Backing visionary entrepreneurs Horizon Europe framework

Horizon Europe framework Cluster 5 of Pillar II European Innovation Council

Antonio Marco Pantaleo Programme manager energy and green tech 30 giugno 2021



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Horizon Europe e Cluster 5

Intervention logic: Legal base - strategy plan – work programme

European Innovation Council

pathfinder, transition, accelerator and open calls

Ruolo dei Programme Manager in EIC

proactive portfolio management, scientific intelligence, VISION and call writing, innovation deals, interaction with innovation ecosystem

- Opportunità di partecipazione
- valutatori, coach, esperti, EIC advisory board open call
- Strategie per facilitare le possibilità di successo

Policy knowledge, grant office, engage with POs



SPECIFIC PROGRAMME: EUROPEAN DEFENCE FUND

Exclusive focus on defence research & development

Research actions

Development actions

SPECIFIC PROGRAMME IMPLEMENTING HORIZON EUROPE & EIT*

Exclusive focus on civil applications



Pillar I EXCELLENT SCIENCE

European Research Council

Marie Skłodowska-Curie

Research Infrastructures



Clusters

Pillar II GLOBAL CHALLENGES &

EUROPEAN INDUSTRIAL COMPETITIVENESS

- Health
- Culture, Creativity & Inclusive Society
- Civil Security for Society
- Digital, Industry & Space
- Climate, Energy & Mobility
- Food, Bioeconomy, Natural Resources, Agriculture & Environment

Joint Research Centre



European Innovation Council

European Innovation Ecosystems

European Institute of Innovation & Technology*

Fusion

Fission

Joint Research Center

WIDENING PARTICIPATION AND STRENGTHENING THE EUROPEAN RESEARCH AREA

Widening participation & spreading excellence

Reforming & Enhancing the European R&I system

* The European Institute of Innovation & Technology (EIT) is not part of the Specific Programme

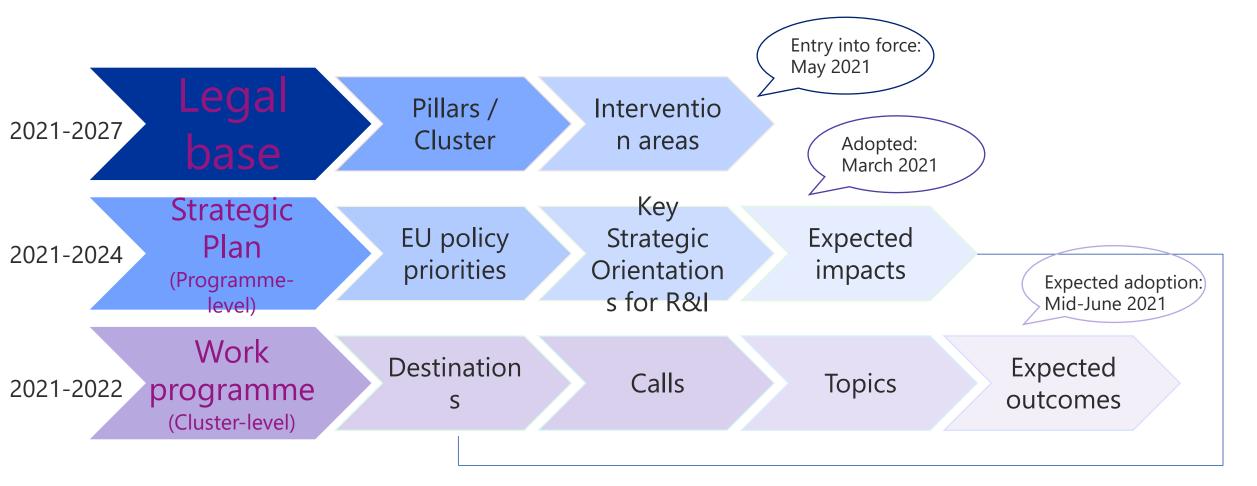


Work Programme

Horizon Europe – Impact logic

Plan	EC Policy Priority	Based on the Political Guidelines for the European Commission 2019-2024 with a focus on three key priorities: Green Deal, Europe fit for the Digital Age, and Economy that Works for People
Strategic	Key Strategic Orientation	Set of strategic objectives within the EC policy priorities where R&I investments are expected to make a difference
	Expected Impacts	Wider effects on society (including the environment), the economy and science, enabled by the outcomes of R&I outcomes (long-term)
ר	Destination	Packages of actions around which each Work Programme part within Pillar II will be designed. Destinations are a series of coherent packages aimed at contributing to the expected impacts set out in the Strategic Plan.
		The Destinations will provide the policy narrative for the calls and actions included in the WP. In the WP, the text of the Destination should reflect the expected impact as set out in the Strategic Plan.
	Calls for proposals	Each Destination will be implemented by means of calls for proposals. Under Horizon Europe, we need to align our definition of a 'call' with the Financial Regulation and with the common approach across all MFF programmes.

Programme intervention logic





EU Policy priorities

European Green Deal

 Climate Action; Clean Energy; Sustainable Mobility; Eliminating pollution; Building and renovating; Biodiversity; Sustainable

A Europe fit for the digital age

 Artificial Intelligence; European data strategy; European Industrial Strategy; Cybersecurity

An economy that works for the people

• Internal market; Jobs, Growth and investment

Promoting our European way of life

• European Security Union; European Health Union

A stronger Europe in the world

• International partnerships; Trade policy; EU Foreign policy

A new push for European Democracy

• Strategic foresight; Future of Europe

Recent Commission initiatives:

Climate Action

- EU Climate Law (EU climate neutral by 2050)
- 2030 Climate Target Plan (55% GHG reduction by 2030)
- Make sectoral legislation 'fit for 55'
- EU Climate Adaptation Strategy
- Zero Pollution Action Plan

Energy

- EU Strategy for Energy System Integration
- Hydrogen strategy
- Renovation wave for Europe
- Offshore renewable energy

Mobility

Sustainable and Smart Mobility Strategy

Research and Innovation

A new European Research Area

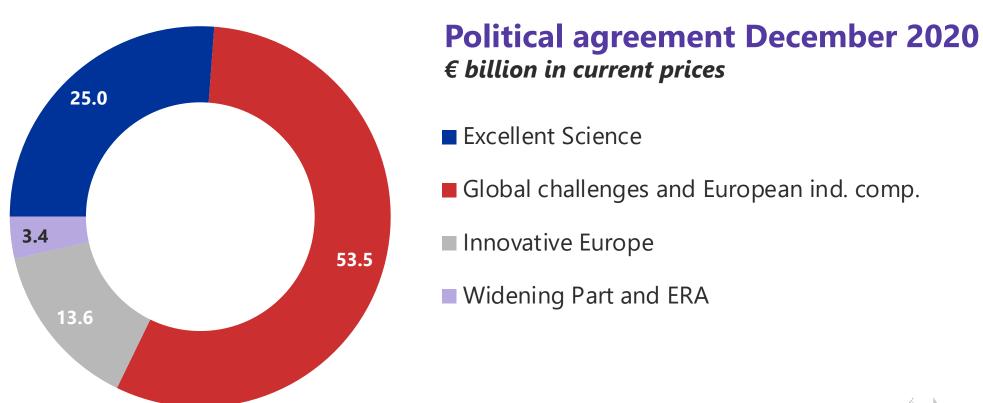


KEY Strategic Orientations

- A: Promoting an open strategic autonomy by leading the development of key digital and enabling technologies, sectors and value chains to accelerate and steer the digital and green transitions through human-centred technologies and innovations;
- B: Restoring Europe's ecosystems and biodiversity, and managing sustainably natural resources to ensure food security and a clean and healthy environment;
- C: Making Europe the first digitally led circular, climate-neutral and sustainable economy through the transformation of its mobility, energy, construction and production systems;
- D: Creating a more resilient, inclusive and democratic European society, prepared and responsive to threats and disasters, addressing inequalities and providing high-quality health care, and empowering all citizens to act in the green and digital transitions

Horizon Europe Budget: €95.5 billion (2021-2027)

(including €5.4 billion from NGEU – Next Generation Europe – programme of EU for Recovery from COVID-19 crisis)





Lessons Learned

from Horizon 2020 Interim Evaluation



Support breakthrough innovation



European Innovation Council

Key Novelties

in Horizon Europe



Create more impact through missionorientation and citizens' involvement



EU Missions



Rationalise partnerships' landscape



New approach to partnerships



Reinforce openness



Open science policy



Strengthen international cooperation



Extended association possibilities



Encourage participation



Spreading Excellence



Institutionalised European Partnerships in the portfolio

PILLAR II - Global challenges & European industrial competitiveness

Institutionaised partnerships / EIT KICs

Co-Programmed

Co-Funded

		·			
CLUSTER 1: Health	CLUSTER 4: Digital, Industry & Space	CLUSTER 5: Climate, Energy & Mobility	CLUSTER 6: Food, Bioeconomy, Agriculture,	EIT	
Innovative Health Initiative	Key Digital Technologies	Clean Hydrogen	Circular Bio-based Europe	InnoEnergy	
Global Health Partnership	Smart Networks & Services	Clean Aviation	Rescuing Biodiversity to Safeguard Life on Earth	Climate	
Transformation of health systems	High Performance Single European Sky ATM Research 3		Climate Neutral,	Digital	
Chemicals risk assessment ERA for Health	Computing European Metrology	Europe's Rail	Sustainable & Productive Blue Economy	Food	
	(Art. 185)	Connected and Automated Mobility (CCAM) Batteries	Water4All	Health	
	Al-Data-Robotics		Animal Health & Welfare*	Raw Materials	
Rare diseases*	Photonics		Accelerating Farming	Manufacturing	
One-Health Anti Microbial Resistance*	Made in Europe	Zero-emission waterborne transport	Systems Transitions*	Urban Mobility	
Personalised Medicine*	Clean steel – low-carbon steelmaking Zero-emission roa transport	Zero-emission road	Agriculture of Data*	Cultural and Creativ	
Pandemic Preparedness*		transport	Safe & Sustainable Food System*	Industries	
Co-funded or co- programmed	Processes4Planet	Built4People	oyoto	CROSS-PILLARS	
,	Global competitive space systems**	Clean Energy Transition			
		Driving Urban Transitions		European Open Sc	
Institutionalised Partnerships (A	π 185//)				



SUPPORT TO INNOVATION **ECOSYSTEMS** Innovative SMEs

S II AND III

cience Cloud



^{*} Calls with opening dates in 2023-24

^{**} Calls with opening dates not before 2022



CLIMATE, ENERGY AND MOBILITY

Cluster 5





Cluster 5 - overview

Legal base

Implementation

Climate Science and Solutions

Energy Supply

Energy Systems and Grids

Buildings and Industrial Facilities in Energy Transition

Communities and Cities

Industrial Competitiveness in Transport

Clean, Safe and Accessible Transport and Mobility

Smart Mobility

Energy Storage

Cluster 5
"Climate,
Energy and
Mobility"

EUR 15 billion (2021-2027)

Cluster 5 work programme

(including co-funded and co-programmed European Partnerships

Institutional Partnerships

(Clean Hydrogen; Rail; Clean Aviation; Air Traffic Management)

Missions

(e.g. on Cities; Climate Adaptation; Oceans)



Cluster 5 – Links to other clusters

Cluster 1

 Health impacts of climate change, energy production/ consumption, transport emissions and mobility patterns

Cluster 6

- Bioeconomy
- Circular economy
- Environmental observation

Cluster 2

 Societal dimension of transformation

Cluster 4

- Manufacturing
- Low-carbon, clean, circular industries
 - Artificial Intelligence and Robotics
 - Advanced Materials
 - Space

Cluster 3

- Protection of critical infrastructure
- Cybersecurity
- Climate-related disaster risk management

Cluster 5 Partnerships

Institutional Partnerships

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

Co-funded Partnerships

- Driving urban transitions to a sustainable future (DUT)
- Clean Energy Transition

Co-programmed Partnerships

- 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)



*

CLIMATE, ENERGY AND MOBILITY

Cluster 5 Work programme 2021-2022





Cluster 5 – Expected impacts

Transition to a climateneutral and resilient society and economy enabled through advanced climate science, pathways and responses to climate change (mitigation and adaptation)

More efficient, clean, sustainable, secure and competitive energy supply through new solutions for smart grids and energy systems based on more performant renewable energy solutions

Clean and sustainable transition of the energy and transport sectors towards climate neutrality facilitated by innovative **cross-cutting solutions**

Efficient and sustainable **use of energy**, accessible for all is ensured through a clean energy system and a just transition

leading the development of key digital, enabling and emerging technologies, sectors and value chains

Restoring Europe's ecosystems and biodiversity, and managing sustainably natural resources

Strategic Plan

Making Europe the first digitally enabled circular, climate-neutral and sustainable economy

Creating a more resilient, inclusive and democratic European society

neutral and
environmental
friendly mobility
through clean
solutions across all
transport modes while
increasing global
competitiveness of
the EU transport
sector

Safe, seamless, smart, inclusive, resilient, climate neutral and sustainable **mobility systems** for people and goods



Cluster 5 Work programme - overview

Destination 1 – Climate science

Climate science

Destination 2 – Cross-cutting solutions

Batteries

Cities

Breakthrough technologies

Citizen and stakeholder engagement

Destination 3 – Energy supply

Renewable energy

Energy system, grids and storage

CCUS

Cross-cutting activities

Destination 4 – Energy demand

Buildings

Industry

Destination 5 Clean and
competitive
solutions for all
transport modes

Zero-emission road transport

Aviation

Waterborne transport

Transportrelated health and environmental issues Destination 6 -Transport and Smart Mobility services

Connected, Cooperative and Automated Mobility

Multimodal and sustainable transport systems for passengers and goods

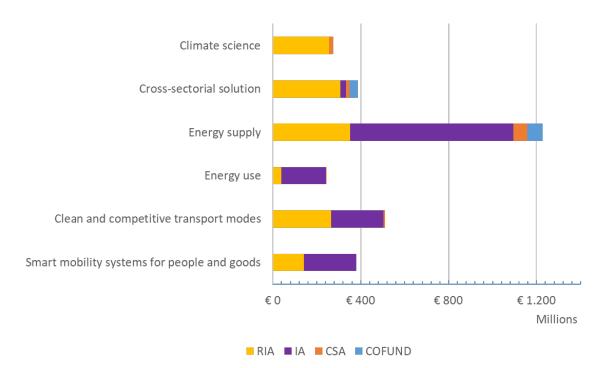
Safety and resilience



Cluster 5 Work programme - overview

	Budget (Mio €)	Share of total	Number of topics	Share of total
Climate science	274.0	9%	17	9%
Cross-sectorial solution	387.5	13%	25	13%
Energy supply	1226.3	40%	67	36%
Energy use	244.0	8%	18	10%
Clean and competitive transport modes	511.0	17%	31	17%
Smart mobility systems for people and goods	380.0	13%	28	15%
TOTAL	3022.8		186	

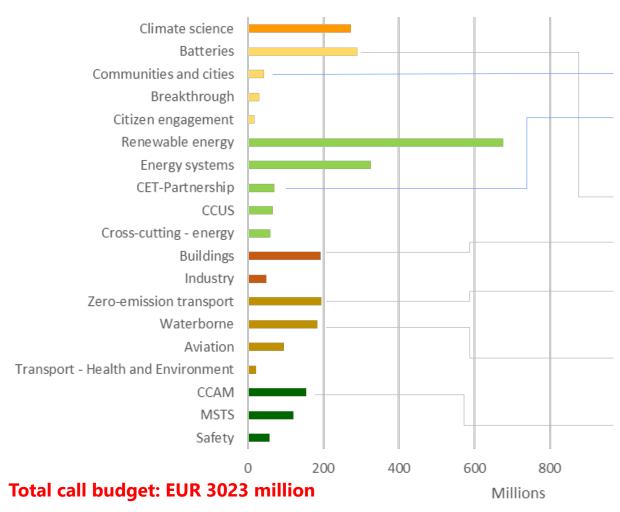
EU contribution per Destination and type of action (2021-2022, in Mio EUR)





Cluster 5 Work programme - budgets





58 out 186 topics (31% of all) implement European Partnerships (2021-2022)

Co-funded Partnerships:

- **Driving Urban Transition**: 1 topic (37 M€ for 2021-2022)
- Clean Energy Transition: 1 topic (70 M€ for 2021-2022)

Co-programmed Partnerships:

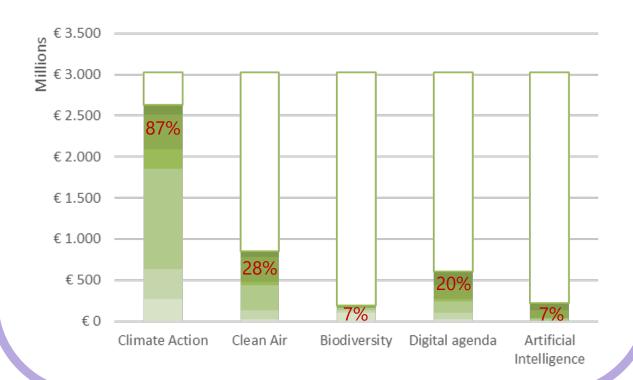
- Batteries: 17 topics (EUR 293 million)
- **Built4People**: 8 topics (EUR 124 million)
- Towards Zero-Emission Road Transport:
 8 topics (EUR 199 million)
- Zero-Emission Waterborne Transport:
 12 topics (EUR 167.5 million)
- Connected, Cooperative and Automated Mobility:
 11 topics (EUR 162 million)

Commission

Cross-cutting priorities

Contribution of <u>cluster 5</u> topics to crosscutting policy priorities

(percentage of total call budget; WP 2021-2022)



Budget share dedicated to <u>climate action</u> in other HE parts:

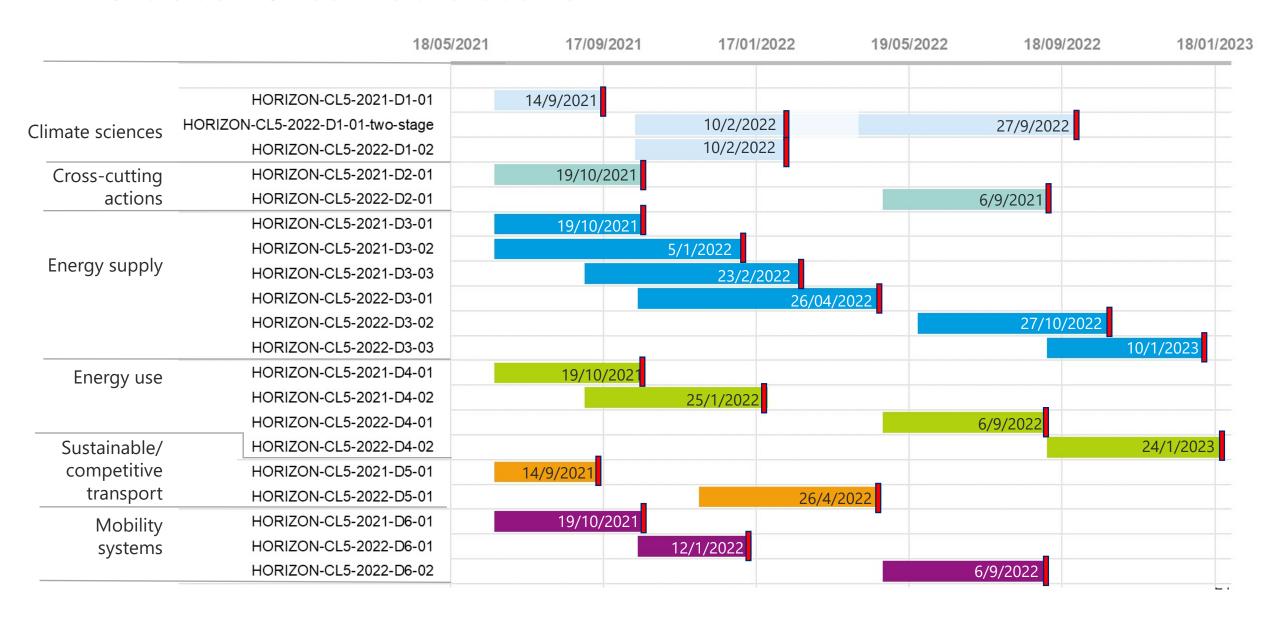
- Cluster 1: 300 M€ (17%)
- Cluster 2: 30 M€ (7%)
- Cluster 3: 40 M€ (10%)
- Cluster 4: 1235 M€ (41%)
- Cluster 5: 2630 M€ (87%)
- Cluster 6: 1345 M€ (72%)

Budget share dedicated to <u>digital agenda</u> in other HE parts:

- Cluster 1: 600 M€ (34%)
- Cluster 2: 95 M€ (22%)
- Cluster 3: 220 M€ (54%)
- Cluster 4: 1840 M€ (61%)
- Cluster 5: 605 M€ (20%)
- Cluster 6: 375 M€ (20%)



Cluster 5 call structure



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

Objectives

- Advancing knowledge and providing solutions in earth system science; pathways to climate neutrality; climate change adaptation including climate services; social science for climate action; and better understanding of climate-ecosystems interactions.
- Contributing substantially to key **international assessments** such as those of the Intergovernmental Panel on Climate Change (IPCC) or the European Environment Agency (e.g. European environment state and outlook reports, SOER).
- Strengthening the **European Research Area** on climate change.

Issues covered in topics 2021-2022

• Earth system science, analysis of pathways leading to carbon neutrality, adaptation and climate services, social sciences to tackle climate change, climate eco-system interactions

Implementation

- 1 call in 2021 9 topics (total budget: 136 M€)
- 2 calls in 2022 8 topics (total budget: 138 M€)



Destination 1 – Climate science

Objectives

- Advancing knowledge and providing solutions in earth system science
- Contributing substantially to key **international assessments**, e.g. Intergovernmental Panel on Climate Change (IPCC), European Environment Agency
- Strengthening the **European Research Area** on climate change
- Increasing the transparency, robustness, trustworthiness and practical usability of the knowledge base on climate change for use by policy makers, practitioners, other stakeholders and citizens

Issues covered in topics 2021-2022

• Earth system science, analysis of pathways leading to carbon neutrality, adaptation and climate services, social sciences to tackle climate change, climate eco-system interactions

Implementation

- 1 call in 2021 9 topics (total budget: 136 M€)
- 2 calls in 2022 8 topics (total budget: 138 M€)





Destination 2- Cross-sectoral solutions for the climate transition

Batteries

- Supporting creation of a competitive, circular, and sustainable European battery manufacturing value chain
- Improvement of technological performance to increase application user attractiveness
- 1 call in 2021 (7 topics, 160 M€); 1 call in 2022 (10 topics, 133 M€)
- **Issues**: Raw material processing, advanced materials, manufacturing processes, battery systems, recycling technologies, coordination activities
- Implementing Ratteries

Communities and cities

- Increased efficiency of Europe's cities' and communities' energy, resource use and mobility patterns and cities' and communities' overall sustainability, thereby improving their climateresilience and attractiveness to businesses and citizens in a holistic fashion.
- Implemented also through co-funded Partnership
 Driving Urban Transition
- **2 topics** in 2021-2022 (42 M€)
- Bulk of topics to be included in WP update, once Implementation Plan of cities

Breakthrough technologies

- Nurturing the development of emerging technologies with high potential to enable zerogreenhouse gas and negative emissions in energy and transport.
- 4 topics in 2021 (35 M€)
- Issues: Methane cracking, non-CO2 greenhouse gases removal, direct atmospheric carbon capture and conversion, bottomup

Citizen and stakeholder engagement

- Facilitating the transformation to a climate neutral society through more effectively engaging and empowering citizens to participate in the transition, from planning to decisionmaking and implementation
- 4 topics in 2021 (17.5 M€)
- Issues: just transition, SSH platform, Transition Super Labs, NCP-network



Destination 2 - Emerging breakthrough technologies and climate solutions

Objectives

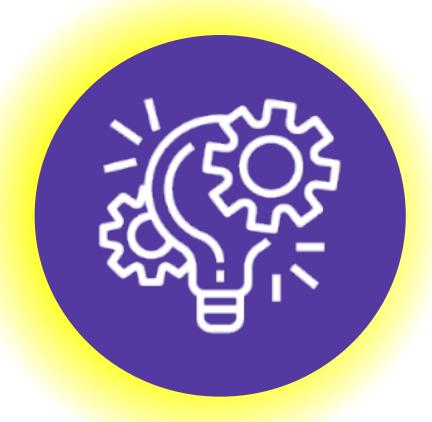
- Emergence of **unanticipated technologies** enabling emerging zero-greenhouse gas and negative emissions in energy and transport;
- Development of high-risk/high return technologies to enable a transition to a net greenhouse gas neutral European economy;
- Explore environmental, social and economic **impacts**,

Issues covered in topics 2021-2022

• Methane cracking, non-CO2 greenhouse gases removal, direct atmospheric carbon capture and conversion, bottom-

Implementation

• **2021**: 4 topics (total budget: 35 M€)





Destination 2 - Citizens and stakeholder engagement

Objectives

- A better understanding of the societal implications of the climate transition, including its distributional repercussions;
- More effective policy interventions, co-created with target constituencies and building on high-quality policy advice;
- Greater societal support for transition policies and

programs, based on greater and more consequential Issues covered in topics 2021-2022

 Just transition, SSH platform, Transition Super Labs, NCPnetwork



Implementation

• **2021**: 4 topics (total budget: 17.5 M€)



Destination 2 – Communities and cities

Objectives

 Increased efficiency of Europe's cities' and communities' energy, resource use and mobility patterns and cities' and communities' overall sustainability, thereby improving their climateresilience and attractiveness to businesses and

Issues covered in topics 2021-2022

- European co-funded Partnership; CIVITAS network
- Bulk of topics to be included in WP update, once Implementation Plan of cities mission is ready

Implementation

- Implemented also through co-funded Partnership
 Driving Urban Transition
- **2 topics** in 2021-2022





Destination 3- Sustainable, secure and competitive energy supply

Renewable energy

- Fostering European global leadership in affordable, secure and sustainable renewable energy technologies and services by improving their competitiveness in global value chains and their position in growth markets, notably through the diversification of the renewable services and technology portfolio
- **20 topics in 2021** (335 M€)
- 24 topics in 2022 (368 M€)
- Issues: disruptive technologies, cost reduction, improved efficiency, derisking, integration, export potential, sustainability, market uptake

Energy system, grids and storage

- Ensuring cost-effective
 uninterrupted and affordable
 supply of energy to households
 and industries in a scenario of
 high penetration of variable
 renewables and other new low
 carbon energy supply.
- Managing smart and cybersecure energy grids and optimisation the interaction between producers, consumers, networks, infrastructures and vectors
- **10 topics in 2021** (152 M€)
- **7 topics in 2022** (181 M€)
- **Issues**: energy sector integration, energy system planning and operation, active consumer, markets and energon communities, digitization

Carbon Capture, Utilization and Storage

- Accelerating the development of Carbon Capture, Use and Storage (CCUS) as a CO₂ emission mitigation option in electricity generation and industry applications (including also conversion of CO₂ to products)
- 2 topics in 2021 (32 M€)
- 1 topic in 2022 (58 M€)
- Issues: CCUS hubs, application in industry, CO2 capture

Cross-cutting

- Geological services (2021; CSA; 20 M€)
- Stakeholder support (2021; CSA; 9.8 M€)
- Clean Energy Transition co-funded Partnership (2021-2027; 210 M€ in total)



Destination 3 – Renewable energy

Objectives

- Fostering European global leadership in affordable, secure and sustainable renewable energy technologies and services by improving their competitiveness in global value chains and their position in growth markets, notably through the diversification of the renewable services and technology
 Issuessiovered in topics 2021-2022
- Solar energy, wind energy, biofuels, geothermal energy, hydro energy, CHP, energy carriers
- Disruptive technologies, cost reduction, improved efficiency, derisking, integration, export potential, sustainability, market uptake

Implementation

- **2021**: **20 topics** (total budget: 335 M€)
- **2022: 24 topics** (total budget: 368 M€)





Destination 3 – Energy systems, grids and storage

Objectives

- Ensuring cost-effective uninterrupted and affordable supply of energy to households and industries in a scenario of high penetration of variable renewables and other new low carbon energy supply.
- Managing smart and cyber-secure energy grids and optimisation the interaction between producers, consumers, networks, infrastructures and

Issues covered in topics 2021-2022

 Energy sector integration; energy system planning and operation; grid resilience and reliability; power electronics; active consumer; markets and energy communities; digitization; thermal energy storage

Implementation

• **2021**: **10 topics** (total budget: 152 M€)

• **2022: 7 topics** (total budget: 181 M€)





Destination 3 – Carbon Capture, Utilization and Storage (CCUS)

Objectives

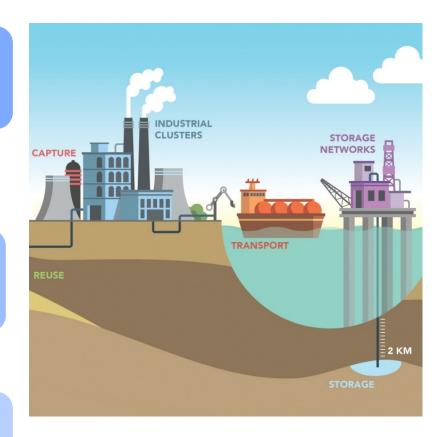
 Accelerating the development of Carbon Capture, Use and Storage (CCUS) as a CO2 emission mitigation option in electricity generation and industry applications (including also conversion of CO2 to products)

Issues covered in topics 2021-2022

• CCUS hubs, application in industry, CO2 capture

Implementation

- **2021**: **2 topics** (total budget: 32 M€)
- **2022: 1 topics** (total budget: 58 M€)





Destination 3 – Cross-cutting actions

Issues covered in topics 2021-2022

- Clean Energy Transition co-funded Partnership: 70 M€ (2021-2022)
- Support for stakeholder associations: 9.8 M€ (2021)
- **Geological services**: 20 M€ (2021)





Destination 4 - Efficient, sustainable and inclusive energy use

Buildings

- Technological and socio-economic breakthroughs for achieving climate neutrality and the transition to zero pollution of the building stock by 2050, based on inclusive and people-centric R&I
- 6 topics in 2021 (74 M€)
- **10** topics in **2022** (140 M€)
- **Issues**: Energy performance assessment and monitoring, industrialization of deep renovation, integrated technology solutions, prefabricated renovation packages, demand response, renewable intensive homes, smart buildings, design, materials, sustainability of life-cycle
- Implementing co-programmed Partnership "People-centric, Sustainable Built Environment" (Built4People)

Industry

- Increased energy efficiency in industry and reducing industry's Greenhouse Gas (GHG) and air pollutant emissions through recovery, upgrade and/or conversion of industrial excess (waste) heat and through electrification of heat generation
- 2 topics in 2021 (30 M€)
- **Issues**: heat upgrade technologies, industrial excess (waste) Heat-to-Power conversion





Destination 4 – Highly energy-efficient and climate neutral EU building stock

Objectives

 Technological and socio-economic breakthroughs for achieving climate neutrality and the transition to zero pollution of the building stock by 2050, based on inclusive and people-centric R&I



• Energy performance assessment and monitoring, industrialization of deep renovation, integrated technology solutions, prefabricated renovation packages, demand response, renewable intensive homes,

smart buildings, design, materials, sustair

Implementation

• **2021**: **6 topics** (total budget: 74 M€)

• **2022: 10 topics** (total budget: 140 M€)

Many topics contribute to the European Partnership "People-centric, Sustainable Built Environment' (Built4People)"

(https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/european-partnerships-horizon-europe/candidates-climate-energy-and-mobility en)





Destination 4 – Industrial facilities in the energy transition

Objectives

• Increased energy efficiency in industry and reducing industry's Greenhouse Gas (GHG) and air pollutant emissions through recovery, upgrade and/or conversion of industrial excess (waste) heat and through electrification of heat generation.

Issues covered in topics 2021-2022

 Heat upgrade technologies; heat-to-power conversion; high temperature thermal storage

Implementation

- **2021**: **2 topics** (total budget: 30 M€)
- **2022: 2 topics** (total budget: 18 M€)





Destination 5 - Clean and competitive solutions for all transport modes

Zero-emission road transport

- Transforming road transport to zero-emission mobility through a world-class European research and innovation and industrial system, ensuring that Europe remains world leader in innovation, production and services in relation to road transport
- 4 topics in 2021 (94 M€)
- 4 topics in 2022 (105 M€)
- Issues: regional medium freight haulage, power electronics, optimised smart EV charging, sustainable circularity, heavy duty vehicles, busses
- Implementing co-programmed
 Partnership "Towards zero emission road transport"
 (2ZERO)

Aviation

- Accelerating the reduction of all aviation impacts and emissions (CO₂ and non-CO₂, including manufacturing and end-of-life, noise), developing aircraft technologies for deep reduction of greenhouse gas emissions, and maintaining European aero-industry's global leadership position
- 2 topics in 2021 (54 M€)
- 3 topics in 2022 (45 M€)
- Issues: long-term research, silent and ultralow local air pollution aircraft, digital aviation technologies, policyrelated research

Accelerate the development and prepare the deployment of climate neutral and clean solutions in the shipping sector, reduce its environmental impact (on biodiversity, noise, pollution and waste management), improve its system efficiency, leverage digital and EU satellite-

Waterborne transport

• 8 topics in 2021 (93 M€)

navigation solutions and

competitiveness of the

European waterborne sector

contribute to the

- 6 topics in 2022 (96 M€)
- Issues: climate neutral fuels, electrification, energy efficiency and drastically lower fuel consumption of vessels, port infrastructure, inland waterway vessels, automated shipping
- Implementing co-programmed Partnership "Zero Emission

Transport - Health and environment

- Devising more effective ways for reducing emissions and their impacts through improved scientific knowledge
- 2 topics in 2021 (15 M€)
- 1 topic in 2022 (7 M€)
- Issues: retrofit solutions for tailpipe and brake polluting emissions, noise and particle emissions, smog prevention



Destination 5 – Zero-emission road transport

Objectives

 Transforming road transport to zero-emission mobility through a world-class European research and innovation and industrial system, ensuring that Europe remains world leader in innovation, production and services in relation to road transport (more

detailed information below).

Issues covered in topics 2021-2022

 Regional medium freight haulage, power electronics, optimised smart EV charging, sustainable circularity, heavy duty vehicles, busses

Implementation

• **2021**: **4 topics** (total budget: 94 M€)

• **2022: 4 topics** (total budget: 105 M€)



All topics contribute to the **European Partnership** "Towards zero emission road transport' (2ZERO)"

(https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/european-partnerships-horizon-europe/candidates-climate-energy-and-mobility_en)



Destination 5 – Aviation

Objectives

 Accelerating the reduction of all aviation impacts and emissions (CO₂ and non-CO₂, including manufacturing and end-of-life, noise), developing aircraft technologies for deep reduction of greenhouse gas emissions, and maintaining European aero-industry's global leadership position

Issues covered in topics 2021-2022

• Long-term research, silent and ultra-low local air pollution aircraft, digital aviation technologies, policy-related research



Implementation

• **2021**: **2 topics** (total budget: 54 M€)

• **2022: 3 topics** (total budget: 45 M€)

Substantial activities are funded under the Institutional European Partnerships "Clean Aviation" (https://clean-aviation.eu/) and "Air Traffic Management".



Destination 5 – Waterborne Transport

Objectives

 Accelerate the development and prepare the deployment of climate neutral and clean solutions in the shipping sector, reduce its environmental impact (on biodiversity, noise, pollution and waste management), improve its system efficiency, leverage digital and EU satellite-navigation solutions and contribute to the competitiveness of the

European waterborne sector.

Issues covered in topics 2021-2022

 climate neutral fuels, electrification, energy efficiency and drastically lower fuel consumption of vessels, port infrastructure, inland waterway vessels, automated shipping

Implementation

• **2021**: **8 topics** (total budget: 93 M€)

• **2022: 6 topics** (total budget: 96 M€)



Most topics contribute to the **European Partnership** "Zero Emission Waterborne Transport (ZEWT)"

(https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/european-partnerships-horizon-europe/candidates-climate-energy-and-mobility_en)



Destination 5 – Impact of transport on environment and human health

Objectives

• Devising more effective ways for **reducing emissions and their impacts** through improved scientific knowledge

Issues covered in topics 2021-2022

• retrofit solutions for tailpipe and brake polluting emissions, noise and particle emissions, smog prevention

Implementation

- **2021**: **2 topics** (total budget: 15 M€)
- **2022: 1 topics** (total budget: 7 M€)





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

Connected, cooperative and automated mobility

- Accelerating the implementation of innovative connected, cooperative and automated mobility (CCAM) technologies and systems for passengers and goods
- 6 topics in 2021 (74 M€)
- 5 topics in 2022 (88 M€)
- Issues: on-board perception and decision-making technologies, safety validation, Physical and Digital Infrastructure, cybersecurity, socio-economic and environmental impacts, coordination, demonstrators, occupant protection, Human behavioural model, fleet and traffic management systems, Artificial Intelligence
- Implementing co-programmed
 Partnership "Connected,

Multimodal and sustainable transport systems

- Further developing a multimodal transport system through sustainable and smart long-haul and urban freight transport and logistics, upgraded and resilient physical and digital infrastructures for smarter vehicles and operations, for optimised system-wide network efficiency
- 3 topics in 2021 (53 M€)
- **7 topics in 2022** (91 M€)
- Issues: multimodal freight transport nodes, greening the last mile, transport infrastructure (inland waterways), logistics networks integration and harmonisation, urban logistics and planning, smart enforcement, mobility services for the next decade, multimodal network and traffic management, construct, maintain and decommission transport infrastructure, resilient freight transport and logistics networks

Safety and resilience

- Drastically decreasing the number of transport accidents, incidents and fatalities towards the EU's long-term goal of moving close to zero fatalities and serious injuries by 2050 even in road transportation (Vision Zero) and increase the resilience of transport systems
- 4 topics in 2021 (40 M€)
- 3 topics in 2022 (34 M€)
- Issues: safe lightweight vehicles, human-technology interaction, road safety in low and medium income countries in Africa, infection on large passenger ships, safe automation and man factors in aviation, vulnerable d users, resilient aircraft and eased survivability, containership

European

Commission |

Destination 6 – Connected, cooperative and automated mobility (CCAM)

Objectives

 Accelerating the implementation of innovative connected, cooperative and automated mobility (CCAM) technologies and systems for passengers and goods

Issues covered in topics 2021-2022

 On-board perception and decision-making technologies; safety validation; Physical and Digital Infrastructure; cyber-security; socioeconomic and environmental impacts; coordination; demonstrators; occupant protection; human behavioural model; fleet and traffic management systems; Artificial Intelligence

Implementation

• **2021**: **6 topics** (total budget: 74 M€)

• **2022: 5 topics** (total budget: 88 M€)



All topics contribute to the European Partnership "Connected, Cooperative and Automated Mobility (CCAM)"

(https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/european-partnerships-horizon-europe/candidates-climate-energy-and-mobility_en)



Destination 6 – Multimodal and sustainable transport systems

Objectives

 Further developing a multimodal transport system through sustainable and smart long-haul and urban freight transport and logistics, upgraded and resilient physical and digital infrastructures for smarter vehicles and operations, for optimised system-wide

Issues covered in topics 2021-2022

 multimodal freight transport nodes; greening the last mile; transport infrastructure (inland waterways); logistics networks integration and harmonisation; urban logistics and planning; smart enforcement; mobility services for the next decade; multimodal network and traffic management; construct, maintain and decommission transport infrastructure; resilient freight transport and logistics networks

Implementation

• **2021**: **3 topics** (total budget: 53 M€)

• **2022: 7 topics** (total budget: 91 M€)





Destination 6 – Safety and resilience

Objectives

• Drastically decreasing the number of **transport accidents, incidents and fatalities** towards the EU's long-term goal of moving close to zero fatalities and serious injuries by 2050 even in road transportation (Vision Zero) and increase the **resilience** of transport systems.

Issues covered in topics 2021-2022

 Safe lightweight vehicles; human-technology interaction; road safety in low and medium income countries in Africa; vulnerable road users; infection on large passenger ships; containership fires; safe automation and human factors in aviation; resilient aircraft and increased survivability

Implementation

- **2021**: **4 topics** (total budget: 40 M€)
- **2022: 3 topics** (total budget: 34 M€)





Important websites

Cluster 5 draft work programme 2021-2022 (version of 21 May 2021): https://ec.europa.eu/transparency/expert-groups-register/core/api/front/document/51842/download

!!! This draft has not been adopted or endorsed by the European Commission !!!

Information event on cluster 5 calls

https://www.horizon-europe-infodays2021.eu/event/cluster-5-climate-energy-mobility

Funding & Tender Portal

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/programmes/horizon



Horizon Europe





Horizon Europe: <a href="https://ec.europa.eu/info/research-and-innovation/funding-opportunities/funding-programmes-and-open-calls/horizon-europe en de la compact de la c

Pillar III: Innovative EU https://op.europa.eu/en/publication-detail/-/publication/377dbf20-b91d-11eb-8aca-01aa75ed71a1/language-en/format-PDE/source-search

European Innovation Council: https://eic.ec.europa.eu/index_en



What is holding back European Innovation?

Innovation **performance**

- Strong research performance not translated into innovation
- Lack of breakthrough/ disruptive innovations that create new markets

Innovation funding

Financing gaps (2 "valleys of death") in

- Transition from lab to enterprise
- Scaling up for high-risk innovative start-ups

Innovation ecosystem

- Many national & local ecosystems, but fragmented at European level
- Need to include all regions and all talent (especially female innovators)

What is the EIC?



One stop shop for breakthrough, deep-tech, market-creating innovators

- Open to all innovators, in any field, at any time
- Complemented by targeted funding on strategic challenges
- Highly competitive for Europe's high potential innovators

Agile funding from idea to investment

- Pathfinder for advanced research on emerging technologies
- Transition from lab to commercial setting
- Accelerator & EIC Fund to scale up innovations by start-ups & SMEs

Building ecosystems and comunities

- Access to Business Acceleration Services (coaches, mentors, corporates, investors & knowledge partners)
- EIC Programme Managers to develop visions for breakthroughs, manage portfolios, and connect to ecosystems
- Crowding in other investors (VC, corporates, etc.)

The main EIC Support Schemes



Pathfinder

For advanced research on breakthrough / game-changing technologies

Pathfinder Open: bottom-up approach; no predefined topics

Pathfinder Challenges: topdown challenge-driven calls for tackling specific issues by portfolios of projects

Transition

For transforming research results into innovation opportunities;
follow up results from EIC
Pathfinder and ERC Proof of
Concept

Transition Open: no topic prescription

Transition Challenges: selected challenges

Accelerator

For individual companies to develop and scale up breakthrough innovations with high risk and high impact

Grant Funding
Equity Funding
Business Acceleration Service

EIC Fund: VC fund – EC shareholder / Bridging equity funding gap at early stage / Crowding in other investors

Business Acceleration Service: access to advice, to business partners and to innovation ecosystems & peers

Work programme EIC 2021



			Open calls (Section II)		Challenge driven calls (Section III)		
	Who can apply	What for	Call deadline(s)	Indicative Budget (EUR million)	Challenges	Call deadline(s)	Indicative Budget(EUR million)
EIC Pathfinder	Consortia of at least three different independent legal entities (e.g. research organisations, universities, SMEs, industry) established in at least 3 different eligible countries. Single applicants or small consortia (two partners) may be able to apply for Pathfinder Challenges according to the call specifications.	Grants of up to EUR 3 million (open) or EUR 4 million (challenge driven) (or more if properly justified) to achieve the proof of principle and validate the scientific basis of breakthrough technology (TRL 1-4)	19 May 2021	168.00	 Awareness inside Tools to measure & stimulate activity in brain tissue Emerging Technologies in Cell Gene Therapy Novel routes to green hydrogen production Engineered living materials 	27 October 2021	132.00
EIC Transition	Single applicants (SMEs, spin-offs, start-ups, research organisations, universities) or small consortia (two to 5 partners). Applications must build on results from eligible Pathfinder, FET or ERC Proof of Concept projects	Grants of up to EUR 2.5 million (or more if properly justified) to validate and demonstrate technology in application-relevant environment (TRL 4 to 5/6) and develop market readiness	22 September 2021	59.60	Medical devices Energy harvesting and storage technologies	22 September 2021	40.50
EIC Accelerator	Single Start-ups and SMEs (including spin-outs), individuals (intending to launch a start-up/SME) and in exceptional cases small mid-caps (fewer than 500 employees)	Blended finance: up to EUR 2.5 million grant component for technology development and validation (TRL 5/6 to 8); EUR 0.5 - 15 million investment component for scaling up and other activities.Grant only/grant first under certain conditions. Investment component only for small mid-caps or as follow up to grant only (i.e. for SMEs, including start-ups)	Any time (short applications) Full applications by 9 June 2021 and 6 October 2021	592.50	Strategic Health and Digital Technologies Green Deal innovations for the economic recovery	Any time (short applications) Full applications by 9 June 2021 and 6 October 2021	495.10

EIC Pathfinder Challenges and portfolio



approach

EIC Pathfinder Challenges aim to build on new, cutting- edge directions in science and technology to disrupt a field and a market or create new opportunities by realising innovative technological solutions grounded in high- risk/high-gain research and development.

Top-down, based on given vision for each Challenge Indicative: TRL 2-4.

Challenge portfolio approach:

- a coherent set of projects exploring different perspectives, competing approaches or complementary aspects of the Challenge;
- multidisciplinary interactions and exchanges for synergies and serendipity;
- contributing to an overarching medium to long-term business goal and technologybased strategic plan, under the supervision of EIC Programme Managers

KEY ROLES OF PROGRAMME MANAGERS



bringing together cutting-edge expertise and visionary drive to turn new technological breakthroughs into relevant and responsible innovations for Europe and for the world

Networking with other programmes and with innovation ecosystem communities

Building strategic intelligence and propose topics for challenge calls with the portfolio approach

Scientific knowledge + hands on approach to catalyze impacts on projects

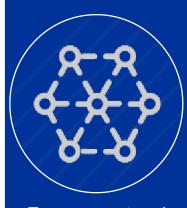
Clustering of projects in thematic portfolios (technology/application driven)

EIC Proactive Manageme nt

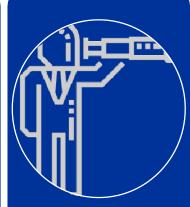
Transfer proactive management attitude to the Pos and to EIC

Proactive management of projects





Engagement and interaction among projects to seed new ideas and facilitate cross sectorial contamination: impact on specific research



Vision to integrate projects towards ambitious targets and address broader research challenges (the portfolio goals)



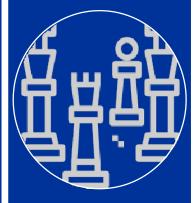
Nurture the transition to innovation by balancing dissemination and IP protection, and networking with key players



projects and other
European
programmes i.e.
Horizon Missions,
ERC, EIT, societal
challenges,
national/regional
programmes



Identify regulatory or legislative gaps and propose opportunities to bridge them



Steer the research and innovation towards EUpolicy orientations: take strategic directions and influence policy

Strumenti a disposizione del Programme Manager



- Selezione progetti nelle challenge calls: chair del team di revisori, con possibilità di finanziare i progetti sulla base degli obiettivi complessivi del portafoglio definiti nella topic guide
- Aiuto diretto ai progetti in corso: contributo ad hoc di 50 kEur fino a 3 volte durante la durata del Progetto per facilitare innovazione, trovare nuove applicazioni ecc
- Supporto di esperti scientifici esterni: possibilità consulenza tecnico-scientifica su specifici argomenti di ricerca e innovazione (ec. Valutare il potenziale di innovazione di una ricerca, le possibilità di mercato, analisi brevettuali ecc..)

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/work-as-an-expert

• Avviare specifiche **consultazioni EU** su aspetti legislativi, normativi, standard tecnici ecc che possono ostacolare lo sviluppo di una innovazione, coinvolgendo le DG interessate e i principali stakeholders (innovation deals)

HORIZON-EIC-Pathfinder Challenge – III.1.4

Novel routes to green hydrogen production



Hydrogen, actually largely produced from fossil fuels, has the potential to contribute to the development of efficient, sustainable and flexible energy systems.

This Pathfinder Challenge aims at developing **novel processes and technologies to produce green H2** (full life-cycle greenhouse gas emissions close to zero), at **different scales** (from small to large) and **capturing cross sectorial coupling and system integration opportunities**, **entirely based** on (i) **renewable sources** and (ii) **non-toxic**, **non-critical raw materials**.

It focuses on the potentials of **new biological, chemical, and physical routes for green H2 production** which could also facilitate the implementation of the **circular economy** principles, possibly including the co-production of decarbonised chemicals.

The specific target is to support the development of innovative technologies and platforms for green H2 production, **including both centralised and/or on-demand generation** (i.e. at the premises of the end users and for onsite consumption).

HORIZON-EIC-Pathfinder Challenge – III.1.4

Novel routes to green hydrogen production



A proof of concept or lab-scale validated innovative Green H2 production technology (TRL3) by biological, chemical or physical routes without the deployment of fossil fuels, potentially including the use of salt or waste water, organic wastes or the co-production of decarbonized chemicals.

Strong recommendations:

Multidisciplinary and cross sectorial approaches are particularly welcome.

Proposers are strongly encouraged to consider the **recovery and recycling** of by-products and wastes (life cycle thinking and circular approach).

The **use of toxic-free** and **non-critical raw materials** is requested and the projects should include a full life cycle analysis of the proposed solutions and their impact on Europe's decarbonisation goals.





Pathfinder Challenge Guides and evaluation criteria

- The Challenge Guide provides more information about the specific objectives of the challenge, e.g.:
 - a detailed assessment of the state of the art
 - technical information to underpin the objectives
 - potential societal, economic, environmental impacts expected
 - portfolio evaluation criteria for constituting a coherent set of projects
- The Challenge Guides are published on the ElCwebsite and through the EUFunding & Tender Opportunities Portal.
 - https://eic.ec.europa.eu/calls-proposals/eic-pathfinder-challenge-novell-routes-green-hydrogen-production_en

HORIZON-EIC-Pathfinder Challenge – III.1.4

Novel routes to green hydrogen production



Type of action:

Research and Innovation Action (RIA) to cover the eligible costs, necessary for the implementation of your project, including the portfolio activities.



EU contribution

For this call, the EIC considers proposals with an EU contribution of **up to EUR 4 million** as appropriate. Nonetheless, this does not preclude you to request larger amounts, if properly justified or stated otherwise in the specific Challenge. The funding rate of this grant will be **100% of the eligible costs. The total budget available for this call is 20 MEur**



Deadline for proposals submission:

27th October 2021





Can you apply?

Consortia or single legal entities (unless stated otherwise for the specific challenge*):

- In case of consortium, they have to include at least two independent legal entities:
 - consortia of two must have independent legal entities from two different Member States or Associated Countries;
 - consortia of three or above follow standard rules i.e., at least one legal entity must be from a Member State;
 - Legal entities: all types are eligible.
- In the case of single entity, mid-caps and larger companies are not permitted.

HORIZON-EIC-Transition Challenge – III.2.2

Energy harvesting and storage technologies



In order to maximally benefit from the **different harvesting and storage technologies**, a systems approach is needed that **combines harvesting and storage** or that **integrates** a specific storage technology into a **comprehensive application-specific solution**.

The proposals are expected to develop energy storage technologies or combined energy harvesting/storage technologies ready for investment and business development, with the perspective to capture specific systems integration opportunities, not using critical raw materials and for different applications such as utility scale, distributed or portable microscale applications, and for stationary as well as mobile uses.



HORIZON-EIC-Transition Challenge – III.2.2

Energy harvesting and storage technologies



Expected outcome

Proposals are expected to address prototypes or demonstrators operating in relevant environment conditions (achieving TRL6) combined with a sound business plan and business model of at least one of the following:

- Innovative technologies and systems combining energy harvesting and storage, which are efficient, clean, high energy density and low-cost, integrated for stationary or mobile applications;
- Innovative concepts and techniques for the combined harvesting and storage of solar energy (in the form of heat or solar fuels), geothermal or waste heat, including topics such as long-term thermal storage, cooling and cryogenic storage, building integrated solutions, thermo-electricity, advanced heat transfer, power to heat to power, and thermo-mechanical energy storage and conversion;
- Advanced materials and devices for electro-chemical storage (other than Li-Ion batteries), at utility scale, mobile or distributed/micro scale level, also integrated to PV/wind energy systems or for other intermittent sources. Concepts that offer the potentials for high flexibility, high energy density, efficiency, low-cost, made of toxic-free and non-critical raw materials, should be harnessed to make them usable for specific applications.



HORIZON-EIC-Transition Challenge – III.2.2

Energy harvesting and storage technologies



Type of action:

Research and Innovation Action (RIA) to cover the eligible costs, necessary for the implementation of your project, including the portfolio activities.



EU contribution

For this call, the EIC considers proposals with an EU contribution of **up to EUR 2,5 million** as appropriate. Nonetheless, given that the costs of such activities in this challenge tend to be high, budgets of above €2.5 million may be accepted if duly justified. The funding rate of this grant will be **100% of the eligible costs. Total budget for the call 20 MEur**



Deadline:

22nd September 2021

Eligibility:

Beneficiaries of FET or ERC PoC projects started or terminated in a specific time slot (started not less than 1 year before or terminated not more than 1 year before the call deadline)



Additional opportunities for selected projects



Projects or their beneficiaries funded through ElC Pathfinder and Transition are eligible:

- to receive additional **Ad hoc grants** (up to 3 per project or more if duly justified) with fixed amounts of up to €50,000 (proposed by the PM):
 - for complementary activities to explore potential pathways to commercialization
 - for portfolio activities.
- Pathfinder projects can submit a proposal to the Transition;
- submit an EIC Accelerator proposal via the Fast Track scheme;
- to receive free access to a wide range of Business Acceleration Services.

Specific provisions for IPRs (Pathfinder, Transition)



- Provisions in Work Programme (Annex 7) and in Model Grant Agreement (pending).
- Main elements (in addition to normal Horizon Europe rules) concern:
 - Exchange of information on preliminary findings and results
 (on request, relates to information not disclosure, via ElCMarket Place with in-built confidentiality/ protection)
 - 2. Priority to exploitation(in Plan for Exploitation and Dissemination with best efforts to exploit)
 - 3. Rights of ElC inventors

 (acces srights for exploitation by individual inventors in not-for-profit beneficiaries)

Green Deal innovations for the Economic Recovery

EIC Accelerator: a four-step evaluation process

1

- You have a disruptive / deep tech idea with a potential to scale up
- Tell us your story with short application at any time

2

- You prepare a full application with your business plan
- We will help you with a dedicated AI tool and free coaching

3

- You submit your full proposal at one of the regular cut-off dates
- Your application will be assessed by expert evaluators matched to your field

4

- You pitch your innovation to a Jury of experienced investors/ entrepreneurs
- If selected, you will sign the grant and start due diligence for the equity





What are we looking for?

Start-ups and SMEs seeking to scale up high impact innovations with the potential to create new markets or disrupt existing ones

Innovations building on **scientific discovery** or technological breakthroughs ('deep tech')

Innovations where **significant funding** is needed over a **long timeframe** and are **too risky** for private investors alone

Green Deal innovations for the Economic Recovery



This EIC Accelerator challenge will fund **transformative green deep tech innovations**, which contribute to the goals enshrined in the European Green Deal strategy and the Recovery Plan for Europe. In that particular regard, at least 50% of the companies selected for the interview phase must have submitted proposals relating to one the following areas:

Renewable energy, including renewable Hydrogen and energy storage: to further
develop renewable energy sources, green hydrogen or decarbonised fuels
production and/or storage at different scales, from centralised to on demand, as well
as for different applications ranging from stationary to transport, including solutions
that address the whole supply chain to limit the use of critical raw materials, to contribute
to the goal of a carbon neutral economy



Green Deal innovations for the Economic Recovery



Deep renovation of buildings: to increase the energetic and environmental performance of residential, commercial and public buildings, also bundling energy supply and/or demand through innovative technologies and operating strategies, proposing building embedded energy generation and storage solutions and financial schemes or business models.

Low carbon industries: including solutions on electrification, circularity and industrial symbiosis of industrial processes, the use of carbon capture storage and utilisation technologies or the digitisation of industrial processes.

Battery and other energy storage systems: comprising other energy storage systems such as chemical as well as physical storage technologies (including ultracapacitors), for use on stationary as well as transport applications.



Green Deal innovations for the Economic Recovery



Expected outcome

Proposals are expected to **scale up next generation low-carbon technologies** developed by high-risk, high-potential small- and medium-sized enterprises (**SMEs**) (including start-ups) from any sector provided that their proposal contributes to **Green Deal goals**.

The outcome is a **global technology leader SME** able to **transform business concepts into market-ready innovations** (new or breakthrough technologies, products, processes, services and business models) and **their rollout**.

Those SMEs will fuel the societal transition towards a climate-neutral and circular economy while supporting EU's competitiveness and leadership in green technologies and the recovery from the COVID-19 crisis.



Green Deal innovations for the Economic Recovery

Strong recommendations

You must base your proposal on a **strategic business plan** and **specify the project's success criteria** and **expected outcomes**.

You must **pay particular attention to IPR strategy**, and you must present convincing evidence or measures to **ensure the possibility of commercial uptake** (often known as 'freedom to operate'). Moreover, you must **address regulatory and standardisation issues**.

Proposals must describe the project's contribution to the implementation of at least one of these Green Deal goals, using where possible quantitative impact assessments.



Green Deal innovations for the Economic Recovery



Type of action:

Research and Innovation Action (RIA) to cover **70% of the eligible costs**, necessary for the implementation of your project, including the portfolio activities.



EU contribution

Support may be provided in the form of blended finance (combining grant of up to EUR 2.5 million and investment component of between EUR 0.5 and EUR 15 million) or grant only/ grant first support. In addition to funding, if you are successful you will receive free access to a wide range of Business Acceleration Services.



Deadline:

6 October 2021 at 17h00 Brussels local time





What support can you receive?

- Grant and investment
- If you need support for development (TRL5/6 → 8), deployment and scale-up (TRL9).
 - Grant only
- •If you can prove that you have sufficient financial means for deployment and scale-up (TRL 9).

Grant first

If your innovation still requires significant work to validate and demonstrate in relevant environments to assess its commercial potential.

Investment only

If you are looking to fill the funding gap for rapid scale-up of your high-risk innovation and you don't need a grant.



Investment component

- minimum EUR 0.5 million and maximum EUR 15 million,
- -usually in the form of direct equity or quasi-equity,
- maximum 25% of the voting shares of the company,
- -"patient capital" principle (7-10 years perspective on average).

Grant component

- maximum EUR 2.5 million,
- -eligible costs are reimbursed up to a maximum of 70%,
- -innovation activities supported should be completed within 24 months,
- -small mid-caps are not eligible for grant (but can apply for investment only).

Follow up funding for results from Horizon and nation programmes



- Fast Track scheme for projects funded by Horizon:
 - Starting with ERC, EIT/ KICs, EIC, Eurostars
- Plug-In scheme for projects funded by eligible national programmes
 - Pilot/ design phase in 2021
 - Expert Group to advise on eligible programmes
- Implemented by funding body of existing project:
 - Project review to assess ElCAccelerator criteria on "excellence" and "impact".
 - If successful, can apply directly to full application stage of ElCAccelerator (equal treatment with other applicants)

Fattori chiave per finanziamenti Horizon EU



- Conoscenza del policy background: collegare i progetti alle strategie europee ala base di Horizon EU
- Studiare attentamente le call: rispondere puntualmente agli obiettivi della call conoscendone i presupposti e la genesi
- Proposte tecnicamente eccellenti: support da parte di grant offices in grado di supportare i ricercatori e le aziende per la presentazione di proposte complete e
- Multidisciplinarietà, comunicazione, disseminazione, exploitation, IP: focus su sectors contaminations e proposte 'complete' (valorizzazione risultati, disseminazione, ecc)
- Interazione con Policy Officers: rapporto che si costruisce nel tempo, non 'last minute'; importante fare esperienza come valutatori
- **EIC accelerator**: spesso il finanziamento avviene a seguito di diversi tentativi, gender parity, team completo (CEO, CTO, CFO), analisi del mercato e dei competirors



Thank you!

Antonio.pantaleo@ec.Europa.eu

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PM: Roles – making strategic choices



Outreach to R&I stakeholders, networking with other programmes and with innovation ecosystem communities

Building strategic intelligence and identify and pursue emerging targets

Scientific knowledge + hands on approach to catalyze impacts of projects

Strategic assessment and organizing projects in thematic or targeted portfolios

EIC Proactive Manageme nt

Co-create a proactive management culture with EIC staff

Portfolios approach



Hydrogen technologies (generation, storage, logistics, end use)

Energy storage (thermal, chemical, mechanical and electrochemical)

Thematic portfolios

Solar conversion technologies (Third generation PV technologies, solar fuels, solar heating/cooling, solar harvesting)

Energy harvesting, conversion and recovery

Bio-inspired and nature based materials for energy and environment

Sustainable agriculture (farm to fork)

Environmental intelligence and Climate Mitigation

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