



# Horizon Europe

Framework programme for research and innovation 2021–2027



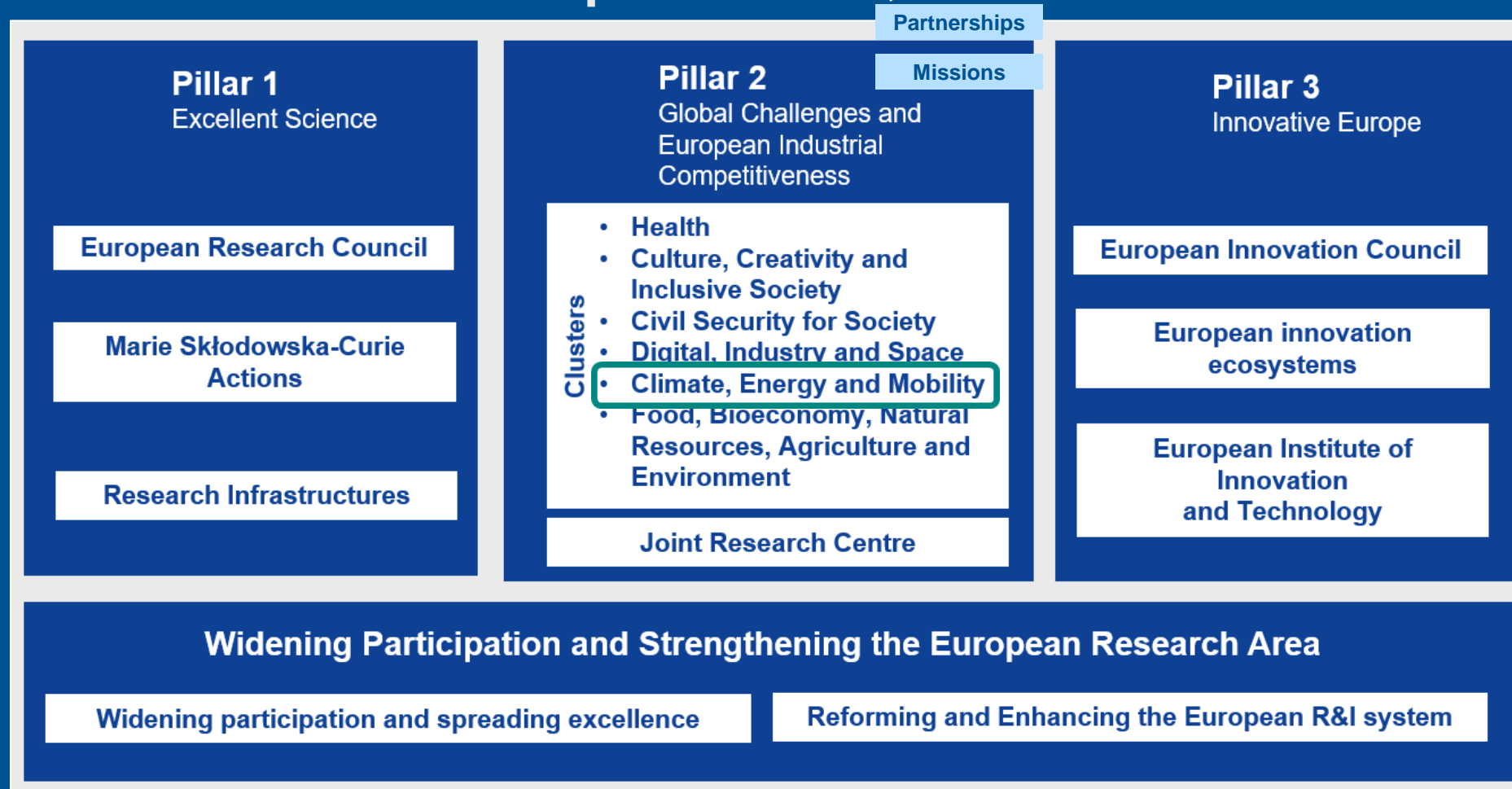


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The Horizon framework programme is a **POLITICAL INSTRUMENT** where research and innovation are needed to achieve political priorities



# Horizon Europe – 95,5 billion euro



**Climate action target, i.e. 35%** of the programme's budget, refers to Horizon Europe as a whole. This requires that ALL programme parts (also pillar 1 and 3) address climate-related priorities.

# Global Challenges and European Industrial Competitiveness

Boosting key technologies and solutions, underpinning EU policies and Sustainable Development Goals



Health



Culture, Creativity and Inclusive Society



Civil Security for Society



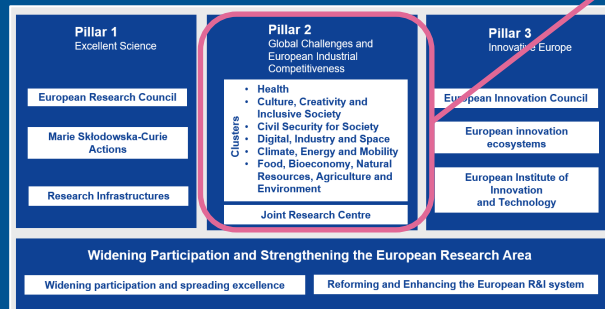
Digital, Industry and Space



Climate, Energy and Mobility



Food, Bioeconomy, Natural Resources, Agriculture and Environment



Joint Research Centre





# Cluster 5

## Climate, Energy and Mobility



# 5. Climate, Energy and Mobility

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## Aims

- accelerate twin green and digital transition
- climate neutrality in Europe by 2050
- deep reduction of greenhouse gas emissions
- zero pollution
- becoming a globally leading actor for sustainable technologies and services



# Related European priorities

*“Europe [...] is committed to keep delivering the knowledge for enabling efficient pathways and just transitions to climate neutrality”*



European Green Deal



Europe fit for the digital age



An economy that works for people

# Related strategies



European Climate Law & A Clean planet for all strategy



REPowerEU



EU Fit for 55



Sustainable and Smart Mobility Strategy



# Partnerships under Cluster 5

## Institutionalised

- Transforming Europe's rail system
- Integrated Air Traffic Management (ATM)
- Clean Aviation
- Clean Hydrogen

## Co-funded

- Driving urban transitions to a sustainable future (DUT)
  - Formas
  - Energimyndigheten
  - Vinnova
- Clean Energy Transition (CETP)
  - Energimyndigheten

## Co-programmed

- Built4People | People-centric sustainable built environment
- Towards zero-emission road transport (2ZERO)
- Batteries: Towards a competitive European industrial battery value chain for stationary applications and e-mobility
- Zero-emission waterborne transport
- Connected, Cooperative and Automated Mobility (CCAM)

# Mission areas

Missions are not only about R&I – they are about delivering a public good. They are used to agree on a European level what we want to change and deliver it in society.



**Adaptation to  
Climate Change,  
including Societal  
Transformation**



**Cancer**



**Healthy Oceans,  
Seas, Coastal and  
Inland Waters**



**Climate-Neutral and  
Smart Cities**



**Soil Health and  
Food**

# Missions connected to Cluster 5

## Adaptation to climate change



### SWEDEN

Blekinge Region  
Gothenburg Metropolitan Area  
Kristianstad Municipality  
Malmö  
Stockholm County Administration Board  
Umeå Municipality  
Värmland County  
Västerbotten County

## Climate-neutral and smart cities

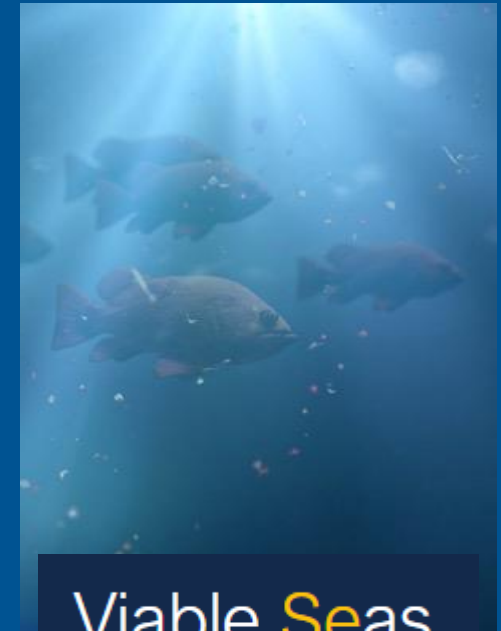


### SWEDEN

Gävle  
Gothenburg  
Helsingborg  
Lund  
Malmö  
Stockholm  
Umeå



## Healthy oceans and waters



Viable Seas





# Cluster 5 - Destinations



# Cluster 5 – Destinations

Accelerating green and digital transformation of economy, industry and society achieving climate neutrality in Europe by 2050



**Destination 1**  
Climate sciences and responses for the transformation towards climate neutrality



**Destination 2**  
Cross-sectoral solutions for the climate transition



**Destination 3**  
Sustainable, secure and competitive energy supply



**Destination 4**  
Efficient, sustainable and inclusive energy use



**Destination 5**  
Clean and competitive solutions for all transport modes

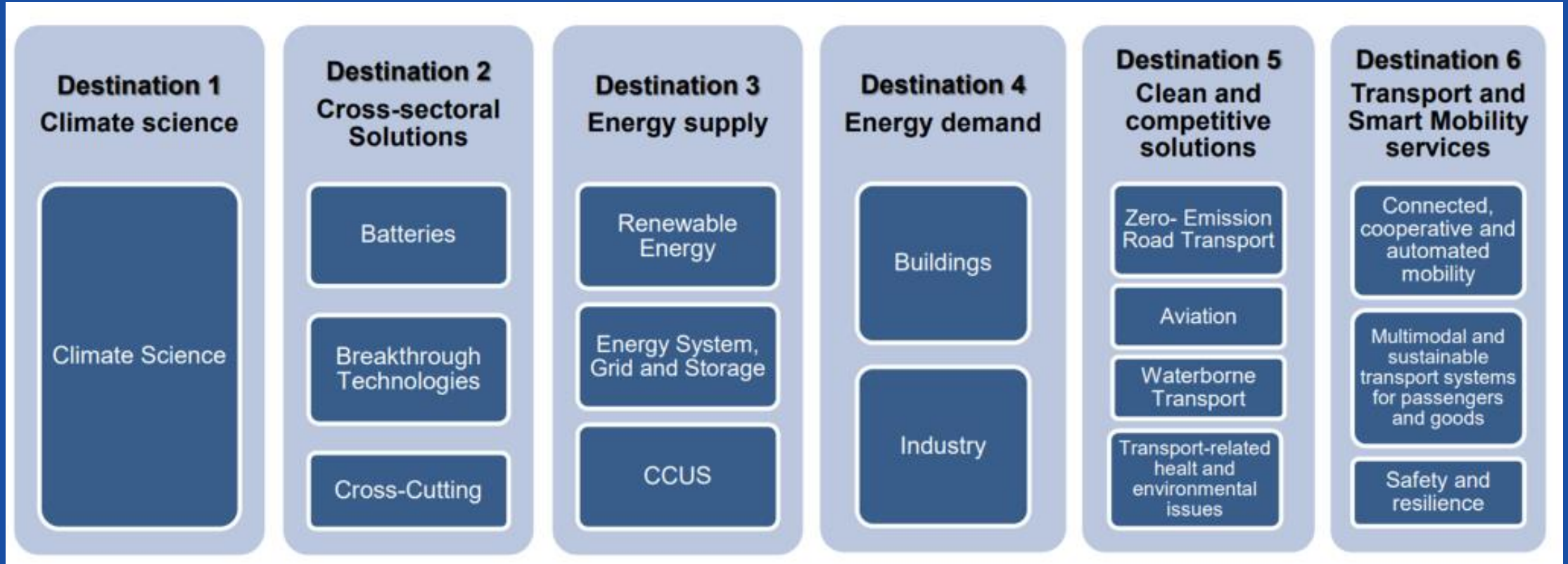


**Destination 6**  
Safe Resilient Transport and Smart Mobility services for passengers and goods

EU-kommissionens "Info Day" 17 oktober:

[Events | The research and innovation community platform \(europa.eu\)](https://europa.eu)

# Cluster 5 – Destinations







# Framework for participation

## Search funding &amp; tenders

## Search

Clear all &lt;

Search by keyword...

 Match whole words only

## Type

 Grants


102

 Tenders

## Submission status

  Forthcoming

58

  Open for submission

44

  Closed

## Programming period

2021 - 2027 (102)



## Programme / Programme group

Horizon Europe (HORIZON)



## Programme part

Climate, Energy and Mobility

## Mission

Select...

## Destination

Select...

## Cross-cutting priority

## AI Testing and Experimentation Facility (TEF) for the energy sector – bringing technology to the market

HORIZON-CL5-2024-D3-01-11 Call for proposal  
Horizon Europe (HORIZON)

## Development of hydropower equipment for improving techno-economic efficiency and equipment resilience in refurbishment situations

HORIZON-CL5-2024-D3-01-07 Call for proposal  
Horizon Europe (HORIZON)

## Demonstration of sustainable wave energy farms

HORIZON-CL5-2024-D3-01-08 Call for proposal  
Horizon Europe (HORIZON)

## Innovative applications/integration of geothermal heating and cooling in industry

HORIZON-CL5-2024-D3-01-06 Call for proposal  
Horizon Europe (HORIZON)

## HVAC, HVDC and High-Power cable systems

HORIZON-CL5-2024-D3-01-15 Call for proposal  
Horizon Europe (HORIZON)

## DC and AC/DC hybrid transmission and distribution systems

HORIZON-CL5-2024-D3-01-13 Call for proposal  
Horizon Europe (HORIZON)

## Alternative equipment and processes for advanced manufacturing of PV technologies

HORIZON-CL5-2024-D3-01-01 Call for proposal  
Horizon Europe (HORIZON)

## NOISE AND VIBRATIONS

HORIZON-ER-JU-2023-EXPLR-01 Call for proposal  
Horizon Europe (HORIZON)

## FUTURE METRO SYSTEMS



- Key steps
- Reference documents
- Participant register
- Partner search

- Support overview
- Guidance & Manuals
- FAQ
- Helpdesk & Support Services
- Support videos

## Innovative applications/integration of geothermal heating and cooling in industry

HORIZON-CL5-2024-D3-01-06

**Topic** Call for proposal

### Internal navigation

- General information
- Topic description
- Destination
- Conditions and documents
- Partner search announcements
- Start submission
- Topic related FAQ
- Get support
- Call updates

[← Go back to search results](#)

### General information

#### Programme

Horizon Europe Framework Programme (HORIZON)

[€ Budget overview](#)

#### Call

[Sustainable, secure and competitive energy supply \(HORIZON-CL5-2024-D3-01\)](#)

#### Type of action

HORIZON-RIA HORIZON Research and Innovation Actions

#### Type of MGA

HORIZON Action Grant Budget-Based [HORIZON-AG]

[Open for submission](#)

#### Deadline model

single-stage

#### Opening date

12 September 2023

#### Deadline date

16 January 2024 17:00:00 Brussels time

### Topic description

ExpectedOutcome:

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

- High integration of geothermal heating and/or cooling in different industry sectors with operation flexibility considering start-up time and ramp-up rate, and maximum cascaded use of thermal energy.
- Increased industry, region, city and citizen trust and acceptability for geothermal energy.

Scope:

Based on geothermal energy, the following is expected to be achieved: explore new heating and/or cooling concepts for industrial sectors which have to decarbonise their production lines using renewable systems. enable the smart use of thermal grids with emphasis on flexible supply of resources, adapted to different source temperatures and varying demand; and position geothermal utilisation (including underground storage) as a crucial pillar for the (heat and/or cold) transition of industrial energy systems. Projects should consider the application of cascading residual geothermal waste heat to neighbouring industries or the built environment and should include the integration of geothermal and heat pump systems, energy piles, or energy sheet pile walls, consider the use of alternative cycle working media.

Activities related to geothermal heat for industry and agriculture, underground thermal energy storage (UTES) including high-temperature storage, innovative and multiple uses for geothermal energy and side-products, balneological systems, and design and operation of geothermal doublets can be considered.

Activities are required to assess the environmental sustainability of geothermal heating and/or cooling applications. The applied technologies should not significantly harm the environment (Do No Significant Harm principle). It must be ensured that negative impacts on ecosystems and biodiversity, including negative impacts on (or pollution affecting) air, water or soil quality, are addressed through mitigation policies.



# Work Programme (WP)

Destinations

Call areas

Topics

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Topic

**HORIZON-CL5-2021-D2-01-06: Sustainable, safe and efficient recycling processes (Batteries Partnership)**

**Specific conditions**

<i>Expected EU contribution per project</i>	The Commission estimates that an EU contribution of between EUR 9.00 and 10.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
<i>Indicative budget</i>	The total indicative budget for the topic is EUR 30.00 million.
<i>Type of Action</i>	Research and Innovation Actions
<i>Technology Readiness Level</i>	Activities are expected to achieve TRL 5-6 by the end of the project – see General Annex B.

Expected Outcome

**Expected Outcome:** Projects are expected to contribute to the following outcomes:

- Improved access to battery materials and strengthened European raw material independency by increased circularity of material flows and use of the secondary raw materials in new batteries produced in Europe.
- Increased European competitiveness offering sustainable, safe, energy efficient and low carbon footprint battery recycling technologies and upscaleable solutions.
- Reduced recycling cost and environmental impacts through new and disruptive concepts for very high efficiency recycling.
- Improved health and safety aspects of recycling.
- The industry is prepared to meet the new regulatory targets for the recycling.

Scope

**Scope:** In order to effectively exploit the vast amounts of EV and stationary battery waste emerging in the next decades, as well as the increasing amounts of production scrap resulting from larger manufacturing, it is important to create innovative feasible and holistic recycling processes in Europe.

# Hittar du inte det du söker i Horisont Europa?

Bara lugn, det finns fler program!

EU Programmes					
Asylum, Migration and Integration Fund (AMIF)	Border Management and Visa Policy Instrument (BMVI)	Citizens, Equality, Rights and Values Programme (CERV)	Connecting Europe Facility (CEF)	Creative Europe Programme (CREA)	Customs Control Equipment Instrument (CCEI)
Customs Programme (CUST)	Digital Europe Programme (DIGITAL)	Erasmus+ (ERASMUS+)	EU External Action (RELEX)	EU4Health Programme (EU4H)	Euratom Research and Training Programme (EURATOM)
Europe Direct (ED)	European Defence Fund (EDF)	European Maritime, Fisheries and Aquaculture Fund (EMFAF)	European Parliament (EP)	European Social Fund + (ESF)	European Solidarity Corps (ESC)
Fiscals Programme (FISC)	Horizon Europe (HORIZON)	Information Measures for the EU Cohesion policy (IMREG)	Innovation Fund (INNOVFUND)	Internal Security Fund (ISF)	Interregional Innovation Investments Instrument (I3)
Just Transition Mechanism (JTM)	Justice Programme (JUST)	Neighbourhood, Development and International Cooperation Instrument – Global Europe (NDICI)	Pilot Projects and Preparation Actions (PPPA)	Programme for the Environment and Climate Action (LIFE)	Programme for the Protection of the Euro against Counterfeiting (PERICLES IV)
Promotion of Agricultural Products (AGRIP)	Research Fund for Coal & Steel (RFCS)	Single Market Programme (SMP)	Social Prerogative and Specific Competencies Lines (SOCPL)	Technical Support Instrument (TSI)	Union Anti-fraud Programme (EUAF)



# Why participate?

Development of cutting-edge ideas

Access to new knowledge and skills

Strategic partnerships and collaborations

Access to advanced technologies and methods

Solutions to global challenges



# Röster från verkligheten

Större projekt möjliggör större satsningar och kan tackla svårare utmaningar

Internationellt perspektiv på samhällsutmaningar

Ömsesidigt lärande

Tillgång till spetskompetens och infrastruktur som inte finns i Sverige

# NCP?



National EU-node

## NCP

National contact points



- Answers questions on Horizon Europe
- Helps to find matching calls and topics
- Legal and financial advice
- Spreads information
- Strategic advice

Information from SE system to EC  
via NCP networks, experts and PC



# Länkar kopplade till frågor under eventet

## Nyheter och möjligheter

### Lump Sum Guidance:

[Funding & tenders \(europa.eu\)](#)

### Funding rate:

[aga\\_en.pdf \(europa.eu\)](#) – sidan 32 och framåt

[wp-13-general-annexes\\_horizon-2023-2024\\_en.pdf \(europa.eu\)](#) – sidan 29 och framåt

### Antal länder och organisationer i en ansökan:

[Publications Office \(europa.eu\)](#) eller [EUR-Lex - 32021R0695 - EN - EUR-Lex \(europa.eu\)](#) - Grundkraven beskrivs i artikel 22

### Deltagande av tredje land:

[Funding & tenders \(europa.eu\)](#) - UK är numera associerade till Horisont Europa. För alla utlysningar för 2024 och framåt är organisationer från UK med som en vanlig beneficiary.

[list-3rd-country-participation\\_horizon-euratom\\_en.pdf \(europa.eu\)](#) – lista över “eligible countries”

# Användbara länkar

## Information om programmet

[Vinnovas webbplats om Horisont Europa](#) – information om programmet och kontakt på Vinnova

[EU:s ramprogram Horisont Europa - Vetenskapsrådet \(vr.se\)](#) – information om programmet och kontakt på Vetenskapsrådet

[Horisont Europa \(energimyndigheten.se\)](#) – information om programmet och kontakt på Energimyndigheten

[Europeiskt samarbete – Formas](#) – information om programmet och kontakt på Formas

[En nationell strategi för svenskt deltagande i Horisont Europa 2021–2027 - Regeringen.se](#) – nationell strategi för deltagandet i Horisont Europa

[Funding and Tenders](#) – EU-kommissionens portal för utlysningar, topics och ansökan

[Horisont Europa](#) – övergripande information om programmet från EU-kommissionen

[Missions](#) – EU-kommissionens information om Missions

[Partnerships](#) - EU-kommissionens information om europeiska partnerskap (inkl. kontakt)

[Dashboard](#) – Databas för statistik över beviljade projekt

## Nyheter och möjligheter

[EU-info: legal och finans \(office.com\)](#) – Info-mail: EU-info: legal och finans

[Signup nyhetsbrev \(apsis.one\)](#) – Vinnovas nyhetsbrev om Horisont Europa

[Work as an expert \(europa.eu\)](#) – Arbeta som expert för EU-kommissionen

# Användbara länkar

## Att skriva en ansökan

[Reference Documents](#) – regelverk, mallar, guider etc.

[How to prepare a successful proposal in Horizon Europe](#) – inspelat webinarie anordnat av EU-kommissionen

[The Funding & tenders Portal for beginners](#) – webinarie anordnat av EU-kommissionen

## Verktyg för nätverkande och stöd

[EUSME](#) – svenskt supportkontor för små och medelstora företag

[GREENET Partner Search Tool - Info \(b2match.io\)](#) – Partnersearch-tool for Cluster 5 Climate, Energy and Mobility

## Fördjupad information om policy och strategi

[European Green Deal](#)

[55 %-paketet – EU:s plan för en grön omställning - Consilium \(europa.eu\)](#)

[A Clean Planet for All](#)

[REPowerEU \(europa.eu\)](#)

[Europe Fit for the Digital Age](#)

[Mobility Strategy \(europa.eu\)](#)

[Eighth report on the state of the energy union \(europa.eu\)](#)



# Användbara länkar

## EU Partnerskap

[DUT Call 2022 - DUT Partnership](#)

[Home | CETPartnership](#)

[Home | Clean Aviation \(clean-aviation.eu\)](#)

[Hydrogen Europe Home](#)

[Home - Europe's Rail \(europa.eu\)](#)

[SESAR Joint Undertaking | Delivering the Digital European Sky \(sesarju.eu\)](#)

[Home - 2Zero Emission](#)

[CCAM - European Partnership on Connected, Cooperative and Automated Mobility](#)

[Welcome to Waterborne - Setting the agenda for Maritime Research in Europe - waterborne.eu](#)