



EU R&I and nutrients: where we are and where we might go

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Eco-innovation

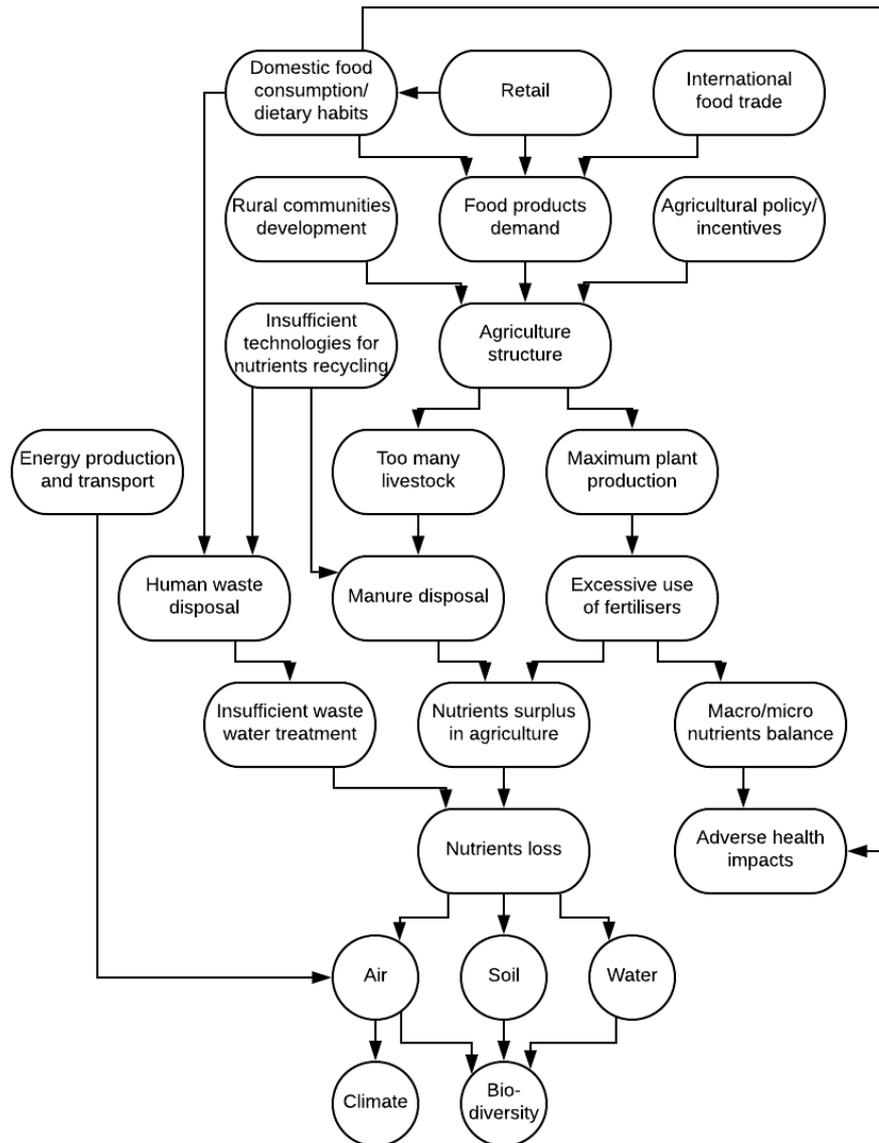
DG RTD, European Commission

Nutrients challenge: the policy perspective

7th EAP (2013): "...excessive nutrient releases continue to affect air and water quality..."

Further efforts to manage the nutrient cycle in a more cost-effective, sustainable and resource-efficient way, and to improve efficiency in the use of fertilisers are also required. Such efforts call for investments in research and improvements in the coherence and implementation of Union environment legislation to address those challenges, tightening standards where necessary and addressing the nutrient cycle as part of a more **holistic approach which integrates and creates links between existing Union policies** that play a role in tackling eutrophication and excessive nutrient releases, and avoids a situation whereby nutrient emissions are shifted across environmental media.

Complexity of the nutrients challenge



- Dependency on foreign sources/Risk for long-term sustainability of agriculture and bio-economy
- Nutrients and associated impacts embedded in international trade with agriculture/bio-economy products
- Forgone economic and environmental opportunities from efficiency and circular approaches

EU funded research

EU framework programmes for research and innovation:

- FP6->Horizon 2020
- H2020 societal challenges:
 - Agriculture
 - Environment
 - Health
 - Industry/LEIT
- ESPP: 231 projects funded by EU and national R&I funds
- H2020 WP 2018-2020 includes relevant calls

EU research policy initiatives:

- Projects for Policy (P4P): review of EU funded projects across thematic clusters with the view to deliver:
 - Policy recommendations
 - Knowledge gaps -> Strategic Research and Innovation Plan for Horizon Europe
- Innovation Deals: ongoing one on fertigation

Commission proposal for
Horizon Europe

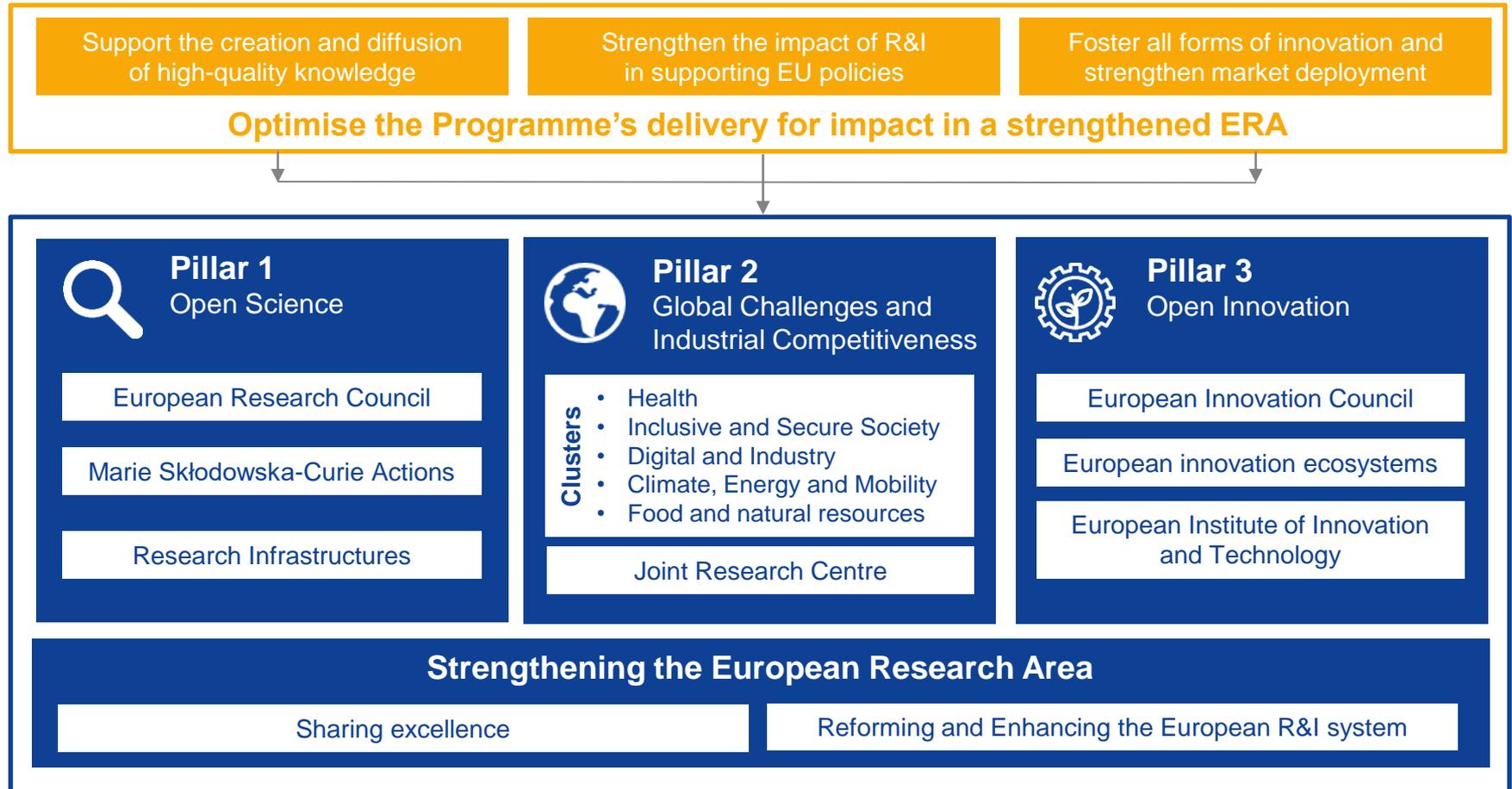
THE NEXT EU RESEARCH & INNOVATION
PROGRAMME (2021 – 2027)

#HorizonEU

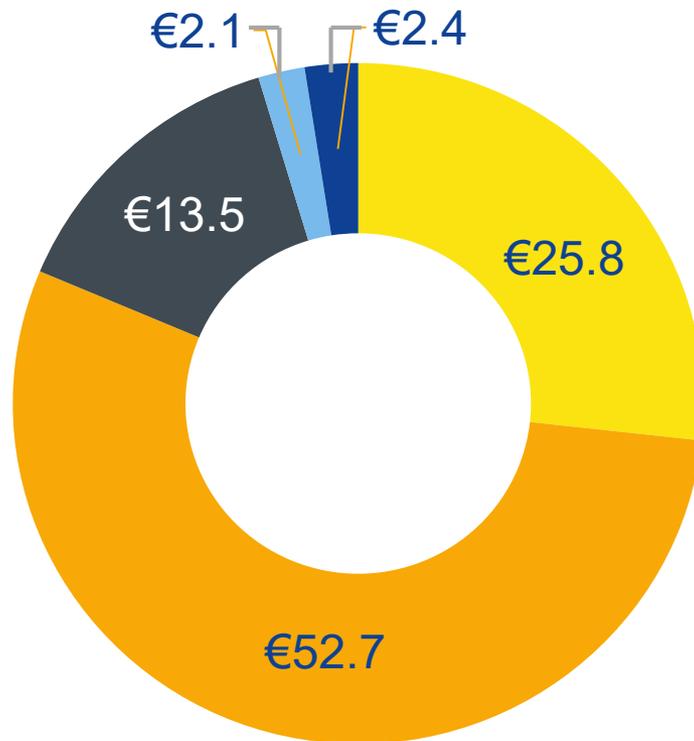


Horizon Europe: evolution not revolution

Specific objectives of the Programme



Budget: €100 billion*



€ billion
In current prices

- Open Science
- Global Challenges & Ind. Competitiveness
- Open Innovation
- Strengthening ERA
- Euratom

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

Pillar 2

Global Challenges & Industrial Competitiveness:

boosting key technologies and solutions underpinning EU policies & Sustainable Development Goals

Clusters implemented through usual calls, missions & partnerships	Budget (€ billion)
Health	€ 7.7
Inclusive and Secure Societies	€ 2.8
Digital and Industry	€ 15
Climate, Energy and Mobility	€ 15
Food and Natural Resources	€ 10
Joint Research Centre supports European policies with independent scientific evidence & technical support throughout the policy cycle	€ 2.2

Clusters in 'Global Challenges and Industrial Competitiveness'

Clusters	Areas of intervention	
Health	<ul style="list-style-type: none"> * Health throughout the life course * Non-communicable and rare diseases * Tools, technologies and digital solutions for health and care 	<ul style="list-style-type: none"> * Environmental and social health determinants * Infectious diseases * Health care systems
Inclusive and Secure Societies	<ul style="list-style-type: none"> * Democracy * Social and economic transformations * Protection and Security 	<ul style="list-style-type: none"> * Cultural heritage * Disaster-resilient societies * Cybersecurity
Digital and Industry	<ul style="list-style-type: none"> * Manufacturing technologies * Advanced materials * Next generation internet * Circular industries * Space 	<ul style="list-style-type: none"> * Key digital technologies * Artificial intelligence and robotics * Advanced computing and Big Data * Low carbon and clean industry
Climate, Energy and Mobility	<ul style="list-style-type: none"> * Climate science and solutions * Energy systems and grids * Communities and cities * Industrial competitiveness in transport * Smart mobility 	<ul style="list-style-type: none"> * Energy supply * Buildings and industrial facilities in energy transition * Clean transport and mobility * Energy storage
Food and Natural Resources	<ul style="list-style-type: none"> * Environmental observation * Agriculture, forestry and rural areas * Food systems * Circular systems 	<ul style="list-style-type: none"> * Biodiversity and natural capital * Sea and oceans * Bio-based innovation systems

Lessons Learned

from Horizon 2020 Interim Evaluation



Support breakthrough innovation



Create more impact through mission-orientation and citizens' involvement



Strengthen international cooperation



Reinforce openness



Rationalise the funding landscape



Key Novelties

in Horizon Europe

European Innovation Council

R&I Missions

Extended association possibilities

Open science policy

New approach to Partnerships



R&I Missions

R&I Missions

Connecting to citizens: Missions will relate EU's research and innovation to society and citizens' needs, with strong visibility and impact

A mission will consist of a portfolio of actions intended to achieve **a bold and inspirational as well as measurable goal** within a set timeframe, with impact for science and technology, society and citizens that goes beyond individual actions

Horizon Europe proposal defines mission characteristics and criteria

Specific missions will be **co-designed with Member States, stakeholders and citizens** and programmed within the Global Challenges and Industrial Competitiveness pillar (drawing on inputs from other pillars)

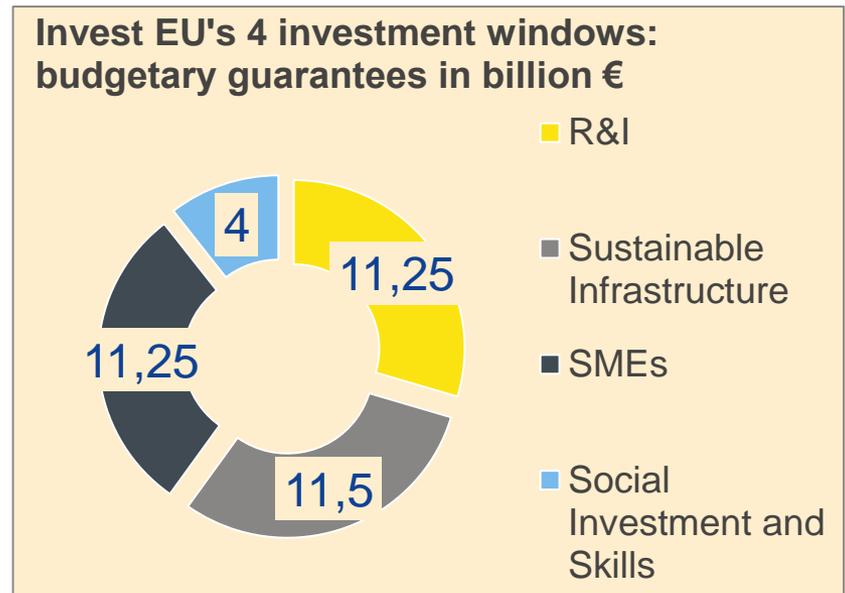
InvestEU for Research and Innovation (R&I)

Stimulates more investment in research and innovation, notably by the private sector; leverages and complements national/regional initiatives

No market distortion: intervention only to address financing gaps in the R&I delivery chain (notably due to high risk)

Support through:

- InvestEU Fund
- InvestEU Assistance
- InvestEU Portal



➔ leverages an estimated **€ 200 bn** of investments into R&I; **market-based finance** for the exploitation and scale-up of European R&I

Synergies with other Union programmes

Horizon Europe



Other Union Programmes, including

Common Agricultural Policy
ERDF
External Instrument
Maritime & Fisheries Fund
InvestEU
LIFE
Connecting Europe Facility
ESF+
Digital Europe
Space Programme
Erasmus
Innovation Fund
Internal Security Fund
ESF+
Single Market Programme

Enhanced synergies

Compatibility

Harmonisation of funding rules;
flexible co-funding schemes;
pooling resources at EU level

Coherence and complementarity

Alignment of strategic priorities in
support of a common vision

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

Multiannual Strategic R&I Plan

- * Multiannual orientations and priorities in one document
- * Areas for partnerships and missions

Strategic discussions with Member States and European Parliament

Consultation with stakeholders

Work Programmes

Next steps



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Horizon Europe dedicated website

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

European Innovation Council

<http://ec.europa.eu/research/eic>

EU budget for the future

http://ec.europa.eu/budget/mff/index_en.cfm





Thank you!

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