

# La strategia europea di adattamento ai cambiamenti climatici e il programma di finanziamento Horizon Europe

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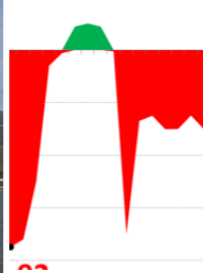
- National Contact Point for Cluster 6 «Food, Bioeconomy, Natural Resources, Agriculture and Environment» and Cluster 5 «Climate, energy and mobility» - Horizon Europe
- National Contact Point for Societal Challenge 5 «Smart, green and integrated transport» - Horizon 2020

# Policy background



# We are living deep environmental & social changes

Handelssumme in €			
Mai	-23.253.177	3.347.507	-26.600
Apr	-12,90	12,30	-36,5
Mai	-28,90	18,10	-42,5



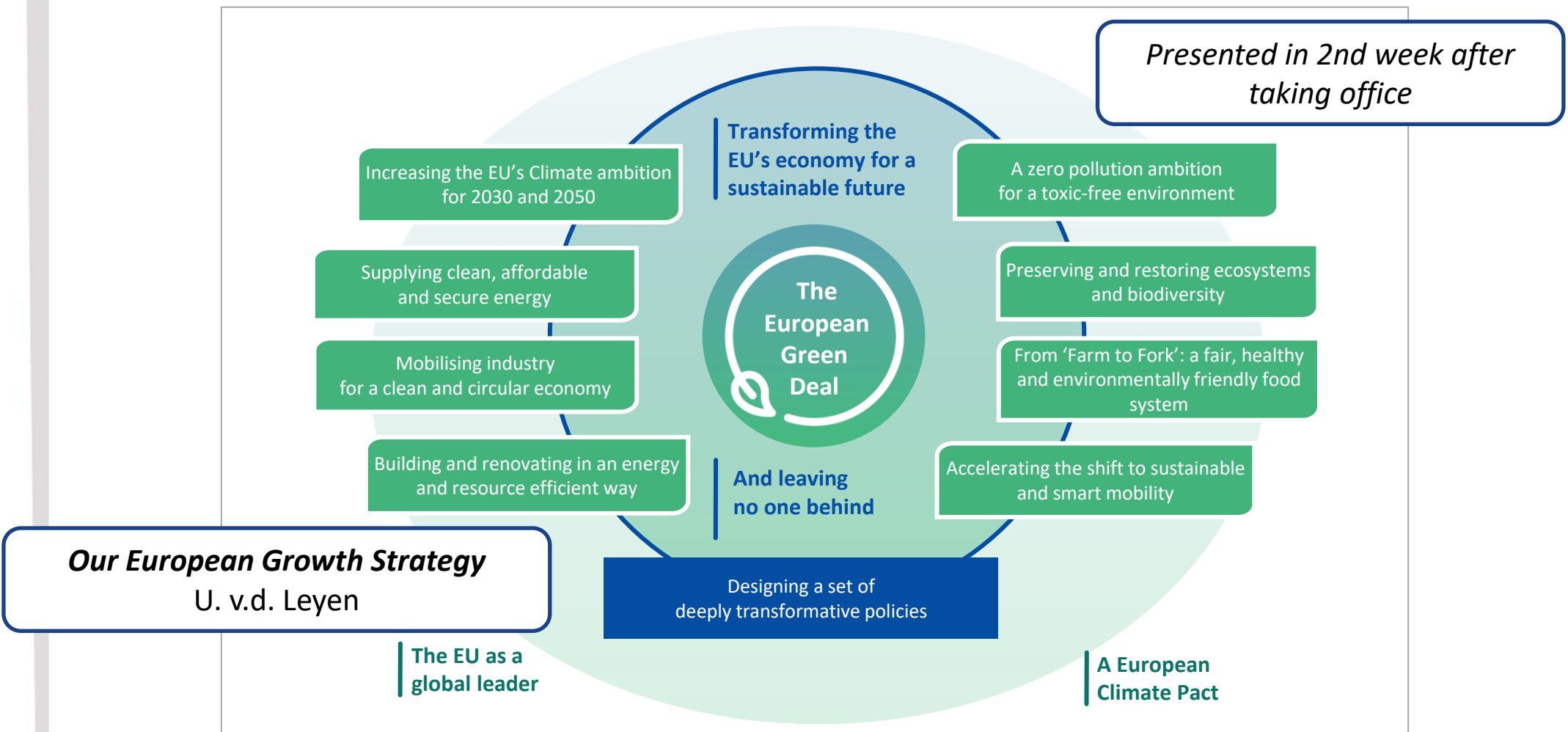
 SUSTAINABLE DEVELOPMENT GOALS



- In a world of increasing climate disruptions and socioeconomic and environmental challenges, the vision of the EC is to **turn the urgent challenge of adapting to climate change into an opportunity to make Europe resilient, climate-prepared and just.**
- Climate change has already made some weather and climate extremes more frequent and severe.
- **mitigation and adaptation are both essential for climate risk management.**



# The European Green Deal



**The European Green Deal traces a pathway to climate change neutrality and sustainable development, transforming the EU into a low-carbon, resource-efficient and prosperous society economy.**

## Green Deal core policies – Investment Plan

### **14-1-20 Sustainable Europe Investment Plan – European Green Deal Investment Plan**

A strong social Europe for just transitions (Just transition fund)

[https://ec.europa.eu/regional\\_policy/en/newsroom/news/2020/01/14-01-2020-financing-the-green-transition-the-european-green-deal-investment-plan-and-just-transition-mechanism](https://ec.europa.eu/regional_policy/en/newsroom/news/2020/01/14-01-2020-financing-the-green-transition-the-european-green-deal-investment-plan-and-just-transition-mechanism)

### **Investment Plan**

- 🏢 Proposal for a just transition mechanism
- 🏢 Mobilising 1 trillion investments over 10 years for sustainability transition
- 🏢 EIB as European ‘Climate Bank’
- 🏢 Announces Horizon 2020 Green Deal Call (€1bn)

## Green Deal core policies – Climate law

### 4-3-20 European Climate Law

[https://ec.europa.eu/clima/policies/eu-climate-action/law\\_en](https://ec.europa.eu/clima/policies/eu-climate-action/law_en) ....

### The climate law proposal

- to write into a law the goal of EU's climate neutrality by 2050 through all policies, in a socially-fair and cost-efficient manner
- a **new EU target for 2030** greenhouse gas emissions reductions
- a **2030-2050 EU-wide trajectory** for greenhouse gas emission reductions (industries: see also '**A clean planet for all**' – EU long term climate strategy COM(2018)773)
- to develop and implement adaptation strategies to strengthen resilience **and reduce vulnerability to the effects of climate change**

## Green Deal core policies – Circular economy

10-3-20 **A New Industrial Strategy for Europe**

**An SME Strategy for a sustainable and digital Europe**

**A new Circular Economy Action Plan**

[https://ec.europa.eu/environment/circular-economy/index\\_en.htm](https://ec.europa.eu/environment/circular-economy/index_en.htm) ....

### Circular economy action plan

35 proposed measures, mainly legislative

Core sectors: Electronics and ICT', textiles, plastics, food & packaging, waste

#### **Product policy framework (for example)**

Legislative and non-legislative measures establishing a new “right to repair”

Legislative proposal on substantiating green claims

**Skills development for a circular economy transition**

# Green Deal core policies – Biodiversity / Farm2fork strategies

## 20-5-20 Farm2Fork' & 'Biodiversity Strategy'

[https://ec.europa.eu/food/sites/food/files/safety/docs/f2f\\_action-plan\\_2020\\_strategy-info\\_en.pdf](https://ec.europa.eu/food/sites/food/files/safety/docs/f2f_action-plan_2020_strategy-info_en.pdf)

[https://ec.europa.eu/environment/nature/biodiversity/strategy/index\\_en.htm](https://ec.europa.eu/environment/nature/biodiversity/strategy/index_en.htm)

## Farm2Fork

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## Biodiversity strategy for 2030

> Establish protected areas for at least:



**30%**  
of land in  
Europe



**30%**  
of sea in  
Europe

> Restore degraded ecosystems at land and sea



Increasing organic farming and biodiversity-rich landscape features on agricultural land



Halting and reversing the decline of pollinators



Restoring at least 25 000 km of EU rivers to a free-flowing state



Reducing the use and risk of pesticides by 50% by 2030



Planting 3 billion trees by 2030

## Green Deal core policies – EU Adaptation Strategy

### 24-02-21 The **EU Adaptation Strategy**

sets out how the European Union can adapt to the unavoidable impacts of climate change and become climate resilient by 2050.

[https://ec.europa.eu/clima/eu-action/adaptation-climate-change/eu-adaptation-strategy\\_it](https://ec.europa.eu/clima/eu-action/adaptation-climate-change/eu-adaptation-strategy_it)

- The Strategy has four objectives:
- to make **adaptation**
  - Smarter**
  - Faster**
  - More systemic**
- and to step up **international action on adaptation** to climate change.

# Smarter adaptation: improving knowledge and managing uncertainty

- ⌋ Adaptation actions must be informed by **robust data and risk assessment tools that are available to all** – from families building homes, businesses in coastal regions and farmers planning their crops.
- ⌋ To achieve this, the strategy proposes actions that push **the frontiers of knowledge on adaptation** so that we can gather **more and better data** on climate-related risks and losses, and enhance [Climate-ADAPT](#) as the European platform for adaptation knowledge.

The Commission will:

- help to close **knowledge gaps on climate impacts and resilience, including on oceans**, through Horizon Europe, Digital Europe, etc.;
- improve the state of the art on **adaptation modelling, risk assessment and management tools**.
- promote and support the use of its **Risk Data Hub** to harmonise the recording and collection of climate-related risk and losses data, and promote national level public private partnerships to collect and share such data;
- explore the best ways to improve the **collection of uniform and comprehensive insured loss data**;
- extend the scope of public access to environmental information in the INSPIRE Directive to include climate-related risk and losses data.
- update and establish a Eu climate and health observatory under Climate-ADAPT.
- expand Climate-ADAPT as source of knowledge on climate impacts and adaptation;

## Faster adaptation: Speeding up adaptation

↗ The effects of climate change are already being felt, and so we must adapt **more quickly and comprehensively**.

↗ The strategy therefore focuses on developing and rolling out **adaptation solutions to help reduce climate-related risk, increase climate protection and safeguard the availability of fresh water**.

The Commission will:

- implement the **Horizon Europe Missions** on 'Adaptation to Climate Change' and on soil, climate-neutral cities, and oceans;
- support the **development of adaptation solutions**;
- integrate adaptation in the update of Natura 2000;
- support to protect the potential of **genetic resources for adaptation**.
- develop an **EU-wide climate risk assessment, prevention and management**;
- address EU-level preparedness and response to climate-related health threats;
- increase cooperation with standardization organisations to develop climate-proof standards;
- support the integration of climate resilience considerations into the criteria for **construction and renovation of buildings and critical infrastructure**.
- help to examine natural disaster insurance penetration in Member States;
- strengthen dialogue between insurers, policymakers and other stakeholders;
- explore the use of **financial instruments and innovative solutions to deal with climate-induced risks**.
- help ensure climate-resilient, sustainable **use and management of water**;
- help reduce water use by raising the **water-saving requirements** for products, encouraging water efficiency and savings, and by promoting the wider use of drought management plans as well as sustainable soil management and land-use;
- encourage the incorporation of the risks of climate change in risk analyses of water management.

## More systemic adaptation: policy development at all levels and sectors

- ⌋ Climate change will **have impacts at all levels of society and across all sectors of the economy**, so adaptation actions must also be systemic.
- ⌋ The Commission will **mainstream climate resilience considerations in all relevant policy fields**.
- ⌋ It will support the further development and implementation of **adaptation strategies and plans at all levels of governance** with three cross-cutting priorities:
  - integrating adaptation into macro-fiscal policy
  - nature-based solutions for adaptation
  - local adaptation action.

The Commission will:

- stimulate **cooperation regionally and across borders** and enhance the guidelines on **national adaptation strategies** in cooperation with the Member States;
- upgrade adaptation monitoring, reporting and evaluation by using **harmonised standards and indicators**;
- provide ex-ante project assessment tools to better identify co-benefits and positive impacts on the economy of adaptation and prevention projects;
- support planning and implementation of local adaptation and launch an **adaptation support facility under the EU Covenant of Mayors**;
- develop ways to **measure the potential impact of climate-related risks on public finances**;
- explore and discuss with Member States actions to dampen the fiscal impact of climate-related events;
- develop ways to measure the potential impact **of climate-related risks on public finances**;
- propose **nature-based solutions** for carbon removals;
- develop the financial aspects of nature-based solutions;
- continue to incentivise and assist Member States to rollout nature-based solutions through assessments, guidance, capacity building, and EU funding.

## Stepping up international action for climate resilience

▣ The EU will increase support for international climate resilience and preparedness through the provision of resources, by prioritising action and increasing effectiveness, through the **scaling up of international finance** and through stronger global engagement and exchanges on adaptation.

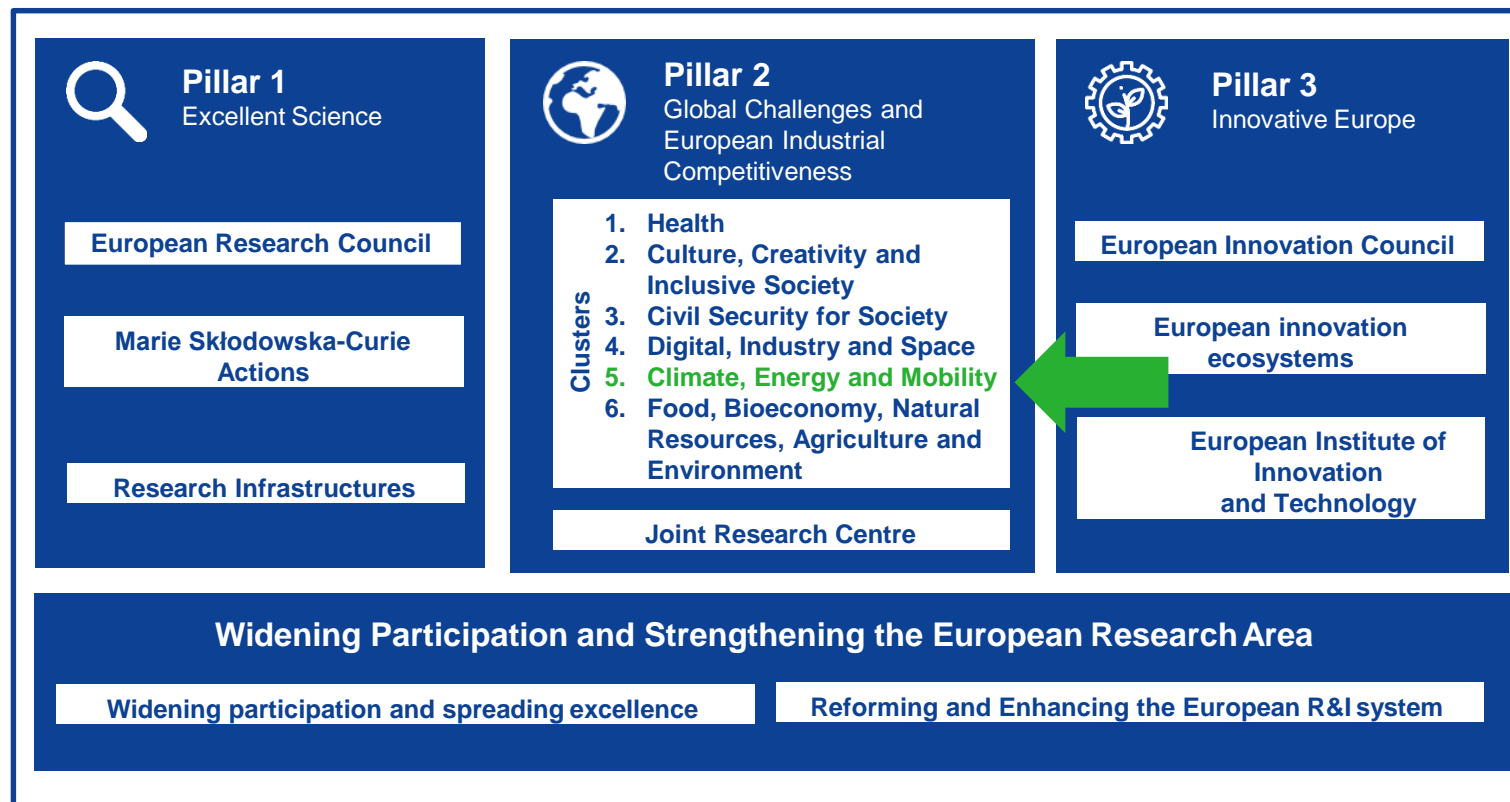
The Commission will:

- aim to increase **international climate finance for adaptation** through the EU instruments for external action and by leveraging private sector investments;
- promote the design and implementation of **disaster risk finance strategies** to increase **macroeconomic climate resilience** in partner countries;
- support partner countries in the design of policies and incentives to promote climate resilient investment, including in nature-based solutions;
- enhance the **climate proofing** of all EU external investments and actions.

# Climate Adaptation in Horizon Europe



# Climate Adaptation in Horizon Europe



# CL5: Climate, energy and mobility

- aims to **fight climate change by better understanding its causes, evolution, risks, impacts and opportunities**, and by making the energy and transport sectors climate neutral, environment-friendly, efficient, competitive, smarter, safer, resilient and useful for citizens and society.
- Cluster 5 supports the EU's strategic objectives through activities included in its work programme and through the support of Institutional European Partnerships which are implemented through dedicated structures.
- R&I activities under CL5 will contribute to the objectives of the European Green Deal related to the Climate Pact, the Clean energy strategy, the Strategic Energy Technology (SET) Plan, the Strategic Transport Research and Innovation Agenda (STRIA), European Circular Economy Action Plan

Intervention Areas
Climate sciences and solutions
Energy systems and grids
Energy supply
Buildings and industrial facilities in energy transitions
Energy storage
Communities and cities
Smart mobility
Clean, safe and accessible transport and mobility



## Cluster 5 WP calls structure

Transition to a climate-neutral society and economy enabled through **climate science, pathways and responses to climate change and behavioural transformations.**

Transition of the energy and transport sectors towards climate neutrality facilitated by **innovative crosscutting solutions.**

DESTINATION	Call ID 2022 one stage	Call ID 2022 two stage
<b>D1 Climate sciences and responses for the transformation towards climate neutrality</b>	<b>HORIZON-CL5-2022-D1-02</b>	<b>HORIZON-CL5-2022-D1-01-two-stage</b>
<b>D2 Cross-sectoral solutions for the climate transition</b>	<b>HORIZON-CL5-2022-D2-01</b>	
D3 Sustainable, secure and competitive energy supply	HORIZON-CL5-2022-D3-01 HORIZON-CL5-2022-D3-02 HORIZON-CL5-2022-D3-03	
D4 Efficient, sustainable and inclusive energy use	HORIZON-CL5-2022-D4-01 HORIZON-CL5-2022-D4-02	
D5 Clean and competitive solutions for all transport modes	HORIZON-CL5-2022-D5-01	
D6 Safe, Resilient Transport and Smart Mobility services for passengers and goods	HORIZON-CL5-2022-D6-01 HORIZON-CL5-2022-D6-02	

## HORIZON-CL5-2022-D1-01-two-stage

TOPIC CODE	TOPIC TITLE	TOA	OPENING DATE	DEADLINE STAGE 1	DEADLINE STAGE 2	BUDGET PER GRANT Mil €
HORIZON-CL5-2022-D1-01-01-two-stage	Carbon Dioxide Removal (CDR) approaches	RIA	12/10/2021	10/02/2022	27/02/2022	7
HORIZON-CL5-2022-D1-01-02-two-stage	Socio-economic risks of climate change in Europe	RIA	12/10/2021	10/02/2022	27/02/2022	5
HORIZON-CL5-2022-D1-01-02-two-stage	Social science for land-use strategies in the context of climate change and biodiversity challenges	RIA	12/10/2021	10/02/2022	27/02/2022	6 TO 7

## HORIZON-CL5-2022-D1-02

TOPIC CODE	TOPIC TITLE	TOA	OPENING DATE	DEADLINE	BUDGET PER GRANT Mil €
HORIZON-CL5-2022-D1-02-01	Verification and reconciliation of estimates of climate forcers	RIA	12/10/2021	10/02/2022	15
HORIZON-CL5-2022-D1-02-02	Development of high-resolution Earth system models for global and regional climate change projections	RIA	12/10/2021	10/02/2022	10
HORIZON-CL5-2022-D1-02-03	Improvement of Integrated Assessment Models in support of climate policies	RIA	12/10/2021	10/02/2022	5
HORIZON-CL5-2022-D1-02-04	Supporting the formulation of adaptation strategies through improved climate predictions in Europe and beyond	RIA	12/10/2021	10/02/2022	10
HORIZON-CL5-2022-D1-02-05	Let nature help do the job: Rewilding landscapes for carbon sequestration, climate adaptation and biodiversity support	RIA	12/10/2021	10/02/2022	8 to 9



## HORIZON-CL5-2022-D2-01

TOPIC CODE	TOPIC TITLE	TOA	OPENING DATE	DEADLINE	BUDGET PER GRANT Mil €
HORIZON-CL5-2022-D2-01-01	Sustainable processing and refining of battery grade graphite	IA	28/04/2022	06/09/2022	5
HORIZON-CL5-2022-D2-01-02	Interface and electron monitoring for the engineering of new and emerging battery technologies	RIA	28/04/2022	06/09/2022	5
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)	RIA	28/04/2022	06/09/2022	20
HORIZON-CL5-2022-D2-01-04	Towards creating an integrated manufacturing value chain in Europe: from machinery development to plant and site integrated design	IA	28/04/2022	06/09/2022	7 to 8
HORIZON-CL5-2022-D2-01-05	Next generation technologies for High-performance and safe-by-design battery systems for transport and mobile applications	RIA	28/04/2022	06/09/2022	5
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)	RIA	28/04/2022	06/09/2022	5

## HORIZON-CL5-2022-D2-01

TOPIC CODE	TOPIC TITLE	TOA	OPENING DATE	DEADLINE	BUDGET PER GRANT Mil €
HORIZON-CL5-2022-D2-01-07	Digitalisation of battery testing, from cell to system level, including lifetime assessment	RIA	28/04/2022	06/09/2022	5
HORIZON-CL5-2022-D2-01-08	Coordination of large-scale initiative on future battery technologies	CSA	28/04/2022	06/09/2022	3
HORIZON-CL5-2022-D2-01-09	Physics and data-based battery management for optimised battery utilisation	RIA	28/04/2022	06/09/2022	5
HORIZON-CL5-2022-D2-01-10	Streamlined collection and reversed logistics, fully automated, safe and cost-efficient sorting, dismantling and second use before recycling	RIA	28/04/2022	06/09/2022	5
HORIZON-CL5-2022-D2-01-11	CIVITAS 2030 – Coordination and support for EU funded urban mobility innovation	CSA	28/04/2022	06/09/2022	4 TO 5

# Missions

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- **portfolios of actions across disciplines** intended to achieve a measurable goal within a set timeframe.
- bold and inspirational, and hence have wide societal or economic relevance;
- **Gain strong visibility and impact.**
- spark activity across disciplines, sectors and actors;
- open to multiple, bottom-up solutions.
- programmed within the Global Challenges and European Industrial Competitiveness pillar (II), but may also benefit from actions carried out within other parts of the Programme as well as complementary actions carried out under other Union funding programmes.



## 5 Mission areas



**Adaptation to climate change, including societal transformation**

**Cluster 5, Cluster 2**



**Cancer**

**Cluster 1**



**Soil health and food**

**Cluster 6**



**Climate-neutral and smart cities**

**Cluster 5**



**Healthy oceans, seas, coastal and inland waters**

**Cluster 6**

# Mission Boards

## **Conquering Cancer: Mission Possible**

Targets by 2030: more than 3 million more lives saved, living longer and better, achieve a thorough understanding of cancer, prevent what is preventable, optimised diagnosis and treatment, support the quality of life of all people exposed to cancer, and ensure equitable access to the above across Europe.

## **A Climate Resilient Europe -Prepare Europe for climate disruptions and accelerate the transformation to a climate resilient and just Europe by 2030**

Targets by 2030: prepare Europe to deal with climate disruptions, accelerate the transition to a healthy and prosperous future within safe planetary boundaries and scale up solutions for resilience that will trigger transformations in society.

## **Mission Starfish 2030: Restore our Ocean and Waters**

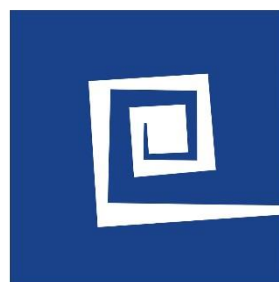
Targets by 2030: cleaning marine and fresh waters, restoring degraded ecosystems and habitats, decarbonising blue economy in order to sustainably harness the essential goods and services they provide.

## **100 Climate-Neutral Cities by 2030 -by and for the citizens**

Targets by 2030: support, promote and showcase 100 European cities in their systemic transformation towards climate neutrality by 2030 and turn these cities into innovation hubs for all cities, benefiting quality of life and sustainability in Europe.

## **Caring for Soil is Caring for Life**

Targets by 2030: at least 75% of all soils in the EU are healthy for food, people, nature and climate. The proposed mission combines research and innovation, education and training, investments and the demonstration of good practices using “Living labs” (experiments and innovation in a laboratory on the ground) and “Lighthouses” (places to showcase good practices).



# APRE

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