IEA Technology Collaboration Programmes (TCP) Overview

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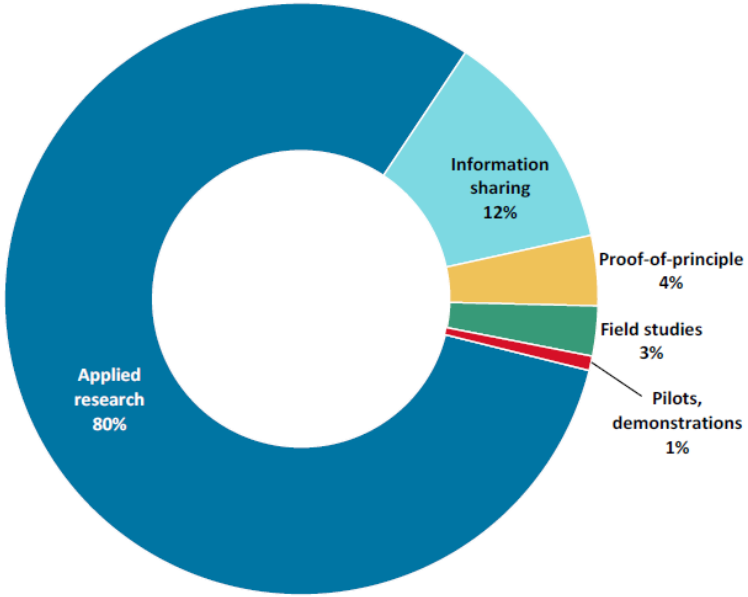
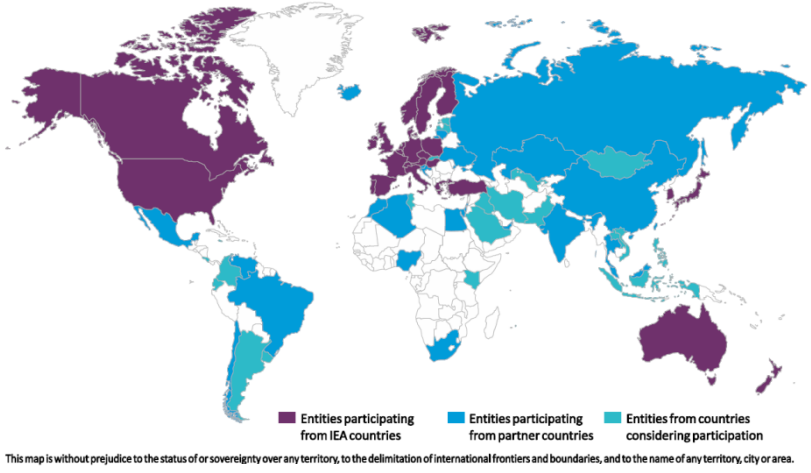
Department for Business, Energy & Industrial Strategy

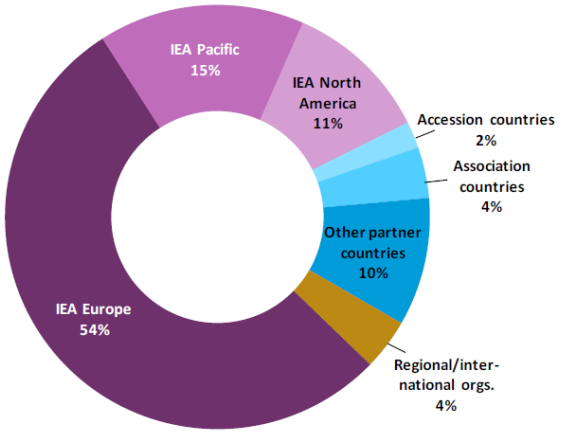
What are TCPs?

6,000+ experts from government, industry and research organisations in 51 countries across 38 topics (TCPs).





Participants by world region



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UK Participate in 20 TCPs

Cross-cutting	End-use: Buildings	End-use: Electricity	End use: Transport	Fossil Fuels	Renewable Energy and Hydrogen
Energy tech systems analysis (ETSAP)	**Buildings and Communities (EBC)**	**Demand-side Management (DSM)**	Advanced Materials for Transportation (AMT)	Enhanced Oil Recovery (EOR)	**Bioenergy**
	District Heating and Cooling (DHC)	High-Temperature Superconductivity (HTS)	Emissions Reduction in Combustion	Fluidized Bed Conversion (FBC)	**Geothermal Energy (Geothermal)**
	Energy Storage (ECES)		Hybrid and Electric Vehicles (HEV)	Greenhouse Gas R&D (GHG)	**Hydrogen**
	Energy Efficient End-use Equipment (4E)				Ocean Energy Systems (OES)
	Heat Pumping Technologies (HPT)				**Solar Heating and Cooling (SHC)**
					Wind Energy (Wind)


IEA DHC|CHP


iea hydrogen


ieadsm
energy efficiency


IEA HPT


ECES


SHC
SOLAR HEATING & COOLING PROGRAMME
INTERNATIONAL ENERGY AGENCY


EBC
Energy in Buildings and
Communities Programme


IEA Geothermal

ISGAN

INTERNATIONAL SMART GRID ACTION NETWORK

Recruiting an alternate delegate – advert closes 17th Oct 2018

https://www.contractsfinder.service.gov.uk/Notice/6837d48f-db5b-4d8b-9abf-090e15055b2b

Contact – Miriam.hall@beis.gov.uk

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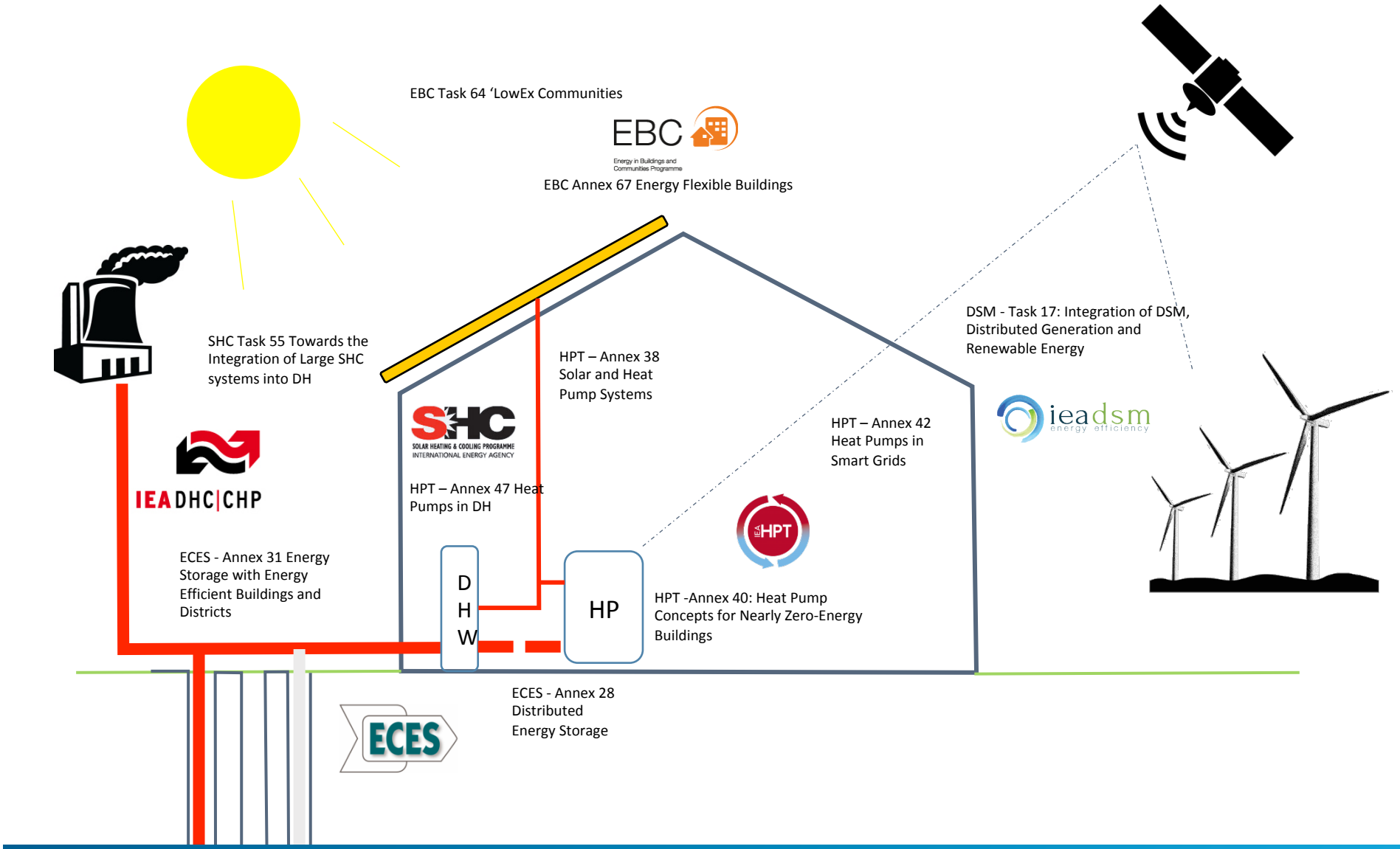

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Energy in Buildings and Communities

EBC
Energy in Buildings and Communities Programme

The IEA-EBC Programme is an international energy research and innovation programme in the buildings and communities field. It enables collaborative R&D projects among its 23 member countries, providing:

- High quality scientific reports
- Summary information for policy makers

High Priority Research Themes

- 1. Integrated planning and building design
- 2. Building energy systems
- 3. Building envelope
- 4. Community scale methods
- 5. Real building energy use

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Energy in Buildings and Communities

EBC
Energy in Buildings and Communities Programme

Participating countries:

Australia, Austria, Belgium, Canada, P.R. China, Czech Republic, Denmark, France, Germany, Ireland, (India), Italy, Japan, Republic of Korea, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, UK & USA

Example projects & overlaps:

- Annex 63 Implementation of Energy Strategies in Communities – overlapping with DHC
- Annex 67 Energy Flexible Buildings - overlapping with SHC, ECES, HPT*
- Annex 70 Building Energy Epidemiology: Analysis of Real Building Energy Use at Scale – overlapping with SHC, DHC, ECES, HPT **
- Annex 73 Towards Net Zero Energy Public Communities – overlapping with SHC, DHC, ECES, HPT *

* UK participating ** UK leading

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What is the Heat Pump Programme?

IEA Technology Collaboration Programme on Heat Pumping Technologies (HPT TCP)

VISION: Heat pumping technologies play a vital role in achieving the ambitions for a secure, affordable, high-efficiency and low-carbon energy system **for heating, cooling and refrigeration** across multiple applications and contexts.

The Programme is a key worldwide player in this process by communicating and generating **independent information, expertise and knowledge** related to this technology as well as enhancing **international collaboration**.

MISSION: To accelerate the transformation to an efficient, renewable, clean and secure energy sector in our member countries and beyond by performing collaborative research, demonstration and data collection and enabling innovations and deployment within the area of heat pumping technologies.

Signatories : Austria | Canada | Denmark | Finland | France | Germany | Japan | Korea, Republic of | Netherlands | Norway | Sweden | Sweden | Switzerland | United Kingdom | United States | Belgium

For more information: http://www.heatpumpcentre.org

HPT TCP Summary – UK Involvement

UK currently participating

- **Annex 43 Fuel Driven Heat Pumps** – *Operating Agent Germany.* ***UK Participants:*** *Warwick University.*
- **Annex 45 Hybrid Heat Pumps** - *Operating Agent Netherlands.* ***UK Participants:*** *BEIS, Glen Dimplex, Passiv Systems (FREEDOM Project).*
- **Annex 46 Domestic Hot Water Heat Pumps** - *Operating Agent Netherlands.* ***UK Participants****: University of Ulster, Cardiff University, Glen Dimplex, BRE, Mitsubishi Electric, BSRIA.*
- **Annex 47 Heat Pumps in District Heating** - *Operating Agent Denmark.* ***UK Participants:*** *BEIS, Glen Dimplex, Cardiff University, Leeds University.*
- **Annex 48 Industrial Heat Pumps (Phase II)** - Operating *Agent Germany.* ***UK Participants:*** *University of Ulster, Cardiff University,*
- **Annex 49 Design and integration of heat pumps for nZEB –** Operating Agent Switzerland. ***UK Participants:*** *Glen Dimplex*
- **Annex 52 Long Term Performance Measurements of large scale GSHPs** – *Operating Agent Sweden.* ***UK Participants:*** *Leeds University, BGS, GSHPA, HPA, BEAMA*

And still time to join!

- **Annex 50 Heat pump systems in multi-family buildings** – *Operating Agent Germany.* ***UK Participants:*** *Glen Dimplex*

Example HPT Links with other TCPs

- Annex 38 – Solar and Heat Pump Systems – joint with IEA SHC
- Annex 40 - Heat Pump Concepts for Nearly Zero-Energy Buildings (EBC)
- Annex 42 – Heat Pumps in Smart Grids (ECES)
- Annex 47 - Heat Pumps in District Heating and Cooling systems (DHC TCP)
- Annex 50 - Heat Pumps in Multi-Family Buildings for space heating and DHW (EBC TCP)
- Annex 52 – Long term monitoring of GSHPs (interest from ECES and Geothermal TCPs)

What is the Energy Storage Programme?

IEA Technology Collaboration Programme on Energy Conservation through Energy Storage (ECES TCP)

- VISION: Future global energy systems will demonstrate an ongoing transition from a reliance on fossil fuels to renewable and low carbon technologies. Energy storage will be a key feature, optimising generation, creating flexibility and facilitating grid stability, of these future energy systems.
- MISSION: The programme stimulates and facilitates collaboration of international research aimed at discovery, development, deployment and demonstration of energy storage systems.

Member Countries : Belgium | Canada | China | Denmark | Finland | France | Germany | Ireland | Italy | Japan | Korea, Republic of | Netherlands | Norway | Slovenia | Spain | Sweden | Turkey | United Kingdom | United States |

For more information: https://iea-eces.org/

ECES

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What is the District Heating & Cooling (DHC) TCP?

- DHC TCP was established in 1983
- Cost-shared TCP that carries out research projects in three-year 'annexes' which comprise 4 – 6 projects
- Also initiated task-sharing in 2011
- Current members are: Austria, Canada, Denmark, Finland, Germany, Korea, Norway, Sweden, UK, USA
- Potential new members: China, France, Belgium
- Reports are produced for all projects and are available at the website: www.iea-dhc.org

IEA DHC|CHP

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Links with other TCPs

DHC-TCP organised joint workshop May 2016. Relevant tasks in other TCPs include:

- SHC Task 55 ‘Towards the Integration of Large SHC systems into DH.’
- ECES Task 28 ‘Distributed Energy Storage for the Integration of Renewable Energies’.
- HPT Task 47 ‘Large Scale Heat Pumps in DHC Systems’
- EBC Task 64 ‘LowEx Communities’.

IEA DHC|CHP

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What is the Solar Heating and Cooling Programme?

IEA Technology Collaboration Programme on Solar Heating and Cooling (SHC TCP)

- VISION: By 2050 a worldwide capacity of 5kWth per capita of solar thermal energy systems installed and significant reductions in energy consumption achieved by using passive solar and daylighting: thus solar thermal energy meeting 50% of low temperature heating and cooling demand (heat up to 250°C).
- MISSION: To enhance collective knowledge and application of solar heating and cooling through international collaboration in order to fulfil the vision.

Signatories: Australia | Austria | Belgium | Canada | China | Denmark | France | Germany | Italy | Mexico | Netherlands | Norway | Portugal | Slovakia | South Africa | Spain | Sweden | Switzerland | Turkey | United Kingdom

Organisation Members: European Commission | ECREEE | ECI | ISES | GORD | RCREEE

For more information: http://www.iea-shc.org

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Completed and Current Tasks

SOLAR HEATING & COOLING PROGRAMME
INTERNATIONAL ENERGY AGENCY

Completed Tasks

Task 45 - Large Scale Solar Heating and Cooling Systems
Task 44 - Solar and Heat Pump Systems (joint Task with HPT)
Task 35 - PV/Thermal Systems
Task 31 - Daylighting Buildings in the 21st Century
Task 22 - Building Energy Analysis Tools
Task 21 - Daylight in Buildings

Current Tasks

Task 60 - Application of PVT Collectors and New Solutions in HVAC Systems
Task 59 -
Deep Renovation of Historic Buildings Towards Lowest Possible Energy Demand and CO2 Emission (NZEB)
(joint Task with EBC)
Task 55 - Towards the Integration of Large SHC Systems into District Heating and Cooling (DHC) Network
Task 54 - Price Reduction of Solar Thermal Systems

IEA District Heating and Cooling (DHC TCP)
Delegate: Giorgia Albieri (BEIS) giorgia.albieri@beis.gov.uk
Alternate delegate: Robin Wiltshire (BRE) robin.wiltshire@bre.co.uk

IEA Heat Pumping Technologies (HPT TCP)
Delegate: Oliver Sutton (BEIS) oliver.sutton@beis.gov.uk
Alternate delegate: Roger Hitchin - roger.hitchin@blueyonder.co.uk

IEA Solar Heating and Cooling (SHC TCP)
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Alternate delegate: Richard Hall - drrichardhall@energytransitions.uk

IEA Buildings and Communities
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IEA Energy Storage (ECES TCP)
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IEA Hydrogen (Hydrogen TCP)
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Alternate delegate: Paul Dodds (UCL) - p.dodds@ucl.ac.uk

IEA Demand Side Management (DSM TCP)
Delegate: Peter Warren (BEIS) peter.warren@beis.gov.uk
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