



UNIUNEA EUROPEANĂ



Instrumente Structurale
2014-2020

CeS-UTCN - Excelența Științifică și Specializare Inteligentă prin crearea unui Centru Suport dedicat facilitării accesului entităților publice și private la proiecte/competiții CD

Proiect cofinanțat din Fondul European de Dezvoltare Regională prin
Programul Operațional Competitivitate



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BULETIN INFORMATIV NR. 28

Programul Orizont Europa

Apeluri deschise în anii 2023-2024 pentru Clusterul 5 – Climate, Energy and Mobility

CLUSTER 5 – CLIMATE, ENERGY AND MOBILITY

Destination – Climate sciences and responses for the transformation towards climate neutrality

- *Call - Climate sciences and responses - HORIZON-CL5-2023-D1-01*

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million)	Number of projects expected to be funded
		2023		
Opening: 13 Dec 2022 Deadline(s): 18 Apr 2023				
Further climate knowledge through advanced science and technologies for analyzing Earth observation and Earth system model data: HORIZON-CL5-2023-D1-01-01	RIA	16.00	Around 8.00	2
Climate-related tipping points: HORIZON-CL5-2023-D1-01-02	RIA	14.00	Around 7.00	2
Climate impacts of a hydrogen economy: HORIZON-CL5-2023-D1-01-03	RIA	8.00	Around 4.00	2
Improved knowledge in cloud-aerosol interaction HORIZON-CL5-2023-D1-01-04	RIA	16.00	Around 8.00	2
Science for successful, high-integrity voluntary climate initiatives HORIZON-CL5-2023-D1-01-05	RIA	5.50	Around 5.50	1
Broadening the range of policy options in transition pathway analysis HORIZON-CL5-2023-D1-01-06	RIA	10.00	Around 5.00	2
Modelling for local resilience - Developments in support of local adaptation assessments and plans HORIZON-CL5-2023-D1-01-07	RIA	12.00	Around 12.00	1
Solar Radiation Modification: governance of research HORIZON-CL5-2023-D1-01-08	RIA	3.00	Around 3.00	1
Behavioral change and governance for systemic transformations towards climate resilience HORIZON-CL5-2023-D1-01-09	RIA	8.00	Around 4.00	2
Improving the evidence base regarding the impact of sustainability and climate change education and related learning outcomes HORIZON-CL5-2023-D1-01-10	RIA	5.00	Around 5.00	1
Needs-based adaptation to climate change in Africa HORIZON-CL5-2023-D1-01-11	RIA	10.00	Around 5.00	2

Overall indicative budget		107.50	
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- *Call - Climate sciences and responses - HORIZON-CL5-2023-D1-02*

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million)	Number of projects expected to be funded
		2023		
Opening: 13 Dec 2022 Deadline(s): 18 Apr 2023				
EU-China international cooperation on data and model development for pathways to carbon neutrality: focusing on decarbonization, energy efficiency and socio-economic implications of the transition HORIZON-CL5-2023-D1-02-01	RIA	5.00	Around 2.50	2
EU-China international cooperation on blue carbon HORIZON-CL5-2023-D1-02-02	RIA	5.00	Around 5.00	1
Overall indicative budget		10.00		

- *Call - Climate sciences and responses - HORIZON-CL5-2024-D1-01*

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million)	Number of projects expected to be funded
		2024		
Opening: 12 Sep 2023 Deadline(s): 05 Mar 2024				
Enhanced quantification and understanding of natural and anthropogenic methane emissions and sinks HORIZON-CL5-2024-D1-01-01	RIA	15.00	Around 15.00	1
Inland ice, including snow cover, glaciers, ice sheets and permafrost, and their interaction with climate change HORIZON-CL5-2024-D1-01-02	RIA	22.00	6.00 to 7.50	3
Paleoclimate science for a better understanding of the short- to long-term evolution of the Earth system HORIZON-CL5-2024-D1-01-03	RIA	15.00	Around 15.00	1

Improved toolbox for evaluating the climate and environmental impacts of trade policies HORIZON-CL5-2024-D1-01-04	RIA	12.00	Around 6.00	2
Next generation low-emission, climate-resilient pathways and NDCs for a future aligned with the Paris Agreement HORIZON-CL5-2024-D1-01-05	RIA	14.00	Around 4.50	3
The role of climate change foresight for primary and secondary raw materials supply HORIZON-CL5-2024-D1-01-06	RIA	5.00	Around 5.00	1
Quantification of the role of key terrestrial ecosystems in the carbon cycle and related climate effects HORIZON-CL5-2024-D1-01-07	RIA	20.00	Around 10.00	2
Overall indicative budget		103.00		

Destination – Cross-sectoral solutions for the climate transition

- *Call - Cross-sectoral solutions for the climate transition - HORIZON-CL5-2023-D2-01*

Topics	Type of Action	Budgets (EUR million)		Expected EU contribution per project (EUR million)	Number of projects expected to be funded
		2023	2024		
Opening: 13 Dec 2022 Deadline(s): 18 Apr 2023					
Technologies for sustainable, cost-efficient and low carbon footprint downstream processing & production of battery-grade materials (Batt4EU Partnership) HORIZON-CL5-2023-D2-01-01	RIA	21.00		Around 7.00	3
New processes for upcoming recycling feeds (Batt4EU Partnership) HORIZON-CL5-2023-D2-01-02	RIA	15.00		Around 5.00	3
Advanced digital twins for battery cell production lines (Batt4EU Partnership) HORIZON-CL5-2023-D2-01-03	RIA	14.00		Around 7.00	2
Battery management system (BMS) and battery system design for stationary energy storage systems (ESS) to improve interoperability and facilitate the integration of second life batteries	IA	15.00		7.50	2

(Batt4EU Partnership HORIZON-CL5-2023-D2-01-04					
Hybrid electric energy storage solutions for grid support and charging infrastructure (Batt4EU Partnership) HORIZON-CL5-2023-D2-01-05	IA	12.00		Around 6.00	2
Open Pilot Line/Test Bed for hydrogen HORIZON-CL5-2023-D2-01-06	IA	10.00		Around 10.00	1
Support for the deployment of R&I results for climate mitigation. Synergies with the ETS Innovation Fund HORIZON-CL5-2023-D2-01-07	CSA	4.00		Around 1.00	4
Driving Urban Transition Co-funded Partnership HORIZON-CL5-2023-D2-01-08	COFUND	20.70	16.30	Around 37.00	1
Overall indicative budget		111.70			

- *Call - Cross-sectoral solutions for the climate transition - HORIZON-CL5-2023-D2-02*

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million)	Number of projects expected to be funded
		2023		
Opening: 04 May 2023 Deadline(s): 05 Sep 2023				
EU-China international cooperation on data and model development for pathways to carbon neutrality: focusing on decarbonization, energy efficiency and socio-economic implications of the transition HORIZON-CL5-2023-D2-02-01	IA	24.00	Around 8.00	3
New Approaches to Develop Enhanced Safety Materials for Gen 3 Li-Ion Batteries for Mobility Applications (Batt4EU Partnership) HORIZON-CL5-2023-D2-02-02	RIA	10.00	Around 5.00	2
Creating a digital passport to track battery materials, optimize battery performance and life, validate recycling, and promote a new business model based on data sharing (Batt4EU Partnership) HORIZON-CL5-2023-D2-02-03	IA	8.00	Around 8.00	1
Overall indicative budget		42.00		

- *Call - Cross-sectoral solutions for the climate transition - HORIZON-CL5-2024-D2-01*

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million)	Number of projects expected to be funded
		2024		
Opening: 07 Dec 2023 Deadline(s): 18 Apr 2024				
Advanced sustainable and safe pre-processing technologies for End-of-Life (EoL) battery recycling (Batt4EU Partnership) HORIZON-CL5-2024-D2-01-01	RIA	21.00	Around 7.00	3
Non-Li Sustainable Batteries with European Supply Chains for Stationary Storage (Batt4EU Partnership) HORIZON-CL5-2024-D2-01-02	IA	21.00	Around 7.00	3
Development of technical and business solutions to optimize the circularity, resilience, and sustainability of the European battery value chain (Batt4EU Partnership) HORIZON-CL5-2024-D2-01-03	RIA	5.00	Around 5.00	1
Emerging energy technologies for a climate neutral Europe HORIZON-CL5-2024-D2-01-04	RIA	10.00	1.50 TO 2.50	5
Overall indicative budget		57.00		

- *Call - Cross-sectoral solutions for the climate transition - HORIZON-CL5-2024-D2-02*

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million)	Number of projects expected to be funded
		2024		
Opening: 07 May 2024 Deadline(s): 05 Sep 2024				
Sustainable high-throughput production processes for stable lithium metal anodes for next generation batteries (Batt4EU Partnership) HORIZON-CL5-2024-D2-02-01	IA	8.00	Around 8.00	1
Post-Li-ion technologies and relevant manufacturing techniques for mobility applications (Generation 5) (Batt4EU	RIA	15.00	Around 5.00	3

Partnership) HORIZON-CL5-2024-D2-02-02				
Size & weight reduction of cell and packaging of batteries system, integrating lightweight and functional materials, innovative thermal management and safe and sustainable by design approach (Batt4EU Partnership) HORIZON-CL5-2024-D2-02-03	IA	16.00	Around 8.00	2
Accelerated multi-physical and virtual testing for battery aging, reliability and safety evaluation (Batt4EU Partnership) HORIZON-CL5-2024-D2-02-04	IA	15.00	Around 7.00	2
Overall indicative budget		54.00		

Destination – Sustainable, secure and competitive energy supply

- *Call - Sustainable, secure and competitive energy supply - HORIZON-CL5-2023-D3-01*

Topics	Type of Action	Budgets (EUR million)		Expected EU contribution per project (EUR million)	Number of projects expected to be funded
		2023	2024		
Opening: 13 Dec 2022 Deadline(s): 30 Mar 2023					
Renewable Energy Valleys to increase energy security while accelerating the green transition in Europe: HORIZON-CL5-2023-D3-01-01	IA	40.00		Around 20.00	2
PV integration in buildings and in infrastructure: HORIZON-CL5-2023-D3-01-02	IA	16.00		Around 8.00	2
Floating PV Systems: HORIZON-CL5-2023-D3-01-03	IA	14.00		Around 7.00	2
Solar Systems for Industrial Process Heat and Power: HORIZON-CL5-2023-D3-01-04	IA	14.00		Around 7.00	2
Critical technologies for the offshore wind farm of the Future: HORIZON-CL5-2023-D3-01-05	RIA	18.00		Around 6.00	3
Demonstration of advanced biofuel technologies for aviation and/or shipping: HORIZON-CL5-2023-D3-01-06	IA	18.00		Around 9.00	2

Demonstration of synthetic renewable fuel for aviation and/or shipping: HORIZON-CL5-2023-D3-01-07	IA	18.00		Around 9.00	2
Demonstration of sustainable tidal energy farms: HORIZON-CL5-2023-D3-01-08	IA	40.00		Around 20.00	2
Waste heat reutilization from data centers: HORIZON-CL5-2023-D3-01-09	IA	12.00		Around 6.00	2
Supporting the development of a digital twin to improve management, operations and resilience of the EU Electricity System in support to REPowerEU: HORIZON-CL5-2023-D3-01-10	IA	20.00		Around 20.00	1
Demonstration of DC powered data centers, buildings, industries and ports: HORIZON-CL5-2023-D3-01-11	IA	18.00		Around 9.00	2
Development of MVDC, HVDC and High-Power Transmission systems and components for a resilient grid: HORIZON-CL5-2023-D3-01-12	IA	22.00		Around 11.00	2
Development of novel long-term electricity storage technologies: HORIZON-CL5-2023-D3-01-13	RIA	14.00		4.00 TO 5.00	3
Demonstration of innovative, large-scale, seasonal heat and/or cooling storage technologies for decarbonization and security of supply: HORIZON-CL5-2023-D3-01-14	IA	30.00		10.00	3
Supporting the green and digital transformation of the energy ecosystem and enhancing its resilience through the development and piloting of AI-IoT Edge-cloud and platform solutions: HORIZON-CL5-2023-D3-01-15	IA	18.00		Around 18.00	1
Support action to the SET Plan IWG on HVDC & DC Technologies: HORIZON-CL5-2023-D3-01-16	CSA	0.60		Around 0.60	1

Development of CO2 transport and storage demo projects: HORIZON-CL5-2023-D3-01-17	IA	40.00		Around 20.00	2
Clean Energy Transition Co-funded Partnership: HORIZON-CL5-2023-D3-01-18	COFUND	45.00	23.00	Around 68.00	1
Overall indicative budget		397.00	23.00		

- *Call - Sustainable, secure and competitive energy supply - HORIZON-CL5-2023-D3-02*

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million)	Number of projects expected to be funded
		2023		
Opening: 04 May 2023 Deadline(s): 05 Sep 2023				
Development of near zero-emission biomass heat and/or CHP including carbon capture: HORIZON-CL5-2023-D3-02-01	RIA	8.00	Around 4.00	2
Novel thermal energy storage for CSP: HORIZON-CL5-2023-D3-02-02	RIA	5.00	Around 2.50	2
Industrial manufacturing for lower-cost solar thermal components and systems: HORIZON-CL5-2023-D3-02-03	IA	6.00	Around 3.00	2
Innovative components and configurations for heat pumps: HORIZON-CL5-2023-D3-02-04	RIA	6.00	Around 2.00	3
Advanced exploration technologies for geothermal resources in a wide range of geological settings: HORIZON-CL5-2023-D3-02-05	RIA	8.00	Around 4.00	2
Smart use of geothermal electricity and heating and cooling in the energy system: HORIZON-CL5-2023-D3-02-06	IA	15.00	Around 5.00	3
Development of next generation advanced biofuel technologies: HORIZON-CL5-2023-D3-02-07	RIA	12.00	Around 4.00	3
Development of microalgae and/or direct solar fuel production and purification technologies for advanced aviation and /or shipping fuels: HORIZON-CL5-2023-D3-02-08	RIA	8.00	Around 4.00	2
Demonstration of sustainable hydropower refurbishment: HORIZON-CL5-2023-D3-02-09	IA	8.00	Around 8.00	1
Development of innovative power take-off and control systems for wave energy devices: HORIZON-CL5-2023-D3-02-10	RIA	8.00	Around 4.00	2

Advanced concepts for crystalline Silicon technology: HORIZON-CL5-2023-D3-02-11	RIA	9.00	Around 3.00	3
Large Area Perovskite solar cells and modules: HORIZON-CL5-2023-D3-02-12	IA	14.00	Around 7.00	2
Operation, Performance and Maintenance of PV Systems: HORIZON-CL5-2023-D3-02-13	IA	10.00	Around 5.00	2
Digital twin for forecasting of power production to wind energy demand: HORIZON-CL5-2023-D3-02-14	RIA	12.00	Around 6.00	2
Critical technologies to improve the lifetime, efficient decommissioning and increase the circularity of offshore and onshore wind energy systems: HORIZON-CL5-2023-D3-02-15	RIA	12.00	Around 4.00	3
Accelerating the green transition and energy access in Africa: HORIZON-CL5-2023-D3-02-16	IA	20.00	Around 5.00	4
Overall indicative budget		161.00		

- *Call - Sustainable, secure and competitive energy supply - HORIZON-CL5-2023-D3-03*

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million)	Number of projects expected to be funded
		2023		
Opening: 04 May 2023 Deadline(s): 10 Oct 2023				
Increasing the efficiency of innovative static energy conversion devices for electricity and heat/cold generation: HORIZON-CL5-2023-D3-03-01	RIA	9.00	Around 3.00	3
Integration of renewable gases, other than hydrogen or methane, and which have not access to gas grids and interfacing with electricity and heat sectors: HORIZON-CL5-2023-D3-03-02	IA	12.00	Around 6.00	2
System approach for grid planning and upgrade in support of a dominant electric mobility (vehicles and vessels) using AI tools: HORIZON-CL5-2022-D3-03-03	IA	11.00	Around 11.00	1
Digital tools for enhancing the uptake of digital services in the energy market: HORIZON-CL5-2023-D3-03-04	IA	11.00	3.00 TO 4.00	3
Creation of a standardized and open-source peer-to-peer energy sharing platform architecture for the energy sector: HORIZON-CL5-2023-D3-03-05	IA	5.00	Around 5.00	1

Components and interfacing for AC & DC side protection system – AC & DC grid: components and systems for grid optimization: HORIZON-CL5-2023-D3-03-06	IA	10.00	Around 5.00	2
Overall indicative budget		58.00		

- *Call - Sustainable, secure and competitive energy supply - HORIZON-CL5-2024-D3-01*

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million)	Number of projects expected to be funded
		2024		
Opening: 12 Sep 2023 Deadline(s): 16 Jan 2024				
Alternative equipment and processes for advanced manufacturing of PV technologies: HORIZON-CL5-2024-D3-01-01	IA	24.00	Around 12.00	2
Low-power PV: HORIZON-CL5-2024-D3-01-02	IA	6.00	Around 3.00	2
Demonstration of improved intermediate renewable energy carrier technologies for transport fuels: HORIZON-CL5-2023-D3-01-03	IA	20.00	Around 10.00	2
Improvement of light harvesting and carbon fixation with synthetic biology and/or bio-inspired//biomimetic pathways for renewable direct solar fuels production: HORIZON-CL5-2024-D3-01-04	RIA	8.00	Around 4.00	2
Development of carbon fixation technologies for biogenic flue gases: HORIZON-CL5-2024-D3-01-05	RIA	8.00	Around 4.00	2
Innovative applications/integration of geothermal heating and cooling in industry: HORIZON-CL5-2024-D3-01-06	RIA	9.00	Around 3.00	3
Development of hydropower equipment for improving techno-economic efficiency and equipment resilience in	RIA	8.00	Around 4.00	2

refurbishment situations: HORIZON-CL5-2024-D3-01-07				
Demonstration of sustainable wave energy farms: HORIZON-CL5-2024-D3-01-08	IA	38.00	18.00 TO 20.00	2
Africa-EU CO-FUND action: HORIZON-CL5-2024-D3-01-09	COFUND	10.00	Around 10.00	1
Next generation of renewable energy technologies: HORIZON-CL5-2024-D3-01-10	RIA	27.00	Around 3.00	9
AI Testing and Experimentation Facility (TEF) for the energy sector – bringing technology to the market: HORIZON-CL5-2024-D3-01-11	IA	16.00	Around 5.00	3
Energy Management Systems for flexibility services: HORIZON-CL5-2024-D3-01-12	IA	10.00	Around 5.00	2
DC and AC/DC hybrid transmission and distribution systems: HORIZON-CL5-2024-D3-01-13	RIA	13.00	Around 6.00	2
Condition & Health Monitoring in Power Electronics (PE) - Wide Band Gap PE for the energy sector: HORIZON-CL5-2024-D3-01-14	RIA	13.00	Around 4.00	3
HVAC, HVDC and High-Power cable systems: HORIZON-CL5-2024-D3-01-15	RIA	16.00	5.00 TO 5.50	3
Demonstration of innovative pumped storage equipment and tools in combination with innovative storage management systems: HORIZON-CL5-2024-D3-01-16	IA	8.00	Around 8.00	1
Development and integration of advanced software tools in SCADA systems for High, Medium and Low voltage AC/DC hybrid systems: HORIZON-CL5-2024-D3-01-17	IA	12.00	Around 6.00	2
Overall indicative budget		246.00		

- *Call - Sustainable, secure and competitive energy supply - HORIZON-CL5-2024-D3-02*

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million)	Number of projects expected to be funded
		2024		
Opening: 07 May 2024 Deadline(s): 05 Sep 2024				
Digital tools for CSP and solar thermal plants: HORIZON-CL5-2024-D3-02-01	IA	6.00	Around 3.00	2
Development of next generation synthetic renewable fuel technologies: HORIZON-CL5-2024-D3-02-02	RIA	12.00	Around 4.00	2
Development of smart concepts of integrated energy driven bio-refineries for co-production of advanced biofuels, bio-chemicals and biomaterials: HORIZON-CL5-2023-D3-02-03	RIA	7.00	Around 3.50	2
Critical technologies for the future ocean energy farms: HORIZON-CL5-2024-D3-02-04	RIA	8.00	Around 4.00	2
PV-integrated electric mobility applications: HORIZON-CL5-2024-D3-02-05	IA	14.00	Around 7.00	2
Innovative, Community-Integrated PV systems: HORIZON-CL5-2024-D3-02-06	IA	10.00	Around 5.00	2
Resource Efficiency of PV in Production, Use and Disposal: HORIZON-CL5-2024-D3-02-07	CSA	3.00	Around 3.00	1
Minimization of environmental, and optimization of socio-economic impacts in the deployment, operation and decommissioning of offshore wind farms: HORIZON-CL5-2024-D3-01-08	RIA	10.00	Around 5.00	2
Demonstrations of innovative floating wind concepts: HORIZON-CL5-2024-D3-02-09	IA	30.00	Around 15.00	2

Market Uptake Measures of renewable energy systems: HORIZON-CL5-2024-D3-02-10	CSA	8.00	Around 2.00	4
CCU for the production of fuels: HORIZON-CL5-2024-D3-02-11	IA	15.00	Around 7.00	2
DACCS and BECCS for CO2 removal/negative emissions: HORIZON-CL5-2024-D3-02-12	IA	15.00	5.00 TO 7.00	3
Overall indicative budget		138.00		

Destination – Efficient, sustainable and inclusive energy use

- *Call - Efficient, sustainable and inclusive energy use - HORIZON-CL5-2023-D4-01*

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million)	Number of projects expected to be funded
		2023		
Opening: 13 Dec 2022 Deadline(s): 20 Apr 2023				
Innovative cost-efficient solutions for zero-emission buildings: HORIZON-CL5-2023-D4-01-01	IA	10.00	Around 5.00	2
Future-proofing historical buildings for the clean energy transition: HORIZON-CL5-2023-D4-01-02	RIA	9.00	Around 4.50	2
Interoperable solutions for positive energy districts (PEDs), including a better integration of local renewables and local excess heat sources: HORIZON-CL5-2023-D4-01-03	IA	8.00	Around 4.00	2
Thermal management and energy optimization of high energy demand IT systems equipment in tertiary buildings: HORIZON-CL5-2023-D4-01-04	RIA	6.00	Around 3.00	2
Innovative solutions for cost-effective decarbonization of buildings through energy efficiency and electrification: HORIZON-CL5-2023-D4-01-05	IA	25.00	Around 12.50	2
Integration of renewable heat or industrial waste heat in heat-to-cold conversion systems to generate cold for industrial processes: HORIZON-CL5-2023-D4-01-06	IA	20.00	Around 10.00	2
Overall indicative budget		78.00		

- *Call - Efficient, sustainable and inclusive energy use - HORIZON-CL5-2023-D4-02*

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million)	Number of projects expected to be funded
		2023		
Opening: 04 May 2023 Deadline(s): 05 Sep 2023				
Innovative uses of lifecycle data for the management of buildings and buildings portfolios (Built4People Partnership): HORIZON-CL5-2023-D4-02-01	IA	10.00	Around 5.00	2
Solutions for the identification of vulnerable buildings and people-centric built environment, and for improving their resilience in disruptive events and altered conditions in a changing climate (Built4People Partnership): HORIZON-CL5-2023-D4-02-02	IA	10.00	Around 5.00	2
Demonstrate built-environment decarbonization pathways through bottom-up technological, social and policy innovation for adaptive integrated sustainable renovation solutions (Built4People Partnership): HORIZON-CL5-2023-D4-02-03	IA	12.00	Around 6.00	2
Fast-tracking and promoting built environment construction and renovation innovation with local value chains (Built4People Partnership): HORIZON-CL5-2023-D4-02-04	CSA	2.00	Around 2.00	1
Supporting the creation of an accessible and inclusive built environment (Built4People Partnership): HORIZON-CL5-2023-D4-02-05	IA	10.00	Around 5.00	2
Overall indicative budget		44.00		

- *Call - Efficient, sustainable and inclusive energy use - HORIZON-CL5-2024-D4-01*

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million)	Number of projects expected to be funded
		2024		
Opening: 07 Dec 2023 Deadline(s): 18 Apr 2024				
Low-disruptive renovation processes using integration of prefabricated solutions for	IA	10.00	Around 5.00	2

energy-efficient buildings: HORIZON-CL5-2024-D4-01-01				
Smart grid-ready buildings: HORIZON-CL5-2024-D4-01-02	IA	10.00	Around 5.00	2
Alternative heating systems for efficient, flexible and electrified heat generation in industry: HORIZON-CL5-2024-D4-01-03	IA	16.00	Around 5.30	3
Overall indicative budget		36.00		

- *Call - Efficient, sustainable and inclusive energy use - HORIZON-CL5-2024-D4-02*

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million)	Number of projects expected to be funded
		2024		
Opening: 07 May 2024 Deadline(s): 05 Sep 2024				
Industrialization of sustainable and circular deep renovation workflows (Built4People Partnership): HORIZON-CL5-2024-D4-02-01	IA	16.00	Around 8.00	2
Robotics and other automated solutions for construction, renovation and maintenance in a sustainable built environment (Built4People Partnership): HORIZON-CL5-2024-D4-02-02	RIA	8.00	Around 4.00	2
BIM-based processes and digital twins for facilitating and optimizing circular energy renovation (Built4People Partnership): HORIZON-CL5-2024-D4-02-03	IA	8.00	Around 4.00	2
Design for adaptability, re-use and deconstruction of buildings, in line with the principles of circular economy (Built4People Partnership): HORIZON-CL5-2024-D4-02-04	RIA	8.00	Around 4.00	2
Digital solutions to foster participative design, planning and management of buildings, neighborhoods and urban districts (Built4People Partnership): HORIZON-CL5-2024-D4-02-05	IA	10.00	Around 5.00	2
Overall indicative budget		50.00		

Destination – Clean and competitive solutions for all transport modes

- *Call - Clean and competitive solutions for all transport modes - HORIZON-CL5-2023-D5-01*

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million)	Number of projects expected to be funded
		2023		
Opening: 13 Dec 2022 Deadline(s): 20 Apr 2023				
User-centric design and operation of EV for optimized energy efficiency (2ZERO Partnership): HORIZON-CL5-2023-D5-01-01	IA	15.00	4.00 to 5.00	3
Innovative battery management systems for next generation vehicles (2ZERO & Batt4EU Partnership): HORIZON-CL5-2023-D5-01-02	IA	10.00	Around 5.00	2
Frugal zero-emission vehicles concepts for the urban passenger challenge (2ZERO Partnership): HORIZON-CL5-2023-D5-01-03	IA	20.00	7.00 to 12.00	2
Circular economy approaches for zero emission vehicles (2ZERO Partnership): HORIZON-CL5-2023-D5-01-04	RIA	12.00	Around 12.00	1
Measuring road transport results towards 2ZERO KPIs (2ZERO Partnership): HORIZON-CL5-2023-D5-01-05	CSA	1.00	Around 1.00	1
EU Member States/Associated countries research policy cooperation network to accelerate zero-emission road mobility (2ZERO Partnership): HORIZON-CL5-2023-D5-01-06	CSA	1.50	Around 1.50	1
Hydrogen-powered aviation: HORIZON-CL5-2023-D5-01-07	IA	20.00	8.00 to 10.00	2
Accelerating climate-neutral hydrogen-powered/electrified aviation: HORIZON-CL5-2023-D5-01-08	RIA	17.00	3.00 to 4.00	4
Competitiveness and digital transformation in aviation – advancing further capabilities, digital approach to design: HORIZON-CL5-2023-D5-01-09	RIA	15.00	3.00 to 5.00	4
Aviation research synergies between Horizon Europe, AZEA and National programs: HORIZON-CL5-2023-D5-01-10	CSA	2.00	Around 2.00	1
Developing the next generation of power conversion technologies for sustainable alternative carbon neutral fuels in waterborne applications (ZEWTP Partnership): HORIZON-CL5-2023-D5-01-11	RIA	16.00	Around 8.00	2

Demonstrations to accelerate the switch to safe use of new sustainable climate neutral fuels in waterborne transport (ZEWT Partnership): HORIZON-CL5-2023-D5-01-12	IA	34.00	8.00 to 13.00	3
Integrated real-time digital solutions to optimize navigation and port calls to reduce emissions from shipping (ZEWT Partnership): HORIZON-CL5-2023-D5-01-13	IA	15.00	Around 7.50	2
Developing a flexible offshore supply of zero emission auxiliary power for ships moored or anchored at sea deployable before 2030 (ZEWT Partnership): HORIZON-CL5-2023-D5-01-14	IA	8.50	Around 8.50	1
Reducing the environmental impact from shipyards and developing a whole life strategy to measure and minimize the non-operational environmental impacts from shipping: HORIZON-CL5-2023-D5-01-15	IA	9.00	Around 4.50	2
Developing small, flexible, zero-emission and automated vessels to support shifting cargo from road to sustainable Waterborne Transport: HORIZON-CL5-2023-D5-01-16	RIA	9.00	Around 4.50	2
Towards the implementation of the inland navigation action program with a focus on Green and Connected Inland Waterway Transport: HORIZON-CL5-2023-D5-01-17	CSA	1.50	Around 1.50	1
Advanced transport emissions monitoring networks: HORIZON-CL5-2023-D5-01-18	IA	10.00	Around 5.00	2
Support for the organization of EU-US symposia in the field of Transport Research: HORIZON-CL5-2023-D5-01-19	CSA	0.50	Around 0.50	1
Overall indicative budget		217.00		

- *Call - Clean and competitive solutions for all transport modes - HORIZON-CL5-2024-D5-01*

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million)	Number of projects expected to be funded
		2024		
Opening: 07 Dec 2023 Deadline(s): 18 Apr 2024				
Smart, low-cost pervasive stationary slow charging and bi-directional solutions synergic with the grid for EV mass deployment (2ZERO Partnership): HORIZON-CL5-2024-D5-01-01	IA	15.00	7.00 to 8.00	2

Integration and testing of next generation post-800V electric powertrains (2ZERO Partnership): HORIZON-CL5-2024-D5-01-02	RIA	15.00	4.00 to 6.00	3
Advanced battery system integration for next generation vehicles (2ZERO Partnership): HORIZON-CL5-2024-D5-01-03	RIA	10.00	Around 5.00	2
Integrated flexible multipoint megawatt charging systems for electric truck mass deployment (2ZERO Partnership) (2024): HORIZON-CL5-2024-D5-01-04	IA	17.00	7.00 to 8.50	2
Advanced digital development tools to accelerate the development of software defined vehicles that enable zero-emission mobility (2ZERO Partnership): HORIZON-CL5-2024-D5-01-05	RIA	10.00	4.00 to 5.00	2
New designs, shapes, functionalities of Light Commercial Vehicles (2ZERO Partnership): HORIZON-CL5-2024-D5-01-06	IA	10.00	Around 10.00	1
Accelerating climate neutral aviation, minimizing non-CO2 emissions: HORIZON-CL5-2024-D5-01-07	RIA	17.00	4.00 to 5.00	4
Competitiveness and digital transformation in aviation – advancing further composite aerostructures: HORIZON-CL5-2024-D5-01-08	RIA	16.00	3.00 to 5.00	4
Impact monitoring of EU Aviation R&I: HORIZON-CL5-2024-D5-01-09	RIA	8.00	Around 8.00	1
Towards a flying testbed for European leadership in aviation: HORIZON-CL5-2024-D5-01-10	RIA	16.00	Around 16.00	1
Achieving high voltage, low weight, efficient electric powertrains for sustainable waterborne transport (ZEWT Partnership): HORIZON-CL5-2024-D5-01-11	RIA	15.00	Around 7.50	2
Combining state-of-the-art emission reduction and efficiency improvement technologies in ship design and retrofitting for contributing to the "Fit for 55" package objective by 2030 (ZEWT Partnership): HORIZON-CL5-2024-D5-01-12	IA	15.00	Around 7.50	2
Demonstration of Technologies to minimize underwater noise generated by waterborne transport (ZEWT Partnership): HORIZON-CL5-2024-D5-01-13	IA	6.00	Around 6.00	1
Demonstrating efficient fully DC electric grids within waterborne transport for large ship applications (ZEWT Partnership): HORIZON-CL5-2024-D5-01-14	IA	15.00	Around 7.50	2

Advanced digitalization and modelling utilizing operational and other data to support zero emission waterborne transport (ZEWT Partnership): HORIZON-CL5-2024-D5-01-15	IA	7.70	Around 7.70	1
Structuring the Waterborne transport sector, including through changed business and industrial models in order to achieve commercial zero-emission waterborne transport (ZEWT Partnership): HORIZON-CL5-2024-D5-01-16	CSA	0.85	Around 0.85	1
Coordinating and supporting the combined activities of member and associated states towards the objectives of the Zero Emission Waterborne Transport partnership so as to increase synergies and impact (ZEWT Partnership): HORIZON-CL5-2024-D5-01-17	CSA	1.50	Around 1.50	1
Assessment of air pollutant emissions from low-carbon fuels in the heavy-duty, aviation, and maritime sectors: HORIZON-CL5-2024-D5-01-18	RIA	7.00	Around 3.50	2
Overall indicative budget		202.05		

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

- *Call - Safe, Resilient Transport and Smart Mobility services for passengers and goods - HORIZON-CL5-2023-D6-01*

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million)	Number of projects expected to be funded
		2023		
Opening: 04 May 2023 Deadline(s): 05 Sep 2023				
User-centric development of vehicle technologies and solutions to optimize the on-board experience and ensure inclusiveness (CCAM Partnership): HORIZON-CL5-2023-D6-01-01	RIA	8.00	Around 4.00	2
Generation of scenarios for development, training, virtual testing and validation of CCAM systems (CCAM Partnership): HORIZON-CL5-2023-D6-01-02	RIA	20.00	Around 20.00	1
Infrastructure-enabled solutions for improving the continuity or extension of Operational	IA	12.00	Around 6.00	2

Design Domains (ODDs) (CCAM Partnership): HORIZON-CL5-2023-D6-01-03				
Integrating European diversity in the design, development and implementation of CCAM solutions to support mobility equity (CCAM Partnership): HORIZON-CL5-2023-D6-01-04	RIA	8.00	3.00 to 4.00	2
CCAM effects on jobs and education, plans for skills that match the CCAM development, and prerequisites for employment growth (CCAM Partnership): HORIZON-CL5-2023-D6-01-05	RIA	2.00	Around 2.00	1
Zero-emission e-commerce and freight delivery and return choices by retailers, consumers and local authorities: HORIZON-CL5-2023-D6-01-06	RIA	6.00	Around 3.00	2
Operational automation to support multimodal freight transport: HORIZON-CL5-2023-D6-01-07	RIA	8.00	Around 4.00	2
Future-proof GHG and environmental emissions factors for accounting emissions from transport and logistics operations: HORIZON-CL5-2023-D6-01-08	CSA	3.00	Around 3.00	1
Climate resilient and safe maritime ports: HORIZON-CL5-2023-D6-01-09	IA	14.00	Around 7.00	2
Better infrastructure safety on urban and secondary rural roads throughout a combination of adaptable monitoring and maintenance solutions: HORIZON-CL5-2023-D6-01-10	RIA	10.00	Around 5.00	2
Aviation safety - Uncertainty quantification for safety and risk management: HORIZON-CL5-2023-D6-01-11	RIA	8.00	Around 4.00	2
New ways of reducing serious injuries and the long-term consequences of road crashes: HORIZON-CL5-2023-D6-01-12	RIA	8.00	Around 4.00	2
Support for dissemination events in the field of Transport Research: HORIZON-CL5-2023-D6-01-13	CSA	1.50	Around 1.50	1
Overall indicative budget		108.50		

- *Call - Safe, Resilient Transport and Smart Mobility services for passengers and goods - HORIZON-CL5-2024-D6-01*

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million)	Number of projects expected to be funded
		2024		
Opening: 07 May 2024 Deadline(s): 05 Sep 2024				
Centralized, reliable, cyber-secure & upgradable in-vehicle electronic control architectures for CCAM connected to the cloud-edge continuum (CCAM Partnership): HORIZON-CL5-2024-D6-01-01	RIA	12.00	Around 6.00	2
Scenario-based safety assurance of CCAM and related HMI in a dynamically evolving transport system (CCAM Partnership): HORIZON-CL5-2024-D6-01-02	RIA	14.00	Around 14.00	1
Orchestration of heterogeneous actors in mixed traffic within the CCAM ecosystem (CCAM Partnership): HORIZON-CL5-2024-D6-01-03	IA	12.00	Around 6.00	2
AI for advanced and collective perception and decision making for CCAM applications (CCAM Partnership): HORIZON-CL5-2024-D6-01-04	RIA	10.00	Around 5.00	2
Robust Knowledge and Know-How transfer for Key-Deployment Pathways and implementation of the EU-CEM (CCAM Partnership): HORIZON-CL5-2024-D6-01-05	CSA	4.00	Around 4.00	1
Optimizing multimodal network and traffic management, harnessing data from infrastructures, mobility of passengers and freight transport: HORIZON-CL5-2024-D6-01-06	RIA	10.00	4.00 to 5.00	2
Scaling up logistics innovations supporting freight transport decarbonization in an affordable way: HORIZON-CL5-2024-D6-01-07	IA	20.00	Around 10.00	2
Improved transport infrastructure performance – Innovative digital tools and solutions to monitor and improve the management and operation of transport infrastructure: HORIZON-CL5-2024-D6-01-08	IA	15.00	Around 5.00	3
Policies and governance shaping the future transport and mobility systems: HORIZON-CL5-2024-D6-01-09	RIA	3.00	Around 3.00	1

Ensuring the safety, resilience and security of waterborne digital systems: HORIZON-CL5-2024-D6-01-10	RIA	8.50	Around 4.00	2
Effects of disruptive changes in transport: towards resilient, safe and energy efficient mobility: HORIZON-CL5-2024-D6-01-11	RIA	7.00	3.00 to 3.50	2
A new framework to improve traffic safety culture in the EU: HORIZON-CL5-2024-D6-01-12	RIA	7.00	Around 3.50	2
Overall indicative budget		122.50		

Link pentru Programul de Lucru 2023-2024 al Clusterului 5:

https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/wp-call/2023-2024/wp-8-climate-energy-and-mobility_horizon-2023-2024_en.pdf

Echipa CeS-UTCN