

CLEAN ENERGY

Horizon Europe (Energy use and supply)

Research and innovation for sustainable energy sectors supporting the transition to a reliable, efficient, inclusive and competitive energy system.

Budget (2021-2027): €10.78 billion ⁽⁴⁾

Key Areas	<ul style="list-style-type: none"> • Renewable energy (solar, wind, ocean, hydro, geothermal, hydro, bioenergy) • Smart grids and storage • Batteries • Carbon Capture, Utilisation and Storage (CCUS) • Alternative fuels • Buildings (including New European Bauhaus) • Buildings • Cities and districts • Industry • Social dimension of energy 			
WHO can apply?	<ul style="list-style-type: none"> • EU Member States, associated countries, low- to middle-income countries (see Chapter 8 of the Horizon Europe Programme Guide) • Legal entities: Public or private bodies, natural persons • International organisations <p>Applicants must register in the participant register before submitting applications. For Research and Innovation Actions (RIAs) and Innovation Actions (IAs), consortia must include at least one independent entity established in a Member State and at least two other independent legal entities established in different Member States or associated countries. Legal entities from Member States and associated countries that are public bodies, research organisations or higher education establishments (including private research organisations and higher education establishments) must have a gender equality plan to be eligible.</p>			
WHAT activities can be funded?	<ul style="list-style-type: none"> • R&I projects • Studies • Technology deployment • Close to market projects • Training/capacity building • Technical assistance 			
Range of EU Contribution	<ul style="list-style-type: none"> • Research and Innovation Actions (RIAs): up to 100% • Innovation Actions (IAs): up to 70% and in specific calls/topics up to 60% (except for non-profit legal entities, where a rate of up to 100% applies) • Coordination and Support Actions (CSAs): up to 100% 			
Links to relevant calls	HE Energy calls for proposals			
Target Technology Readiness Level (TRL)	From 3 (Experimental proof of concept) to 8 (System complete and qualified) As detailed in the TRL scale annexed to the Work Programmes of the Horizon Europe EU funding programme .			
Project examples	<p>EU-SCORES (September 2021 – August 2025)</p> <p>The project aims at demonstrating the large-scale roll-out of complementary offshore renewable energy sources (wave, wind & solar) in so-called multi-source energy parks across different European sea basins.</p> <p>Two technologies, offshore solar and wave energy converters, are foreseen to be demonstrated on a megawatt (MW) scale in support of business cases for the upscaling of those technologies inside offshore wind parks.</p>	<p>LEILAC2 (April 2020 – March 2025)</p> <p>The project aims at demonstrating at an industrial scale the technology developed under the previous LEILAC project for capturing CO₂ from the production of cement using direct separation, providing a viable and cost effective decarbonisation solution while leveraging significant private sector funding.</p> <p>LEILAC2 is developing, building and validating a module capturing 20% of a typical cement plant's CO₂ emissions (up to 100 kilotonnes per year of CO₂).</p>	<p>domOS (September 2020 – February 2024)</p> <p>domOS boosted the rollout of smart energy services in existing buildings. The project defined guidelines for an open, secure, multi-service Internet of Things (IoT) ecosystem for smart buildings and developed smart services to increase the energy efficiency of space heating.</p>	<p>PV SITES (January 2016 – June 2020)</p> <p>The project brought building-integrated photovoltaics to large market deployment by demonstrating an ambitious portfolio of building-integrated solar technologies and systems (BIPV).</p> <p>Commercialisation of technologies developed in the project took place already during its lifetime and a showcase of 7 commercial BIPV installations using the technologies developed is available on the project website.</p>

⁽⁴⁾ Budget for Cluster 5 all sectors – Climate, Energy and Transport (without UK contribution). With estimated amounts on 2021-27 EU Missions.