TCP on Energy Storage (ECES TCP)

The mission of the ECES TCP is to facilitate research, development, implementation and integration of energy storage technologies to optimise the energy efficiency of all kinds of energy systems and enable the increasing use of renewable energy. Storage technologies are a central component in energy-efficient and sustainable energy systems. Energy storage is a cross-cutting issue that relies on expert knowledge of many disciplines. The ECES TCP fosters widespread experience, synergies and cross-disciplinary co-ordination of working plans and research goals.

Main areas of work

- Thermal storage (when the final energy to be stored is heat or cold)
- Electrical energy storage (such as pumped hydro, batteries, compressed air, etc.)
- Material storage systems (e.g. gas storage)
- Virtual storage (controllable loads which can be switched on or off depending on demand)

End-Use: Buildings

Key accomplishments (2017-2018)

- Improved knowledge on role and impact of energy storage in energy systems and models
- Pre-standardisation work on underground energy storage
- Compact thermal energy storage materials and components
- Joint activity with Mission Innovation
- Greater emphasis on policy aspects in project work

Energy storage for wind and solar energy. Source: ECES TCP

Transportable thermal energy storage. Source ECES TCP

Priorities and projects (2019 – 2020)

- Integration of energy storage in system analysis and use of Artifical Intelligence (AI)
- Affordable heating and cooling
- Flexible sector coupling
- Mid-size storage developments

Multilateral collaborations

- Affordable heating and cooling for buildings in the 21st century (joint project with the TCP on Heat Pumping Technologies (HPT TCP), linked to Mission Innovation Challenge #7 on Affordable Heating and Cooling)
- Material and component development for thermal energy storage (joint project with the TCP on Solar Heating and Cooling (SHC TCP))

End-Use: Buildings

Membership

- Dublin Institute of Technology
- University of Lleida

Why should your organisation become a member of the ECES TCP?

Improved energy storage solutions take an integrated view on the entire energy system,and the interaction between the use of electricity, heat, cooling and mobility - also referred to as "sector coupling". The ECES TCP enables high-level co-ordination in research, development, dissemination and market deployment of energy storage solutions, as well as co-ordination activities.

TCP Chair: Teun Bokhoven, Netherlands (teunbokhoven@consolair.nl)
TCP primary contact: (energystoragetcp@gmail.com)
IEA contact: Thibaut Abergel (thibaut.abergel@iea.org)

www.iea-eces.org