



MINISTÈRE
DE L'ENSEIGNEMENT
SUPÉRIEUR,
DE LA RECHERCHE
ET DE L'INNOVATION

*Liberté
Égalité
Fraternité*



Bienvenue au Webinaire dédié au Cluster 5 d'Horizon Europe



Merci de bien vouloir couper vos caméras et micros

horizon-europe.gouv.fr

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Appels Cluster 5 : 2021-2022

« Climat, Énergie, Transports »

Calendrier indicatif

Destination 1 : Sciences du climat et réponses pour la transformation vers la neutralité climatique 2021

Dest.	Thematic area	Topic	Topic title	Type of action	TRL (by the end of the project)	Budget 2021 (en M€)	Expected UE contribution per project (M€)	Expected number of grants	Call opening date	Deadline
1	Climate science	HORIZON-CL5-2021-D1-01-01	Improved understanding of greenhouse gas fluxes and radiative forcers, including carbon dioxide removal technologies	RIA	//	24	Around 8.00	3	24/06/2021	14/09/2021
1	Climate science	HORIZON-CL5-2021-D1-01-02	Modelling the role of the circular economy for climate change mitigation	RIA	//	15	Around 5.00	3	24/06/2021	14/09/2021
1	Climate science	HORIZON-CL5-2021-D1-01-03	Maximising the impact and synergy of European climate change research and innovation	CSA	//	9	4.00 to 5.00	2	24/06/2021	14/09/2021
1	Climate science	HORIZON-CL5-2021-D1-01-04	Enhanced integrated assessment in pursuit of global climate goals	RIA	//	15	Around 5.00	3	24/06/2021	14/09/2021
1	Climate science	HORIZON-CL5-2021-D1-01-05	Better understanding of the interactions between climate change impacts and risks, mitigation and adaptation options	RIA	//	20	6.00 to 7.00	3	24/06/2021	14/09/2021
1	Climate science	HORIZON-CL5-2021-D1-01-06	Supporting and standardising climate services	CSA	//	9	Around 9.00	1	24/06/2021	14/09/2021
1	Climate science	HORIZON-CL5-2021-D1-01-07	Improved economic methods for decision-making on climate and environmental policies	RIA	//	6	Around 3.00	2	24/06/2021	14/09/2021
1	Climate science	HORIZON-CL5-2021-D1-01-08	Restoration of natural wetlands, peatlands and floodplains as a strategy for fast mitigation benefits; pathways, trade-offs and co-benefits	RIA	//	20	6.00 to 7.00	3	24/06/2021	14/09/2021
1	Climate science	HORIZON-CL5-2021-D1-01-09	The contribution of forest management to climate action: pathways, trade-offs and co-benefits	RIA	//	18	Around 6.00	3	24/06/2021	14/09/2021

Destination 1 : Sciences du climat et réponses pour la transformation vers la neutralité climatique 2022

Dest.	Thematic area	Topic	Topic title	Type of action	TRL (by the end of the project)	Budget 2022 (en M€)	Expected UE contribution per project (M€)	Expected number of grants	Call opening date	Deadline
1	Climate science	HORIZON-CL5-2022-D1-01-01-two-stage	Carbon Dioxide Removal approaches	RIA - 2 stage	//	21	Around 7.00	3	12/10/2021	27/09/2022
1	Climate science	HORIZON-CL5-2022-D1-01-02-two-stage	Socio-economic risks of climate change in Europe	RIA - 2 stage	//	10	Around 5.00	2	12/10/2021	27/09/2022
1	Climate science	HORIZON-CL5-2022-D1-01-03-two-stage	Social science for land-use strategies in the context of climate change and biodiversity challenges	RIA - 2 stage	//	20	6.00 to 7.00	3	12/10/2021	27/09/2022
1	Climate science	HORIZON-CL5-2022-D1-02-01	Verification and reconciliation of estimates of climate forcings	RIA	//	15	Around 5.00	3	12/10/2021	10/02/2022
1	Climate science	HORIZON-CL5-2022-D1-02-02	Development of high-resolution Earth system models for global and regional climate change projections	RIA	//	20	Around 10.00	2	12/10/2021	10/02/2022
1	Climate science	HORIZON-CL5-2022-D1-02-03	Improvement of Integrated Assessment Models in support of climate policies	RIA	//	15	Around 5.00	3	12/10/2021	10/02/2022
1	Climate science	HORIZON-CL5-2022-D1-02-04	Supporting the formulation of adaptation strategies through improved climate predictions in Europe and beyond	RIA	//	20	Around 10.00	2	12/10/2021	10/02/2022
1	Climate science	HORIZON-CL5-2022-D1-02-05	Let Nature help to do job : rewilding landscapes for carbon sequestration, climate adaptation and biodiversity support	RIA	//	17	8.00 to 9.00	2	12/10/2021	10/02/2022

Destination 2 : Une chaîne de valeur européenne des batteries compétitive et durable

2021

Dest.	Topic	Topic title	Type of action	TRL (by the end of the project)	Budget 2021 (en M€)	Expected UE contribution per project (M€)	Expected number of grants	Call opening date	Deadline
2	HORIZON-CL5-2021-D2-01-01	Sustainable processing, refining and recycling of raw materials (Batteries Partnership)	RIA	4-5	21	6.00 to 7.00	3	24/06/2021	19/10/2021
2	HORIZON-CL5-2021-D2-01-02	Advanced high-performance Generation 3b (high capacity / high voltage) Li-ion batteries supporting electro mobility and other applications (Batteries Partnership)	RIA	6 and >	24	6.00 to 8.00	3	24/06/2021	19/10/2021
2	HORIZON-CL5-2021-D2-01-03	Advanced high-performance Generation 4a, 4b (solid-state) Li-ion batteries supporting electro mobility and other applications (Batteries Partnership)	RIA	5	36	8.00 to 9.00	4	24/06/2021	19/10/2021
2	HORIZON-CL5-2021-D2-01-04	Environmentally sustainable processing techniques applied to large scale electrode and cell component manufacturing for Li ion batteries (Batteries Partnership)	RIA	5-6	20	Around 5.00	4	24/06/2021	19/10/2021
2	HORIZON-CL5-2021-D2-01-05	Manufacturing technology development for solid-state batteries (SSB, Generations 4a - 4b batteries) (Batteries Partnership)	RIA	5-6	26	6.00 to 7.00	3	24/06/2021	19/10/2021
2	HORIZON-CL5-2021-D2-01-06	Sustainable, safe and efficient recycling processes (Batteries Partnership)	RIA	5-6	30	9.00 to 10.00	3	24/06/2021	19/10/2021
2	HORIZON-CL5-2021-D2-01-07	Support for establishment of R&I ecosystem, developing strategic forward-looking orientations to ensure future skills development, knowledge and technological leadership for accelerated disruptive technology exploration and uptake (Batteries Partnership)	CSA	//	3	Around 3.00	1	24/06/2021	19/10/2021

Destination 2 : Une chaîne de valeur européenne des batteries compétitive et durable

2022

Dest.	Topic	Topic title	Type of action	TRL (by the end of the project)	Budget 2022 (en M€)	Expected UE contribution per project (M€)	Expected number of grants	Call opening date	Deadline
2	HORIZON-CL5-2022-D2-01-01	Sustainable processing and refining of battery grade graphite (Batteries Partnership)	IA	6-7	10	Around 5.00	2	28/04/2022	06/09/2022
2	HORIZON-CL5-2022-D2-01-02	Interface and electron monitoring for the engineering of new and emerging battery technologies (Batteries Partnership)	RIA	3-4	10	Around 5.00	2	28/04/2022	06/09/2022
2	HORIZON-CL5-2022-D2-01-03	Furthering the development of a materials acceleration platform for sustainable batteries (combining AI, big data, autonomous synthesis robotics, high throughput testing) (Batteries Partnership)	RIA	3-4	20	Around 20.00	1	28/04/2022	06/09/2022
2	HORIZON-CL5-2022-D2-01-04	Towards creating an integrated manufacturing value chain in Europe: from machinery development to plant and site integrated design (Batteries Partnership)	IA	6 (machinery dvpt) & TRL 7 (manufact. plant...)	15	7.00 to 8.00	2	28/04/2022	06/09/2022
2	HORIZON-CL5-2022-D2-01-05	Next generation technologies for High-performance and safe-by-design battery systems for transport and mobile applications (Batteries Partnership)	RIA	5	15	Around 5.00	2	28/04/2022	06/09/2022
2	HORIZON-CL5-2022-D2-01-06	Embedding smart functionalities into battery cells (embedding sensing and self-healing functionalities to monitor and self-repair battery cells) (Batteries Partnership)	RIA	2-4	15	Around 5.00	3	28/04/2022	06/09/2022
2	HORIZON-CL5-2022-D2-01-07	Digitalisation of battery testing, from cell to system level, including lifetime assessment (Batteries Partnership)	RIA	5-6	15	Around 5.00	3	28/04/2022	06/09/2022
2	HORIZON-CL5-2022-D2-01-08	Coordination of large-scale initiative on future battery technologies (Batteries Partnership)	CSA	//	3	Around 3.00	1	28/04/2022	06/09/2022
2	HORIZON-CL5-2022-D2-01-09	Physics and data-based battery management for optimised battery utilisation (Batteries Partnership)	RIA	4	15	Around 5.00	3	28/04/2022	06/09/2022
2	HORIZON-CL5-2022-D2-01-10	Streamlined collection and reversed logistics, fully automated, safe and cost-efficient sorting, dismantling and second use before recycling (Batteries Partnership)	RIA	5-7	15	Around 5.00	3	28/04/2022	06/09/2022

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2	HORIZON-CL5-2021-D2-01-16	Co-funded Partnership : Driving Urban Transitions to a sustainable future (DUT)	COFUND	//	18,5	18,5	Around 37.00	1	24/06/2021	19/10/2021
2	HORIZON-CL5-2022-D2-01-11	CIVITAS 2030 – Coordination and support for EU funded urban mobility innovation	CSA	//		5	4.00 to 5.00	1	28/04/2022	06/09/2022

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2	HORIZON-CL5-2021-D2-01-12	Fostering a just transition in Europe	RIA	//	10	3.00 to 4.00	3	24/06/2021	19/10/2021
2	HORIZON-CL5-2021-D2-01-13	Strengthening Social Sciences and Humanities (SSH) research communities in climate, energy and mobility disciplines	CSA	//	3	2.00 to 3.00	1	24/06/2021	19/10/2021
2	HORIZON-CL5-2021-D2-01-14	Accelerating the climate transition in difficult contexts: transition super-labs (pilot)	CSA	//	2	2.00 to 3.00	1	24/06/2021	19/10/2021
2	HORIZON-CL5-2021-D2-01-15	Fostering cooperation between Horizon Europe cluster 5 National Contact Points (NCPs)	CSA	//	3,5	Around 3.50	1	24/06/2021	19/10/2021

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2	HORIZON-CL5-2021-D2-01-08	Emerging technologies for a climate neutral Europe	RIA	4	20	Around 2.50	8	24/06/2021	19/10/2021
2	HORIZON-CL5-2021-D2-01-09	Methane cracking to usable hydrogen and carbon	RIA	5	15	2.00 to 3.00	2	24/06/2021	19/10/2021
2	HORIZON-CL5-2021-D2-01-10	Technologies for non-CO2 greenhouse gases removal	RIA	//		2.00 to 3.00	2	24/06/2021	19/10/2021
2	HORIZON-CL5-2021-D2-01-11	Direct atmospheric carbon capture and conversion	RIA	4-5		2.00 to 3.00	2	24/06/2021	19/10/2021

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3	HORIZON-CL5-2021-D3-02-01	Demonstration of wave energy devices to increase experience in real sea condition	IA	//	15	Around 15.00	1	24/06/2021	05/01/2022
3	HORIZON-CL5-2021-D3-02-02	Sustainability and educational aspects for renewable energy and renewable fuel technologies	CSA	//	10	Around 2.50	4	24/06/2021	05/01/2022
3	HORIZON-CL5-2021-D3-02-03	Market Uptake Measures of renewable energy systems	CSA	//	10	Around 2.00	5	24/06/2021	05/01/2022
3	HORIZON-CL5-2021-D3-02-04	Novel Tandem, high efficiency Photovoltaic technologies targeting low cost production with earth abundant materials	RIA	5	20	Around 5.00	4	24/06/2021	05/01/2022
3	HORIZON-CL5-2021-D3-03-01	AU-EU Water Energy Food Nexus	RIA	4	5	Around 2.50	2	02/09/2021	05/01/2022
3	HORIZON-CL5-2021-D3-03-02	Next generation of renewable energy technologies	RIA	3-4	33	Around 3.00	11	02/09/2021	05/01/2022
3	HORIZON-CL5-2021-D3-03-03	Hybrid catalytic conversion of renewable energy to carbon-neutral fuels	RIA	3-4	10	Around 3.30	3	02/09/2021	05/01/2022
3	HORIZON-CL5-2021-D3-03-04	Physics and aerodynamics of atmospheric flow of wind for power production	RIA	5	18	Around 6.00	3	02/09/2021	05/01/2022
3	HORIZON-CL5-2021-D3-03-05	Wind energy in the natural and social environment	RIA	5	10	Around 3.00	3	02/09/2021	05/01/2022
3	HORIZON-CL5-2021-D3-03-06	Novel approaches to concentrated solar power (CSP)	RIA	//	9	Around 3.00	3	02/09/2021	05/01/2022
3	HORIZON-CL5-2021-D3-03-07	Stable high performance Perovskite Photovoltaics	RIA	5	15	Around 5.00	3	02/09/2021	05/01/2022
3	HORIZON-CL5-2021-D3-03-08	Cost-effective micro-CHP and hybrid heating systems	RIA	5	10	3.00 to 5.00	2	02/09/2021	05/01/2022
3	HORIZON-CL5-2021-D3-03-09	Carbon-negative sustainable biofuel production	RIA	4-5	15	Around 5.00	3	02/09/2021	05/01/2022
3	HORIZON-CL5-2021-D3-03-10	Innovative foundations, floating substructures and connection systems for floating PV and ocean energy devices	RIA	4-5	10	Around 3.50	3	02/09/2021	05/01/2022
3	HORIZON-CL5-2021-D3-03-11	Development of hydropower equipment for hidden hydropower	RIA	5	10	3.00 to 5.00	2	02/09/2021	05/01/2022
3	HORIZON-CL5-2021-D3-03-12	Innovation on floating wind energy deployment optimized for deep waters and different sea basins (Mediterranean Sea, Black Sea, Baltic Sea, North-east Atlantic Ocean)	IA	7	50	Around 16.00	3	02/09/2021	05/01/2022
3	HORIZON-CL5-2021-D3-03-13	Demonstration pilot lines for alternative and innovative PV technologies (Novel c-Si tandem, thin film tandem, bifacial, CPV, etc.)	IA	7	45	Around 15.00	3	02/09/2021	05/01/2022
3	HORIZON-CL5-2021-D3-03-14	Demonstration of large-scale CHP technologies for a shift to the use of biogenic residues and wastes	IA	7	10	Around 10.00	1	02/09/2021	05/01/2022
3	HORIZON-CL5-2021-D3-03-15	Solutions for more sustainable geothermal energy	RIA	5	10	Around 5.00	2	02/09/2021	05/01/2022
3	HORIZON-CL5-2021-D3-03-16	Innovative biomethane production as an energy carrier and a fuel	IA	6-7	20	Around 10.00	2	02/09/2021	05/01/2022

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3	HORIZON-CL5-2022-D3-01-01	Demonstration of cost-effective advanced biofuel technologies utilizing existing industrial plants	IA	6-7	20	Around 10.00	2	14/10/2021	26/04/2022
3	HORIZON-CL5-2022-D3-01-02	Demonstration of innovative materials, supply cycles, recycling technologies to increase the overall circularity of wind energy technology and to reduce the primary use of critical raw materials	IA	6-7	40	Around 13.00	3	14/10/2021	26/04/2022
3	HORIZON-CL5-2022-D3-01-03	Advanced manufacturing of Integrated PV	IA	7	32	Around 16.00	2	14/10/2021	26/04/2022
3	HORIZON-CL5-2022-D3-01-04	Demonstrate the use of high temperature geothermal reservoirs to provide energy storage for the energy system	IA	7	20	Around 20.00	1	14/10/2021	26/04/2022
3	HORIZON-CL5-2022-D3-01-05	Demonstration of innovative plug-and play solutions for system management and renewables storage in off-grid applications	IA	8	10	Around 10.00	1	14/10/2021	26/04/2022
3	HORIZON-CL5-2022-D3-01-06	Novel Agro-Photovoltaic systems	IA	7	10	Around 5.00	2	14/10/2021	26/04/2022
3	HORIZON-CL5-2022-D3-01-07	Demonstration of innovative rotor, blades and control systems for tidal energy devices	IA	7	10	Around 10.00	1	14/10/2021	26/04/2022
3	HORIZON-CL5-2022-D3-02-01	Digital solutions for defining synergies in international renewable energy value chains	RIA	5	9	Around 3.00	3	26/05/2022	27/10/2022
3	HORIZON-CL5-2022-D3-02-02	AU-EU Energy System Modelling	RIA	//	5	Around 2.50	2	26/05/2022	27/10/2022
3	HORIZON-CL5-2022-D3-02-03	Innovative renewable energy carrier production for heating from renewable energies	IA	7	10	Around 10.00	1	26/05/2022	27/10/2022
3	HORIZON-CL5-2022-D3-02-04	Technological interfaces between solar fuel technologies and other renewables	RIA	4	10	3.00 to 5.00	2	26/05/2022	27/10/2022
3	HORIZON-CL5-2022-D3-02-05	Renewable energy carriers from variable renewable electricity surplus and carbon emissions from energy consuming sectors	IA	7	20	Around 10.00	2	26/05/2022	27/10/2022
3	HORIZON-CL5-2022-D3-02-06	Direct renewable energy integration into process energy demands of the chemical industry	RIA	4-5	10	3.00 to 5.00	2	26/05/2022	27/10/2022
3	HORIZON-CL5-2022-D3-02-07	Renewable energy incorporation in agriculture and forestry	IA	6-7	15	Around 7.50	2	26/05/2022	27/10/2022
3	HORIZON-CL5-2022-D3-02-08	Demonstration of complete value chains for advanced biofuel and non-biological renewable fuel production	IA	6-7	20	Around 10.00	2	26/05/2022	27/10/2022
3	HORIZON-CL5-2022-D3-03-01	Innovative components and/or sub-systems for CSP plants and/or concentrating solar thermal installations	IA	6-7	16,5	Around 5.50	3	6/09/2022	10/01/2023
3	HORIZON-CL5-2022-D3-03-02	Best international practice for scaling up sustainable biofuels	RIA	4-5	9	Around 3.00	3	6/09/2022	10/01/2023
3	HORIZON-CL5-2022-D3-03-03	Efficient and circular artificial photosynthesis	RIA	5	10	3.00 to 5.00	2	6/09/2022	10/01/2023
3	HORIZON-CL5-2022-D3-03-04	Integrated wind farm control	RIA	5	18	Around 6.00	3	6/09/2022	10/01/2023
3	HORIZON-CL5-2022-D3-03-05	Novel Thin Film (TF) technologies targeting high efficiencies	RIA	5	20	Around 5.00	4	6/09/2022	10/01/2023
3	HORIZON-CL5-2022-D3-03-06	Efficient and low-emission technologies for industrial use of combustion and gasification systems from low-value biogenic residues and wastes	RIA	5	10	3.00 to 5.00	2	6/09/2022	10/01/2023
3	HORIZON-CL5-2022-D3-03-07	Development of algal and renewable fuels of non-biological origin	RIA	4-5	15	Around 5.00	3	6/09/2022	10/01/2023
3	HORIZON-CL5-2022-D3-03-08	Development of digital solutions for existing hydropower operation and maintenance	RIA	5	9	3.00 to 4.50	3	6/09/2022	10/01/2023
3	HORIZON-CL5-2022-D3-03-09	Recycling end of life PV module	IA	7	20	6.00 to 7.00	3	6/09/2022	10/01/2023

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3	HORIZON-CL5-2021-D3-01-01	Establish the grounds for a common European energy data space	IA	5-7	32	Around 8.00	4	24/06/2021	19/10/2021
3	HORIZON-CL5-2021-D3-01-02	Laying down the basis for the demonstration of a Real Time Demonstrator of Multi-Vendor Multi-Terminal HVDC with Grid Forming Capability: Coordinated action	CSA	//	1	Around 1.00	1	24/06/2021	19/10/2021
3	HORIZON-CL5-2021-D3-01-03	Interoperability community	CSA	//	5	Around 5.00	1	24/06/2021	19/10/2021
3	HORIZON-CL5-2021-D3-02-05	Energy Sector Integration: Integrating and combining energy systems to a cost-optimised and flexible energy system of systems	IA	6-8	30	9.00 to 10.00	3	24/06/2021	05/01/2022
3	HORIZON-CL5-2021-D3-02-06	Increasing energy system flexibility based on sector-integration services to consumers (that benefits system management by DSOs and TSOs)	IA	7-8	25	Around 8.00	3	24/06/2021	05/01/2022
3	HORIZON-CL5-2021-D3-02-07	Reliability and resilience of the grid: Measures for cybersecurity, vulnerabilities, failures, risks and privacy	IA	5-6	15	7.00 to 8.00	2	24/06/2021	05/01/2022
3	HORIZON-CL5-2021-D3-02-08	Electricity system reliability and resilience by design: High-Voltage, Direct Current (HVDC)-based systems and solutions	RIA	5-6	15	7.00 to 8.00	2	24/06/2021	05/01/2022
3	HORIZON-CL5-2021-D3-02-09	Demonstration of superconducting systems and elpipes	IA	8	15	Around 15.00	1	24/06/2021	05/01/2022
3	HORIZON-CL5-2021-D3-02-10	Demonstration of advanced Power Electronics for application in the energy sector	IA	5-6	10	Around 5.00	2	24/06/2021	05/01/2022
3	HORIZON-CL5-2021-D3-02-11	Reinforcing digitalisation related know how of local energy ecosystems	CSA	//	4	Around 4.00	1	24/06/2021	05/01/2022

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3	HORIZON-CL5-2022-D3-01-08	Supporting the action of consumers in the energy market and guide them to act as prosumers, communities and other active forms of active participation in the energy activities	IA	6-8	18	5.00 to 6.00	3	14/10/2021	26/04/2022
3	HORIZON-CL5-2022-D3-01-09	Real Time Demonstrator of Multi-Vendor Multi-Terminal VSC-HVDC with Grid Forming Capability (in support of the offshore strategy)	IA	6-7	55	Around 55.00	1	14/10/2021	26/04/2022
3	HORIZON-CL5-2022-D3-01-10	Interoperable solutions for flexibility services using distributed energy storage	IA	5-7	7	2.00 to 3.00	3	14/10/2021	26/04/2022
3	HORIZON-CL5-2022-D3-01-11	Demonstration of innovative forms of storage and their successful operation and integration into innovative energy systems and grid architectures	IA	6-7	30	7.00 to 8.00	4	14/10/2021	26/04/2022
3	HORIZON-CL5-2022-D3-01-12	Replicable solutions for a cross sector compliant energy ecosystem	IA	6-7	35	8.00 to 9.00	4	14/10/2021	26/04/2022
3	HORIZON-CL5-2022-D3-01-13	Energy system modelling, optimisation and planning tools	RIA	//	6	Around 6.00	1	14/10/2021	26/04/2022
3	HORIZON-CL5-2022-D3-01-14	Thermal energy storage solutions	IA	6-7	30	7.00 to 8.00	4	14/10/2021	26/04/2022

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3	HORIZON-CL5-2021-D3-02-12	Integration of CCUS in hubs and clusters, including knowledge sharing activities	CSA	//	2		Around 2.00	1	24/06/2021	05/01/2022
3	HORIZON-CL5-2021-D3-02-13	Cost reduction of CO2 capture (new or improved technologies)	RIA	6	30		10.00 to 15.00	2	24/06/2021	05/01/2022
3	HORIZON-CL5-2022-D3-01-15	Decarbonising industry with CCUS	IA	7-8		58	Around 29.00	2	14/10/2021	26/04/2022

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3	HORIZON-CL5-2021-D3-01-04	Clean Energy Transition	COFUND	//	35	35	Around 70.00	1	24/06/2021	19/10/2021
3	HORIZON-CL5-2021-D3-02-14	Support to the activities of the European Geological Services	CSA	//	20		Around 20.00	1	24/06/2021	05/01/2022
3	HORIZON-CL5-2021-D3-02-15	Support to the activities of the ETIPs and technology areas of the SET-Plan	CSA	//	9,80		Around 1.00	10	24/06/2021	05/01/2022

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4	HORIZON-CL5-2021-D4-01-01	Advanced energy performance assessment and certification	IA	6-7	10	3.00 to 5.00	2	24/06/2021	19/10/2021
4	HORIZON-CL5-2021-D4-01-02	Industrialisation of deep renovation workflows for energy-efficient buildings	IA	8	16	5.00 to 8.00	2	24/06/2021	19/10/2021
4	HORIZON-CL5-2021-D4-01-03	Advanced data-driven monitoring of building stock energy performance	IA	8	10	3.00 to 5.00	2	24/06/2021	19/10/2021
4	HORIZON-CL5-2021-D4-02-01	Demonstrating integrated technology solutions for buildings with performance guarantees (Built4People)	IA	6-7	15	5.00 to 7.50	2	2/09/2021	25/01/2022
4	HORIZON-CL5-2021-D4-02-02	Cost-effective, sustainable multi-functional and/or prefabricated holistic renovation packages, integrating RES and including re-used and recycled materials (Built4People)	IA	7	22	9.00 to 11.00	2	2/09/2021	25/01/2022
4	HORIZON-CL5-2021-D4-02-03	Strengthening European coordination and exchange for innovation uptake towards sustainability, quality, circularity and social inclusion in the built environment as a contribution to the new European Bauhaus (Built4People)	CSA	//	1	Around 1.00	1	2/09/2021	25/01/2022

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4	HORIZON-CL5-2022-D4-01-01	Demand response in energy-efficient residential buildings	IA	6-7	12	4.00 to 6.00	2	28/04/2022	06/09/2022
4	HORIZON-CL5-2022-D4-01-02	Renewable-intensive, energy positive homes	IA	6-7	12	4.00 to 6.00	2	28/04/2022	06/09/2022
4	HORIZON-CL5-2022-D4-01-03	Smarter buildings for better energy performance	IA	8	12	4.00 to 6.00	2	28/04/2022	06/09/2022
4	HORIZON-CL5-2022-D4-02-01	Designs, materials and solutions to improve resilience, preparedness & responsiveness of the built environment for climate adaptation (Built4People)	IA	6-7	15	5.00 to 7.50	2	6/09/2022	24/01/2023
4	HORIZON-CL5-2022-D4-02-02	Solutions for the sustainable, resilient, inclusive and accessible regeneration of neighbourhoods enabling low carbon footprint lifestyles and businesses (Built4People)	IA	6-7	15	5.00 to 7.50	2	6/09/2022	24/01/2023
4	HORIZON-CL5-2022-D4-02-03	Sustainable and resource-efficient solutions for an open, accessible, inclusive, resilient and low-emission cultural heritage: prevention, monitoring, management, maintenance, and renovation (Built4People)	RIA	5	20	4.00 to 5.00	4	6/09/2022	24/01/2023
4	HORIZON-CL5-2022-D4-02-04	Smart-grid ready and smart-network ready buildings, acting as active utility nodes (Built4People)	IA	7	18	6.00 to 9.00	2	6/09/2022	24/01/2023
4	HORIZON-CL5-2022-D4-02-05	More sustainable buildings with reduced embodied energy / carbon, high life-cycle performance and reduced life-cycle costs (Built4People)	IA	6-7	18	6.00 to 9.50	2	6/09/2022	24/01/2023

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4	HORIZON-CL5-2021-D4-01-04	Full-scale demonstration of heat upgrade technologies with supply temperature in the range 90 - 160°C	IA	7-8	16		Around 8.00	2	24/06/2021	19/10/2021
4	HORIZON-CL5-2021-D4-01-05	Industrial excess (waste) Heat-to-Power conversion based on organic Rankine cycles	IA	6-7	14		10.00 to 14.00	1	24/06/2021	19/10/2021
4	HORIZON-CL5-2022-D4-01-04	Development and pilot demonstration of heat upgrade technologies with supply temperature in the range 150-250°C	RIA	5		10	3.00 to 5.00	2	28/04/2022	06/09/2022
4	HORIZON-CL5-2022-D4-01-05	Development of high temperature thermal storage for industrial applications	RIA	4-5		8	3.00 to 4.00	2	28/04/2022	06/09/2022

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5	HORIZON-CL5-2021-D5-01-05	Greenhouse gas aviation emissions reduction technologies towards climate neutrality by 2050	RIA	TRL4	25	2.00 to 6.00	6	24/06/2021	14/09/2021
5	HORIZON-CL5-2021-D5-01-06	Next generation digital aircraft transformation in design, manufacturing, integration and maintenance	RIA	TRL4	29	3.00 to 6.00	5	24/06/2021	14/09/2021

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5	HORIZON-CL5-2022-D5-01-12	Towards a silent and ultra-low local air pollution aircraft	RIA	TRL4	20	2.00 to 5.00	5	02/12/2021	26/04/2022
5	HORIZON-CL5-2022-D5-01-13	Digital aviation technologies for new aviation business models, services, emerging global threats and industrial competitiveness	RIA	TRL4	20	2.00 to 5.00	5	02/12/2021	26/04/2022
5	HORIZON-CL5-2022-D5-01-14	European Aviation Research Policy in support to EU policies and initiatives	RIA	TRL4	5	0.50 to 2.50	3	02/12/2021	26/04/2022

Topic	Topic title	Type of action	TRL (by the end of the project)	Budget 2021 (M€)	Expected UE contribution per project (M€)	Number of expected grants	Call opening date	Deadline
HORIZON-CL5-2021-D5-01-01	Nextgen vehicles	IA	TRL7-8	45	10.00 to 15.00	3	24/06/2021	14/09/2021
HORIZON-CL5-2021-D5-01-02	Nextgen EV components	RIA	TRL5-6	20	4.00 to 6.00	4	24/06/2021	14/09/2021
HORIZON-CL5-2021-D5-01-03	System approach to achieve optimised Smart EV Charging and V2G flexibility in mass-deployment conditions (ZZERO)	RIA	TRL5-7	25	7.00 to 10.00	3	24/06/2021	14/09/2021
HORIZON-CL5-2021-D5-01-04	LCA and design for sustainable circularity - holistic approach for zero-emission mobility solutions and related battery value chain (ZZERO & Batteries Partnership)	CSA		4	Around 4.00	1	24/06/2021	14/09/2021

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5	HORIZON-CL5-2022-D5-01-08	Modular multi-powertrain zero-emission systems for HDV (BEV and FCEV) for efficient and economic operation (2ZERO)	IA	TRL7-8	58	15.00 to 20.00	3	02/12/2021	26/04/2022
5	HORIZON-CL5-2022-D5-01-09	Nextgen EV components	RIA	TRL5-7	20	3.00 to 6.00	4	02/12/2021	26/04/2022
5	HORIZON-CL5-2022-D5-01-10	New generation of full electric urban and peri-urban Bus Rapid Transit systems to strengthen climate-friendly mass transport (2ZERO)	IA	TRL7-8	25	20.00 to 25.00	1	02/12/2021	26/04/2022
5	HORIZON-CL5-2022-D5-01-11	Stimulating Road Transport research and innovation dissemination and implementation in Europe and around the World	CSA		2	Around 2.00	1	02/12/2021	26/04/2022

Topic	Topic title	Type of action	TRL (by the end of the project)	Budget 2021 (M€)	Expected UE contribution per project (M€)	Number of expected grants	Call opening date	Deadline
HORIZON-CL5-2021-D5-01-07	Enabling the safe and efficient on-board storage and integration within ships of large quantities of ammonia and hydrogen fuels (ZEWT Partnership)	IA	TRL6-7	20	Around 10.00	2	24/06/2021	14/09/2021
HORIZON-CL5-2021-D5-01-08	Enabling the full integration of very high power fuel cells in ship design using co-generation and combined cycle solutions for increased efficiency with multiple fuels (ZEWT Partnership)	RIA	TRL5	15	Around 15.00	1	24/06/2021	14/09/2021
HORIZON-CL5-2021-D5-01-09	CSA identifying waterborne sustainable fuel deployment scenarios (ZEWT Partnership)	CSA		0,5	Around 0.50	1	24/06/2021	14/09/2021
HORIZON-CL5-2021-D5-01-10	Innovative on-board energy saving solutions (ZEWT Partnership)	RIA	TRL5	20	Around 5.00	4	24/06/2021	14/09/2021
HORIZON-CL5-2021-D5-01-11	Hyper powered vessel battery charging system (ZEWT Partnership)	IA	TRL6-7	14	Around 7.00	2	24/06/2021	14/09/2021
HORIZON-CL5-2021-D5-01-12	Assessing and preventing methane slip from LNG engines in all conditions within both existing and new vessels (ZEWT Partnership)	IA	TRL7	7	Around 7.00	1	24/06/2021	14/09/2021
HORIZON-CL5-2021-D5-01-13	Digital Twin models to enable green ship operations (ZEWT Partnership)	RIA	TRL5	7	Around 7.00	1	24/06/2021	14/09/2021
HORIZON-CL5-2021-D5-01-14	Proving the feasibility of a large clean ammonia marine engine (ZEWT Partnership)	IA	TRL6-7	10	Around 10.00	1	24/06/2021	14/09/2021

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5	HORIZON-CL5-2022-D5-01-01	Exploiting electrical energy storage systems and better optimising large battery electric power within fully battery electric and hybrid ships (ZEWT Partnership)	IA	TRL7	16	Around 8.00	2	02/12/2021	26/04/2022
5	HORIZON-CL5-2022-D5-01-02	Innovative energy storage systems on-board vessels (ZEWT Partnership)	RIA	TRL5	15	Around 5.00	3	02/12/2021	26/04/2022
5	HORIZON-CL5-2022-D5-01-03	Exploiting renewable energy for shipping, in particular focusing on the potential of wind energy (ZEWT Partnership)	RIA	TRL5	18	Around 9.00	2	02/12/2021	26/04/2022
5	HORIZON-CL5-2022-D5-01-04	Transformation of the existing fleet towards greener operations through retrofitting (ZEWT Partnership)	IA	TRL7-8	25	Around 5.00	5	02/12/2021	26/04/2022
5	HORIZON-CL5-2022-D5-01-05	Seamless safe logistics through an autonomous waterborne freight feeder loop service	RIA	TRL5	15	Around 15.00	1	02/12/2021	26/04/2022
5	HORIZON-CL5-2022-D5-01-06	Computational tools for shipbuilding	IA	TRL7-8	7	Around 7.00	1	02/12/2021	26/04/2022

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5	HORIZON-CL5-2021-D5-01-15	Development and demonstration of cost affordable and adaptable retrofit solutions for tailpipe and brake polluting emissions	IA	TRL8	10	4.00 to 5.00	2	24/06/2021	14/09/2021
5	HORIZON-CL5-2021-D5-01-16	Assessment of noise and particle emissions of L category vehicles from real driving conditions	RIA	TRL5-6	5	4.00 to 5.00	1	24/06/2021	14/09/2021

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5	HORIZON-CL5-2022-D5-01-07	Prevent smog episodes in Europe	RIA	TRL5	7	2.50 to 3.00	3	02/12/2021	26/04/2022

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Dest.	Topic	Topic title	Type of action	TRL (by the end of the project)	Budget 2021 (M€)	Expected UE contribution per project (M€)	Number of expected grants	Call opening date	Deadline
5	HORIZON-CL5-2021-D5-01-17	Support for dissemination events in the field of Transport Research	CSA		1,5	Around 1.50	1	24/06/2021	14/09/2021

Dest.	Topic	Topic title	Type of action	TRL (by the end of the project)	Budget 2021 (M€)	Expected UE contribution per project (M€)	Number of expected grants	Call opening date	Deadline
6	HORIZON-CL5-2021-D6-01-01	More powerful and reliable on-board perception and decision-making technologies addressing complex environmental conditions (CCAM Partnership)	IA	TRL6-7	15	6.00 to 8.00	2	24/06/2021	19/10/2021
6	HORIZON-CL5-2021-D6-01-02	Common approaches for the safety validation of CCAM systems (CCAM Partnership)	RIA	TRL5	15	12.00 to 15.00	1	24/06/2021	19/10/2021
6	HORIZON-CL5-2021-D6-01-03	Physical and Digital Infrastructure (PDI), connectivity and cooperation enabling and supporting CCAM (CCAM Partnership)	IA	TRL6-7	18	7.00 to 9.00	2	24/06/2021	19/10/2021
6	HORIZON-CL5-2021-D6-01-04	Cyber secure and resilient CCAM (CCAM Partnership)	RIA	TRL5	12	5.00 to 6.00	2	24/06/2021	19/10/2021
6	HORIZON-CL5-2021-D6-01-05	Analysis of socio-economic and environmental impacts and assessment of societal, citizen and user aspects for needs based CCAM solutions (CCAM Partnership)	RIA		8	3.00 to 4.00	2	24/06/2021	19/10/2021
6	HORIZON-CL5-2021-D6-01-06	Framework for better coordination of large-scale demonstration pilots in Europe and EU-wide knowledge base (CCAM Partnership)	RIA		6	5.00 to 6.00	1	24/06/2021	19/10/2021

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6	HORIZON-CL5-2022-D6-01-01	European demonstrators for integrated shared automated mobility solutions for people and goods (CCAM Partnership)	IA	TRL7	50	20.00 to 25.00	2	14/10/2021	12/01/2022
6	HORIZON-CL5-2022-D6-01-02	Reliable occupant protection technologies and HMI solutions to ensure the safety of highly automated vehicles (CCAM Partnership)	RIA	TRL5	8	6.00 to 8.00	1	14/10/2021	12/01/2022
6	HORIZON-CL5-2022-D6-01-03	Human behavioural model to assess the performance of CCAM solutions compared to human driven vehicles (CCAM Partnership)	RIA	TRL4	8	7.00 to 8.00	1	14/10/2021	12/01/2022
6	HORIZON-CL5-2022-D6-01-04	Integrate CCAM services in fleet and traffic management systems (CCAM Partnership)	IA	TRL6-7	10	4.00 to 5.00	2	14/10/2021	12/01/2022
6	HORIZON-CL5-2022-D6-01-05	Artificial Intelligence (AI): Explainable and trustworthy concepts, techniques and models for CCAM (CCAM Partnership)	RIA	TRL5	12	5.00 to 6.00	2	14/10/2021	12/01/2022

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6	HORIZON-CL5-2021-D6-01-07	More efficient and effective multimodal freight transport nodes to increase flexibility, service visibility and reduce the average cost of freight transport	IA	TRL7-8	15	7.00 to 8.00	2	24/06/2021	19/10/2021
6	HORIZON-CL5-2021-D6-01-08	New delivery methods and business/operating models to green the last mile and optimise road transport	IA		15	7.00 to 8.00	2	24/06/2021	19/10/2021
6	HORIZON-CL5-2021-D6-01-09	Climate resilient and environmentally sustainable transport infrastructure, with a focus on inland waterways	IA	TRL7	23	Around 7.50	3	24/06/2021	19/10/2021

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6	HORIZON-CL5-2022-D6-02-01	Logistics networks integration and harmonisation through operational connectivity to optimise freight flows and drive logistics to climate neutrality	IA	TRL6-7	15	7.00 to 8.00	2	28/04/2022	06/09/2022
6	HORIZON-CL5-2022-D6-02-02	Urban logistics and planning	IA		15	7.00 to 8.00	2	28/04/2022	06/09/2022
6	HORIZON-CL5-2022-D6-02-03	Smart enforcement for resilient, sustainable and more efficient transport operations	RIA		8	Around 4.00	2	28/04/2022	06/09/2022
6	HORIZON-CL5-2022-D6-02-04	Accelerating the deployment of new and shared mobility services for the next decade	IA	TRL7-8	20	8.00 to 10.00	2	28/04/2022	06/09/2022
6	HORIZON-CL5-2022-D6-02-05	Advanced multimodal network and traffic management for seamless door-to-door mobility of passengers and freight transport	RIA	TRL5-6	15	4.00 to 5.00	3	28/04/2022	06/09/2022
6	HORIZON-CL5-2022-D6-02-06	Smart and efficient ways to construct, maintain and decommission with zero emissions from transport infrastructure	IA	TRL7	10	Around 5.00	2	28/04/2022	06/09/2022
6	HORIZON-CL5-2022-D6-02-07	New concepts and approaches for resilient and green freight transport and logistics networks against disruptive events (including pandemics)	RIA		8	Around 4.00	2	28/04/2022	06/09/2022

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6	HORIZON-CL5-2021-D6-01-10	Testing safe lightweight vehicles and improved safe human-technology interaction in the future traffic system	RIA	TRL5-6	12	3.50 to 4.00	3	24/06/2021	19/10/2021
6	HORIZON-CL5-2021-D6-01-11	Radical improvement of road safety in low and medium income countries in Africa	RIA	TRL5-6	8	Around 4.00	2	24/06/2021	19/10/2021
6	HORIZON-CL5-2021-D6-01-12	Controlling infection on large passenger ships	RIA	TRL5	8	3.00 to 5.00	2	24/06/2021	19/10/2021
6	HORIZON-CL5-2021-D6-01-13	Safe automation and human factors in aviation – intelligent integration and assistance	IA	TRL6	12	4.00 to 8.00	2	24/06/2021	19/10/2021

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6	HORIZON-CL5-2022-D6-01-06	Predictive safety assessment framework and safer urban environment for vulnerable road users	RIA	TRL5-6	13	4.00 to 4.33	3	14/10/2021	12/01/2022
6	HORIZON-CL5-2022-D6-01-07	More resilient aircraft and increased survivability	IA	TRL6	9	4.00 to 8.00	1	14/10/2021	12/01/2022
6	HORIZON-CL5-2022-D6-01-08	Safer navigation and tackling containership fires	IA	TRL7	12	3.50 to 6.00	2	14/10/2021	12/01/2022