





Obzorje Europe Delovni program 2025

“Climate, Energy and Mobility”

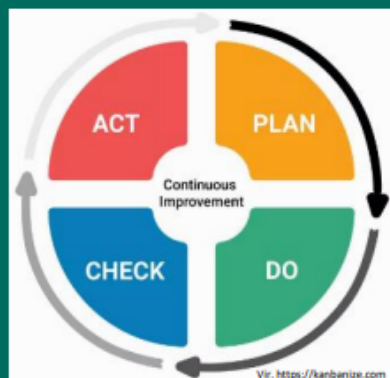
Erik Potočar, MOPE
Ljubljana, April 2025

CILJI 2030	 Slovenija		 EU
	NEPN 2020	Posodobitev NEPN 2024	
Podnebje			
Skupne emisije TGP <i>Zmanjšanje glede na leto 2005</i>	-36%	-55% 2033 -35% - 45% 2030	-55%
Emisije TGP neETS	-20% (-15%)	-28% (-27%)	-40%
Obnovljivi viri energije			
Delež OVE v bruto končni rabi	27%	33%	>42,5
Učinkovita raba energije			
Raba končne energije	54,9 TWh	50,2 TWh -11,1%	-11,7%

Vir:IJS

NEPN 2024

**Povečanje
izvedljivosti
(ukrepov) NEPN**



**Energetska in
snovna
učinkovitost**



**Opuščanje
fosilnih virov**




**Domači viri OVE
in nizkoogljični
viri**

**Krepitev
zmogljivost,
povezovanje
sodelovanje,
raziskave in
inovacije.**

**do leta 2030 vsaj
3,5% BDP
vsaj 1,25% jav. sred.**

**Zanesljivost in konkurenčnost
oskrbe z energijo**


REPowerEU: Joint European
action for more affordable,
secure and sustainable energy

Podnebna nevtrálnost do leta 2050 (ZVO2, DPS)

**ENERGY
EFFICIENCY» Fit for 55«
FIRST**

HORIZON EUROPE

EURATOM

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



Pillar II GLOBAL CHALLENGES & EUROPEAN INDUSTRIAL COMPETITIVENESS

Clusters

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

Joint Research Centre



Pillar III INNOVATIVE EUROPE

European Innovation
Council

European Innovation
Ecosystems

European Institute of
Innovation & Technology*

WIDENING PARTICIPATION AND STRENGTHENING THE EUROPEAN RESEARCH AREA

Widening participation & spreading excellence

Reforming & Enhancing the European R&I system

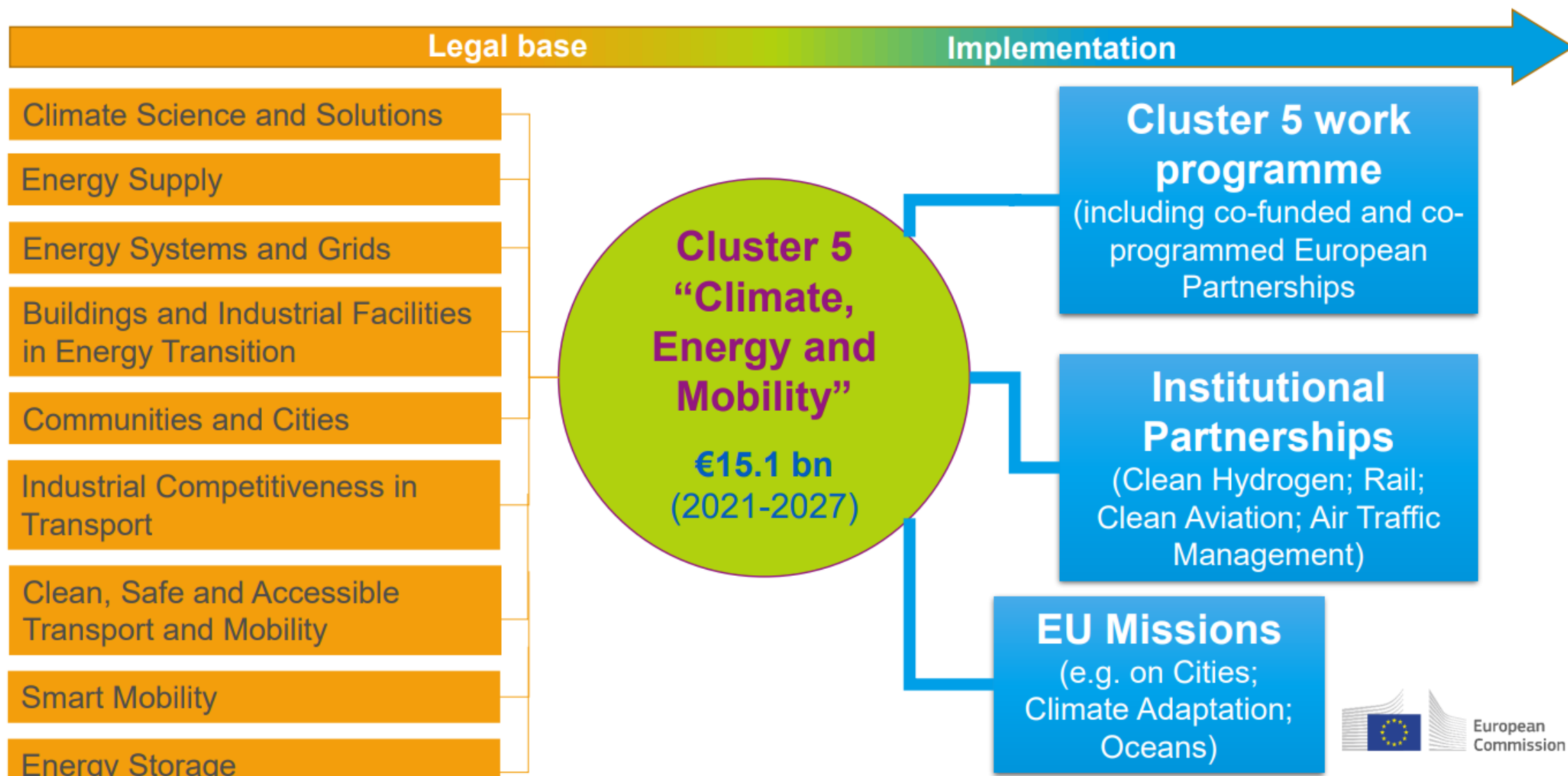
Fusion

Fission

Joint
Research
Center

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

Overview



European Partnerships

INSTITUTIONAL

Transforming Europe's rail system

(0.6 bn€ EU contribution;
0.6 bn€ private contributions)

Integrated Air Traffic Management

(0.6 bn€ EU contribution; 0.5 bn€ private
contributions; 0.5 bn€ from Eurocontrol)

Clean Aviation

(1.7 bn€ EU contribution;
2.4 bn€ private contributions)

Clean Hydrogen

(1.0 bn€ EU contribution;
1.0 bn€ private contributions)

Total: 3.9 bn€ EU contribution

CO-FUNDED

CET | Clean Energy Transition

(210 M€ EU
contribution)

DUT | Driving urban transitions to a sustainable future

(130 M€ EU
contribution)

Total: 0.34 bn€ EU contribution

CO-PROGRAMMED

Built4People | People-centric sustainable built environment

(380 M€ EU contribution; 400 M€ private contributions)

ZEWT | Zero-emission waterborne transport

(530 M€ EU contribution; 3300 M€ private contributions)

CCAM | Connected, Cooperative and Automated Mobility

(500 M€ EU contribution; 500 M€ private contributions)

2ZERO | Towards zero-emission road transport

(615 M€ EU contribution; 615 M€ private contributions)

Batt4EU | Towards a competitive European industrial battery value chain

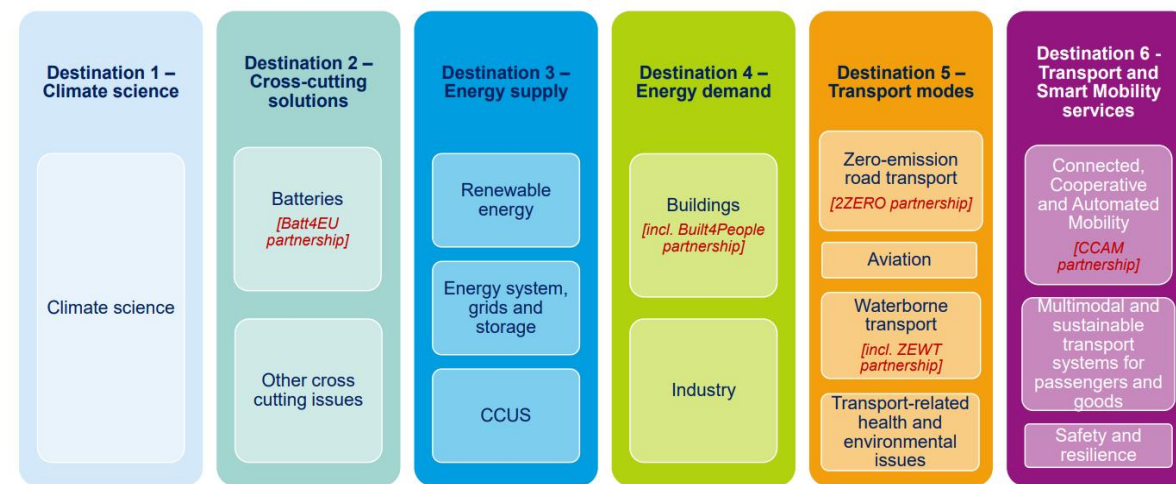
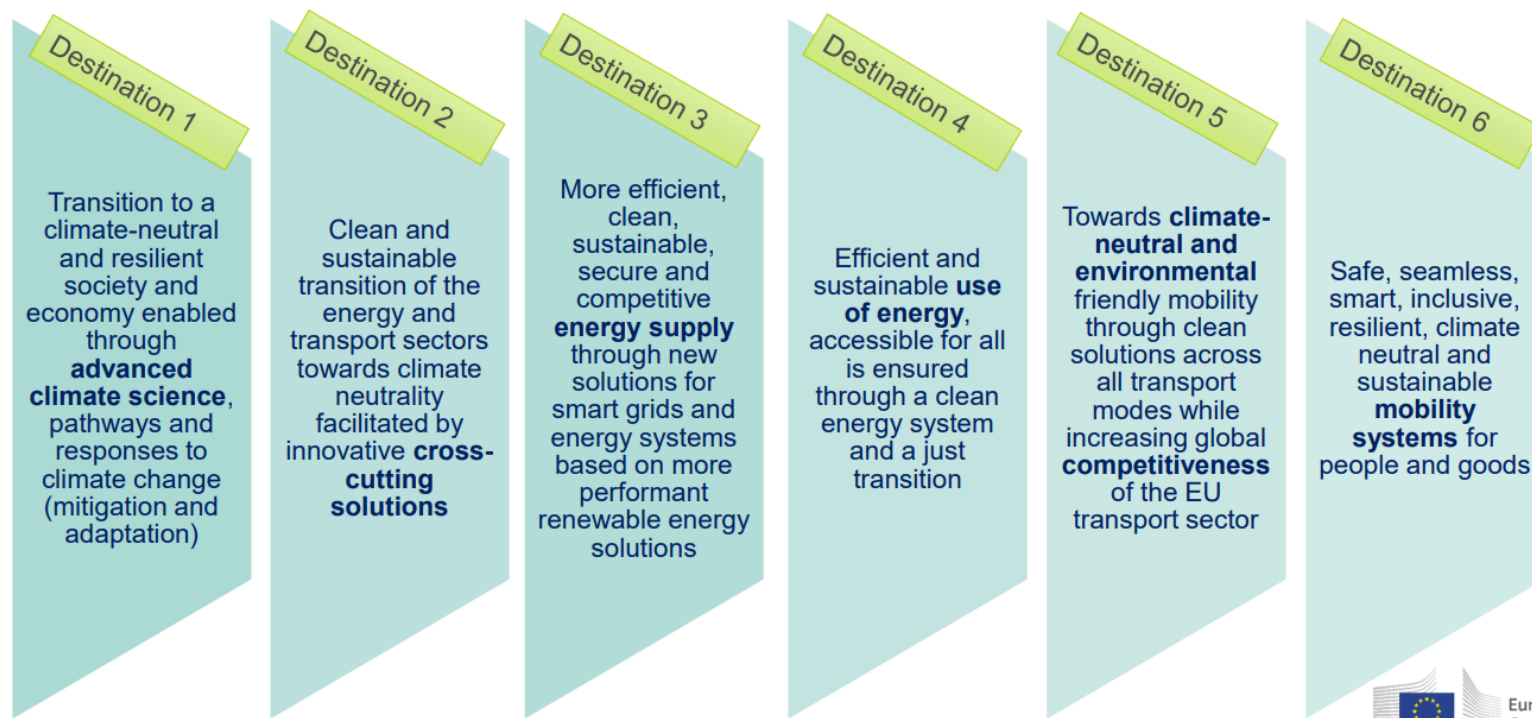
(925 M€ EU contribution; 925 M€ private contributions)

Total: 2.95 bn€ EU contribution

Total: 7.2 bn€



Overarching expected impacts for Cluster 5



1. Climate sciences and responses for the transformation towards climate neutrality

- prispeva k „Zelenemu prehodu“, „Digitalnemu prehodu“ in „Bolj odporna, konkurenčna, vključujoča in demokratična Evropa“.
- podpreti in **pospešiti podnebne ukrepe** na svetovni ravni
- prispevati h ključnim mednarodnim ocenam **z zapiranjem ključnih vrzeli v znanju v zvezi s podnebnimi spremembami**
- okrepiti Evropski raziskovalni prostor o podnebnih spremembah s spodbujanjem znanstvene odličnosti in zmogljivosti
- čim večja sinergija z drugimi prednostnimi nalogami politike, kot so **ohranjanje in obnova biotske raznovrstnosti in ekosistemov, pravičen prehod, pravična odpornost, zmanjšanje onesnaževanja, zdravje in dobro počutje, ohranjanje virov, krožnost.**

1. Climate sciences and responses for the transformation towards climate neutrality

- **Climate simulations data and knowledge** for optimal support of IPCC Assessments and International Policy HORIZON-CL5-2025-06-D1-01, 24.9.2025
- **Advancing Earth System Models** to increase understanding of Earth system change HORIZON-CL5-2025-06-D1-02, 24.9.2025
- **Modelling of mitigation pathways for F-gases** HORIZON-CL5-2025-06-D1-03, 24.9.2025
- The attribution to climate change, and **improved forecasting of extreme and slow-onset climate- and weather-related events** and their impacts HORIZON-CL5-2025-06-D1-04, 24.9.2025
- **Adaptation to Climate Change: Effectiveness and Limits** HORIZON-CL5-2025-05-Two-Stage-D1-05, 24.9.2025
- Fostering equity and justice in climate policies – **Societal Readiness Pilot** HORIZON-CL5-2025-06-D1-06, 24.9.2025
- Implementing the **climate action pillar of the EU-African Union Partnership** on Climate Change and Sustainable Energy HORIZON-CL5-2025-06-D1-07, 24.9.2025

Cross-sectoral solutions for the climate transition

- tematska področja, ki so po naravi medsektorska in lahko zagotovijo ključne rešitve za podnebne, energetske in mobilnostne aplikacije (področja baterije, vodik, skupnosti in mesta,...)
- **Baterije** - povečati konkurenčnost in strateško avtonomijo baterijskega sektorja v EU
- **Mesta in skupnosti** - nadaljevanju partnerstva, ki ga sofinancira Driving Urban Transition (DUT), za pomoč **mestom pri prehodih na trajnost in podnebno nevtralnost**. Pričakovani učinki so **inovativno urbano upravljanje, politika in odločanje**, ki vključuje državljane v proces oblikovanja mesta.

2. Cross-sectoral solutions for the climate transition - Batteries

- Development of **sustainable and design-to-cost batteries** with (energy-)efficient manufacturing processes and based on advanced and safer materials (Batt4EU Partnership) HORIZON-CL5-2026-01-D2-01, 20.1.2026
- Cost-effective **next-generation batteries for long-duration stationary storage** (Batt4EU Partnership) HORIZON-CL5-2025-01-Two-Stage-D2-02, 2.9.2025
- Sustainable **processing and refining of raw materials to produce battery grade** Li-ion battery materials (Batt4EU Partnership) HORIZON-CL5-2025-02-D2-03, 2.9.2025
- **Integrating advanced materials**, cell design and manufacturing development for high-performance batteries aimed at mobility (Batt4EU Partnership) HORIZON-CL5-2026-01-D2-04, 20.1.2026
- Accelerated **multi-physical and virtual testing for battery aging**, reliability, and safety evaluation (Batt4EU Partnership) HORIZON-CL5-2026-01-D2-05, 20.1.2026
- **Fostering the European battery ecosystem** by providing accurate and up-to-date information and stimulating excellence in the European battery R&I community (Batt4EU Partnership) HORIZON-CL5-2025-02-D2-06, 2.9.2025

2. Cross-sectoral solutions for the climate transition - Communities and cities

- **Driving Urban Transitions** to a sustainable future (DUT) Co-Funded Partnership HORIZON-CL5-2025-06-D2-07, 24.9.2025

2. Cross-sectoral solutions for the climate transition - Cross-cutting

- **Coordinated call with India** on waste to renewable hydrogen HORIZON-CL5-2025-02-D2-08, 2.9.2025
- Monitoring and Evaluation of the **Societal Readiness Pilot** HORIZON-CL5-2026-01-D2-09, 20.1.2026
- **Clean Energy Transition** Co-Funded Partnership HORIZON-CL5-2025-02-D2-10, 2.9.2025
- Support to the **SET Plan community** HORIZON-CL5-2025-02-D2-11, 2.9.2025
- NZIA regulatory **sandbox exchange** forum support HORIZON-CL5-2025-02-D2-12, 2.9.2025

3. Sustainable, secure and competitive energy supply

Ta cilj vključuje področja, ki ciljajo na **trajnostno, varno in konkurenčno oskrbo z energijo**.

- Obnovljiva energija
- Energetski sistemi, omrežja in shranjevanje
- Zajem, uporaba in shranjevanje ogljika in odstranjevanje ogljikovega dioksida

3. Sustainable, secure and competitive energy supply - Global leadership in renewable energy (1)

- Large-scale **production of liquid advanced biofuels and renewable fuels** of non-biological origin HORIZON-CL5-2026-02-D3-01,
- Competitiveness, energy security and integration aspects of **advanced biofuels and renewable fuels of non-biological origin** value chains HORIZON-CL5-2026-02-D3-02
- Novel approaches to **geothermal resources development** HORIZON-CL5-2025-02-D3-03, 16.9.2025
- **Development of hydropower technologies** and water management schemes allowing for win-win situation of flexible hydropower and biodiversity improvement – Societal Readiness Pilot HORIZON-CL5-2025-02-D3-04, 16.9.2025
- **Demonstration of thermal energy storage** solutions for solar thermal plants and systems HORIZON-CL5-2026-02-D3-05
- Innovative manufacturing of **wind energy technologies** HORIZON-CL5-2025-02-D3-06, 16.9.2025
- Improved reliability and **optimised operations and maintenance for wind energy systems** HORIZON-CL5-2026-02-D3-07

3. Sustainable, secure and competitive energy supply - Global leadership in renewable energy (2)

- Understand and minimise the **environmental impacts of offshore wind energy** HORIZON-CL5-2026-02-D3-08
- Optimised/Alternative Silicon Growth Technologies (from either liquid or gaseous phase) for PV Applications (EUPI-PV Partnership) HORIZON-CL5-2025-02-D3-09, 16.9.2025
- Towards **commercialisation of Perovskite PV** and development of dedicated manufacturing equipment (EUPI-PV Partnership) HORIZON-CL5-2026-02-D3-10
- **Novel inverter technologies and flexibility in PV systems** (EUPI-PV Partnership) HORIZON-CL5-2025-02-D3-11, 16.9.2025
- Extending the **lifetime of crystalline silicon PV** modules (EUPI-PV Partnership) HORIZON-CL5-2026-02-D3-12, 16.9.2025
- De-risking **wave energy technology development** through transnational pre-commercial procurement of wave energy research and development HORIZON-CL5-2026-02-D3-13, 16.9.2025
- Development of **innovative solutions strengthening the security of renewable energy value chains** HORIZON-CL5-2026-02-D3-14, 16.9.2025
- **Building a Long-Term Africa Union (AU) and European Union (EU) Research and Innovation joint collaboration on Sustainable Renewable Energies** HORIZON-CL5-2025-02-D3-15, 16.9.2025

3. Sustainable, secure and competitive energy supply - Energy systems, grids & storage

- Support to the **BRIDGE initiative** HORIZON-CL5-2025-02-D3-16 , 16.9.2025
- Control and operation tools for a **RES-based energy system** HORIZON-CL5-2025-02-D3-17 , 16.9.2025
- **Next generation distribution substation for increasing the system resilience** HORIZON-CL5-2026-02-D3-18 , 16.9.2025
- Innovative solutions for a **generative AI-powered digital spine of the EU energy system** HORIZON-CL5-2026-02-D3-19 , 16.9.2025
- Innovative tools and services to manage and empower energy communities HORIZON-CL5-2026-02-D3-20 , 16.9.2025
- Cross-regional network and market model for **optimisation of long duration storage** HORIZON-CL5-2025-02-D3-21 , 16.9.2025
- **Underground Thermal Energy Storage in dense urban areas** HORIZON-CL5-2026-02-D3-22 , 16.9.2025
- **Critical elements for energy security of grid and storage technologies** HORIZON-CL5-2025-01-Two-Stage-D3-23 , 16.9.2025

3. Sustainable, secure and competitive energy supply - Carbon Capture, Utilisation and Storage (CCUS)

- **New CO₂ capture technologies** HORIZON-CL5-2026-02-D3-24 , 16.9.2025
- **Effects of CO₂-stream impurities on CO₂ transport and storage** HORIZON-CL5-2025-02-D3-25, 16.9.2025
- **European investment atlas of potential CO₂ storage sites** HORIZON-CL5-2025-02-D3-26 , 16.9.2025
- **Using captured CO₂ as a resource to replace fossil hydrocarbons in industrial production** HORIZON-CL5-2025-02-D3-27

4. Efficient, sustainable and inclusive energy use

Ta cilj je usmerjen na povpraševanje po energiji, zlasti na URE v stavbah in industriji. Prispeva k dejavnostim strateškega načrta za energetske tehnologije (SET) in delovnih skupin za njegovo izvajanje.

- visoko energetske učinkovitosti in podnebno nevtralen evropski stavbni fond
- industrija - izboljšanje URE energetsko intenzivnih industrij v EU, njihova poraba fosilnih goriv ter emisije TGP

4. Efficient, sustainable and inclusive energy use - Highly energy - Efficient and climate neutral European building stock

- On-site innovative robotic and automated solutions and techniques for **more sustainable and less disruptive building renovation and construction** HORIZON-CL5-2026-02-D4-01, 17.1.2026
- **Smarter buildings as part of the energy system** for increased efficiency and flexibility – Societal Readiness Pilot HORIZON-CL5-2026-02-D4-02, 17.1.2026
- **Innovative pathways for low carbon and climate resilient building stock and built environment (Built4People Partnership)** HORIZON-CL5-2026-02-D4-03, 17.1.2026
- Innovative approaches for the deployment of **Positive Energy Districts** HORIZON-CL5-2026-02-D4-04, 17.1.2026
- **Optimal combination of low embodied carbon construction products, technical building systems and circularity principles for climate neutral buildings (Built4People Partnership)** HORIZON-CL5-2026-02-D4-05, 17.1.2026

4. Efficient, sustainable and inclusive energy use - Highly energy - Industry

- **Phase out fossil fuel in energy intensive industries** through the efficient integration of renewable energy sources (HORIZON-CL5-2026-02-D4-06), 17.1.2026

5. Clean and competitive solutions for all transport modes

Ta cilj obravnava izboljševanje podnebne in okoljskega odtisa ter konkurenčnosti različnih načinov prevoza.

- Cestni promet brez emisij
- Letalstvo
- Vodni promet
- Okolje in zdravje, povezano s prometom

5. Clean and competitive solutions for all transport modes - Zero-emission road transport

- Efficient wireless **stationary bidirectional charging solutions** for road Light Duty Vehicles (2ZERO Partnership) – Societal Readiness Pilot HORIZON-CL5-2025-04-D5-01, 4.9.2025
- Cybersecure and **resilient road e-mobility ecosystem** (2ZERO Partnership) HORIZON-CL5-2025-04-D5-02, 4.9.2025
- **Safe post-crash management** of road Light Duty Battery Electric Vehicles (BEVs) (2ZERO Partnership) HORIZON-CL5-2025-04-D5-03, 4.9.2025
- **Extended lifetime of road Battery Electric Vehicles (BEV)** (2ZERO Partnership) HORIZON-CL5-2025-04-D5-04, 4.9.2025
- **Road Battery Electric Vehicles (BEV)** optimised user-centric solutions for energy efficiency design and consistent range throughout weather conditions (2ZERO Partnership) HORIZON-CL5-2025-04-D5-05, 4.9.2025
- **Strategies, tools and concepts for optimised road Battery Electric Vehicles (BEV)** long-haul logistics use cases (2ZERO Partnership) HORIZON-CL5-2025-04-D5-06, 4.9.2025
- **Accelerating the circular transformation of the EU automotive industry** HORIZON-CL5-2025-04-D5-07, 4.9.2025

5. Clean and competitive solutions for all transport modes - Aviation

- **Next generation testing capabilities** in strategic EU wind tunnels HORIZON-CL5-2025-04-D5-08, 4.9.2025
- **Next generation aircraft autonomy technologies for cockpit / pilot assistance applications** HORIZON-CL5-2025-03-Two-Stage-D5-09, 4.9.2025

5. Clean and competitive solutions for all transport modes - Waterborne transport

- Innovative solutions for **energy conversion and safety of low and zero-carbon fuels** in waterborne transport (ZEWT Partnership) HORIZON-CL5-2025-04-D5-10, 4.9.2025
- Demonstration of **battery energy storage systems** in existing and new vessels via novel energy storage and ship design concepts (ZEWT Partnership) HORIZON-CL5-2025-04-D5-11, 4.9.2025
- Real-time, adaptative and innovative energy management solutions **to optimise fuel consumption and lower emissions pollutants in waterborne transport** (ZEWT Partnership) HORIZON-CL5-2025-04-D5-12, 4.9.2025
- **Novel holistic intelligent tools for variable retrofit** and decarbonised scenarios (ZEWT Partnership) HORIZON-CL5-2025-04-D5-13, 4.9.2025
- **Flexible and mobile solutions for Onshore Power Supply** (ZEWT Partnership) HORIZON-CL5-2025-04-D5-14, 4.9.2025
- Optimal integrated **onboard renewable energy solutions**, by considering Wind-Assisted Propulsion Systems (ZEWT Partnership) HORIZON-CL5-2025-04-D5-15, 4.9.2025
- **Support of the new EU renewable and low carbon** fuel ecosystem for waterborne transport HORIZON-CL5-2025-04-D5-16, 4.9.2025

5. Clean and competitive solutions for all transport modes - Transport-related health and environment

- Real time monitoring of regulated and non-regulated **emissions from all types of vessels** and other port activities in order to enforce emission limits in waterfront cities

HORIZON-CL5-2026-01-D5-17, 20.1.2026

5. Clean and competitive solutions for all transport modes - Cross-cutting

- Support to the **organisation and dissemination of the Transport Research Arena (TRA) conference** HORIZON-CL5-2025-04-D5-1, 4.9.2025
- Knowledge sharing and dissemination to **support road transport R&I in EU and around the world** increasing global EU competitiveness

HORIZON-CL5-2025-04-D5-19, 4.9.2025?

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

Ta cilj obravnava **storitve varne in napredne mobilnosti** za potnike in blago.

- Povezana, kooperativna in avtomatizirana mobilnost (CCAM)
- Multimodalni in trajnostni transportni sistemi za potnike in blago
- Varnost in odpornost

6. Safe, Resilient Transport and Smart Mobility services for passengers and goods - Connected, Cooperative and Automated Mobility (CCAM)

- Advancing **remote operations to enable the sustainable and smart mobility** of people and goods based on operational and societal needs (CCAM Partnership) – Societal Readiness Pilot HORIZON-CL5-2025-04-D6-01, 4.9.2025
- Preparing for **large-scale CCAM demonstrations** (CCAM Partnership) – Societal Readiness Pilot HORIZON-CL5-2025-04-D6-02, 4.9.2025
- **Next-generation environment perception for real world CCAM operations:** Error-free and secure technologies to improve energy-efficiency, cost-effectiveness, and circularity (CCAM Partnership) HORIZON-CL5-2026-01-D6-03, 20.1.2026
- **Integration of human driving behaviour** in the validation of CCAM systems (CCAM Partnership) HORIZON-CL5-2026-01-D6-04, 20.1.2026
- Approaches, verification and **training for Edge-AI building blocks for CCAM Systems** (CCAM Partnership) HORIZON-CL5-2026-01-D6-05, 20.1.2026
- Federated **CCAM data exchange platform** (CCAM Partnership) HORIZON-CL5-2026-01-D6-06, 20.1.2026

6. Safe, Resilient Transport and Smart Mobility services for passengers and goods - Multimodal transport, infrastructure and logistics

- **Innovative construction and maintenance, with the use of new materials and techniques, for resilient and sustainable transport infrastructure** HORIZON-CL5-2026-01-D6-07 , 20.1.2026
- **Accelerating freight transport and logistics digital innovation** HORIZON-CL5-2026-01-D6-08 , 20.1.2026
- **Reliable data and practices to measure and calculate transport emissions in multimodal transport chains** HORIZON-CL5-2026-01-D6-09 , 20.1.2026
- **Integrating inland waterway transport in smart shipping and multimodal logistics chains** HORIZON-CL5-2026-01-D6-10 , 20.1.2026
- **Innovative air mobility and services for sustainable and smart urban, peri-urban transport – Societal Readiness pilot** HORIZON-CL5-2025-04-D6-11 , 4.9.2025

6. Safe, Resilient Transport and Smart Mobility services for passengers and goods - Safety and resilience

- **Safe Human-Technology Interaction (HTI) in the vehicle systems of the coming decade – Societal Readiness Pilot** HORIZON-CL5-2025-04-D6-12 , 4.9.2025
- **Safety of Cyclists, Pedestrians and Users of Micromobility Devices** HORIZON-CL5-2026-01-D6-13 , 20.1.2026
- **Predicting and avoiding road crashes based on Artificial Intelligence (AI) and big data** HORIZON-CL5-2026-01-D6-14 , 20.1.2026
- **Icing in the context of sustainable aviation** HORIZON-CL5-2026-01-D6-15 , 20.1.2026

Hvala

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