärbel Epp solartermalworld.org)
Webinar: IEA SHC Solar Academy Task 55 - Large Scale SHC Systems Integration
International Solar Energy Society (ISES) • 157 views • 2 months ago
As part of the IEA SHC Solar Academy, in which IEA SHC shares its work and supports R&D and implementation of solar heating...

Webinar: IEA SHC Solar Academy - Solar Standards and Certification Task 57
International Solar Energy Society (ISES) • 315 views • 5 months ago
As part of the IEA SHC Solar Academy, in which IEA SHC shares its work and supports R&D and implementation of solar heating...

Webinar: IEA SHC Solar Academy Solar Heating for Industrial Processes
International Solar Energy Society (ISES) • 865 views • 1 year ago
Panelist speakers and topics: Christoph Brunner: Global view on solar heat for industrial processes - From planning to...

Webinar: IEA SHC Solar Academy Price Reduction of Solar Thermal Systems
International Solar Energy Society (ISES) • 552 views • 1 year ago
Having the image of being too expensive to buy, too complex to install, too costly to maintain, solar thermal often loses the...
The Solar Heat Market & Innovation in Portugal

Posted by Richard Hall on Jan 25, 2019 in Innovation in Solar

IEA SHC Solar Academy National Day – Portugal

One of the core activities of the IEA Solar Heating and Cooling Programme (SHC) is a series of Solar Academy National Days. Solar Academy National Days are held twice a year and bring together solar heat experts from around the world to exchange information about developments in solar heat policy and innovation in a specific country. In this blog post I would like to share with you some of the things I learned on the Solar Academy National Day in Portugal, which convened on 15th November in Lisbon.
Task 55: Towards the Integration of Large SHC Systems into District Heating and Cooling (DHC) Networks

Operating Agent: Sabine Putz
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Duration: September 2016 — August 2020
Task 56: Building Integrated Solar Envelope Systems for HVAC and Lighting

Operating Agent: Roberto Fedrizzi
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February 2016 — January 2020
Task 57: Solar Standards and Certification

Operating Agent: Jan Erik Nielsen
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January 2016 — December 2018
Task 58: Material and Component Development for Thermal Energy Storage

Operating Agent: Wim van Helden
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January 2017 — December 2019
Task 59: Renovating Historic Buildings Towards Zero Energy

Operating Agent: Alexandra Troi
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September 2017 — February 2021
Task 60: PVT Systems: Application of PVT Collectors and New Solutions in HVAC Systems

Operating Agent: Jean-Christophe Hadorn
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January 2018 — December 2020
Task 61: Integrated Solutions for Daylighting and Electric Lighting: From component to user centered system efficiency

Operating Agent: Jan de Boer
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January 2018 — June 2021
Task 62: Solar Energy in Industrial Water & Wastewater Management

Operating Agent: Christoph Brunner

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October 2018 — September 2022
156,694 m²
Silkeborg, Denmark
Source: Arcon-Sunmark

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http://www.iea-shc.org