



Horizon Europe - Cluster 5, Destination 4

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UK National Contact Point for Horizon 2020 Energy



EU Energy Focus

- UK National Contact Point (NCP) for Energy
- Funded by the Department for Business, Energy and Industrial Strategy
- Provide support for UK organisations on European energy programmes
- Part of UK and international National Contact Point network



UK Association to Horizon Europe

- **UK has announced that it will associate to Horizon Europe**, in principle, subject to both the ratification of the overall deal and satisfactory finalisation of the regulations.
- Association will give UK scientists, researchers and businesses access to funding under the programme **on equivalent terms to organisations in EU Member States**.
- European Commission has published [Q&A on the UK's participation in Horizon Europe](#)



HorizonEurope
@HorizonEurope1

The UK will continue to participate in the EU's flagship Horizon Europe programme as a paying associate member for seven years. It will also continue in Copernicus and Euratom.

5:39 pm · 24 Dec 2020 · Twitter for iPhone



What does Association mean?

Equivalent terms to Member States i.e. UK organisations:

- Can coordinate proposals/projects
- Count towards the eligibility requirements e.g. a minimum of three independent legal entities established in different Member States or Associated Countries
- Receive same funding rates as Member States
- Receive funding directly from the European Commission

UK Government will participate in Programme Committees



Three tips for success

1. Understand the context
2. Focus on impact
3. Get involved

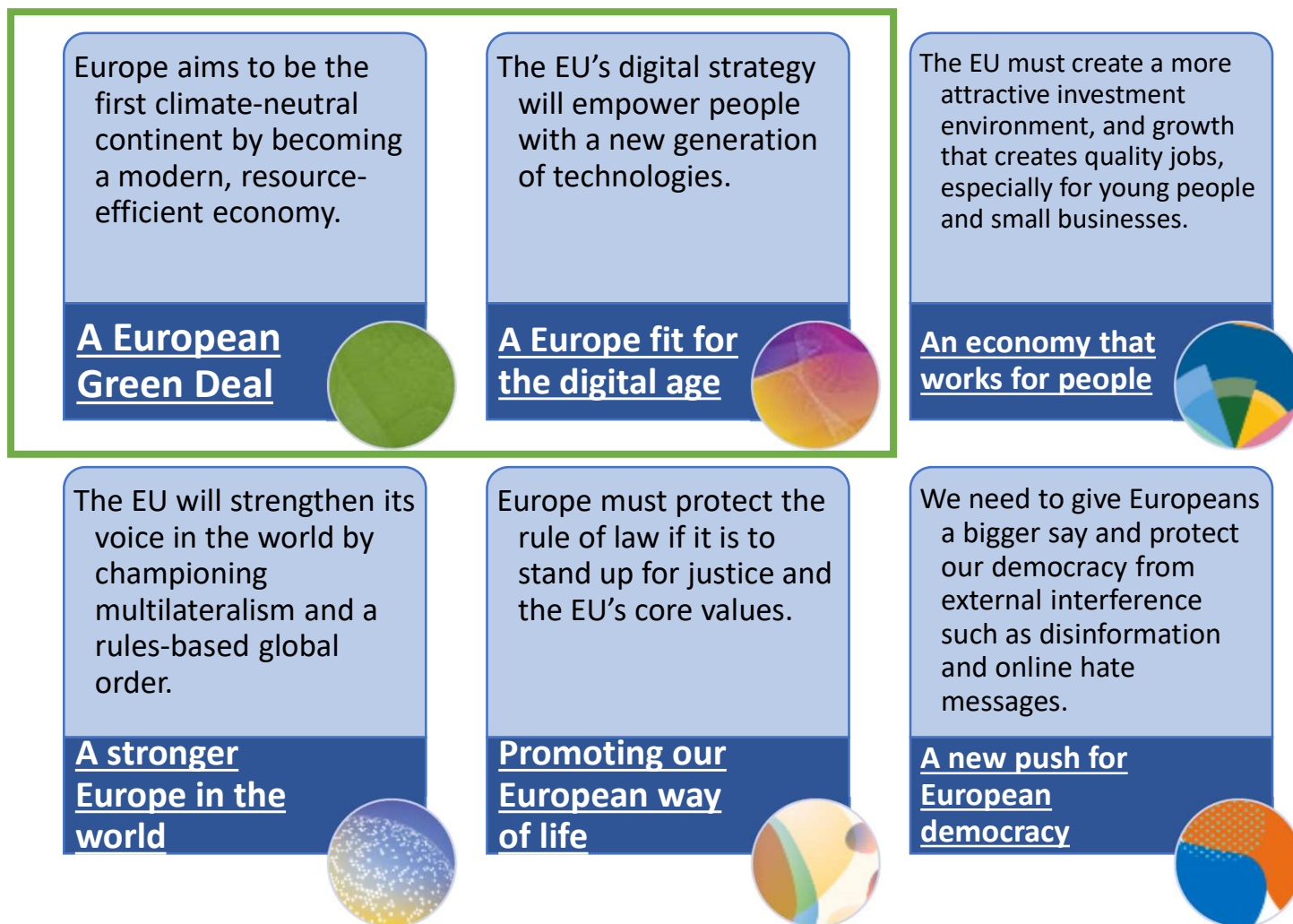
1. Understand the context

From policy to Call topics



How can I contribute through a project?

6 Commission priorities for 2019-24





A European Green Deal

The European Green Deal is the plan to make the EU's economy sustainable.

Presented in December 2019

Includes Renovation wave strategy - October 2020

- Objective is to at least double the annual energy renovation rate of residential and non-residential buildings by 2030 and to foster deep energy renovations.
- References to Horizon Europe in the Renovation Wave Action Plan.



Cluster 5
Destination 4
Call topics

HORIZON-CL5-2021-D4-01-02: Industrialisation of deep renovation workflows for energy-efficient buildings

HORIZON-CL5-2021-D4-02-02: Cost-effective, sustainable multi-functional and/or prefabricated holistic renovation packages, integrating RES and including re-used and recycled materials (Built4People)

A European Green Deal

New European Bauhaus - January 2021

An environmental, economic and cultural project, aiming to combine design, sustainability, accessibility, affordability and investment in order to help deliver the European Green Deal.

The sustainable built environment should go beyond merely improving the energy and resource efficiency of buildings and also include a qualitative, aesthetic and human dimension.



Cluster 5
Destination 4
Call topics

HORIZON-CL5-2021-D4-02-03: 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)

HORIZON-CL5-2022-D4-02-02: Solutions for the sustainable, resilient, inclusive and accessible regeneration of neighbourhoods enabling low carbon footprint lifestyles and businesses (Built4People)



European Industrial Strategy

Published March 2020, updated May 2021

Include:

- Comprehensive measures to modernise and decarbonise energy-intensive industries
- Co-creating transition pathways in partnership with industry, public authorities, social partners and other stakeholders, where needed, starting with tourism and energy intensive industries.

Cluster 5

Destination 4

Call topics

Also Cluster 4

HORIZON-CL5-2021-D4-01-05: Industrial excess (waste) Heat-to-Power conversion based on organic Rankine cycles

HORIZON-CL5-2022-D4-01-05: Development of high temperature thermal storage for industrial applications



Strategic Plan for Implementing Horizon Europe

The **Strategic Plan** aims to provide a coherent approach for the development of the Work Programmes for the first four years of Horizon Europe (2021-2024).

It focuses in particular on the 'Global challenges and European industrial competitiveness' pillar (2) and also covers relevant activities in other pillars and parts of Horizon Europe.

An inclusive co-design process aims to ensure the broadest possible ownership and optimise the overall **impact** of Horizon Europe.

Includes four Key Strategic Orientations for R&I support.



Targeting of investment

This first strategic plan sets out the **Key Strategic Orientations** for the targeting of investments in the programme's first 4 years.

- A. Promoting an open strategic autonomy by leading the development of key digital, enabling and emerging technologies, sectors and value chains;**
- B. Restoring Europe's ecosystems and biodiversity, and managing sustainably natural resources;
- C. Making Europe the first digitally enabled circular, climate-neutral and sustainable economy;**
- D. Creating a more resilient, inclusive and democratic European society.

International cooperation underpins all four orientations, as it is essential for tackling many global challenges.





From the strategic plan to the Work Programme

- The four Key Strategic Orientations are supported by 15 **impact** areas.
- These strategic orientations will guide the Horizon Europe Work Programmes until 2024 and will provide the basis for building synergies with other EU programmes and funds, as well as national level activity.
- The **impacts** are structured by the six clusters that make up Horizon Europe's second Pillar, 'Global Challenges and European Industrial Competitiveness'.



From the strategic plan to Cluster 5

KEY STRATEGIC ORIENTATIONS (KSO)	IMPACT AREAS	EXPECTED IMPACTS	DESTINATIONS IN CLUSTER 5
KSO A: Promoting an open strategic autonomy by leading the development of key digital, enabling and emerging technologies, sectors and value chains	<ul style="list-style-type: none"> Industrial leadership in key and emerging technologies that work for people 	22. Clean and sustainable transition of the energy and transport sectors	2. Cross-sectoral solutions for the climate transition
		25. Climate-neutral and environmental-friendly mobility	5. Clean and competitive solutions for all transport modes
KSO C: Making Europe the first digitally enabled circular, climate neutral and sustainable economy	<ul style="list-style-type: none"> Climate change mitigation and adaptation Affordable and clean energy Smart and sustainable transport Circular and clean economy 	21. Transition to a climate-neutral and resilient society and economy	1. Climate sciences and responses for the transformation towards climate neutrality
		23. Efficient, clean, sustainable, secure, and competitive energy supply	3. Sustainable, secure and competitive energy supply
		24. Efficient and sustainable use of energy	4. Efficient, sustainable and inclusive energy use
		26. Safe, seamless, smart, inclusive, resilient, climate neutral and sustainable mobility systems	6. Safe Resilient Transport and Smart Mobility services for passengers and goods

Cluster 5 - Destinations

Climate, Energy and Mobility

1. Climate sciences and responses
2. Cross-sectorial solutions for the climate transition
3. Sustainable, secure and competitive energy supply
4. Efficient, sustainable and inclusive energy use
5. Clean and competitive solutions for all transport modes
6. Safe, resilient transport and smart mobility services for passengers and goods



2021 Call deadlines and budgets

Destination	Theme	2021 Call Deadlines	Number of topics	Total budget (M€)
3	Renewable energy technologies	5 Jan 2022	4	55
		23 Feb 2022	16	280
3	Energy systems, grids and storage	19 Oct 2021	3	38
		5 Jan 2022	7	114
3	Carbon capture, utilisation and storage	5 Jan 2022	2	32
3	Cross-cutting	19 Oct 2021	1	35
		5 Jan 2022	2	30
4	Energy efficient buildings	19 Oct 2021	3	36
		25 Jan 2022	3	38
4	Industrial decarbonisation	19 Oct 2021	2	30
	Total		43	688

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2022 Call deadlines and budgets

Destination	Theme	2022 Call Deadlines	Number of topics	Total budget (M€)
3	Renewable energy technologies	26 April 2022	7	142
		27 Oct 2022	8	99
		10 Jan 2023	9	128
3	Energy systems, grids and storage	26 April 2022	7	181
3	Carbon capture, utilisation and storage	26 April 2022	1	58
4	Energy efficient buildings	6 Sept 2022	3	36
		24 Jan 2023	5	86
4	Industrial decarbonisation	6 Sept 2022	2	18
	Total		42	748

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2. Focus on impact



Impact in Horizon Europe

Increased focus on impact in Horizon Europe as we no longer have the luxury of time.

The Call topic description starts with “Expected outcome”.

Impact in the proposal – aspects to be taken into account:

- Credibility of the pathways to achieve the expected outcomes and impacts specified in the work programme, and the likely scale and significance of the contributions due to the project.
- Suitability and quality of the measures to maximise expected outcomes and impacts, as set out in the dissemination and exploitation plan, including communication activities

Expected outcome

HORIZON-CL5-2021-D4-01-03: Advanced data-driven monitoring of building stock energy performance

Expected Outcome: Project results are expected to contribute to **all** of the following expected outcomes:

- More robust, improved and consistent monitoring of performance (energy and other relevant aspects, such as indoor environment quality and life cycle) of buildings across the European sectors and through the whole value chain.
- Better informed planning of building infrastructure (e.g. renovation roadmaps, heating & cooling systems, district heating networks, mobility infrastructures (EV charging, parking facilities, communication networks, strategies for whole life carbon reduction etc.) and better informed investment decision-making for designing future buildings and building processes.
- Successfully tested smart energy services on the basis of advanced, high-quality building stock performance data.

EXTRACT ONLY



Project impact pathway – NEW - Section 2.3

- What are the **specific needs** that triggered this project? – make the link to policy context
- **Expected results** - What do you expect to generate by the end of the project?
- **Dissemination, exploitation and communication measures** - What dissemination, exploitation and communication measures will you apply to the results?
- **Target groups** - Who will use or further up-take the results of the project? Who will benefit from the results of the project?
- **Outcomes** - What change do you expect to see after successful dissemination and exploitation of project results to the target group(s)?
- **Impacts** - What are the expected wider scientific, economic and societal effects of the project contributing to the expected impacts outlined in the respective destination in the Work Programme?

The Impact Canvas (1)

KEY ELEMENT OF THE IMPACT SECTION

SPECIFIC NEEDS	EXPECTED RESULTS	D & E & C MEASURES
<p><i>What are the specific needs that triggered this project?</i></p> <p>Example 1 Most airports use process flow-oriented models based on static mathematical values limiting the optimal management of passenger flow and hampering the accurate use of the available resources to the actual demand of passengers.</p> <p>Example 2 Electronic components need to get smaller and lighter to match the expectations of the end-users. At the same time there is a problem of sourcing of raw materials that has an environmental impact.</p>	<p>What do you expect to generate by the end of the project?</p> <p>Example 1 Successful large-scale demonstrator: Trial with 3 airports of an advanced forecasting system for proactive airport passenger flow management.</p> <p>Algorithmic model: Novel algorithmic model for proactive airport passenger flow management.</p> <p>Example 2 Publication of a scientific discovery on transparent electronics.</p> <p>New product: More sustainable electronic circuits.</p> <p>Three PhD students trained.</p>	<p>What dissemination, exploitation and communication measures will you apply to the results?</p> <p>Example 1 Exploitation: Patenting the algorithmic model.</p> <p>Dissemination towards the scientific community and airports: Scientific publication with the results of the large-scale demonstration.</p> <p>Communication towards citizens: An event in a shopping mall to show how the outcomes of the action are relevant to our everyday lives.</p> <p>Example 2 Exploitation of the new product: Patenting the new product; Licencing to major electronic companies.</p> <p>Dissemination towards the scientific community and industry: Participating at conferences; Developing a platform of material compositions for industry; Participation at EC project portfolios to disseminate the results as part of a group and maximise the visibility vis-à-vis companies.</p>

The Impact Canvas (2)

TARGET GROUPS	OUTCOMES	IMPACTS
<p><i>Who will use or further up-take the results of the project? Who will benefit from the results of the project?</i></p> <p>Example 1 9 European airports: Schiphol, Brussels airport, etc.</p> <p>The European Union aviation safety agency.</p> <p>Air passengers (indirect).</p> <p>Example 2 End-users: consumers of electronic devices.</p> <p>Major electronic companies: Samsung, Apple, etc.</p> <p>Scientific community (field of transparent electronics).</p>	<p><i>What change do you expect to see after successful dissemination and exploitation of project results to the target group(s)?</i></p> <p>Example 1 Up-take by airports: 9 European airports adopt the advanced forecasting system demonstrated during the project.</p> <p>Example 2 High use of the scientific discovery published (measured with the relative rate of citation index of project publications).</p> <p>A major electronic company (Samsung or Apple) exploits/uses the new product in their manufacturing.</p>	<p><i>What are the expected wider scientific, economic and societal effects of the project contributing to the expected impacts outlined in the respective destination in the work programme?</i></p> <p>Example 1 Scientific: New breakthrough scientific discovery on passenger forecast modelling.</p> <p>Economic: Increased airport efficiency Size: 15% increase of maximum passenger capacity in European airports, leading to a 28% reduction in infrastructure expansion costs.</p> <p>Example 2 Scientific: New breakthrough scientific discovery on transparent electronics.</p> <p>Economic/Technological: A new market for touch enabled electronic devices.</p> <p>Societal: Lower climate impact of electronics manufacturing (including through material sourcing and waste management).</p>

3. Get involved

Proactive consortium development

Multidisciplinary projects involving a range of stakeholders – you need to identify and approach relevant organisations

HORIZON-CL5-2021-D4-01-02: Industrialisation of deep renovation workflows for energy-efficient buildings

Proposals should:

- Investigate innovative approaches for industrialised deep renovation, covering the **whole workflow** from design through to offsite manufacture, installation, compliance checking on site and end strategies for maintenance, operation and end of life.
- Ensure effective **involvement of the buildings supply chain, in particular SMEs**, as well as of building owners/tenants and other relevant stakeholders.

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HORIZON-CL5-2022-D4-02-01: Designs, materials and solutions to improve resilience, preparedness & responsiveness of the built environment for climate adaptation (Built4People)

This topic requires the effective contribution of SSH disciplines and the **involvement of SSH experts**, institutions as well as the inclusion of relevant SSH expertise, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities.

For this topic, projects are encouraged to define and implement ambitious **international outreach and cooperation** strategies.

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Partnerships in Horizon Europe

Partnerships bring together the European Commission and private and/or public partners together to tackle pressing challenges.

Types of Partnership

- **Co-Programmed Partnership** - are between the Commission and private and/or public partners. They are based on memoranda of understanding and/or contractual arrangements.
- **Institutional Partnership** - Require legislative proposals from the Commission and are implemented by dedicated structures created for that purpose.
- **Co-Funded Partnership** - Involving EU countries with research funders and other public authorities at the core of the consortium.



Built4People (B4P) partnership

- Co-programmed partnership - initiated by European Construction, built environment and energy efficient building Technology Platform (ECTP).
- Within co-programmed partnerships, members developed the Strategic Research and Innovation Agenda (SRIA) which is used to create the Work Programme (Calls for Proposals).
- B4P Partnership Memorandum of Understanding (MoU) due to be signed in June 2021. ECTP and World Green Buildings Council Europe (WGBC) will be signatories of the MoU with the EC.
- Participation open to all European legal entities:
 - B4P Calls for Proposals will be fully open to all
 - Stakeholders Forum will be set up soon after the launch of the Partnership
 - Organisations can be more proactive by joining the associations e.g. WGBC or ECTP



Use information sources

Strategic Energy Technology Plan

Energy efficiency and behavioural change: Reducing carbon footprint through ICT and sustainable actions

Equipping building professionals with new skills to achieve European energy targets

Market Uptake Activities in support of the new Heating and Cooling Strategy

Waste Heat Valorisation: Improving energy efficiency in process industries

Social Sciences and Humanities in Energy Research: A holistic approach to decarbonising the EU's energy system





Attend events

- [Research & Innovation Days](#) – **23 and 24 June 2021**
- European Commission Information Days for Cluster 5 – **5 and 6 July 2021**
- Consortia building events
 - [UK-led event for Cluster 5](#) – **21 June 2021**
 - More to come - advertised on [NCP Portal](#)

24 March and 21 April webinars: [A successful proposal for Horizon Europe](#)

22 April webinar: [Impacts of Energy Efficiency projects in the Industry and Services sectors](#)

1 June webinar: [EU Green Week: Industrial decarbonisation and the role of CCUS](#)



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