



Obzorje Evropa - Grozd 5: Podnebje, energija, mobilnost

Predstavitev delovnega programa 2026 - 2027

Uvod

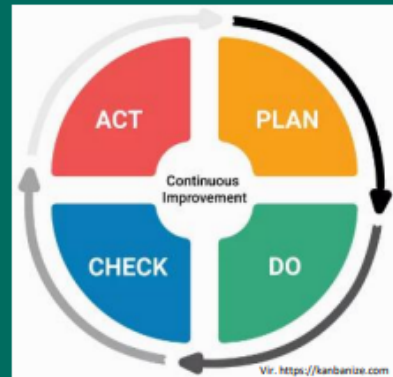
- Delovni program za obdobje 2026 – 2027 je bil sprejet 11. decembra 2025
- Vodilo aktualnega programa je potreba po pospeševanju “dvojca” zelenega in digitalnega prehoda.
- Spodbujanje ekonomij EU
- Strateški cilji EU

Glavni cilji podnebno energetske politike NEPN

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%

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.

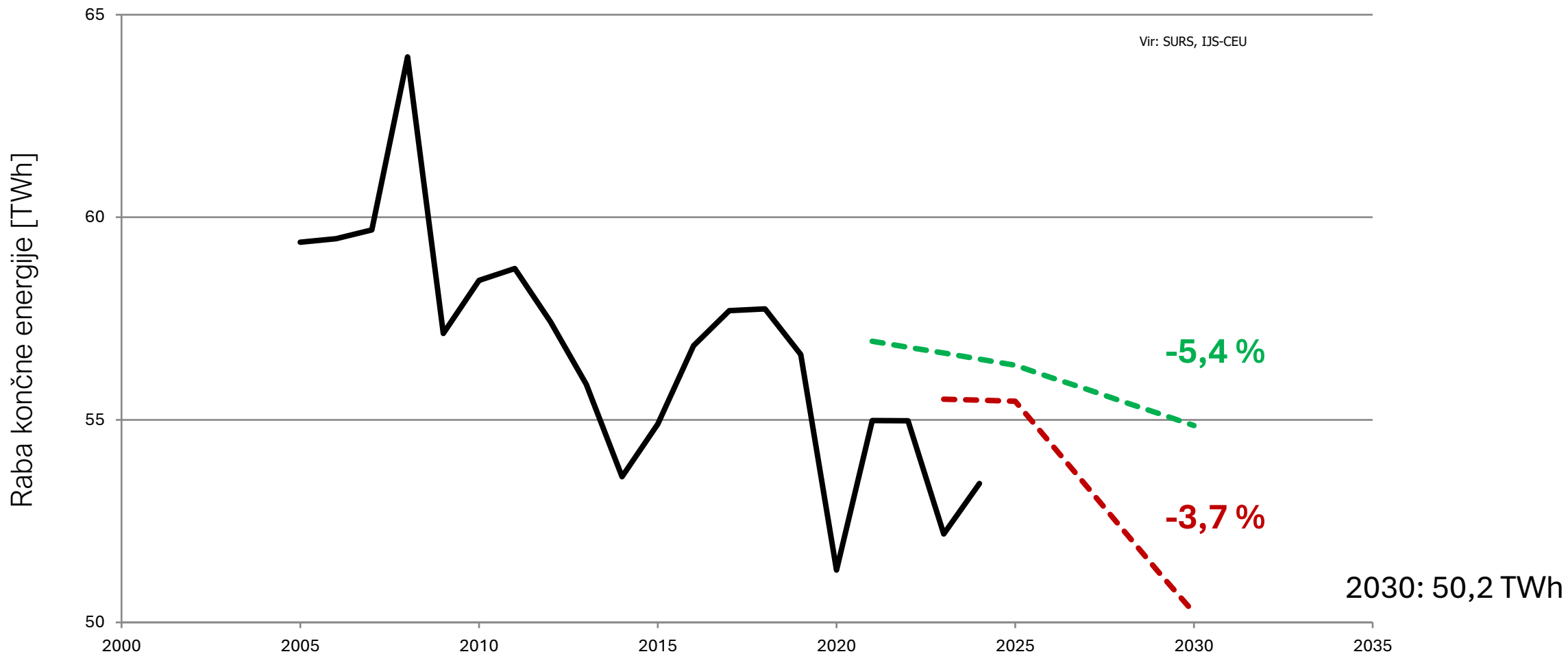
do leta 2030 vsaj
3,5% BDP
vsaj 1,25% jav. sred.

Zanesljivost in konkurenčnost oskrbe z energijo

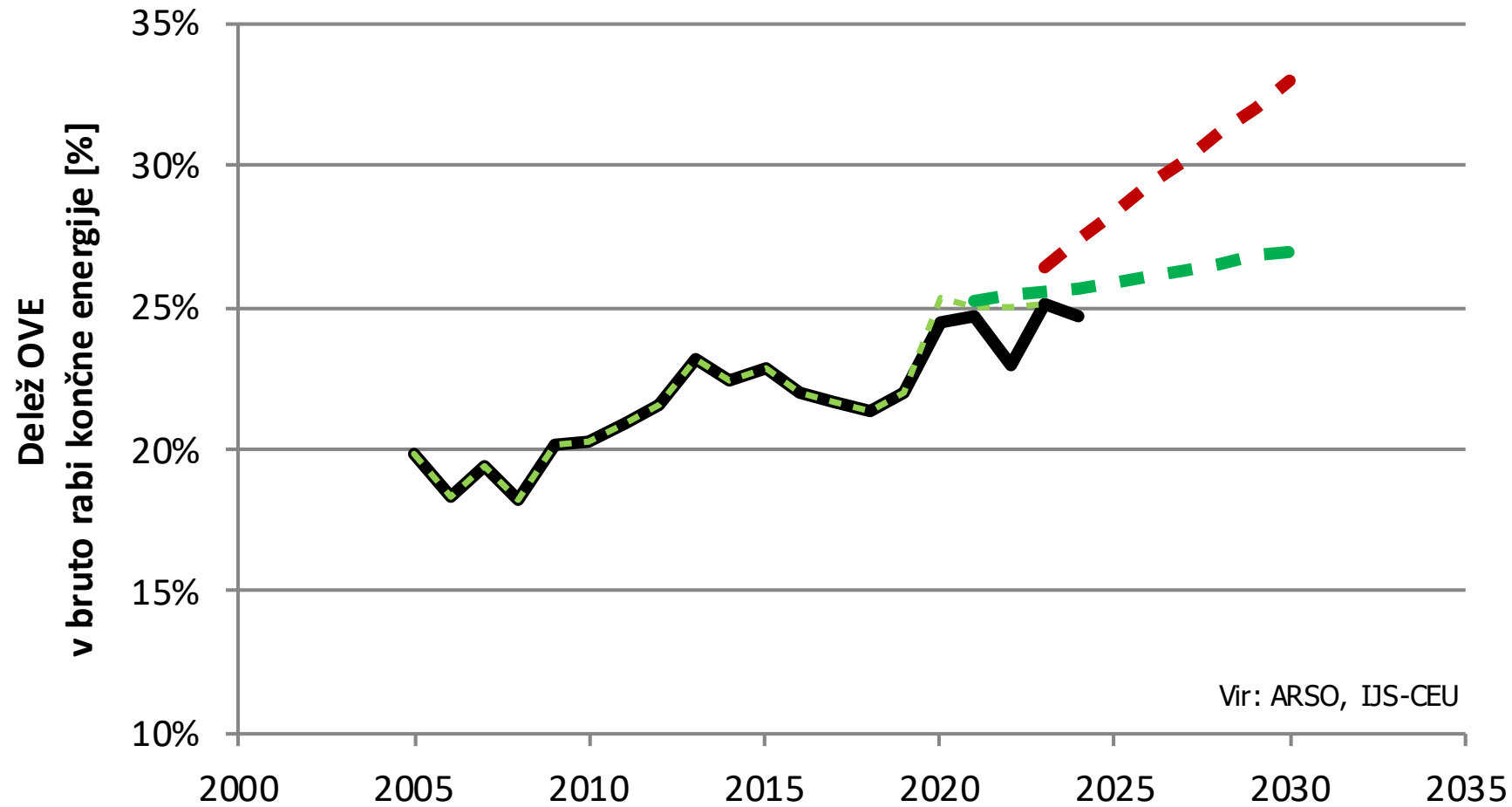
REPowerEU: Joint European action for more affordable, secure and sustainable energy

Podnebna nevtralnost do leta 2050 (ZVO2, DPS)

ENERGY EFFICIENCY» Fit for 55« FIRST



- Statistični podatki 2005–2024
- - - Indikativne letne vrednosti 2021–2030, NEPN 2020
- - - Indikativne letne vrednosti 2023–2030, NEPN 2024

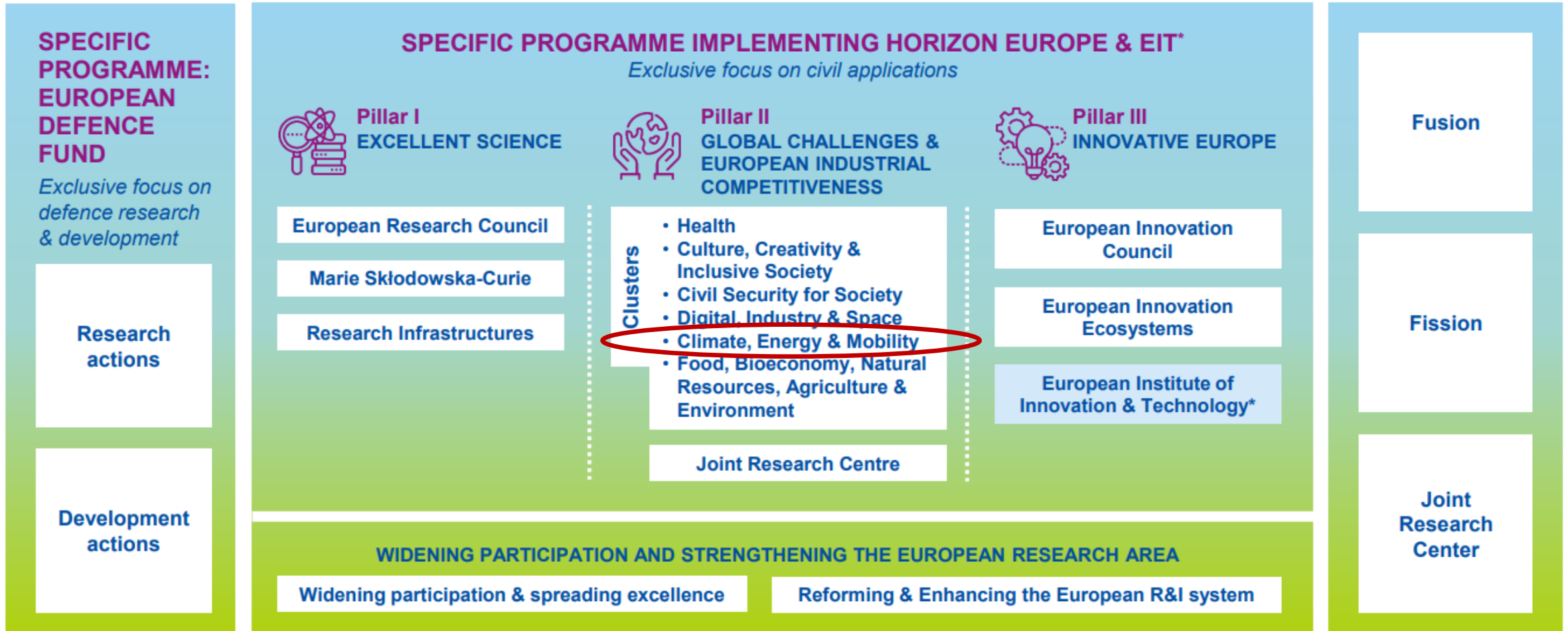


Vir: ARSO, IJS-CEU

- Statistični podatki 2005–2023, brez dokupa
- - - Statistični podatki 2005–2023, z dokupom
- Indikativne letne vrednosti 2021–2030, NEPN 2020
- Indikativne letne vrednosti 2023–2030, NEPN 2024

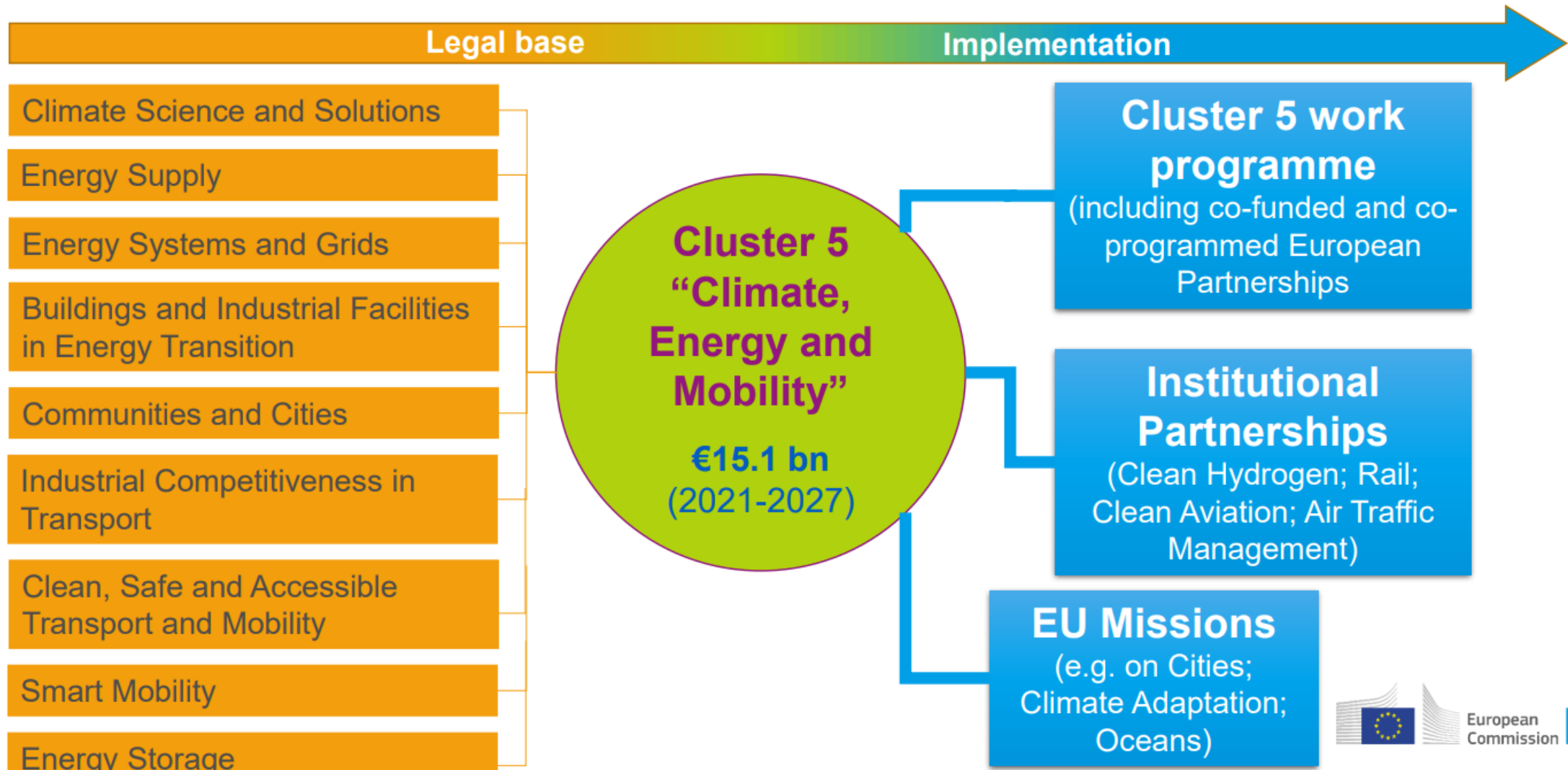
HORIZON EUROPE

EURATOM

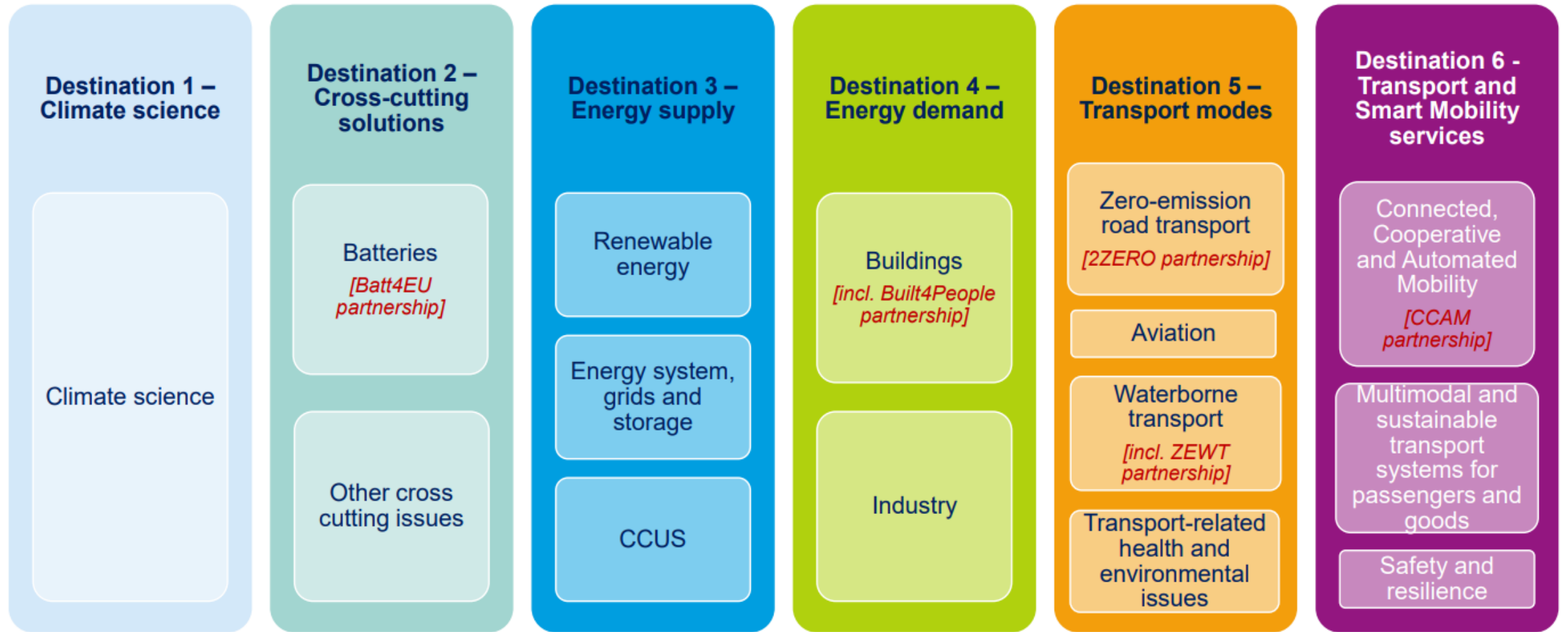


* The European Institute of Innovation & Technology (EIT) is not part of the Specific Programme

Overview



Cluster 5 work programme – Overview



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

- cilj neposredno prispeva k ključnim strateškim usmeritvam strateškega načrta „Zeleni prehod“, „Digitalni prehod“ in „Bolj odporna, konkurenčna, vključujoča in demokratična Evropa“
- **podpreti in pospešiti podnebne ukrepe** (tako blažitev kot prilagajanje) na svetovni ravni
- bistveno 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 na vključujoč način v vseh sodelujočih državah

2. Cross-sectoral solutions for the climate transition

- neposredno prispeva h ključnim strateškim usmeritvam strateškega načrta
„Zeleni prehod“, „Digitalni prehod“
- omogočanje čistega in trajnostnega prehoda energetskega in prometnega sektorja v podnebno nevtralnost **z medsektorskimi rešitvami**
- povečana konkurenčnost in strateška avtonomija celotne vrednostne verige EU ob hkratnem maksimiranju trajnosti
- **zmanjšanje odvisnosti od surovin** in povečanje predelovalnih zmogljivosti, tudi za reciklirane materiale

3. Sustainable, secure and competitive energy supply

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

Glavni vplivi, ki jih bodo ustvarile teme v okviru te destinacije, so:

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

4. Efficient, sustainable and inclusive energy use

Ta cilj je usmerjen **na stran povpraševanja po energiji**, zlasti na učinkovitejšo rabo energije v zgradbah in industriji. Prispeva k dejavnostim strateškega načrta za energetska tehnologijo (načrt SET) in delovnih skupin za njegovo izvajanje.

Glavni cilji:

- Visoko energetska učinkovit in podnebno nevtralen evropski stavbni fond
- Izboljšana je energetska učinkovitost energetske intenzivnih industrij v EU, njihova poraba fosilnih goriv ter emisije toplogrednih plinov

5. Clean and competitive solutions for all transport modes

Ta cilj obravnava dejavnosti, ki izboljšujejo podnebni in okoljski odtis ter konkurenčnost različnih načinov prevoza.

Teme:

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

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

Ta cilj vključuje dejavnosti, ki obravnavajo storitve varne in pametne mobilnosti za potnike in blago.

Teme:

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

Baterije in energija

Odprtje: 18.12.2025

Rok : 31.3.2026

- Development of **direct recycling processes** (BATT4EU Partnership) [HORIZON-CL5-2026-03-D2-02]
- Targeting **key value chain components** for increasing the competitiveness of **renewable energy technologies** in Europe [HORIZON-CL5-2026-03-D3-01]
- Long-lifetime and optimised use of materials in **recyclable Ag and In-free Si PV** modules (EUPI-PV Partnership) [HORIZON-CL5-2026-03-D3-12]
- Long-lifetime and optimised use of materials in recyclable Ag and In-free Si PV modules (EUPI-PV Partnership) [HORIZON-CL5-2026-03-D3-12]
- **Grid-forming capabilities** for more resilient and RES-based electricity grids [HORIZON-CL5-2026-03-D3-18]
- Affordable and sustainable primary equipment for Future-Ready multi-terminal HVDC Systems [HORIZON-CL5-2026-03-D3-19]
- Hybrid AI-Control Framework for a next-generation grid-scale energy storage and system integration [HORIZON-CL5-2026-03-D3-20]
- Novel solutions for **off-grid storage of renewable energy for critical infrastructures** [HORIZON-CL5-2026-03-D3-21]
- AI-driven **forecasting algorithms for Grid** and Consumer friendly Energy Sharing – Societal Readiness pilot [HORIZON-CL5-2026-03-D3-22]
- Pre-commercial appraisal for **CO2 aquifer storage** [HORIZON-CL5-2026-03-D3-29]

Energija

Odprtje: 18.12.2025

Rok : 31.3.2026 / 20.10.2026

- Next generation of renewable energy technologies [HORIZON-CL5-2026-04-Two-Stage-D3-02]

Mobilnost

Odprtje: 18.12.2025

Rok : 14.4.2026

- Large-scale demonstration of **Heavy-Duty Battery Electric Vehicles (HD BEV)** towards long-haul logistics operations (2ZERO Partnership) [HORIZON-CL5-2026-05-D5-01]
- Energy-efficient **software-defined EVs** (2ZERO Partnership) [HORIZON-CL5-2026-05-D5-02]
- AI-assisted digital aircraft design, manufacturing and MRO, towards a competitive aviation [HORIZON-CL5-2026-05-D5-07]
- **Ports of the future** (ZEWT Partnership) [HORIZON-CL5-2026-05-D5-11]
- **Shipyards of the future** (ZEWT Partnership) [HORIZON-CL5-2026-05-D5-12]
- Safety of renewable low and zero-carbon waterborne fuels in port areas: risk assessment, regulatory framework, and guidelines for safe bunkering, handling and storage (ZEWT partnership) [HORIZON-CL5-2026-05-D5-13]

Mobilnost II

Odpprtje: 18.12.2025

Rok : 14.4.2026 / 8.10.2026

- Disruptive Technologies and Innovative Concepts for **Energy Saving Onboard of long-distance ships** (ZEWT Partnership) [HORIZON-CL5-2026-06-Two-Stage-D5-10]
- Non-exhaust emissions in road and railway transport [HORIZON-CL5-2026-06-Two-Stage-D5-19]

HORIZON-CL5-2026-06-Two-Stage-D5-19: Non-exhaust emissions in road and railway transport

- Metode in orodja za podporo merjenju, simulaciji in validaciji emisij onesnaževal, ki niso izpušni plini, v cestnem in železniškem prometu v okolju
- ocene vpliva teh onesnaževal na zdravje ljudi, kopenske ekosisteme in vodno okolje (vključno z biotsko raznovrstnostjo v teh ekosistemih) s posebnim poudarkom na mikroplastiki in drugih težjih delcih, ki se ne prenašajo z zrakom
- Zagotavljanje boljših emisijskih faktorjev za popise in projekcije emisij, vključno z Evropskim programom za spremljanje in vrednotenje (EMEP), tudi za resuspenzijo, o kateri je danes malo znanja
- Priporočila in strategije blaženja, vključno z določitvijo ustreznih ključnih kazalnikov uspešnosti (KPI) in oceno učinkovitosti nadzornih ukrepov z ustrežno analizo stroškov in koristi za razumevanje ekonomske in praktične izvedljivosti različnih strategij za zmanjšanje emisij

Podnebjje

Odpprtje: 18.12.2025

Rok : 15.4.2026

- Next generation **climate monitoring** and related capabilities [HORIZON-CL5-2026-07-D1-01]
- Advancing European climate risk assessments [HORIZON-CL5-2026-07-D1-02]
- Economics of **climate change and cost of inaction** [HORIZON-CL5-2026-07-D1-03]
- Fighting disinformation and effectively communicating on climate change [HORIZON-CL5-2026-07-D1-04]
- Improving climate and **weather models for Africa** [HORIZON-CL5-2026-07-D1-05]

Podnebje II

Odprtje: 18.12.2025

Rok : 15.4.2026 / 8.10.2026

- Closing knowledge gaps on Earth system science in support of global and regional assessments and climate policy [HORIZON-CL5-2026-08-Two-Stage-D1-06]

Baterije in energija II

Odprtje: 5.5.2026

Rok : 15.9.2026

-
- Producing battery-grade materials for electrodes through sustainable processing and refining of raw materials or developing bio-based materials (BATT4EU Partnership) [HORIZON-CL5-2026-09-D2-01]
 - Coordinated topic with India on recycling of EV batteries [HORIZON-CL5-2026-09-D2-04]
 - Innovative technologies and solutions to improve wind energy systems supporting the Strategic Energy Technology (SET) Plan on wind [HORIZON-CL5-2026-09-D3-03]
 - Researching the technical, social & economic factors impacting the energy performance of Smart Buildings (Built4People Partnership) [HORIZON-CL5-2026-09-D4-01]
 - Low disturbance prefabrication approaches for deep renovation of multi-storey buildings (Built4People Partnership) [HORIZON-CL5-2026-09-D4-02]
 - Advanced data platforms to integrate whole life carbon in building information tools, assessments, and certification (Built4People Partnership) [HORIZON-CL5-2026-09-D4-03]
 - Validating policies and business models for affordable and sustainable housing (Built4People Partnership) [HORIZON-CL5-2026-09-D4-04]
 - Full-scale demonstration of heat upgrade solutions in industrial processes [HORIZON-CL5-2026-09-D4-08]

HORIZON-CL5-2026-09-D4-01: Researching the technical, social & economic factors impacting the energy performance of Smart Buildings (Built4People Partnership)

- Več dokazov o dejavnikih, kot so fiziološki, vedenjski, socialni, okoljski in kulturni, ki vplivajo na to, kako različne uporabniške in demografske skupine dojemajo in uporabljajo pametne, varne in integrirane energetske učinkovite sisteme stavb, ter kako to vpliva na **celoten življenjski cikel stavbe in prihranke energije**, pa tudi na zadovoljstvo, zdravje in dobro počutje stanovalcev.
- Izboljšanje **načrtovanja in delovanja pametnih stavb**, kar jih spremeni v uporabnikom bolj prijazne in učinkovite

Baterije in mobilnost

Odprtje: 4.6.2026

Rok : 8.10.2026

- Integrated Production and Product Development for **Next-Generation Lithium-based Batteries** for Mobility (BATT4EU and Made in Europe Partnerships) [HORIZON-CL5-2026-10-D2-03]
- Flagship-pilot: large-scale demonstrations of CCAM (CCAM Partnership - Connected, Cooperative and Automated Mobility) [HORIZON-CL5-2026-10-D6-01]
- Geopolitical competition and socioeconomic resilience in CCAM: an innovation and policy roadmap for EU leadership (CCAM Partnership) [HORIZON-CL5-2026-10-D6-02]
- Generative **AI for smarter CCAM**: enhancing perception, decision-making, and validation (CCAM Partnership) [HORIZON-CL5-2026-10-D6-03]
- Increasing competitiveness and resilience of multimodal freight transport and logistics for competitive supply chains [HORIZON-CL5-2026-10-D6-06]
- Supporting **sustainable and smart urban mobility** in Europe (CIVITAS) [HORIZON-CL5-2026-10-D6-07]
- Road Safety and resilience of rural areas [HORIZON-CL5-2026-10-D6-09]
- Enhanced resilience in multimodal passenger transport through digital technologies and generative and discriminative AI [HORIZON-CL5-2026-10-D6-10]

Energija II

Odprtje: 4.8.2026

Rok : 1.12.2026

- **De-risking renewable fuel technologies** through transnational pre-commercial procurement of renewable fuel industrial value chains [HORIZON-CL5-2026-11-D3-04]
- Demonstration of **solid biofuel supply and conversion to high efficiency CHP** from fully sustainable regional value chains [HORIZON-CL5-2026-11-D3-05]
- Resource assessment for **deep sedimentary and basement reservoirs** [HORIZON-CL5-2026-11-D3-06]
- Improved system design for **innovative PV applications** (EUPI-PV Partnership) [HORIZON-CL5-2026-11-D3-14]
- **Data sharing** to support the training and development of AI foundation models in the energy sector [HORIZON-CL5-2026-11-D3-23]

Podnebjje II

Odprtje: 17.11.2026

Rok : 4.3.2027

- Advancing understanding, modelling and prediction of extreme events in a changing climate [HORIZON-CL5-2027-01-D1-07]
- Palaeoclimate science for a better understanding of Earth system dynamics [HORIZON-CL5-2027-01-D1-08]
- Assessing the performance of policy instruments to inform climate change mitigation action [HORIZON-CL5-2027-01-D1-09]
- Understanding and avoiding maladaptation to climate change [HORIZON-CL5-2027-01-D1-10]
- Africa-EU CO-FUND action on climate [HORIZON-CL5-2027-01-D1-11]
- Better understanding and attribution of land and ocean carbon sources and sinks [HORIZON-CL5-2027-01-D1-12]
- Next generation scenarios for informing climate and sustainability transitions [HORIZON-CL5-2027-01-D1-13]

Baterije in energija III

Odprijetje: 3.12.2026

Rok : 31.3.2027

- Improvement of Adaptability, Flexibility and **Efficiency of Existing Recycling Processes** (BATT4EU Partnership) [HORIZON-CL5-2027-02-D2-05]
- Sustainable and Competitive **Cell Production Techniques** for Lithium-ion And Sodium-ion Batteries (BATT4EU Partnership) [HORIZON-CL5-2027-02-D2-06]
- **Concentrated solar thermal systems** for decarbonising industrial processes [HORIZON-CL5-2027-02-D3-07]
- Co-funding Strategic Energy Technology (SET) Plan **renewable fuel value chains** at EU, national, regional, and local level [HORIZON-CL5-2027-02-D3-08]
- Innovative technologies and solutions to **improve wave and tidal energy systems** [HORIZON-CL5-2027-02-D3-09]
- Renewable Energy Valleys in **Africa** to increase energy security and energy access in Africa [HORIZON-CL5-2027-02-D3-10]
- Production technologies for **solar photovoltaics beyond the state-of-the-art** (EUPI-PV Partnership) [HORIZON-CL5-2027-02-D3-15]
- Large scale operational validation and upscaling of state-of-the-art (Generative) AI tools and models powering a **next generation digital energy system** [HORIZON-CL5-2027-02-D3-24]
- Advancements in **Direct Air Capture** [HORIZON-CL5-2027-02-D3-30]
- Support to the implementation of an EU policy framework for **CO2 transport** and storage infrastructure [HORIZON-CL5-2027-02-D3-31]

HORIZON-CL5-2027-02-D3-15: Production technologies for solar photovoltaics beyond the state-of-the-art (EUPI-PV Partnership)

- Povečati potencial za **komercializacijo inovativnih fotonapetostnih tehnologij**, s čimer bi ustvarili konkurenčno tehnološko znanje za evropsko industrijsko bazo fotonapetostne energije
- Prispevanje k ciljem EU zaveznitva za industrijo fotovoltaike
- Podpirati izvajanje skupne agende za raziskave in inovacije na področju sončne energije.

Mobilnost III

Odpprtje: 15.12.2026

Rok : 14.4.2027

- Data-driven circular economy for **e-mobility ecosystem** (2ZERO Partnership) [HORIZON-CL5-2027-03-D5-03]
- Demonstration of **zero emission coaches and buses** in long distance operations (2ZERO Partnership) [HORIZON-CL5-2027-03-D5-04]
- Higher Voltage, Megawatt Charging System compatible, modular powertrain for Heavy Duty Vehicles (HDV) (2ZERO Partnership) [HORIZON-CL5-2027-03-D5-05]
- **Fire prevention and mitigation for EVs** in confined areas (2ZERO Partnership) [HORIZON-CL5-2027-03-D5-06]
- Sustainable aircraft circular design and additive manufacturing, towards a climate neutral aviation [HORIZON-CL5-2027-03-D5-08]
- Onboard renewable energy solutions and energy saving measures to **reduce the fuel consumption of ships** by at least 55% (ZEWT Partnership) [HORIZON-CL5-2027-03-D5-14]
- Prospective evaluation of nuclear power potential for shipping (ZEWT Partnership) [HORIZON-CL5-2027-03-D5-15]
- **Autonomous vessels in short sea shipping** and inland waterways [HORIZON-CL5-2027-03-D5-16]
- Innovative Solutions for mitigating the environmental impact of waterborne transport in marine and aquatic Ecosystems (ZEWT Partnership) [HORIZON-CL5-2027-03-D5-17]
- Enhanced electric operation and battery durability (ZEWT Partnership) [HORIZON-CL5-2027-03-D5-18]
- Assessing the effect of **airport operations on air quality and noise** in nearby communities [HORIZON-CL5-2027-03-D5-20]

Baterije in mobilnost II

Odprijetje: 15.12.2026

Rok : 14.4.2027 / 7.10.2027

- Novel approaches towards next-generation battery concepts, leveraging the enabling role of innovative advanced materials (BATT4EU and IAM4EU Partnerships) [HORIZON-CL5-2027-04-Two-Stage-D2-07]
- **Noise reduction** breakthroughs for new ultraefficient aircraft [HORIZON-CL5-2027-04-Two-Stage-D5-09]

Baterije in energija IV

Odprtje: 5.5.2027

Rok : 15.9.2027

-
- Demonstration for **Long-duration Battery Energy Storage Systems** (BATT4EUPartnership) [HORIZON-CL5-2027-05-D2-08]
 - On-site robotic and **automated techniques for building renovation and new construction** [HORIZON-CL5-2027-05-D4-05]
 - Thermal energy optimisation and waste heat recovery of high energy demand IT rooms in buildings or small edge data centres [HORIZON-CL5-2027-05-D4-06]
 - Integrating circularity in **LCA-based modelling frameworks for renovation of buildings** (Built4People Partnership) [HORIZON-CL5-2027-05-D4-07]
 - Demonstration of industrial excess/waste heat conversion to mechanical or electrical power [HORIZON-CL5-2027-05-D4-09]

Mobilnost IV

Odprtje: 3.6.2027

Rok : 7.10.2027

- Holistic solutions for CCAM integration in critical scenarios (CCAM Partnership) [HORIZON-CL5-2027-06-D6-04]
- European **CCAM knowledge hub and tools for safe and scalable deployment** (CCAM Partnership) [HORIZON-CL5-2027-06-D6-05]
- Enhancing Mobility for All: affordable, reliable, and accessible multimodal transport for inclusive rural and urban connectivity – Societal Readiness pilot [HORIZON-CL5-2027-06-D6-08]
- Enhancing Resilience and Accuracy in Positioning, Navigation, and Timing (PNT) Systems and e-conspicuity solutions [HORIZON-CL5-2027-06-D6-11]
- Support for dissemination events in the field of Transport Research [HORIZON-CL5-2027-06-D6-12]

Energija III

Odprtje: 4.8.2027

Rok : 1.12.2027

- Demonstration of **hydropower technologies for efficient and forward-looking refurbishment** of existing hydropower plants [HORIZON-CL5-2027-07-D3-11]
- Industrial processes and equipment for innovative, reliable and scalable tandem technologies (EUPI-PV Partnership) [HORIZON-CL5-2027-07-D3-16]
- PV based electrification of the economy: **Designing & optimising PV systems supporting industrial electrification** and promoting participation in electricity markets (EUPI-PV Partnership) [HORIZON-CL5-2027-07-D3-17]
- Advanced TSO control rooms to enhance grid observability, stability and resilience [HORIZON-CL5-2027-07-D3-25]
- Advanced Distribution Management Systems (ADSM) for more efficient and flexible distribution grids [HORIZON-CL5-2027-07-D3-26]
- Integrated Approaches for **Retrofitting Infrastructures with Innovative Energy Storage Technologies** [HORIZON-CL5-2027-07-D3-27]
- Community of practice - Data-Driven Decision-Making in Energy [HORIZON-CL5-2027-07-D3-28]
- Delivery of industrial CCUS clusters – Societal Readiness pilot [HORIZON-CL5-2027-07-D3-32]

HORIZON-CL5-2027-07-D3-27: Integrated Approaches for Retrofitting Infrastructures with Innovative Energy Storage Technologies

- Izboljšana energetska varnost celotnega sistema z učinkovitimi in ekonomsko ugodnimi raznolikimi rešitvami in prilagodljivimi kapacitetami shranjevanja energije
- Izboljšanje trajnosti in krožnosti sistemov shranjevanja energije
- Izboljšanje ekonomske upravičenosti shranjevanja energije z izrabo obstoječe infrastrukture