

Technology Collaboration Programmes

Energy Conservation through Energy Storage (ECES TCP)

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About ECES TCP

■ Mission and scope

The TCP-ECES **mission** is to contribute in the energy transition toward a renewable energy based energy system by:

- Stimulating and facilitating collaboration aimed at joint RD&D + pre-standardisation work of energy storage systems **as part of the transformation.**

Scope:

- Both thermal and electrical & Integral solutions, impact on other domains like Solar, Heat pumps, SG, DHC, ...

	Participating countries
Contracting Parties	18
Sponsors	2

About ECES TCP

■ Current high-priority themes for energy storage in ECES

● Thermal storage:

- ◆ Underground energy storage (LT storage),
- ◆ Compact thermal storage (ST + LT storage)

● Electrical storage:

- ◆ integration aspects in grids,
- ◆ Storage in buildings and electric mobility

● Modelling:

- ◆ improve position of energy storage in models

Future challenges

■ Development

- Historical focus only on production and conservation
- New domain: matching variable production and variable load profiles (incl. EV)
- Sector coupling required for comprehensive approach (P2G, P2H, P2P, P2M2P, etc)

→ Position of Energy Storage and Flexibility:



Future challenges

■ Deployment

- Regulatory barriers i.e.:
 - ◆ role of DSO/TSO
 - ◆ Dynamic pricing
 - ◆ Grid access
 - ◆ Prosumerfication
- Value (\$€) of flexibility and storage:
 - ◆ Grid cost vs cost for flex and storage
 - ◆ Pricing in energy markets
 - ◆ etc

Activities ECES TCP

■ Highlight of activities

Need for more fact-based information and development of technological solutions addressing efficient energy storage.

- Electricity grids (sec- hours);
- Buildings (to facilitate prosumerfication- both E & T)
- Low-temp heating / cooling by combined (compact) Storage & Renewables, like solar and heat pumps
- High temp. industrial applications (facilitate flex)
- Storage (and flex) in models
- Power to Heat, Power to Gas, etc

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Thank you

Website: [www. https://iea-eces.org](https://iea-eces.org)

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