

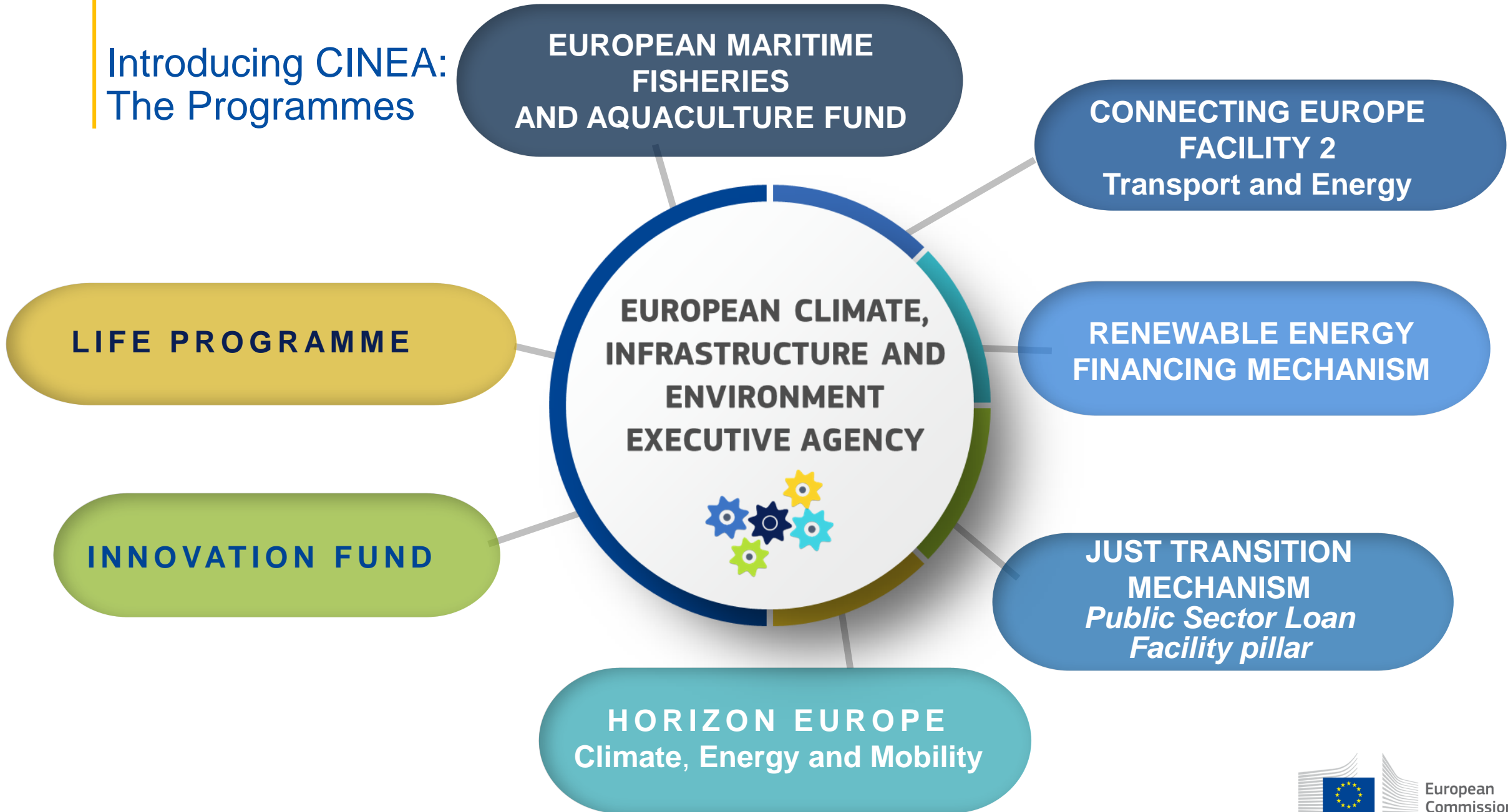


National Information Day Horizon Europe Life Sciences New opportunities for widening countries

*Relevant calls 2023-24 in Cluster 5 (Climate, Energy and Mobility) and
Mission Adaptation to Climate Change*

*Tereza Budnakova
Head of Unit Horizon Europe Climate
CINEA
22 November 2022*

Introducing CINEA: The Programmes



The Horizon Europe Framework Programme



HORIZON EUROPE

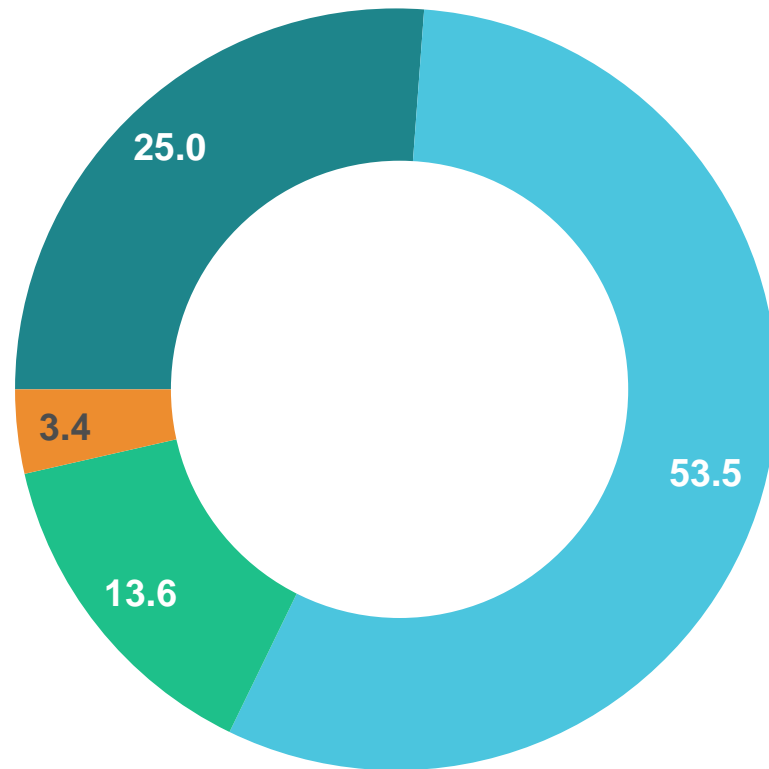
EURATOM



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

Horizon Europe Budget: €95.5 bn (2021-2027)

including €5.4 bn from NGEU (Next Generation Europe) = EU funding instrument for Recovery from COVID-19 crisis



Political agreement December 2020

€ billion in current prices

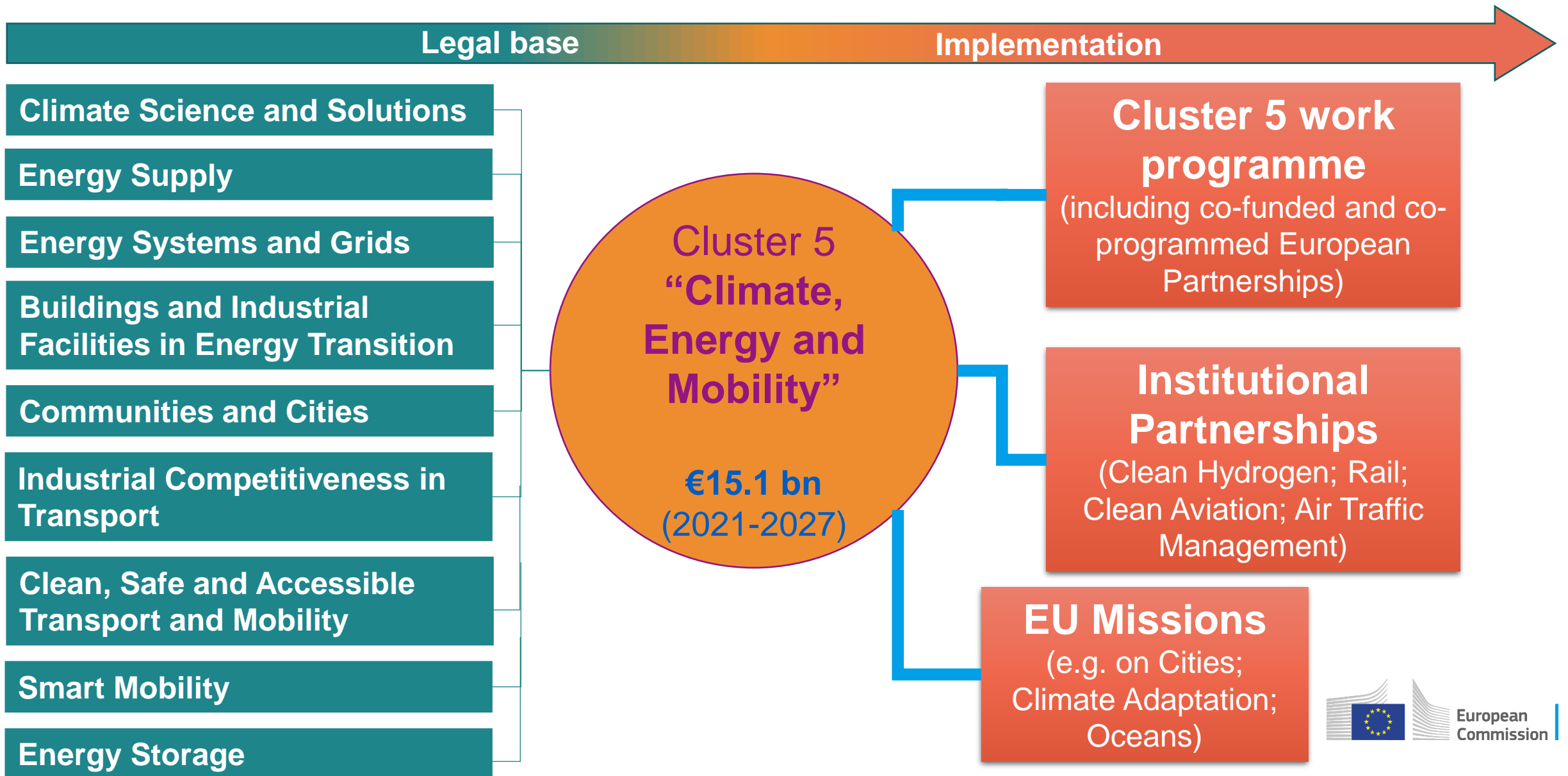
- Excellent Science
- Global challenges and European ind. comp.
- Innovative Europe
- Widening Part and ERA

THE HORIZON EUROPE
FRAMEWORK PROGRAMME

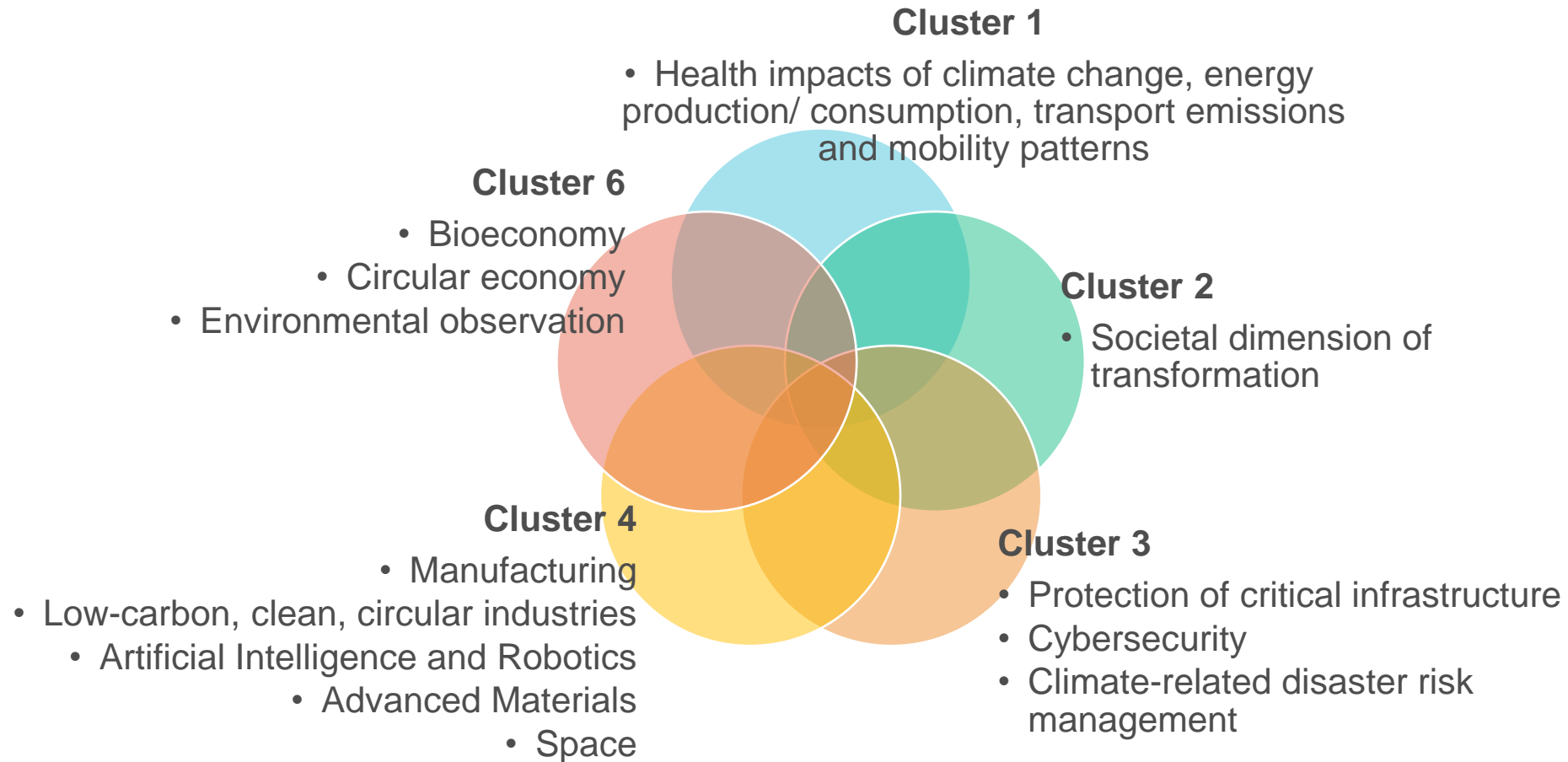
Cluster 5: Climate, Energy and Mobility



Overview



Links to other clusters



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

(140 M€ EU contribution)

Total: 0.35 bn€ EU contribution

CO-PROGRAMMED

Built4People | People-centric sustainable built environment

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

ZEWT | Zero-emission waterborne transport

(530M€ 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)

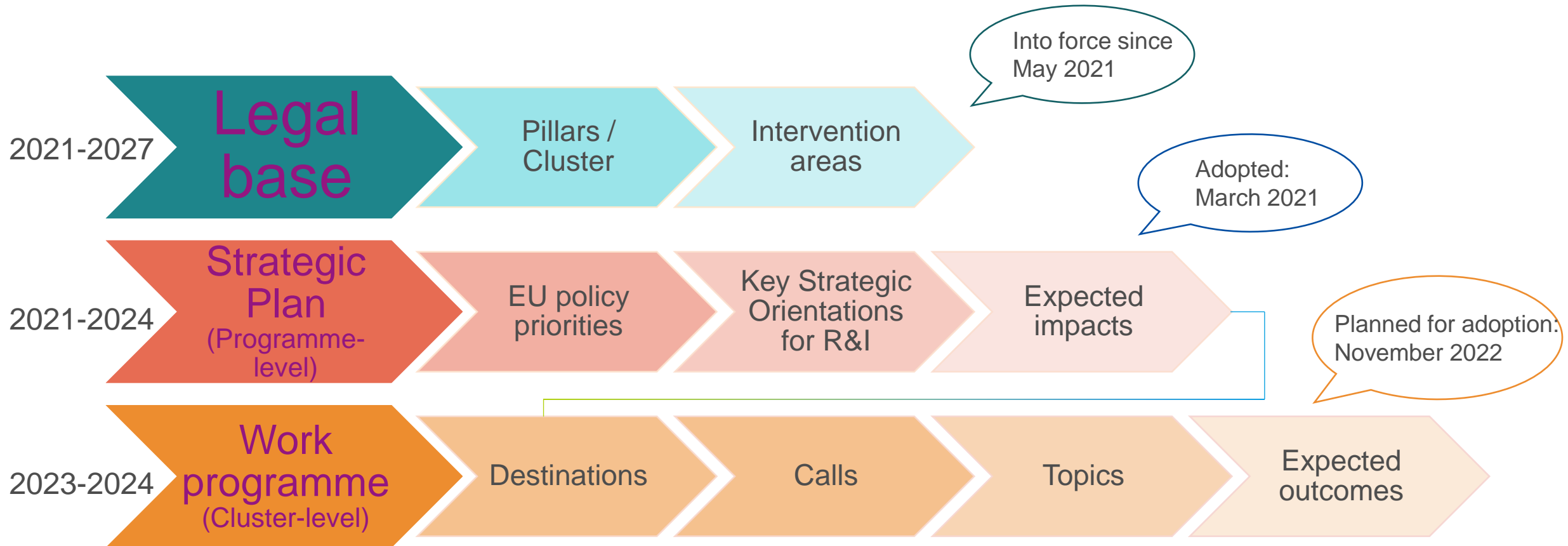
Batt4EU | Towards a competitive European industrial battery value chain

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

Total: 2.95 bn€ EU contribution

Total: 7.2 bn€

Programme intervention logic



CLUSTER 5 - CLIMATE, ENERGY AND MOBILITY

Work Programme 2023-2024

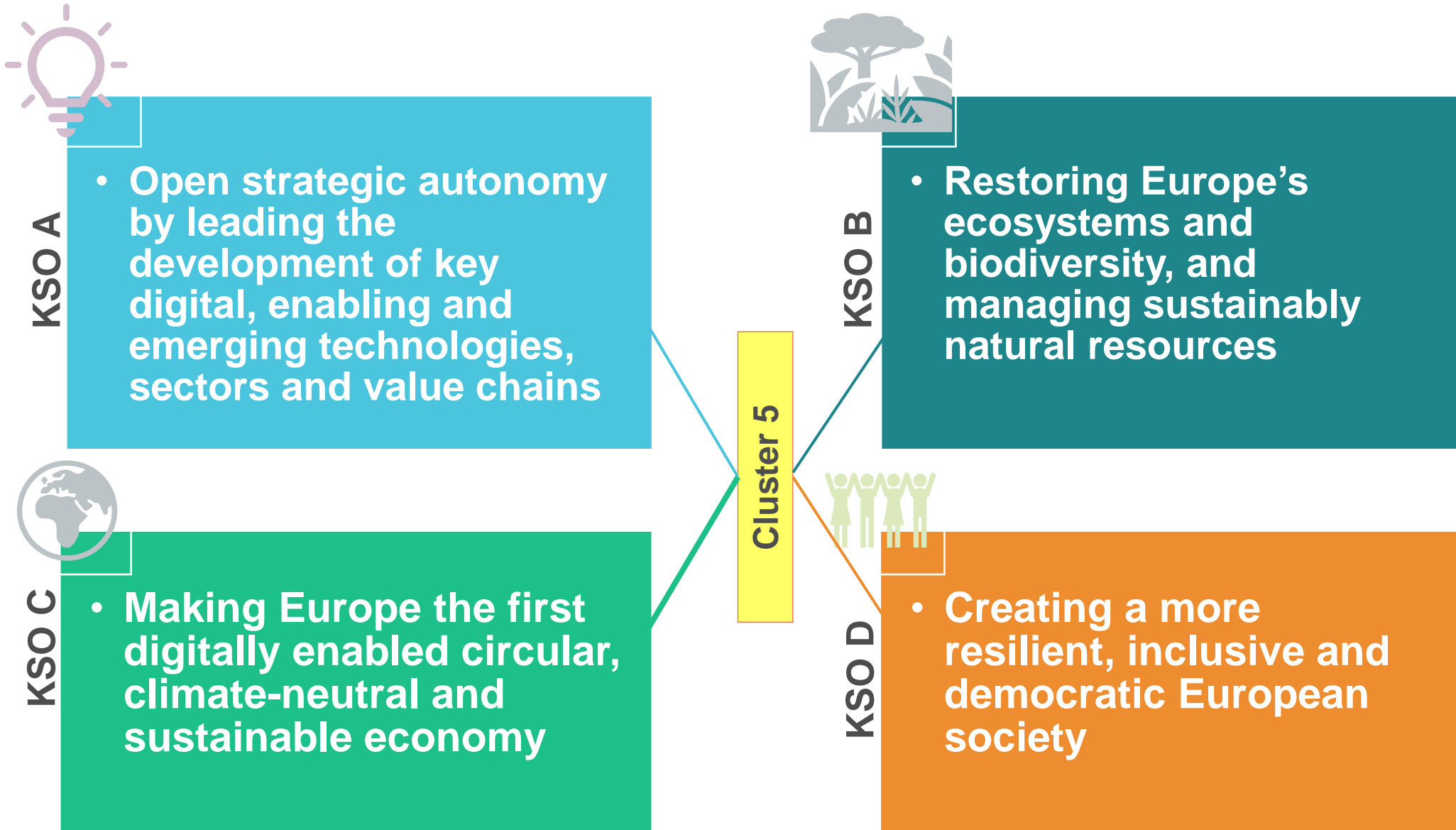


CLUSTER 5 WORK PROGRAMME 2023-2024

Strategic priorities



Key Strategic Orientations (KSO)



Overarching expected impacts for cluster 5

Destination 1

Transition to a climate-neutral and resilient society and economy enabled through **advanced climate science**, pathways and responses to climate change (mitigation and adaptation)

Destination 2

Clean and sustainable transition of the energy and transport sectors towards climate neutrality facilitated by innovative **cross-cutting solutions**

Destination 3

More efficient, clean, sustainable, secure and competitive **energy supply** through new solutions for smart grids and energy systems based on more performant renewable energy solutions

Destination 4

Efficient and sustainable **use of energy**, accessible for all is ensured through a clean energy system and a just transition

Destination 5

Towards **climate-neutral and environmental friendly mobility** through clean solutions across all transport modes while increasing global **competitiveness** of the EU transport sector

Destination 6

Safe, seamless, smart, inclusive, resilient, climate neutral and sustainable **mobility systems** for people and goods

WP 2023-2024: policy priorities

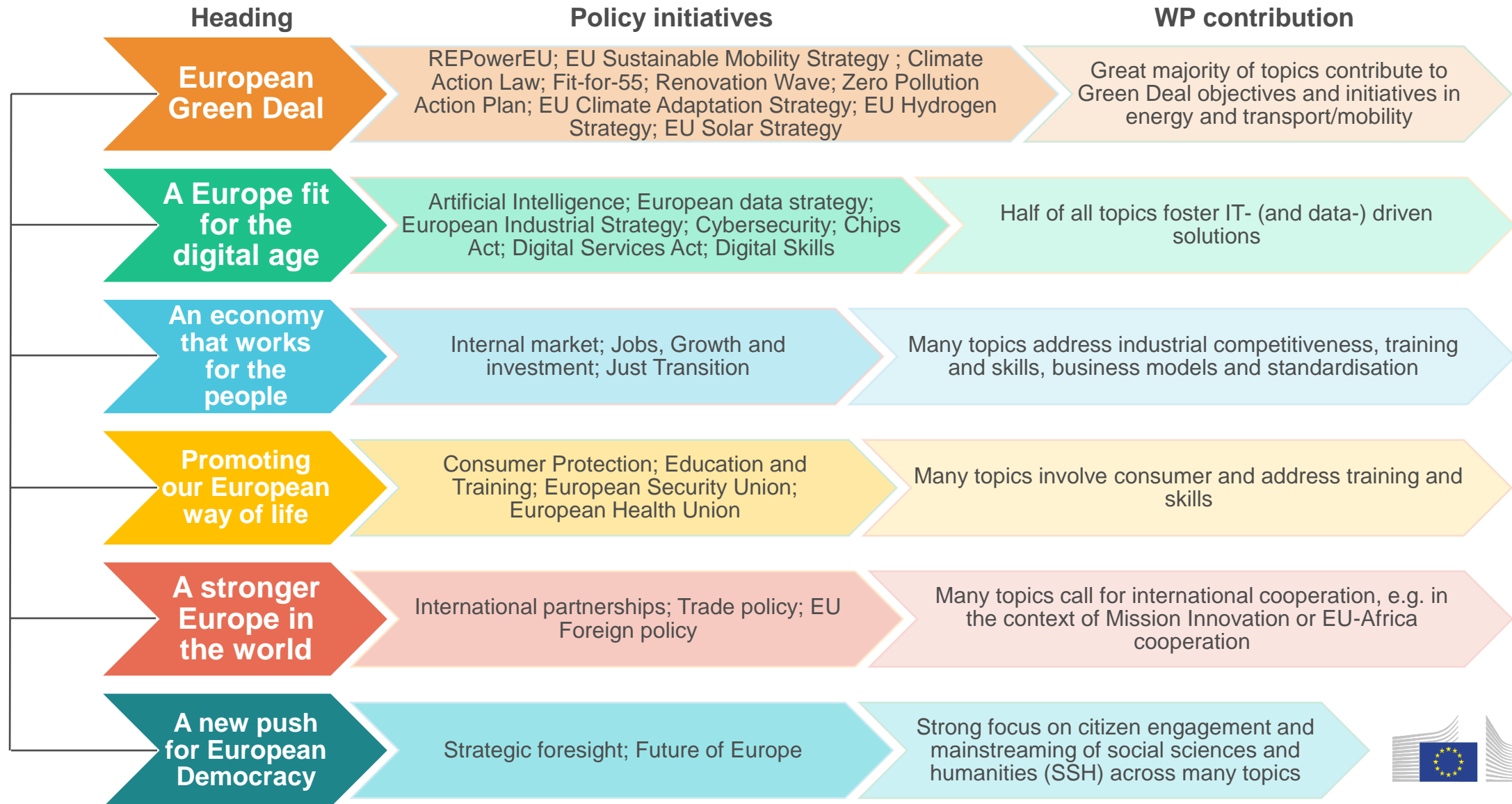


Contribute to **EU policy objectives**

Maximise the **impact and uptake** of activities

Foster **synergies**

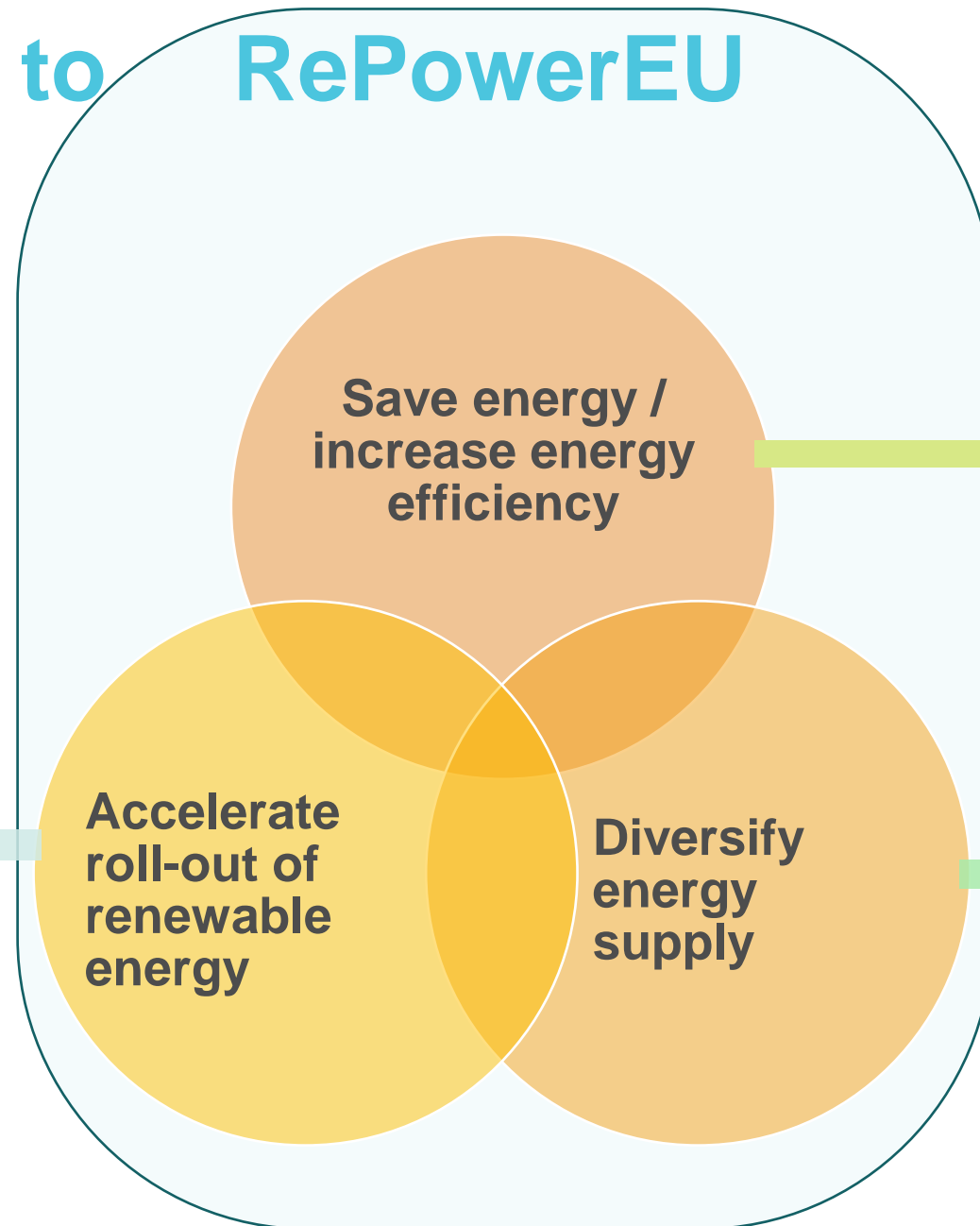
WP 2023-2024: EU policy objectives



Contribution to RePowerEU

Destination 2, 3, 4

- Cheaper and more performant renewable energy technologies (solar energy, wind energy, ocean energy, geothermal energy, hydro power, renewable fuels, heat pumps, solar heating)
- More flexible and resilient energy grids
- Better and smarter energy storage solutions



- More energy-efficient building stock
- Increased energy efficiency in industry
- More efficient mobility solutions
- Cleaner and more efficient transport modes

Destination 2, 4, 5, 6

- Broad portfolio of renewable energy technologies
- Maturing hydrogen-based solutions

Destination 3, 5

Maximise impact of R&I activities

European Partnerships

Around 30% of topics and budget support industry priorities in industry-led Partnerships

Innovation Actions

Almost 45% of topics are Innovation Actions targeting TRL 6 or higher

Large-scale demonstration

100 M€ of support together with the Breakthrough Energy Catalyst Fund (in 2023-2024)

Standardisation

37 topics contribute to standardisation

Societal dimension

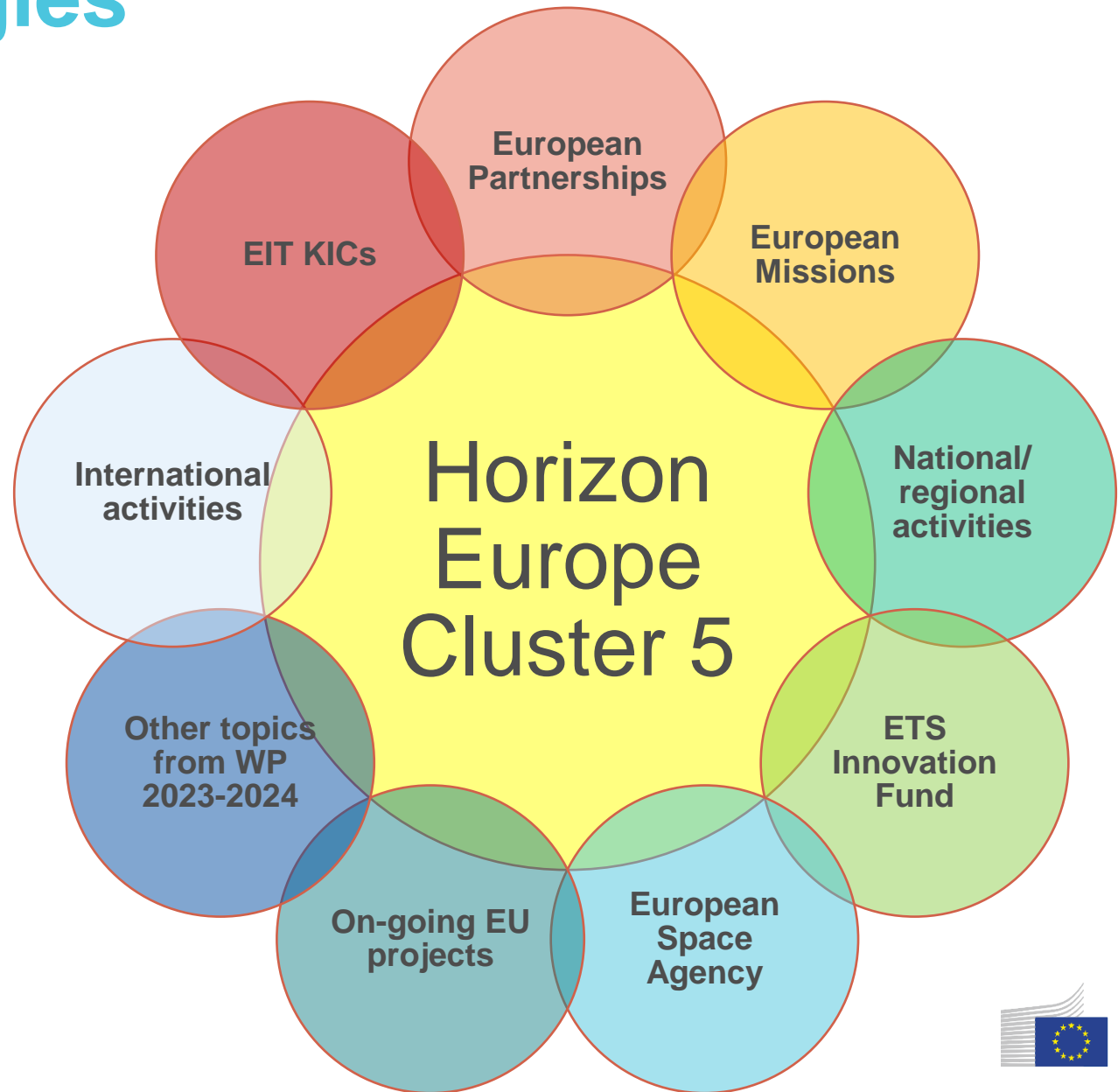
52 topics (28% of all topics) require active societal engagement and integration of social sciences and humanities in project preparation and implementation (including in 'technical' topics)

International cooperation

44 topics (23% of all) foster international cooperation in multilateral initiatives (e.g. Mission Innovation, IPCC) or target specific regions (e.g. Africa) or countries

Fostering synergies

Around $\frac{1}{4}$ of all topics with a total budget of some **730 M€** (~30% of the total budget) refer explicitly to “synergies”



Concrete examples of synergies

With Missions

- **Adaptation to Climate Change**
 - Topic on Modelling for local resilience in support of local adaptation assessments and plans
 - Topic on Behavioural change and governance for systemic transformations towards climate resilience
- **Climate-neutral and Smart Cities**
 - Topic on PV integration in buildings and infrastructure
 - Topic on user-centred and co-designed shared, automated and zero-emission mobility systems and services for people and goods
 - Topic on shaping the future transport and mobility systems
- **Oceans**
 - Topic on Demonstrations to accelerate the switch to safe use of new sustainable climate neutral fuels in waterborne transport

Between and with Partnerships

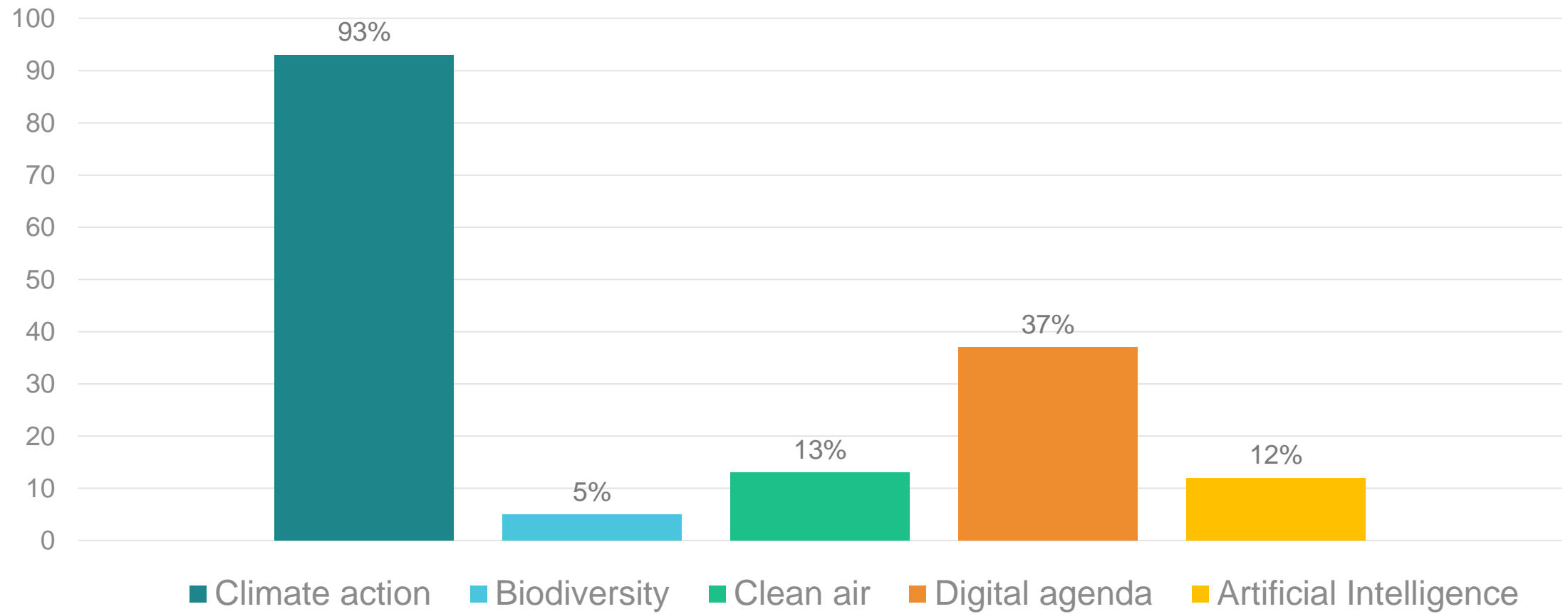
- Collaboration *between* European Partnerships (e.g. Batteries and 2ZERO; CCAM and 2ZERO)
- Collaboration *with* Partnerships (e.g. ZEWT and Batteries/Hydrogen; Multimodal freight transport and CCAM, ZEWT, EU Rail JU)

With Innovation Fund

- 15 topics (in Renewable Energy and Batteries) require exploitation plans that may facilitate further funding through the Innovation Fund

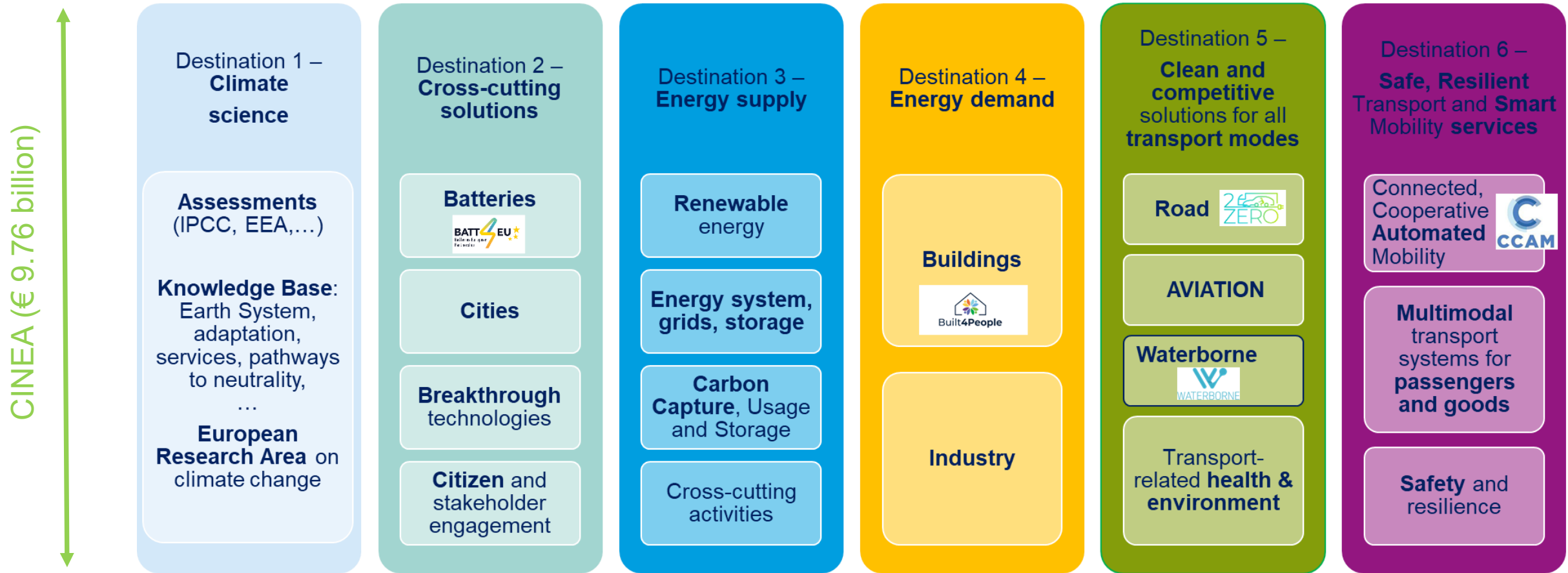
Cross-cutting priorities

Budget for cross-cutting policy priorities (share of total call budget)



Horizon Europe – Climate + Energy + Mobility R&I

2021- 2027 total indicative: **15.1 billion EUR**



Destination 1 – Earth system science

Objectives

- **Advancing knowledge about the Earth system**
- **Contributing to key international assessments**, e.g. Intergovernmental Panel on Climate Change (IPCC)
- Increasing the **transparency, robustness, trustworthiness and practical usability** of the knowledge base on climate change



Issues covered in topics 2023-2024

- advanced science and technologies for analysing Earth system data, tipping points, cloud-aerosol interactions, role of hydrogen in the climate system, methane emissions and sinks, inland ice (cryosphere), paleoclimate, ecosystem-climate interactions

Implementation

- 1 call in 2023 – 4 topics (total budget: 54 M€)
- 1 call in 2024 – 4 topics (total budget: 72 M€)

Destination 1 – Climate change mitigation, pathways to climate neutrality

Objectives

- **Advancing solutions to reduce human interference with the climate system**
- Contributing substantially to key **international assessments**, e.g. Intergovernmental Panel on Climate Change (IPCC)
- Increasing the **transparency, robustness and relevance** of the knowledge base on emission pathways, including integrated assessment models for use by policy makers, practitioners and citizens



Issues covered in topics 2023-2024

- Transition pathway analysis including NDCs, impacts of trade policies, climate foresight for raw material supply, voluntary climate change initiatives, ‘blue carbon’, including co-operation with China

Implementation

- 2 calls in 2023 – 4 topics (total budget: 25.5 M€)
- 1 call in 2024 – 3 topics (total budget: 31 M€)

Destination 1 – Adaptation to climate change, social and behavioural science

Objectives

- **Advancing knowledge on climate impacts**
- Support **better policy design** and more effective implementation **through behavioural insights**
- Contributing to **international assessments**, e.g. Intergovernmental Panel on Climate Change (IPCC)
- Supporting the **Mission on Adaptation**



Issues covered in topics 2023-2024

- Modelling for local resilience, needs-based adaptation in Africa, behavioural change for systemic transformation, climate change education, governance of research on solar radiation modification

Implementation

- 1 call in 2023 – 5 topics (total budget: 38 M€)

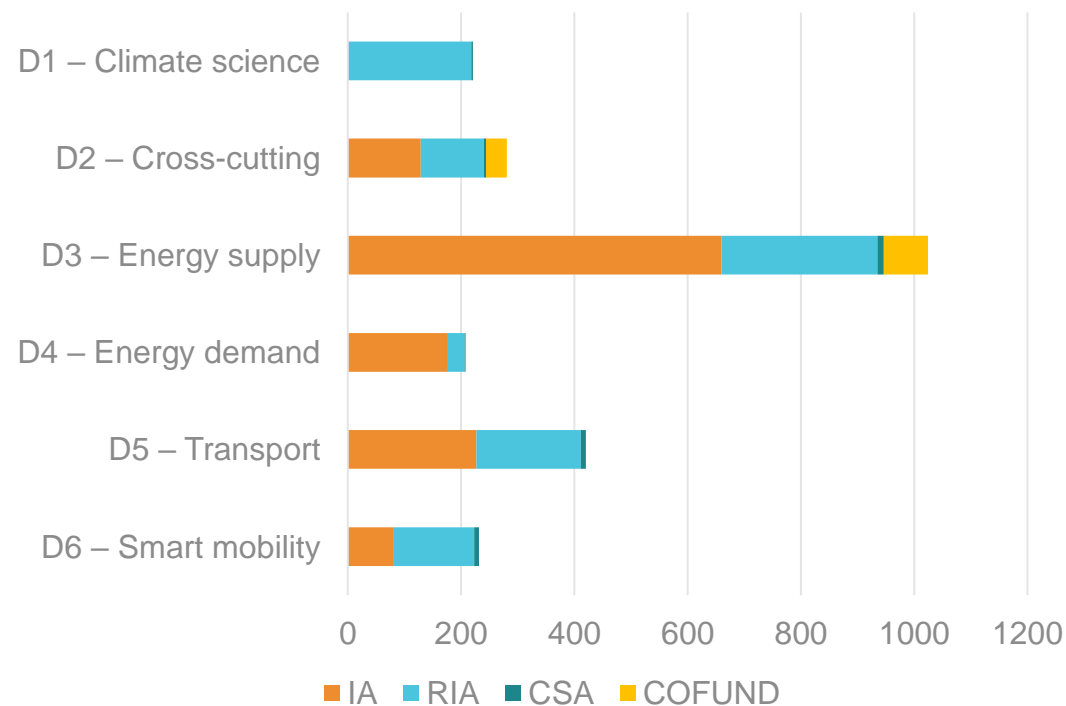
Cluster 5 call structure 2023-2024

		1/12/2022	2/03/2023	1/06/2023	31/08/2023	30/11/2023	29/02/2024	30/05/2024	29/08/2024
Climate sciences	HORIZON-CL5-2023-D1-01	13/12/2022 – 18/04/2023							
	HORIZON-CL5-2023-D1-01	13/12/2022 – 18/04/2023							
	HORIZON-CL5-2024-D1-01				12/09/2023 – 05/03/2024				
Cross-cutting actions	HORIZON-CL5-2023-D2-01	13/12/2022 – 18/04/2023							
	HORIZON-CL5-2023-D2-02			04/05/2023 – 05/09/2023					
	HORIZON-CL5-2024-D2-01					07/12/2023 – 18/04/2024			
	HORIZON-CL5-2024-D2-02						07/05/2024 – 05/09/2024		
Energy supply	HORIZON-CL5-2023-D3-01	13/12/2022 – 30/3/2023							
	HORIZON-CL5-2023-D3-02			04/05/2023 – 05/09/2023					
	HORIZON-CL5-2023-D3-03			04/05/2023 – 10/10/2023					
	HORIZON-CL5-2024-D3-01				12/09/2023 – 16/01/2024				
	HORIZON-CL5-2024-D3-02						07/05/2024 – 05/09/2024		
Energy use	HORIZON-CL5-2023-D4-01	13/12/2022 – 20/04/2023							
	HORIZON-CL5-2023-D4-02			04/05/2023 – 05/09/2023					
	HORIZON-CL5-2024-D4-01					07/12/2023 – 18/04/2024			
	HORIZON-CL5-2024-D4-02						07/05/2024 – 05/09/2024		
Sustainable/ competitive transport	HORIZON-CL5-2023-D5-01	13/12/2022 – 20/04/2023							
	HORIZON-CL5-2024-D5-01					07/12/2023 – 18/04/2024			
Mobility systems	HORIZON-CL5-2023-D6-01			04/05/2023 – 05/09/2023					
	HORIZON-CL5-2024-D6-01						07/05/2024 – 05/09/2024		

Budget distribution in calls for proposals

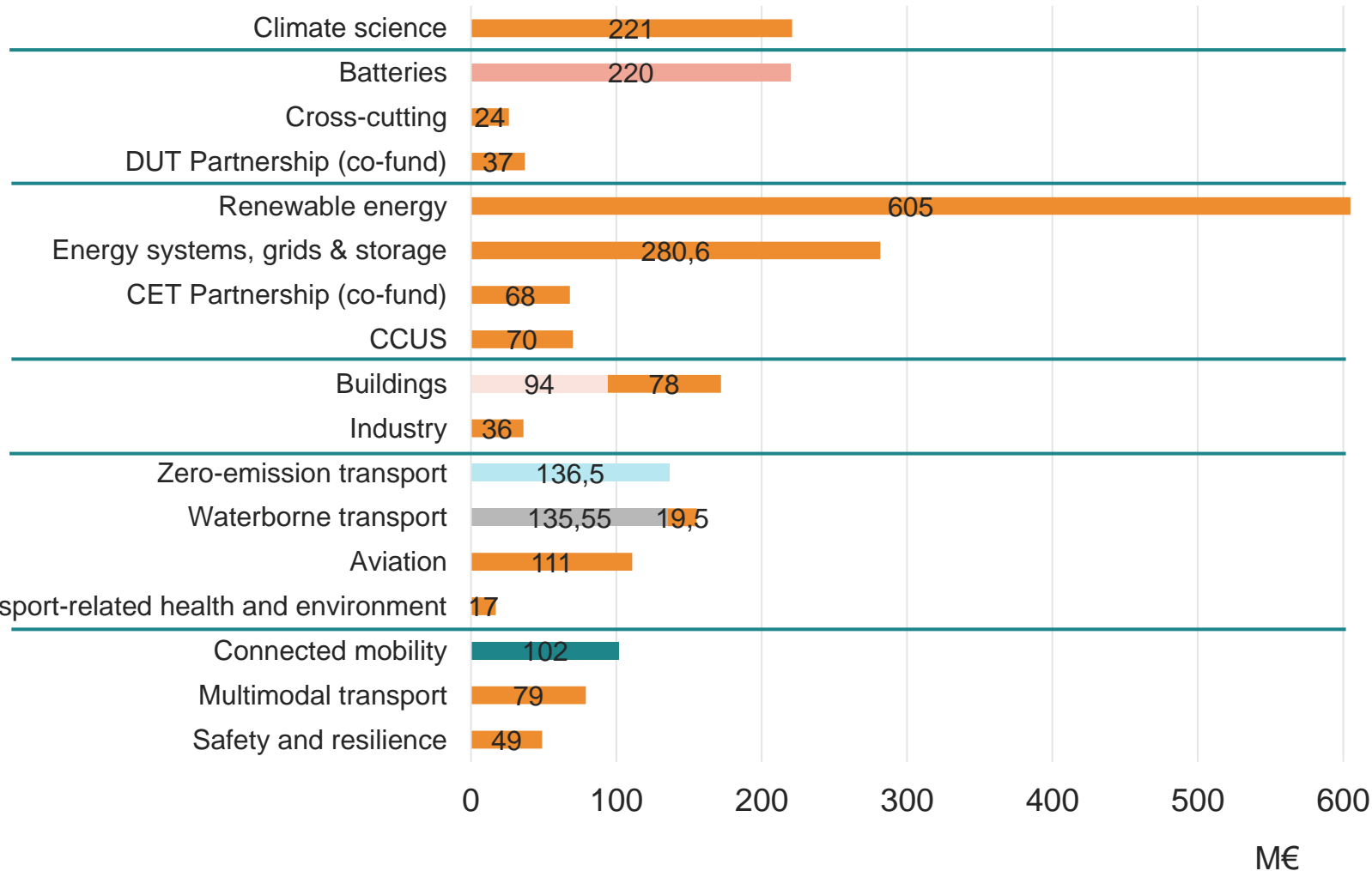
	Budget (M€)	Budget share	Number of topics	Topics share
D1 – Climate science	220,5	9%	20	11%
D2 – Cross-cutting	281,0	12%	19	10%
D3 – Energy supply	1.023,6	43%	69	37%
D4 – Energy demand	208,0	9%	19	10%
D5 – Transport	419,1	18%	37	20%
D6 – Smart mobility	231,0	10%	25	13%
TOTAL	2.383,2	100%	189	100%

EU contribution per Destination and type of action (2023-2024, in M€)



Budget distribution

EU contribution per thematic area (2023-2024, in M€)



European Partnerships:

- 60 out of 189 topics (32% of all cluster 5 topics)
- 688 M€ out of 2 383 M€ (29% of cluster 5 budget)

■ standard topics

Co-programmed Partnerships:

■ CCAM

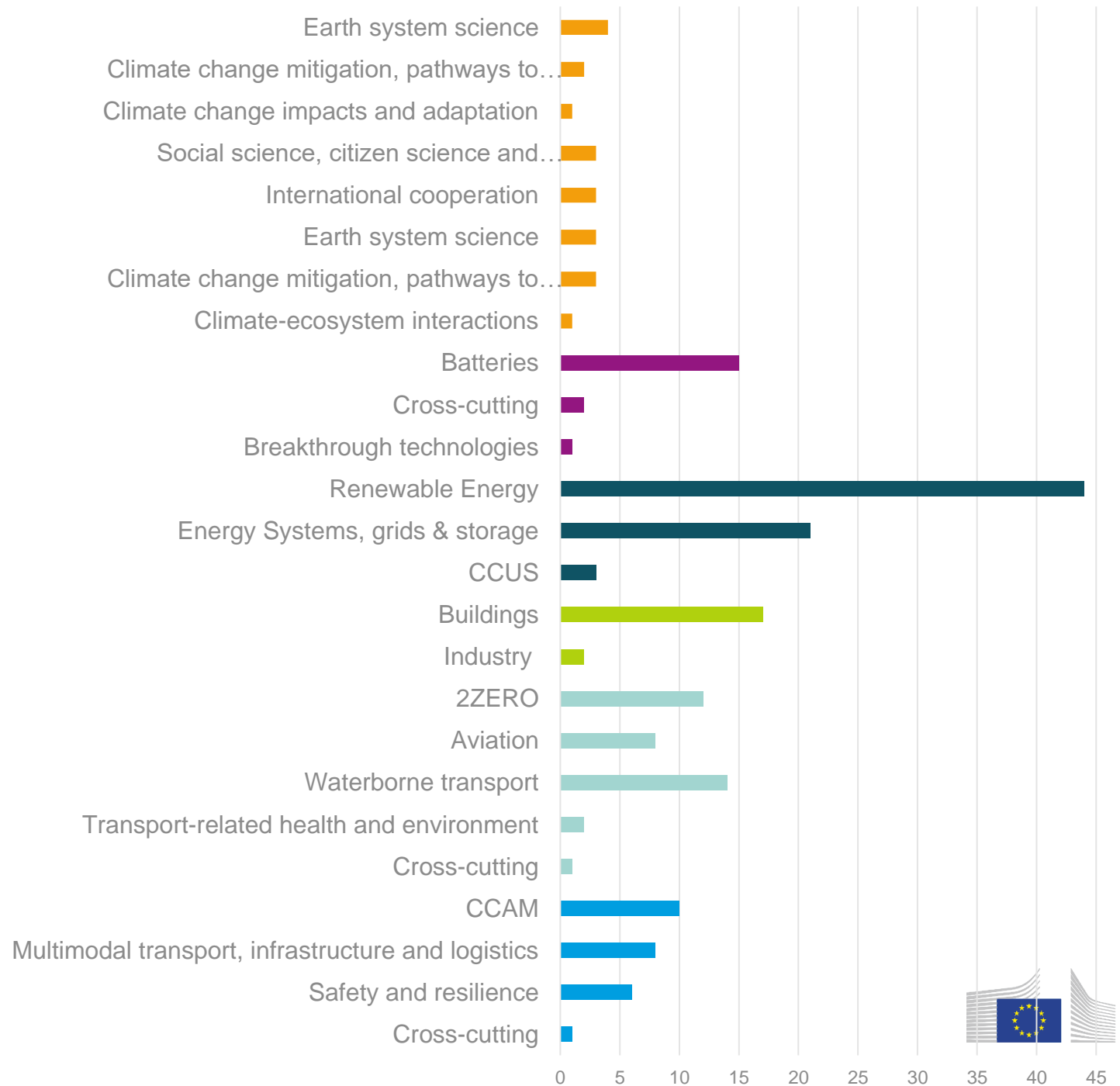
■ 2ZERO

■ Batt4EU

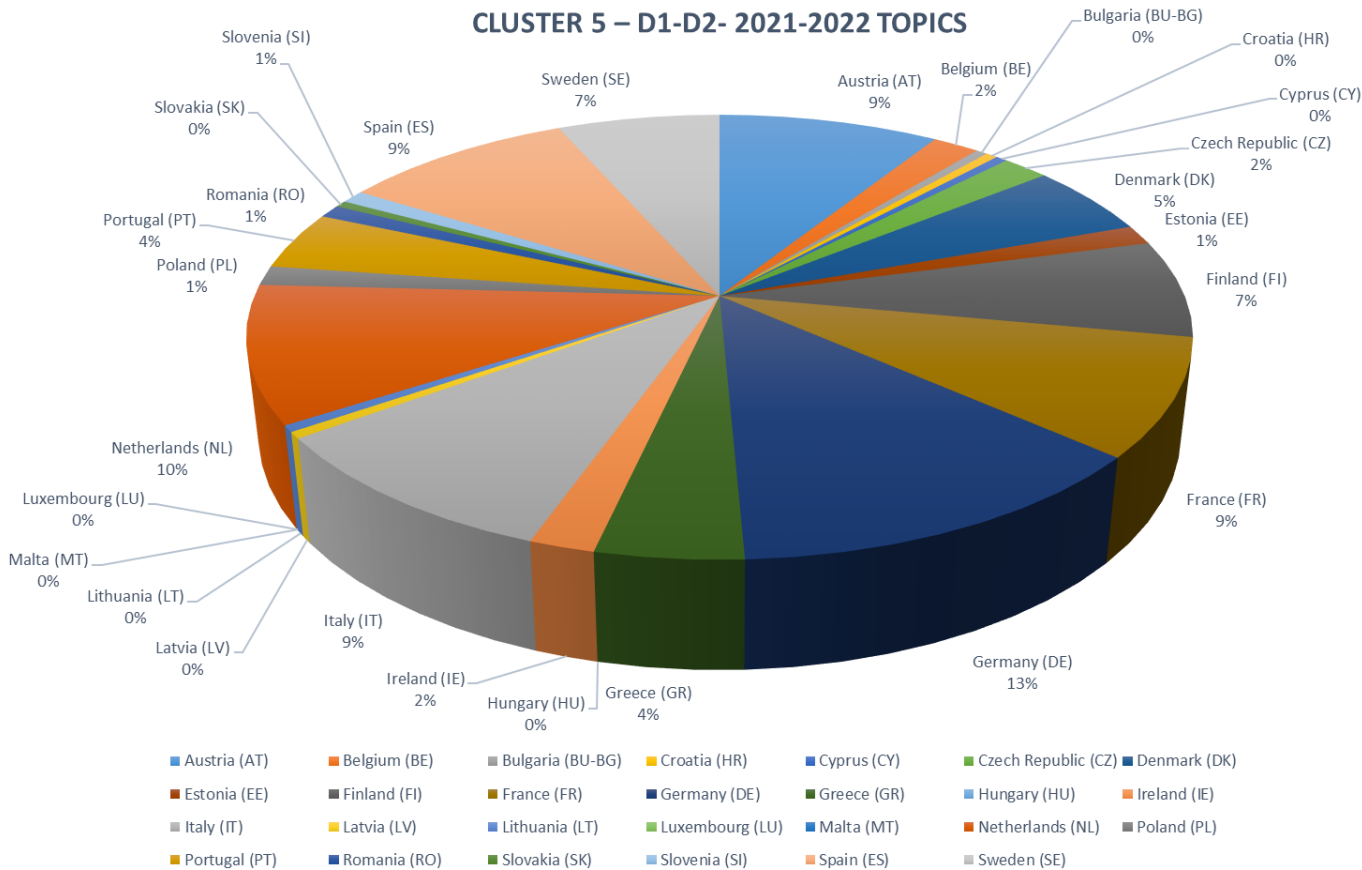
■ Built4People

■ ZEWT

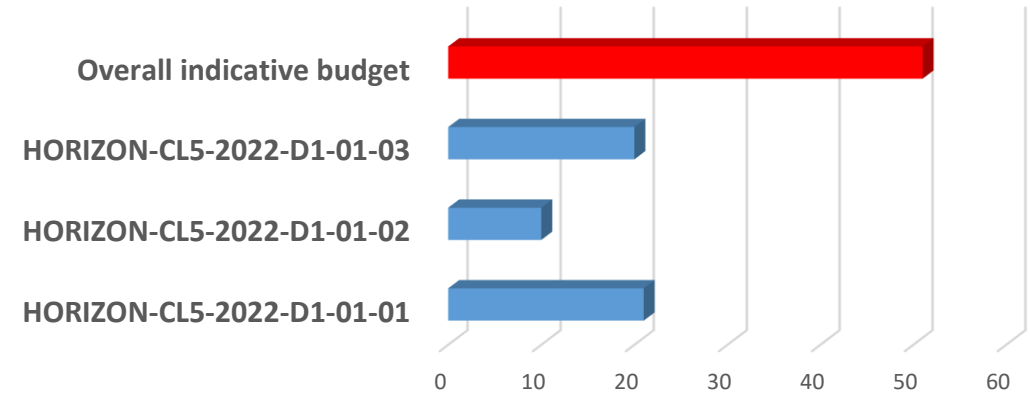
Number of topics per area



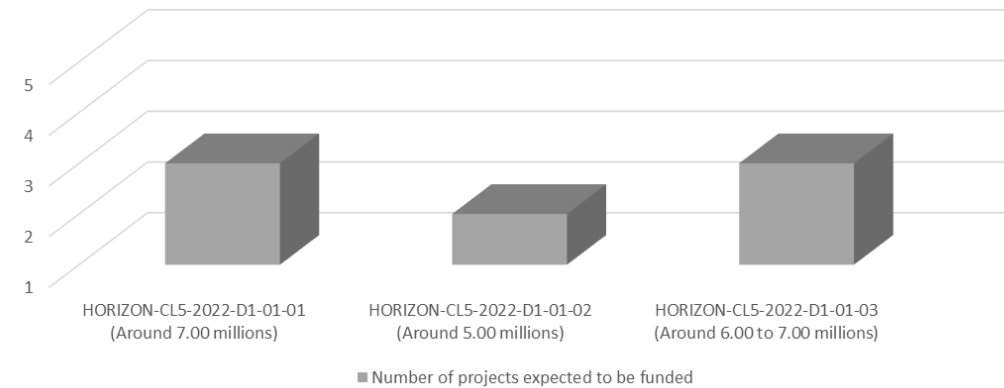
Statistics



HORIZON-CL5-2022-D1-01 (stage 2) (in millions) (on-going evaluations)



Number of projects expected to be funded HORIZON-CL5-2022-D1-01 (stage2)



Horizon Europe Missions

Five Missions Areas



Adaptation to
climate change,
including societal
transformation



Cancer



Healthy oceans,
seas, coastal &
inland waters



Climate-neutral
& smart cities



Soil health &
food



EUROPEAN UNION



EU MISSIONS

ADAPTATION TO CLIMATE CHANGE

Support at least 150 European regions and communities to become climate resilient by 2030



#EUmissions #HorizonEU #MissionClimate

Mission "Adaptation to Climate Change"

Objectives

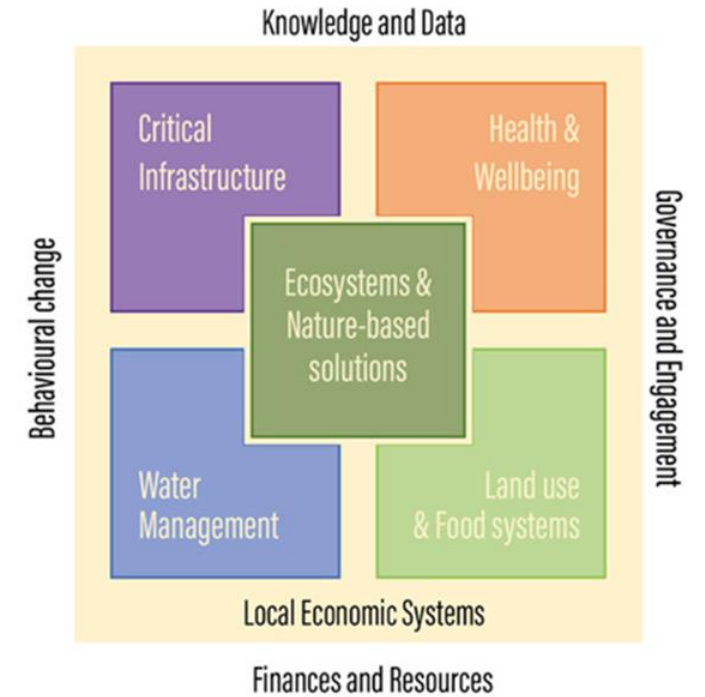
- Accompany by 2030 at least 150 European regions and communities towards climate resilience.
- Put the EU's adaptation strategy in practice by helping the regions to
 - better understand the climate risks they are and will be confronted with in the future
 - develop their pathways to be better prepared and cope with the changing climate
 - test and deploy on the ground innovative solutions needed to build resilience.

Issues covered in 2023

- Increasing climate resilience of the agriculture and/or forestry sector
- Protecting critical infrastructure from climate change, mainstreaming nature-based solutions
- Building resilience towards health risks caused by the effects of climate change
- Urban greening and re-naturing for urban regeneration, resilience and climate neutrality (*joint action with Cities Mission*)
- Integrated approach to increasing landscape water retention capacity at regional scale

Implementation

- Total budget: 138 M€



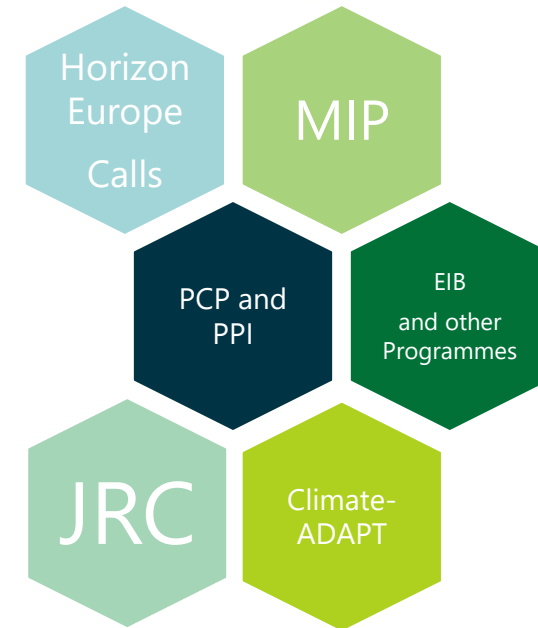
More info here:

https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/eu-missions-horizon-europe/adaptation-climate-change_en



How does the Mission support the Regions?

1. Horizon Europe **project grants**: calls currently opened and future yearly calls (e.g. possible support to **public procurers to buy innovative/pre-commercial solutions for climate resilience**)
2. Services by **Mission Implementation Platform (MIP)**
3. Scientific **guidance and support** by JRC
4. Access to **climate adaptation knowledge** from **Climate-ADAPT** by EEA
5. Facilitate access to **EIB Climate Adaptation Investment Advisory Platform (ADAPT)**



Mission Charter

Why the Mission Charter?

- be part of a **community of practice** on adaptation to climate change
- **network and share** with other regions and local authorities
- **join the annual Mission Forum** to share experience, take stock of the collective progress and contribute to steer the Mission actions



215
CHARTER
SIGNATORIES

- 202 EU regions and local authorities, from 24 EU Member States
- 13 regions and local authorities from countries associated to Horizon Europe, the EU's research and innovation programme (2021-2027)



Large regions



Cities



Provinces



Municipalities



Capitals

FRIENDS OF
THE MISSION

- 40 private companies, service centres, research networks, and local action groups to endorse the Charter and become friends of the Mission

Mission Adaptation to climate change

Objectives

- Testing and demonstrating transformative solutions



Issues covered in topics 2023

- Agriculture and/or forestry sector, critical infrastructure and NBS, health risks

Implementation

- 1 call in 2023 – 3 topics (total budget: 83 M€), call ddl September 2023

Mission Adaptation to climate change

Objectives

- Joint call with Mission 100 Climate Neutral and Smart Cities by 2030



Issues covered in topics 2023

- Urban regeneration, resilience and climate neutrality

Implementation

- 1 call in 2023 – 1 topic (total budget: 40 M€), call ddl April 2023

Mission Adaptation to climate change

Objectives

- Joint call with Mission Restore our Ocean and Waters by 2030 and Mission A Soil Deal for Europe



Issues covered in topics 2023

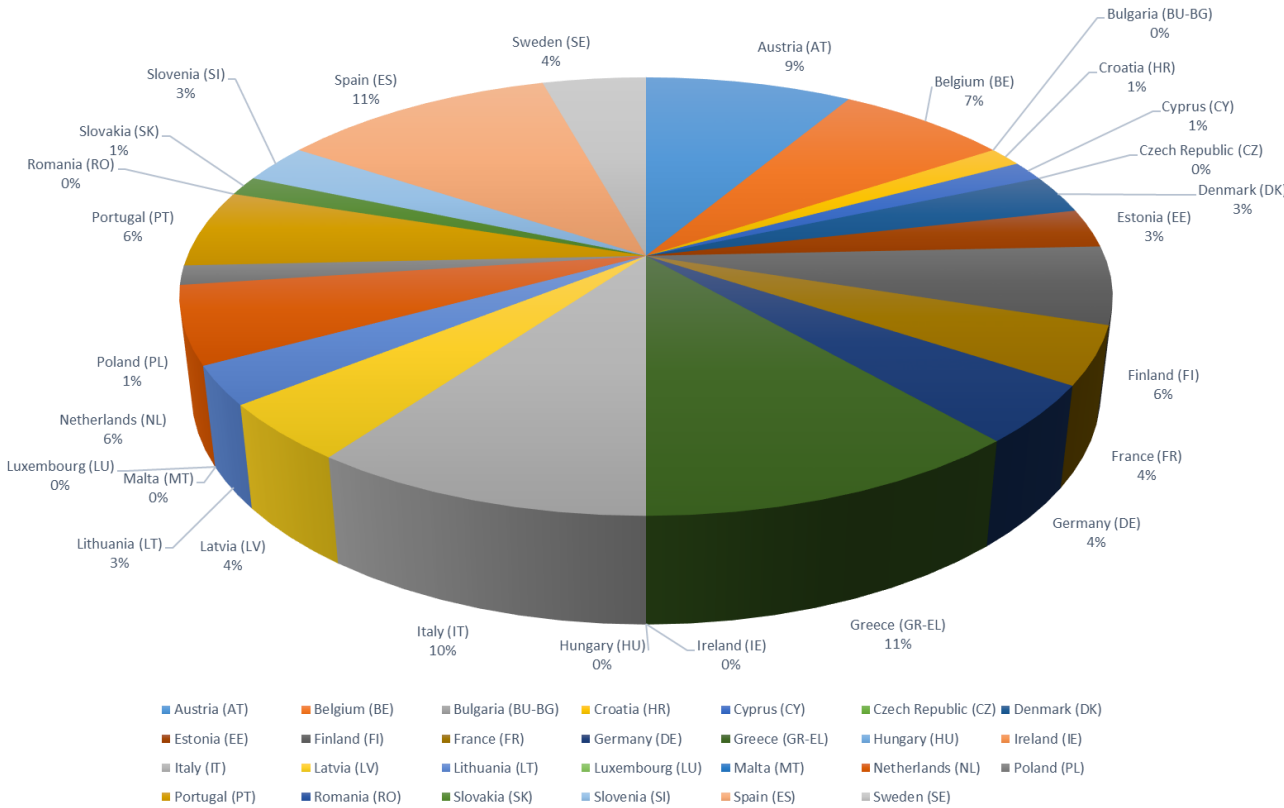
- Demonstration on increasing landscape water retention capacity

Implementation

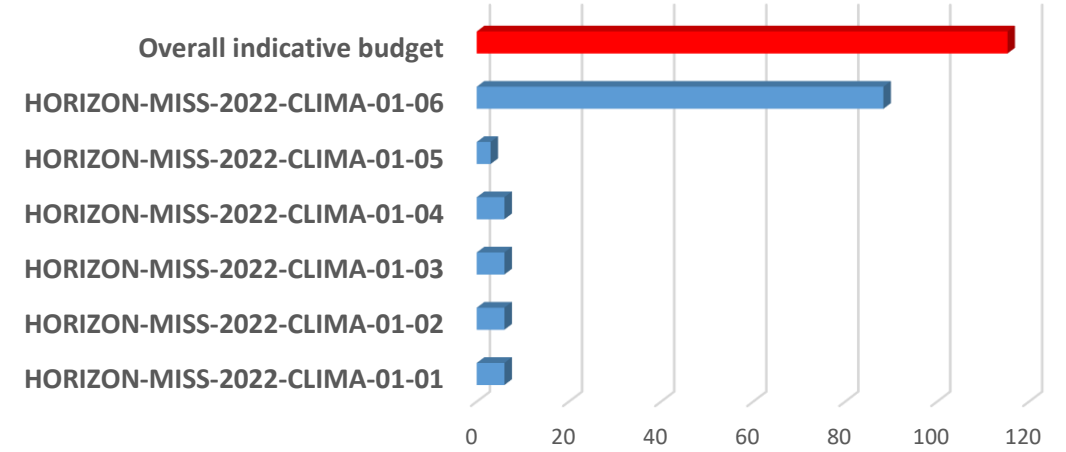
- 1 call in 2023 – 1 topic (total budget: 15 M€), call ddl September 2023

Statistics

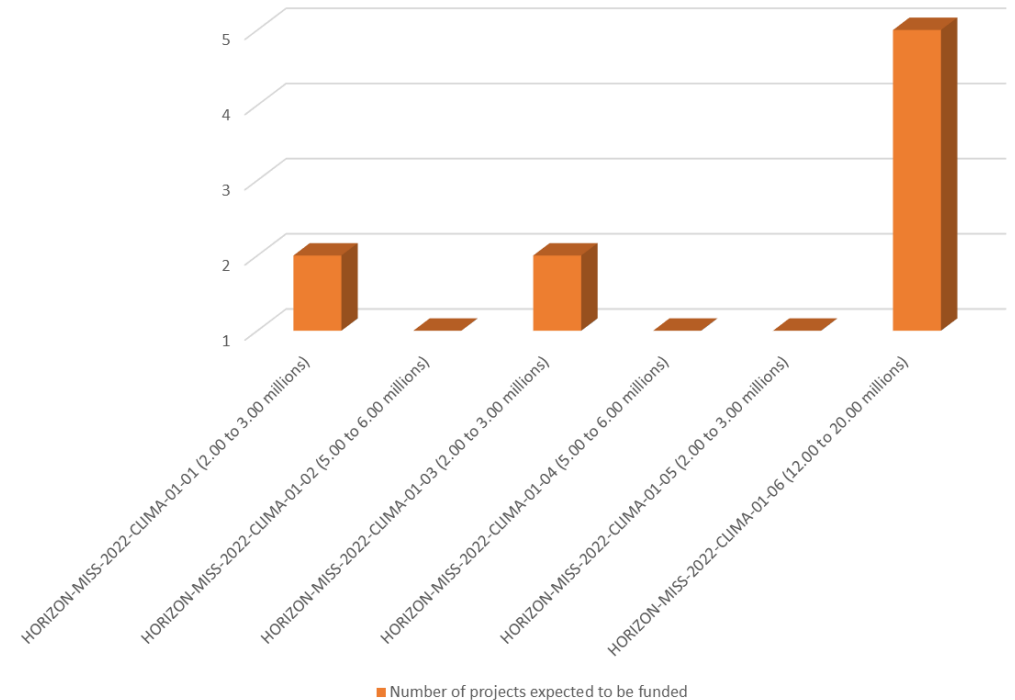
HORIZON-MISS-2021-CLIMA TOPICS



HORIZON-MISS-2022-CLIMA TOPICS (in millions)
(on-going evaluations)



Number of projects expected to be funded
HORIZON-MISS-2022-CLIMA TOPICS



Important websites

National Contact Points (NCPs)

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/support/ncp>

Horizon Europe Info Days

https://research-and-innovation.ec.europa.eu/events/horizon-europe-info-days_en

Funding & Tender Portal

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/programmes/horizon>

DUT partnership website

https://dutpartnership.eu/dut_call_2022/

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<https://ec.europa.eu/research/participants/experts/web/dashboard>





Thank you!

HorizonEU

<http://ec.europa.eu/horizon-europe>



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European
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