

Cluster 5 – Energy Destinations 3 and 4

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Destination 3 – Sustainable, secure and competitive energy supply

Reducing overall energy demand;

Making the energy supply side climate neutral

- Fostering the European global leadership in affordable, secure and sustainable renewable energy technologies;
- Energy systems, grids and storage
- Carbon capture, utilisation and storage (CCUS)

Destination 3 covers the following impact areas:

- Industrial leadership in key and emerging technologies that work for people;
- Affordable and clean energy.

Destination 3 – Sustainable, secure and competitive energy supply – 2021 Calls

- For 2021: first call
 - One stage call; Budget: 303,8 M€;
 - Opening: 15 April 2021, Deadline: **26 August 2021**
- 19 topics (3 RIA, 7 IA, 8 CSA, 1 COFUND – Clean Energy Transition):
 - Wave energy devices; sustainability and educational aspects for renewable energy and fuel technologies; market uptake of renewable energy systems; Novel tandem, high efficiency Photovoltaic technologies targeting low cost production with Earth abundant materials
 - Energy sector integration; increasing energy system flexibility; reliability and resilience of the grid; High-Voltage, Direct Current (HVDC)-based solutions; superconducting systems and elpipes; Demonstration of advanced Power Electronics for application in the energy sector; Real Time Demonstrator of Multi-Vendor Multi-Terminal HVDC with Grid Forming Capability; common European energy data space; digitalisation related know how of local energy ecosystems; Interoperability community
 - Integration of CCUS in hubs and clusters; cost reduction of CO2 capture; support to the activities of the European Geological Services; support to the activities of the ETIPs and technology areas of the SET-Plan; clean energy transition

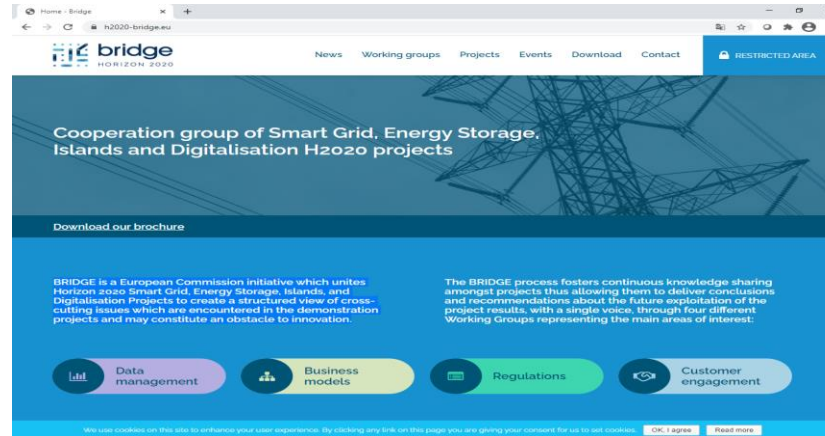
Destination 3 – Sustainable, secure and competitive energy supply – 2021 Calls

- For 2021: second call
 - One stage call; Budget: 280.00 M€;
 - Opening: 02 September 2021, Deadline: **05 January 2022**
- 16 topics (12 RIA, 4 IA):
- AU-EU Water Energy Food Nexus; Next generation of renewable energy technologies; Hybrid catalytic conversion of renewable energy to carbon-neutral fuels; Physics and aerodynamics of atmospheric flow of wind for power production; Wind energy in the natural and social environment; Novel approaches to concentrated solar power (CSP); Stable high performance Perovskite Photovoltaics; Cost-effective micro-CHP and hybrid heating systems; Carbon-negative sustainable biofuel production; floating PV and ocean energy devices; hydropower equipment for hidden hydropower; floating wind energy deployment optimized for deep waters and different sea basins; Demonstration pilot lines for alternative and innovative PV technologies (Novel c-Si tandem, thin film tandem, bifacial, CPV, etc.); CHP technologies to use biogenic residues and wastes; Solutions for more sustainable geothermal energy; biomethane as an energy carrier and a fuel



Project BRIDGE activities

- The selected projects are expected to contribute and participate to the activities of the project BRIDGE when relevant
- <https://www.h2020-bridge.eu/>
- BRIDGE is a European Commission initiative which unites Horizon 2020 Smart Grid, Energy Storage, Islands, and Digitalization Projects to create a structured view of cross-cutting issues which are encountered in the demonstration projects and may constitute an obstacle to innovation.



Destination 4 – Efficient, sustainable and inclusive energy use

Targeting energy demand side;

More efficient energy use as regards buildings and industry; supporting transition to climate neutrality; reducing pollution and raw materials use

Benefitting from the use of digital technologies

- Highly energy-efficient and climate neutral EU building stock
- Industrial facilities in the energy transition

Destination 4 covers the following impact areas:

- Industrial leadership in key and emerging technologies that work for people;
- Affordable and clean energy;
- Circular and clean economy.



Destination 4 – Efficient, sustainable and inclusive energy use – 2021 Calls

- For 2021: first call
 - One stage call; Budget: 66.00 M€;
 - Opening: 15 April 2021, Deadline: **19 October 2021**
- 5 topics (5 IA):
 - Advanced energy performance assessment and certification; industrialisation of deep renovation workflows; advanced data driven monitoring of building stock energy performance; heat upgrade technologies; industrial excess (waste) heat-to-power conversion based on organic Rankine cycle
 - For 2021: second call
 - One stage call; Budget: 38.00 M€;
 - Opening: 02 September 2021, Deadline: **25 January 2022**
- 3 topics (2 IA; 1 CSA):
 - Demonstrating integrated technology solutions for buildings with performance guarantees (Built4People); holistic renovation packages, integrating RES and re-used and recycled materials (Built4People); strengthening European coordination and Exchange for innovation uptake towards sustainability, quality, circularity and social inclusion in the built environment as a contribution to the new European Bauhaus (Built4People)
 - https://europa.eu/new-european-bauhaus/index_cs

