



MINISTÈRE
DE L'ENSEIGNEMENT
SUPÉRIEUR
ET DE LA RECHERCHE

*Liberté
Égalité
Fraternité*



Le programme européen pour la recherche et l'innovation



Appels Cluster 5 : 2023-2024

Un approvisionnement énergétique durable, sûr et compétitif

Calendrier indicatif

| Ouverture | Clôture | Code Appel | Titre Appel | Type | Budget par projet | Nbr attendu de projets | TRL (en fin de projet) |
|------------|------------|---------------------------|---|------|-------------------|------------------------|------------------------|
| 13/12/2022 | 30/03/2023 | HORIZON-CL5-2023-D3-01-01 | Renewable Energy Valleys to increase energy security while accelerating the green transition in Europe | IA | 20 | 2 | 7-8 |
| 13/12/2022 | 30/03/2023 | HORIZON-CL5-2023-D3-01-02 | PV integration in buildings and in infrastructure | IA | 8 | 2 | 7 |
| 13/12/2022 | 30/03/2023 | HORIZON-CL5-2023-D3-01-03 | Floating PV Systems | IA | 7 | 2 | 6-7 |
| 13/12/2022 | 30/03/2023 | HORIZON-CL5-2023-D3-01-04 | Solar Systems for Industrial Process Heat and Power | IA | 7 | 2 | 6-7 |
| 13/12/2022 | 30/03/2023 | HORIZON-CL5-2023-D3-01-05 | Critical technologies for the offshore wind farm of the Future | RIA | 6 | 3 | 5 |
| 13/12/2022 | 30/03/2023 | HORIZON-CL5-2023-D3-01-06 | Demonstration of advanced biofuel technologies for aviation and/or shipping | IA | 9 | 2 | 6-7 |
| 13/12/2022 | 30/03/2023 | HORIZON-CL5-2023-D3-01-07 | Demonstration of synthetic renewable fuel for aviation and/or shipping | IA | 9 | 2 | 6-7 |
| 13/12/2022 | 30/03/2023 | HORIZON-CL5-2023-D3-01-08 | Demonstration of sustainable tidal energy farms | IA | 20 | 2 | 8 |
| 04/05/2023 | 05/09/2023 | HORIZON-CL5-2023-D3-02-01 | Development of near zero-emission biomass heat and/or CHP including carbon capture | RIA | 4 | 2 | 5 |
| 04/05/2023 | 05/09/2023 | HORIZON-CL5-2023-D3-02-02 | Novel thermal energy storage for CSP | RIA | 2,5 | 2 | 4-5 |
| 04/05/2023 | 05/09/2023 | HORIZON-CL5-2023-D3-02-03 | Industrial manufacturing for lower-cost solar thermal components and systems | IA | 3 | 2 | 7-8 |
| 04/05/2023 | 05/09/2023 | HORIZON-CL5-2023-D3-02-04 | Innovative components and configurations for heat pumps | RIA | 2 | 3 | 4-5 |
| 04/05/2023 | 05/09/2023 | HORIZON-CL5-2023-D3-02-05 | Advanced exploration technologies for geothermal resources in a wide range of geological settings | RIA | 4 | 2 | 5 |
| 04/05/2023 | 05/09/2023 | HORIZON-CL5-2023-D3-02-06 | Smart use of geothermal electricity and heating and cooling in the energy system | IA | 5 | 3 | 7 |
| 04/05/2023 | 05/09/2023 | HORIZON-CL5-2023-D3-02-07 | Development of next generation advanced biofuel technologies | RIA | 4 | 3 | 4-5 |
| 04/05/2023 | 05/09/2023 | HORIZON-CL5-2023-D3-02-08 | Development of microalgae and/or direct solar fuel production and purification technologies for advanced aviation and /or shipping fuels | RIA | 4 | 2 | 4-5 |
| 04/05/2023 | 05/09/2023 | HORIZON-CL5-2023-D3-02-09 | Demonstration of sustainable hydropower refurbishment | IA | 8 | 1 | 7-8 |
| 04/05/2023 | 05/09/2023 | HORIZON-CL5-2023-D3-02-10 | Development of innovative power take-off and control systems for wave energy devices | RIA | 4 | 2 | 5 |
| 04/05/2023 | 05/09/2023 | HORIZON-CL5-2023-D3-02-11 | Advanced concepts for crystalline Silicon technology | RIA | 3 | 3 | 4-5 |
| 04/05/2023 | 05/09/2023 | HORIZON-CL5-2023-D3-02-12 | Large Area Perovskite solar cells and modules | IA | 7 | 2 | 6-7 |
| 04/05/2023 | 05/09/2023 | HORIZON-CL5-2023-D3-02-13 | Operation, Performance and Maintenance of PV Systems | IA | 5 | 2 | 6-7 |
| 04/05/2023 | 05/09/2023 | HORIZON-CL5-2023-D3-02-14 | Digital twin for forecasting of power production to wind energy demand | RIA | 6 | 2 | 5 |
| 04/05/2023 | 05/09/2023 | HORIZON-CL5-2023-D3-02-15 | Critical technologies to improve the lifetime, efficient decommissioning and increase the circularity of offshore and onshore wind energy systems | RIA | 4 | 3 | 5 |
| 04/05/2023 | 05/09/2023 | HORIZON-CL5-2023-D3-02-16 | Accelerating the green transition and energy access in Africa | IA | 5 | 4 | 7 |
| 04/05/2023 | 10/10/2023 | HORIZON-CL5-2023-D3-03-07 | Digital solutions for defining synergies in international renewable energy value chains | RIA | 6,0 | 2 | 5 |
| 04/05/2023 | 10/10/2023 | HORIZON-CL5-2023-D3-03-08 | Support to the SET Plan IWG on hydrogen | CSA | 0,6 | 1 | 3 |

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| 12/09/2023 | 16/01/2024 | HORIZON-CL5-2024-D3-01-01 | Alternative equipment and processes for advanced manufacturing of PV technologies | IA | 12 | 2 | 7 |
| 12/09/2023 | 16/01/2024 | HORIZON-CL5-2024-D3-01-02 | Low-power PV | IA | 3 | 2 | 5-7 |
| 12/09/2023 | 16/01/2024 | HORIZON-CL5-2024-D3-01-03 | Demonstration of improved intermediate renewable energy carrier technologies for transport fuels | IA | 10 | 2 | 6-7 |
| 12/09/2023 | 16/01/2024 | HORIZON-CL5-2024-D3-01-04 | Improvement of light harvesting and carbon fixation with synthetic biology and/or bio-inspired//biomimetic pathways for renewable direct solar fuels production | RIA | 4 | 2 | 3-4 |
| 12/09/2023 | 16/01/2024 | HORIZON-CL5-2024-D3-01-05 | Development of carbon fixation technologies for biogenic flue gases | RIA | 4 | 2 | 5 |
| 12/09/2023 | 16/01/2024 | HORIZON-CL5-2024-D3-01-06 | Innovative applications/integration of geothermal heating and cooling in industry | RIA | 3 | 3 | 5 |
| 12/09/2023 | 16/01/2024 | HORIZON-CL5-2024-D3-01-07 | Development of hydropower equipment for improving techno-economic efficiency and equipment resilience in refurbishment situations | RIA | 4 | 2 | 4-5 |
| 12/09/2023 | 16/01/2024 | HORIZON-CL5-2024-D3-01-08 | Demonstration of sustainable wave energy farms | IA | 18-20 | 2 | 8 |
| 12/09/2023 | 16/01/2024 | HORIZON-CL5-2024-D3-01-09 | Africa-EU CO-FUND action | COFUND | 10 | 1 | |
| 12/09/2023 | 16/01/2024 | HORIZON-CL5-2024-D3-01-10 | Next generation of renewable energy technologies | RIA | 3 | 9 | 3-4 |
| 17/09/2024 | 21/01/2025 | HORIZON-CL5-2024-D3-02-01 | Digital tools for CSP and solar thermal plants | IA | 3 | 2 | 7-8 |
| 17/09/2024 | 21/01/2025 | HORIZON-CL5-2024-D3-02-02 | Development of next generation synthetic renewable fuel technologies | RIA | 4 | 3 | 3-4 |
| 17/09/2024 | 21/01/2025 | HORIZON-CL5-2024-D3-02-03 | Development of smart concepts of integrated energy driven bio-refineries for co-production of advanced biofuels, bio-chemicals and biomaterials | RIA | 3.5 | 2 | 5 |
| 17/09/2024 | 21/01/2025 | HORIZON-CL5-2024-D3-02-04 | Critical technologies for the future ocean energy farms | RIA | 4 | 2 | 5 |
| 17/09/2024 | 21/01/2025 | HORIZON-CL5-2024-D3-02-05 | PV-integrated electric mobility applications | IA | 7 | 2 | 6-7 |
| 17/09/2024 | 21/01/2025 | HORIZON-CL5-2024-D3-02-06 | Innovative, Community-Integrated PV systems | IA | 5 | 2 | 6-7 |
| 17/09/2024 | 21/01/2025 | HORIZON-CL5-2024-D3-02-07 | Resource Efficiency of PV in Production, Use and Disposal | CSA | 3 | 1 | |
| 17/09/2024 | 21/01/2025 | HORIZON-CL5-2024-D3-02-08 | Minimisation of environmental, and optimisation of socio-economic impacts in the deployment, operation and decommissioning of offshore wind farms | RIA | 5 | 2 | 5 |
| 17/09/2024 | 21/01/2025 | HORIZON-CL5-2024-D3-02-09 | Demonstrations of innovative floating wind concepts | IA | 15 | 2 | 7-8 |
| 17/09/2024 | 21/01/2025 | HORIZON-CL5-2024-D3-02-10 | Market Uptake Measures of renewable energy systems | CSA | 2 | 4 | |
| 17/09/2024 | 21/01/2025 | HORIZON-CL5-2024-D3-02-13 | Support to the activities of the SET Plan Key Action area Renewable fuels and bioenergy | CSA | 0,6 | 1 | |

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| 13/12/2022 | 30/03/2023 | HORIZON-CL5-2023-D3-01-09 | Waste heat reutilisation from data centres | IA | 6 | 2 | 7-8 |
| 13/12/2022 | 30/03/2023 | HORIZON-CL5-2023-D3-01-10 | Supporting the development of a digital twin to improve management, operations and resilience of the EU Electricity System in support to REPowerEU | IA | 20 | 1 | 6-7 |
| 13/12/2022 | 30/03/2023 | HORIZON-CL5-2023-D3-01-11 | Demonstration of DC powered data centres, buildings, industries and ports | IA | 9 | 2 | 6-8 |
| 13/12/2022 | 30/03/2023 | HORIZON-CL5-2023-D3-01-12 | Development of MVDC, HVDC and High-Power Transmission systems and components for a resilient grid | IA | 11 | 2 | 8 |
| 13/12/2022 | 30/03/2023 | HORIZON-CL5-2023-D3-01-13 | Development of novel long-term electricity storage technologies | RIA | 4-5 | 3 | 4-5 |
| 13/12/2022 | 30/03/2023 | HORIZON-CL5-2023-D3-01-14 | Demonstration of innovative, large-scale, seasonal heat and/or cooling storage technologies for decarbonisation and security of supply | IA | 10 | 3 | 7-8 |
| 13/12/2022 | 30/03/2023 | HORIZON-CL5-2023-D3-01-15 | 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 | IA | 18 | 1 | 7-8 |
| 13/12/2022 | 30/03/2023 | HORIZON-CL5-2023-D3-01-16 | Support action to the SET-Plan IWG on HVDC & DC Technologies | CSA | 0,6 | 1 | |
| 04/05/2023 | 10/10/2023 | HORIZON-CL5-2023-D3-03-01 | Increasing the efficiency of innovative static energy conversion devices for electricity and heat/cold generation | RIA | 3 | 3 | 5-6 |
| 04/05/2023 | 10/10/2023 | HORIZON-CL5-2023-D3-03-02 | Integration of renewable gases, other than hydrogen or methane, and which have not access to gas grids and interfacing with electricity and heat sectors | IA | 6 | 2 | 6-7 |
| 04/05/2023 | 10/10/2023 | HORIZON-CL5-2023-D3-03-03 | System approach for grid planning and upgrade in support of a dominant electric mobility (vehicles and vessels) using AI tools | IA | 11 | 1 | 6-8 |
| 04/05/2023 | 10/10/2023 | HORIZON-CL5-2023-D3-03-04 | Digital tools for enhancing the uptake of digital services in the energy market | IA | 3-4 | 3 | 6-7 |
| 04/05/2023 | 10/10/2023 | HORIZON-CL5-2023-D3-03-05 | Creation of a standardised and open-source peer-to-peer energy sharing platform architecture for the energy sector | IA | 5 | 1 | 6-8 |
| 04/05/2023 | 10/10/2023 | HORIZON-CL5-2023-D3-03-06 | Components and interfacing for AC & DC side protection system – AC & DC grid: components and systems for grid optimisation | IA | 5 | 2 | 6-8 |

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| 12/09/2023 | 16/01/2024 | HORIZON-CL5-2024-D3-01-11 | AI Testing and Experimentation Facility (TEF) for the energy sector – bringing technology to the market | IA | 5 | 3 | 6-8 |
| 12/09/2023 | 16/01/2024 | HORIZON-CL5-2024-D3-01-12 | Energy Management Systems for flexibility services | IA | 5 | 2 | 7-8 |
| 12/09/2023 | 16/01/2024 | HORIZON-CL5-2024-D3-01-13 | DC and AC/DC hybrid transmission and distribution systems | RIA | 6 | 2 | 4-5 |
| 12/09/2023 | 16/01/2024 | HORIZON-CL5-2024-D3-01-14 | Condition & Health Monitoring in Power Electronics (PE) - Wide Band Gap PE for the energy sector | RIA | 4 | 3 | 5-6 |
| 12/09/2023 | 16/01/2024 | HORIZON-CL5-2024-D3-01-15 | HVAC, HVDC and High-Power cable systems | RIA | 5-5,5 | 3 | 4-5 |
| 12/09/2023 | 16/01/2024 | HORIZON-CL5-2024-D3-01-16 | Demonstration of innovative pumped storage equipment and tools in combination with innovative storage management systems | IA | 8 | 1 | 7-8 |
| 12/09/2023 | 16/01/2024 | HORIZON-CL5-2024-D3-01-17 | Development and integration of advanced software tools in SCADA systems for High, Medium and Low voltage AC/DC hybrid systems | IA | 6 | 2 | 6-8 |



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| 13/12/2022 | 30/03/2023 | HORIZON-CL5-2023-D3-01-17 | Development of CO2 transport and storage demo projects | IA | 20 | 2 | 7-8 |
| 17/09/2024 | 21/01/2025 | HORIZON-CL5-2024-D3-02-11 | CCU for the production of fuels | IA | 7 | 2 | 6-7 |
| 17/09/2024 | 21/01/2025 | HORIZON-CL5-2024-D3-02-12 | DACCS and BECCS for CO2 removal/negative emissions | IA | 5-7 | 3 | 6-7 |

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