

The background features a blue-toned globe with a white network overlay of interconnected nodes and lines, symbolizing technology and innovation. The globe is partially obscured by a light blue horizontal band.

Energy policy Technology and innovation

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Medpower 2020 Conference



Six Commission priorities for 2019-24



- A European Green Deal



- A Europe fit for the digital age



- An economy that works for people



- A stronger Europe in the world



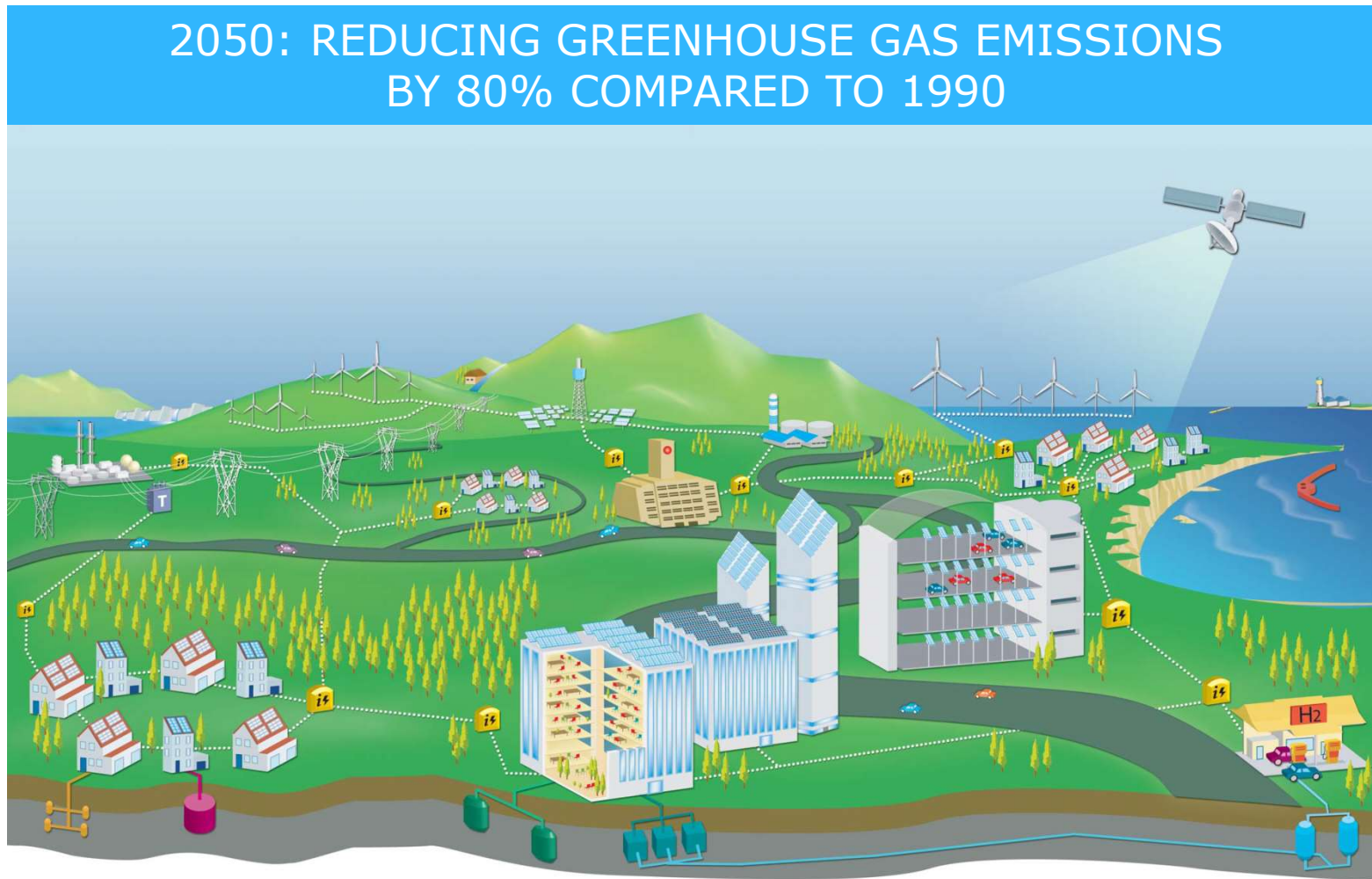
- Promoting our European way of life



- A new push for European democracy

Shaping Europe's Energy Future

2050: REDUCING GREENHOUSE GAS EMISSIONS
BY 80% COMPARED TO 1990



EU Energy policy

BASED ON:

- Paris Agreement – COP 21
- COP 24 in Madrid 2-13 December 2019
- National Energy and Climate Plans
- Energy Transition
 - 2030 European framework for climate and energy policies and Clean Energy for All European Package
 - 2050 Long term Strategy Communication
- Supported by Horizon 2020 and Horizon Europe

Energy Union Strategy

2020

20% less greenhouse gases
20% Renewable Energy
20% Energy savings
10% Interconnections

2030

40% less greenhouse gases
32% Renewable Energy
32,5 % Energy savings
15% Interconnections



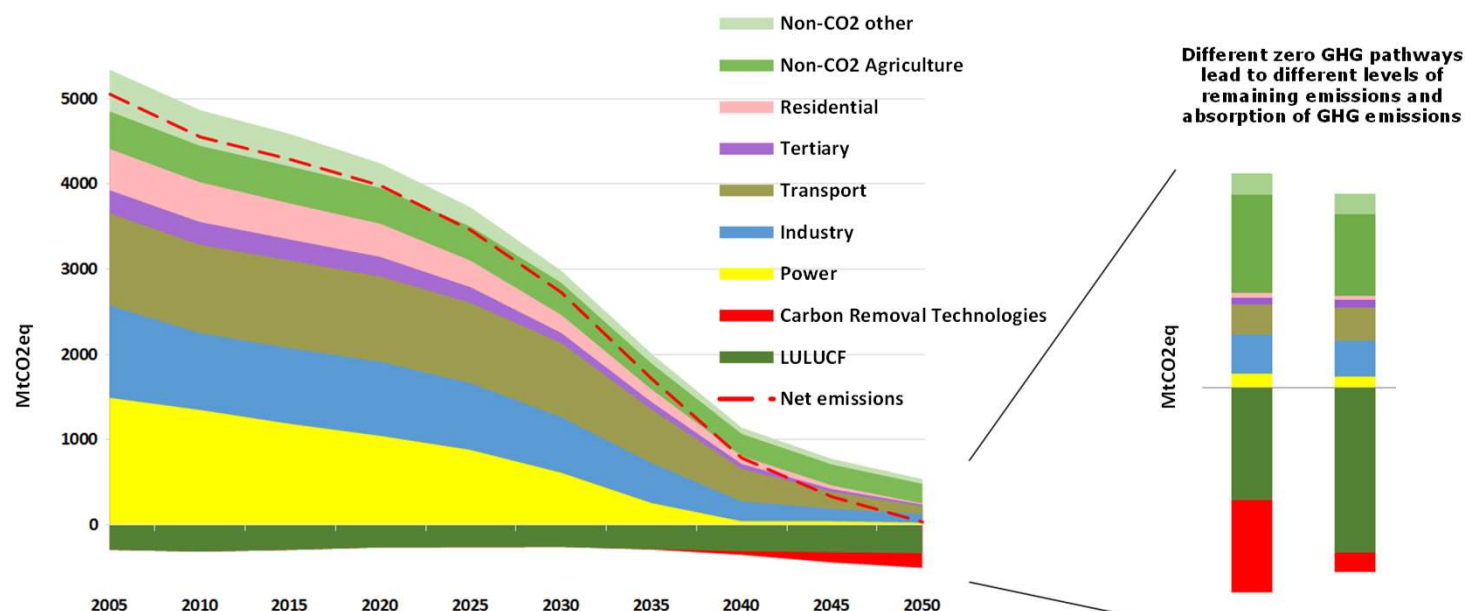
2050

80% less greenhouse gas emissions compared to 1990

The way toward 2050 objectives

REDUCING GREENHOUSE GAS EMISSIONS BY 80% BY 2050 COMPARED TO 1990

- There are a number of pathways for achieving a climate neutral EU, challenging but feasible from a technological, economic, environmental and social perspective
- Radical transformation is necessary: central role of energy system, buildings, transport, industry, agriculture



The way toward 2050 objectives

7 BUILDING BLOCKS

- Energy efficiency (central role: housing stock renovation and fuel switching, required: financial instruments, consumer engagement and skilled workforce)
- Deployment of renewables (required: decentralized, smart and flexible power system, carbon free carriers such as hydrogen and e-fuels)
- Clean, safe and connected mobility (digitalization, data sharing and interoperable standards leading to more efficiency, smart cities, cheaper and efficient batteries)
- Competitive resource-efficient industry and circular economy (electrification, energy efficiency, hydrogen, biomass and renewable synthetic gas to reduce energy emissions in the production of industrial goods)
- Network infrastructure and inter-connections (smart electricity and data/information grids, hydrogen pipelines, smart charging stations)
- Bio-economy and natural carbon sinks
- Carbon capture and storage

Research and Innovation: a key dimension of the Energy Union

- To achieve the low-carbon transition, a fundamental transformation of Europe's society is needed.
 - Only development and adoption of new technologies can allow the EU to achieve its goals.
- SET Plan and the Communication on Accelerating Clean Energy Innovation identified the strategic research and innovation priorities and actions needed at EU level.
 - The NECPs are intended to set out which of these objectives are being pursued nationally.

Research and Innovation: a key dimension of the Energy Union

- To achieve the low-carbon transition, a fundamental transformation of Europe's energy system is needed.
- **Only development and adoption of new technologies can allow the EU to achieve its goals.**

• MS need to prepare and **take advantage** of the energy transition

• NECPs should help identify and develop MS **competitive advantages**

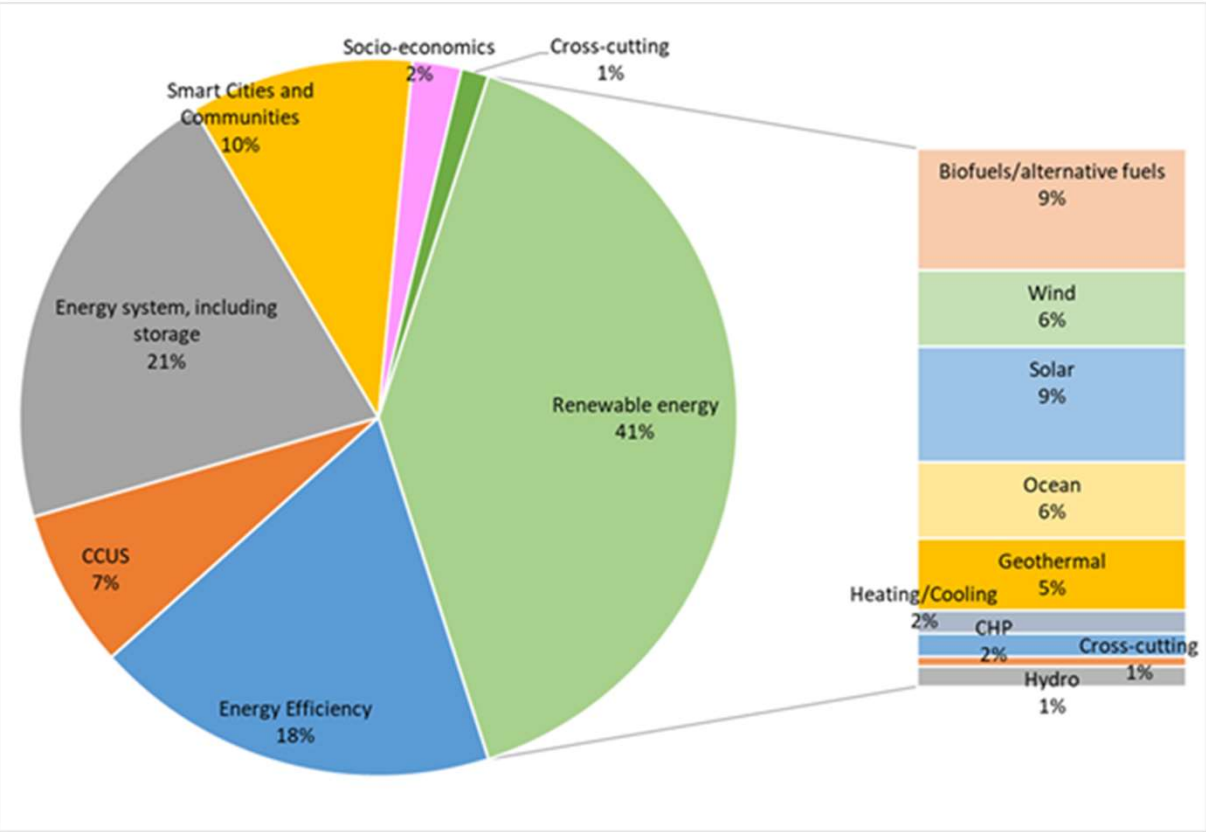
• Identify **competitiveness challenges**



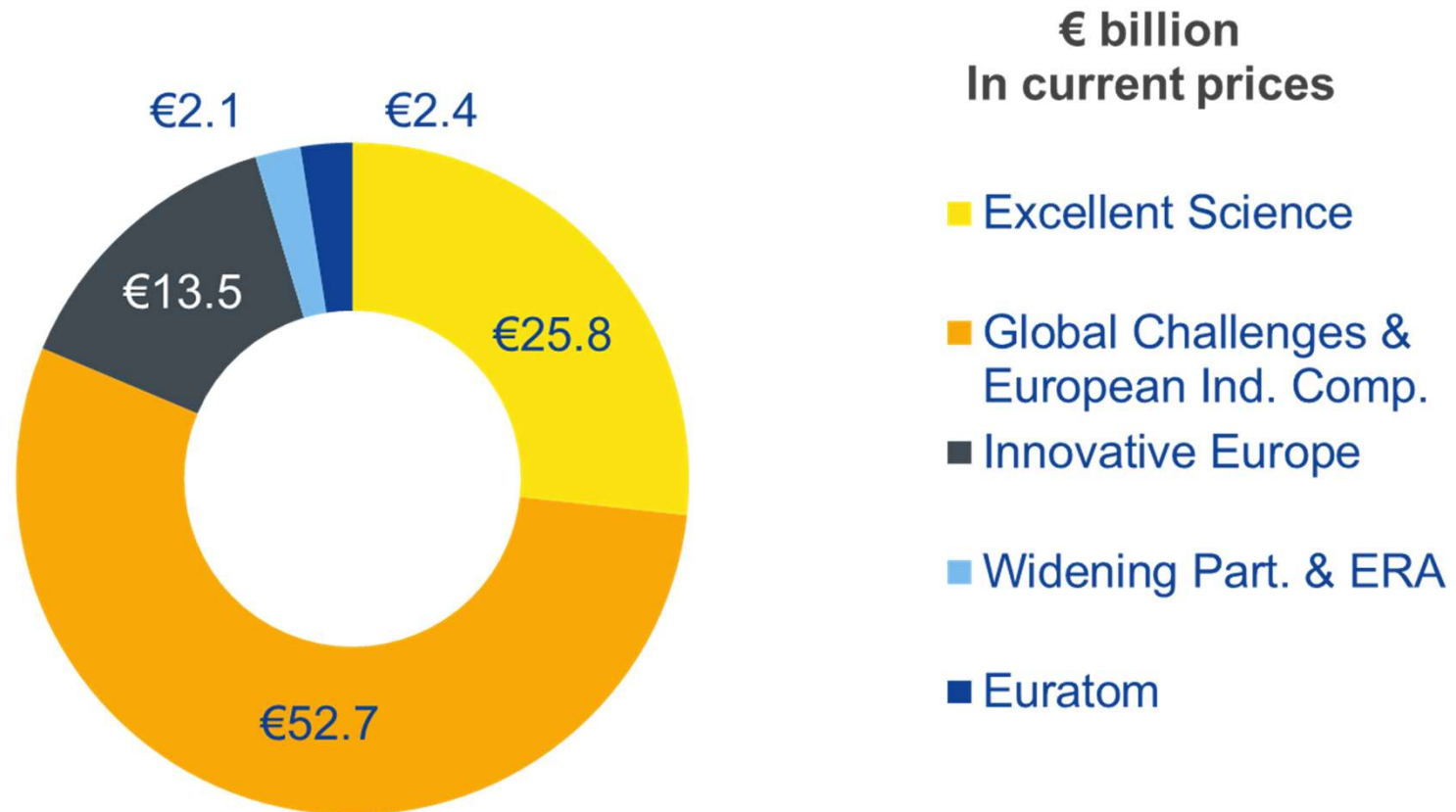
- Develop **strategic value chains**
- **Cost-effective** industrial transformation

How does the EU support clean energy technologies innovation?

Horizon 2020: energy budget of ~ 6 billion



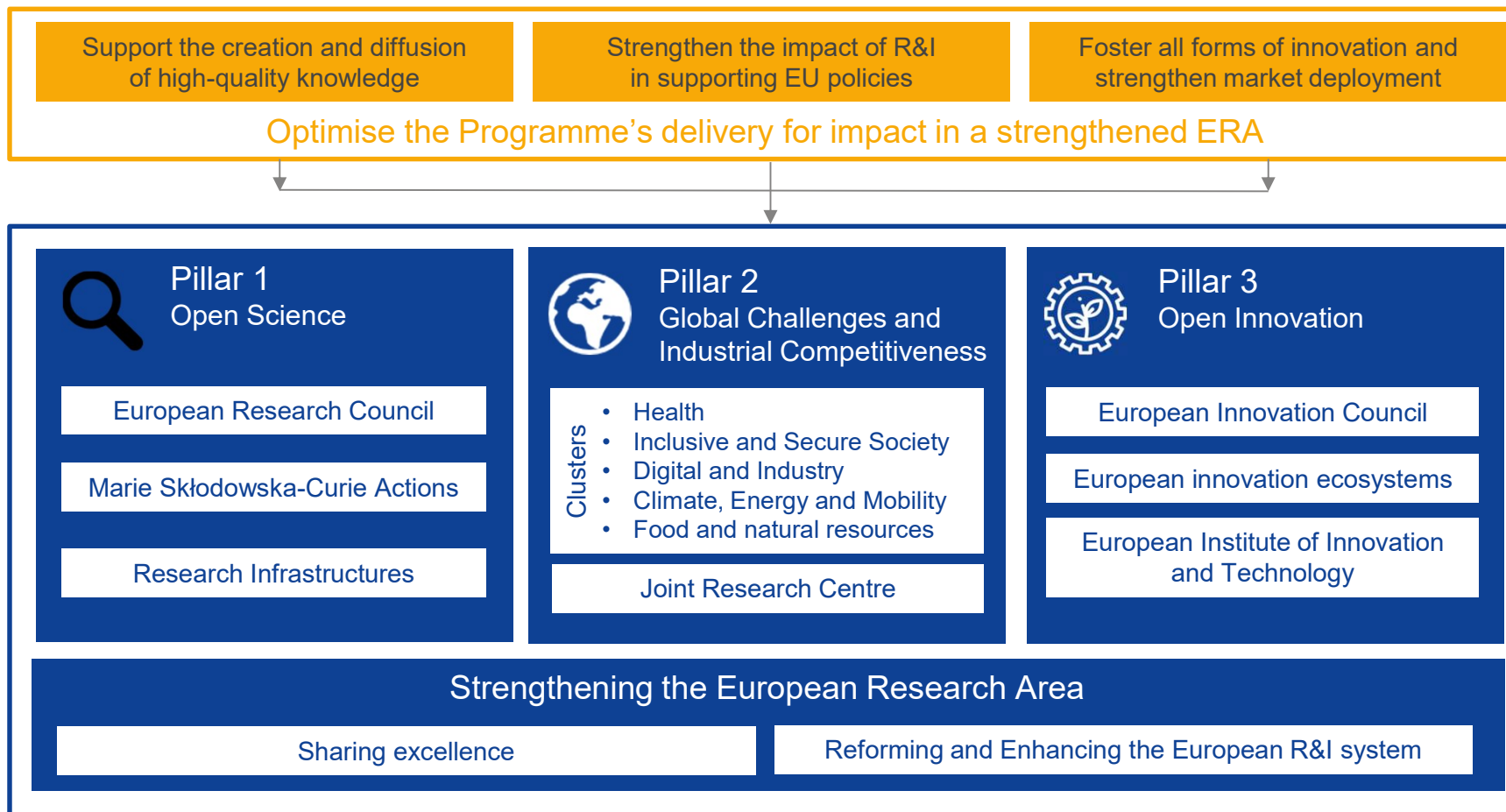
Horizon Europe Budget: €100 billion* (2021-2027)



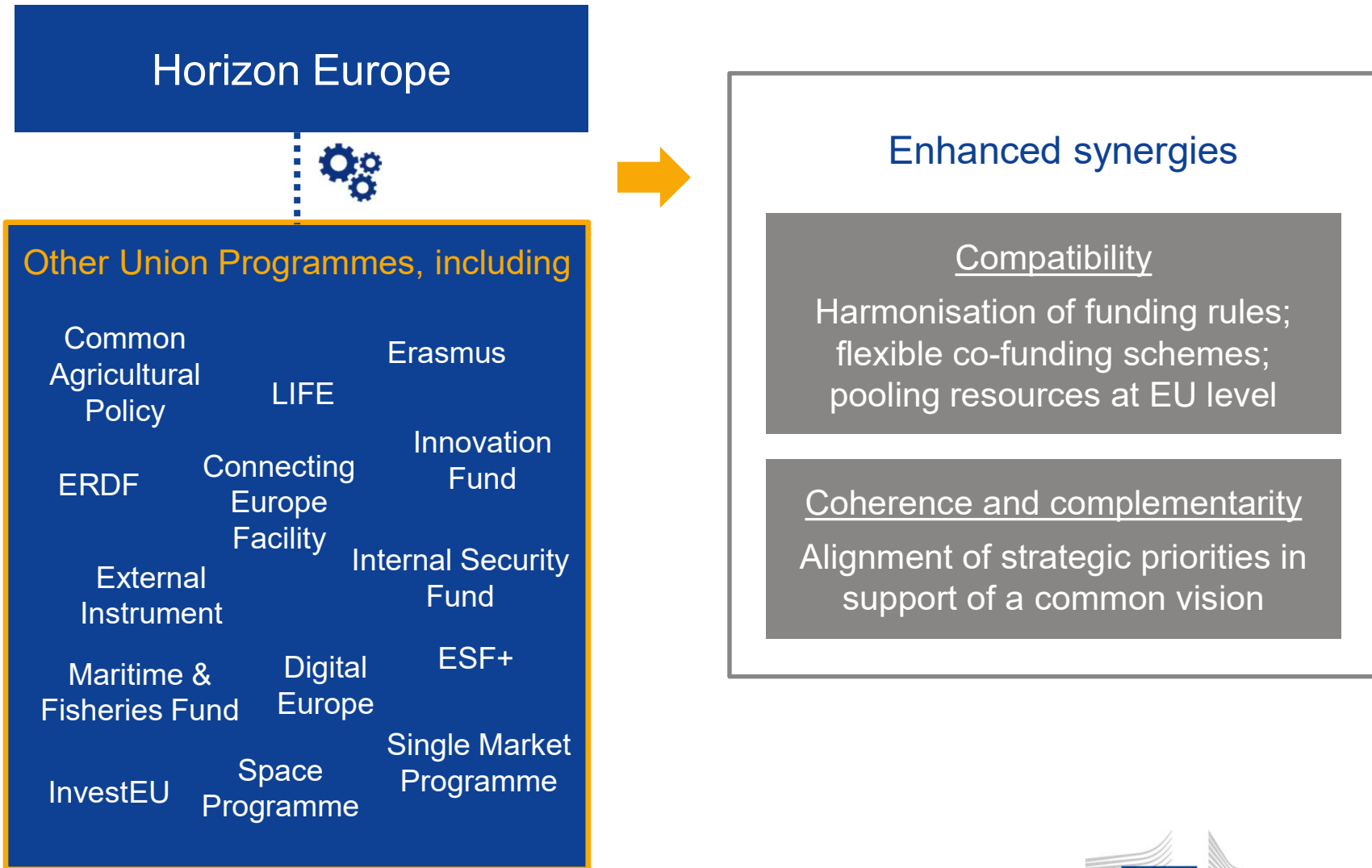
* This envelope includes EUR 3.5 billion allocated under the InvestEU Fund.

Horizon Europe: structure

Specific objectives of the Programme

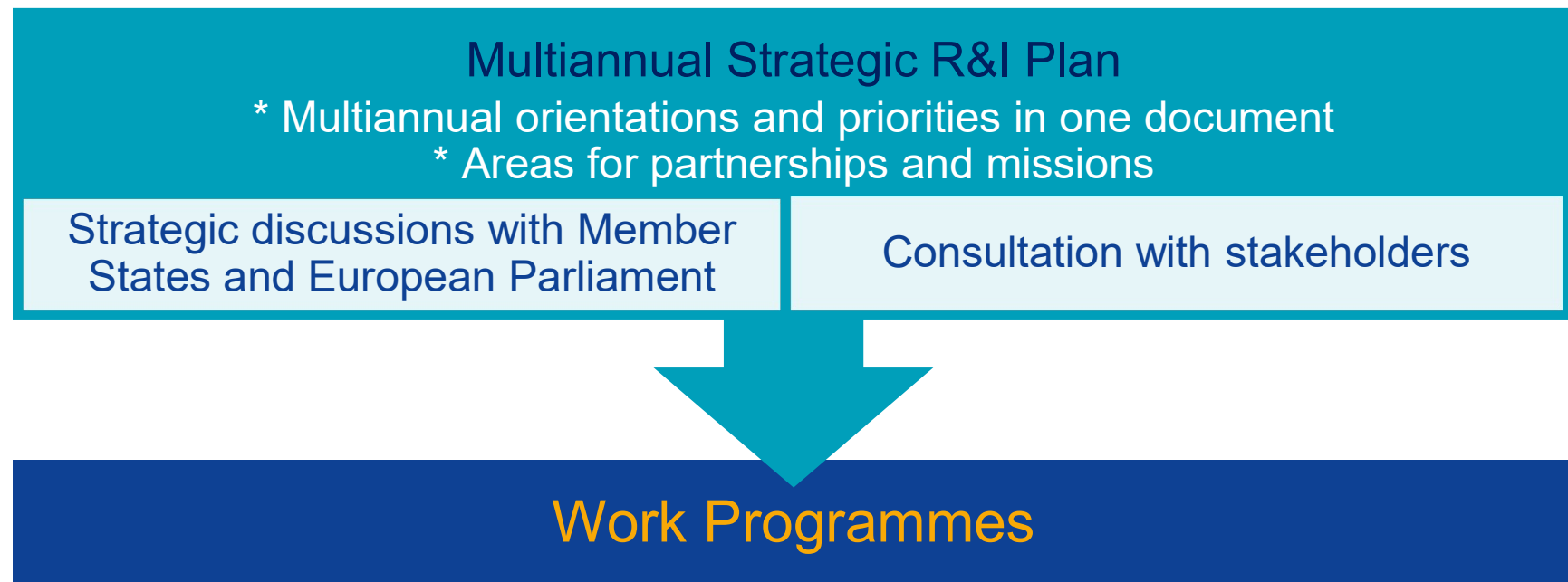


Synergies with other Union programmes



Strategic planning to define multiannual work programmes and calls for proposals

- Transparency and stakeholder involvement
- Prioritisation and flexibility to align to political priorities
- Internal programme coherence & synergies with other programmes



Building a low-carbon, climate resilient future: Research and innovation in support of the European Green Deal (H2020-LC-GD-2020)

Innovative land-based and offshore renewable energy technologies and their integration into the energy system

Programme: Horizon 2020 Framework Programme

ID: LC-GD-2-1-2020

Types of action: Innovation action, Research and Innovation action

Deadline model: single-stage

Opening date: 22 September 2020

Deadline date: 26 January 2021 17:00:00 Brussels time

- development of land-based renewable energy technologies and their integration into the energy system
- demonstration of innovative technologies to enable future large scale deployment of offshore renewable energy

Demonstration of innovative technologies to enable future large scale deployment of offshore renewable energy

Demonstration of innovative Direct Current (DC), AC/DC hybrid technologies and systems as a supporting step towards large offshore DC, AC/DC hybrid grids:

- multi-vendor Multi-Terminal HVDC (MT HVDC) systems
- grid forming converter
- HVDC diode rectifiers
- Modular Multilevel Converters (MMC)
- DC Circuit Breaker (DCCB)
- DC/DC converter
- DC/power hub

and their control and management systems

Useful links

[Directorate General For Energy](#)

[Horizon2020 web site](#)

[Horizon Europe](#)

[AC – DC hybrid round-table](#)

[Electronics in energy round-table](#)

[Funding and tender opportunities](#)

[Green Deal call](#)

Thank you for your time!

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