



Research and Innovation for the Sustainable Development Goals

La recherche et les objectifs du
développement durables (ODD)

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Sustainable development in the EU

- **Art 3.3. TEU** – *"The Union shall establish an internal market. It shall work for the **sustainable development** of Europe [...]. It shall **promote scientific and technological advance**"*
- **Europe 2020** - *A strategy for smart, sustainable and inclusive growth*
 - **Sustainable growth:** promoting a more resource efficient, greener and more competitive economy
- **Next steps for a Sustainable Europe (2016)**
- **Juncker's State of the Union 2017:**
 - **Circular economy package to boost innovation, jobs and growth**
 - **Clean energy, climate and EU on the move packages adopted**





Europe 2020 Strategy

- *Goal: the EU to become a **smart, sustainable and inclusive** economy. These three mutually reinforcing priorities should help the EU and the Member States deliver high levels of employment, productivity and social cohesion*
- *Five ambitious objectives to be reached by 2020 on employment, **innovation**, education, social inclusion and climate/energy*
- *Concrete actions at EU and national levels underpin the strategy. Each Member State has adopted its own national targets in each of these areas*





Next steps for a sustainable European future - COM(2016)739fin

- *Mapping existing internal and external policies in support of the SDGs*
 - ✓ Strong engagement of research and innovation to create opportunities for new businesses and new jobs
- *Reporting and monitoring on the SDGs*
- *Proposing an update of the Consensus on Development*
- *New initiatives: setting up a high-level Stakeholders' Platform and a Sustainability Award*





Next steps for a sustainable European future –implementation

- ***Stakeholders' platform in place:***
 - ✓ *Mandate:* (a) supporting and advising the Commission and stakeholders on implementation and reflection work (b) supporting and advising on Commission events and helping with the selection process of an annual sustainability award. (c) providing a forum for exchange of experience and best practices
 - ✓ Members appointed along with ECOSOC and Comm of Regions will meet for the first time in January
- **SDGs website**



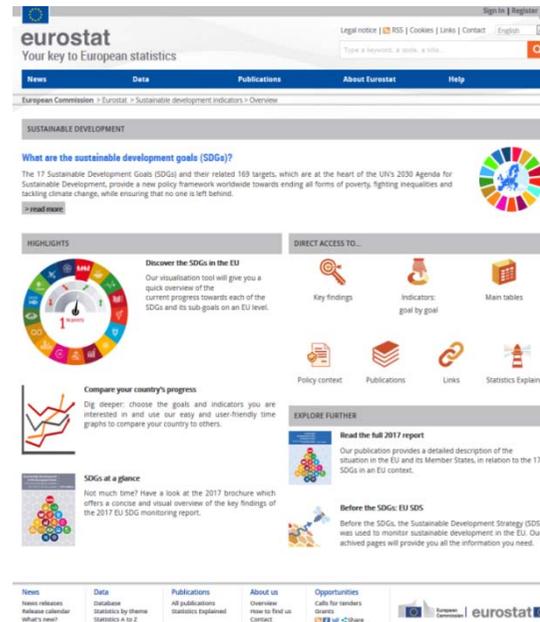
EU SDG monitoring: Eurostat's 2017 package

Monitoring report & Brochure

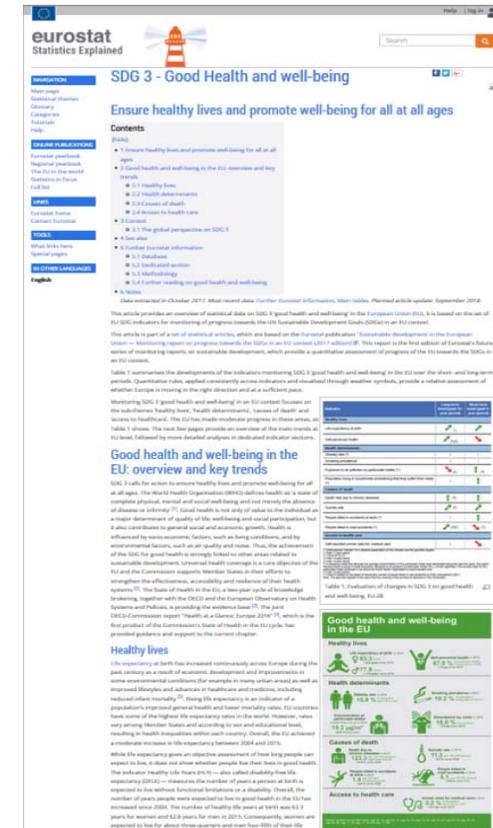
Statistics Explained



Dedicated website



Online database



<http://ec.europa.eu/eurostat/web/sdi/overview>



What role for the EU in promoting Sustainable Development and Green growth? High-level experts suggest...

- *Rapid growth of jobs and profitability in businesses providing products and services to support healthy lifestyles and sustainability*
- *Europe well-positioned to ride a “green” trajectory and turn environmental problems into solutions (co-creation of green/clean/low carbon technologies)*
- *Research and innovation is key to develop systemic economic-environmental-socially sustainable solutions*

Source: Changing gear in R&I: green growth for jobs and prosperity in the EU - Report of the European Commission Expert Group



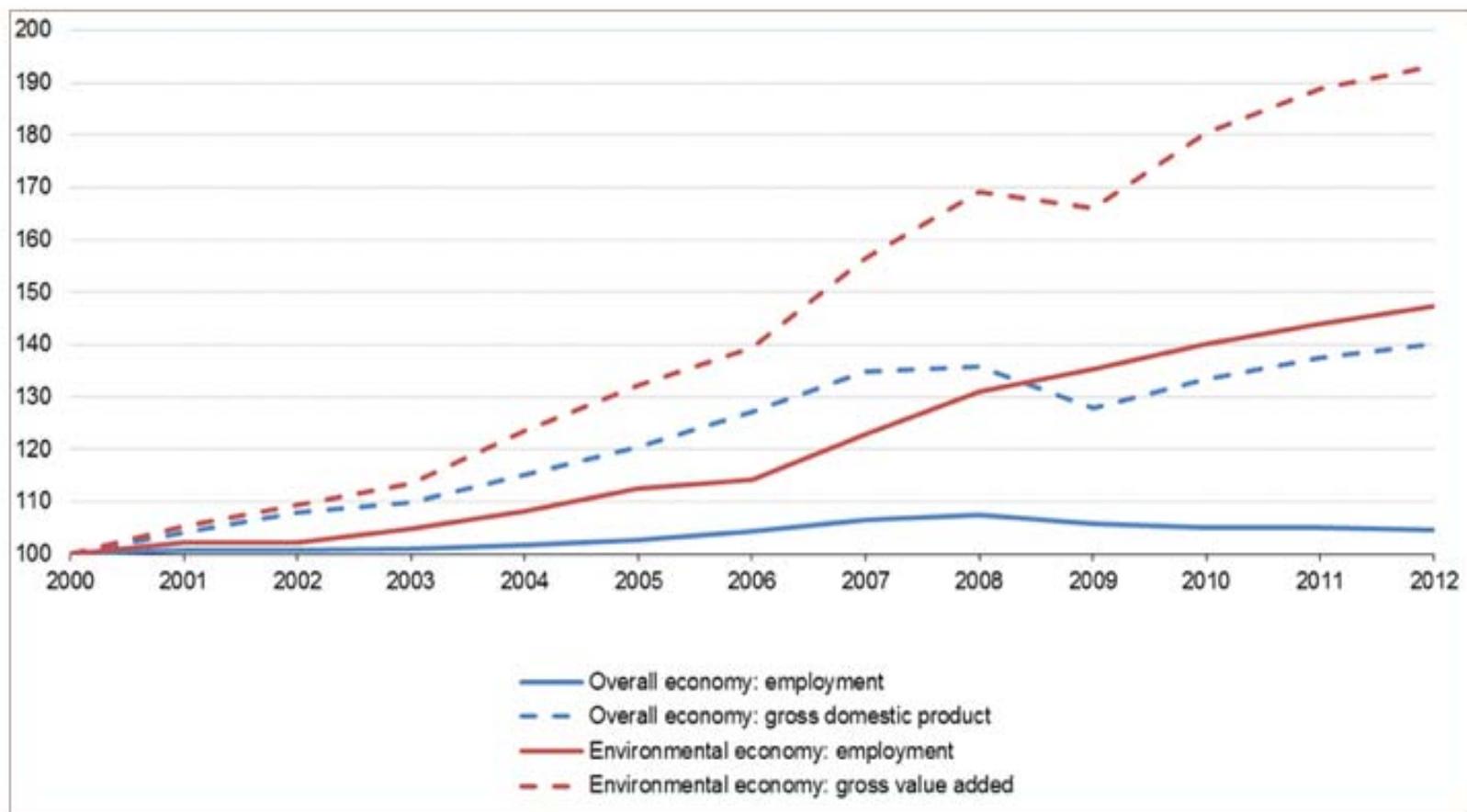
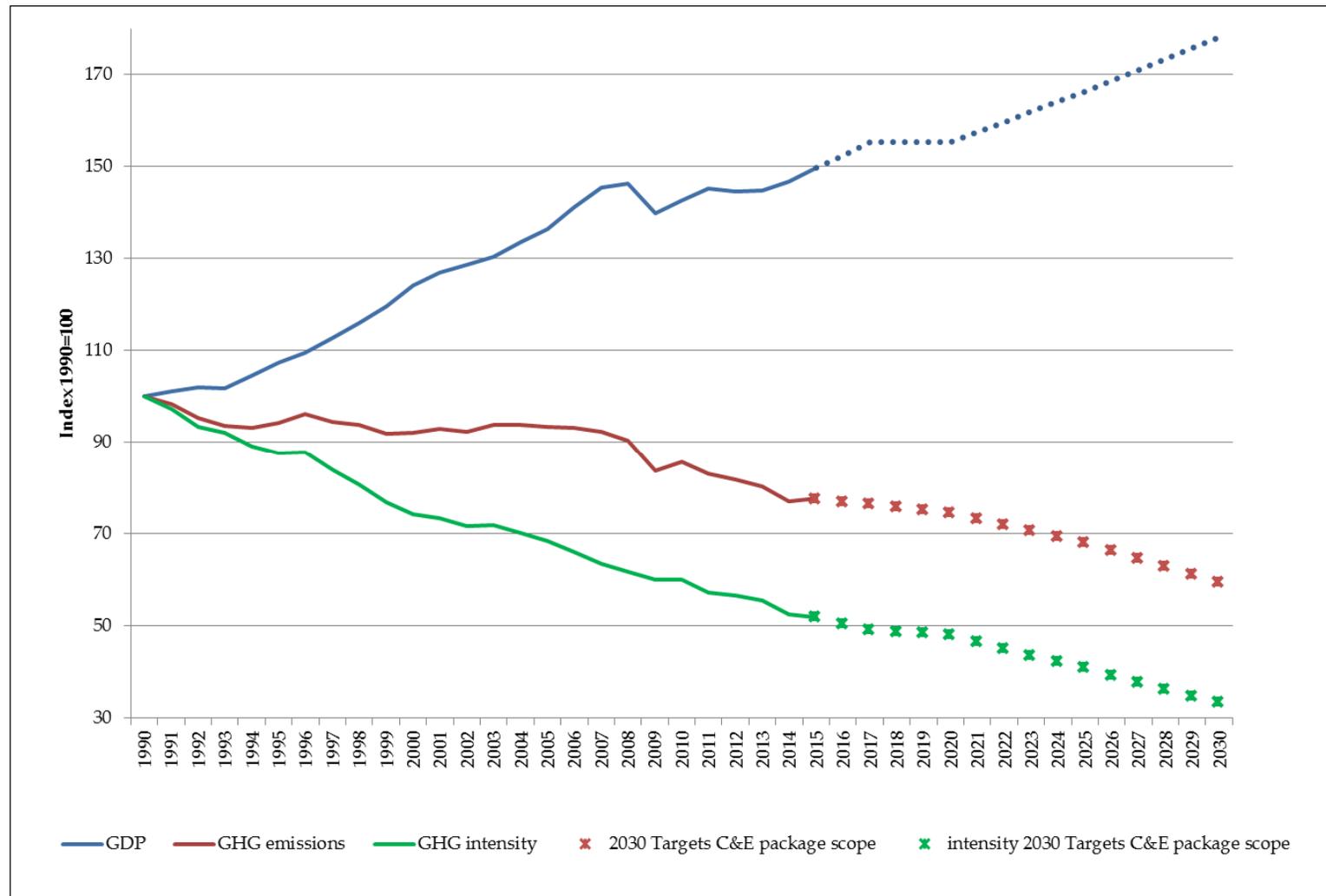


Figure 1 Development of key indicators for the environmental economy¹ and the overall economy, EU-28, 2000–12 (2000=100), Eurostat estimates

Source: Eurostat (online data codes: *env_ac_egss1*, *env_ac_egss3*, *nama_10_pe* and *nama_gdp_c*)

The EU is gradually decarbonising





European
Commission

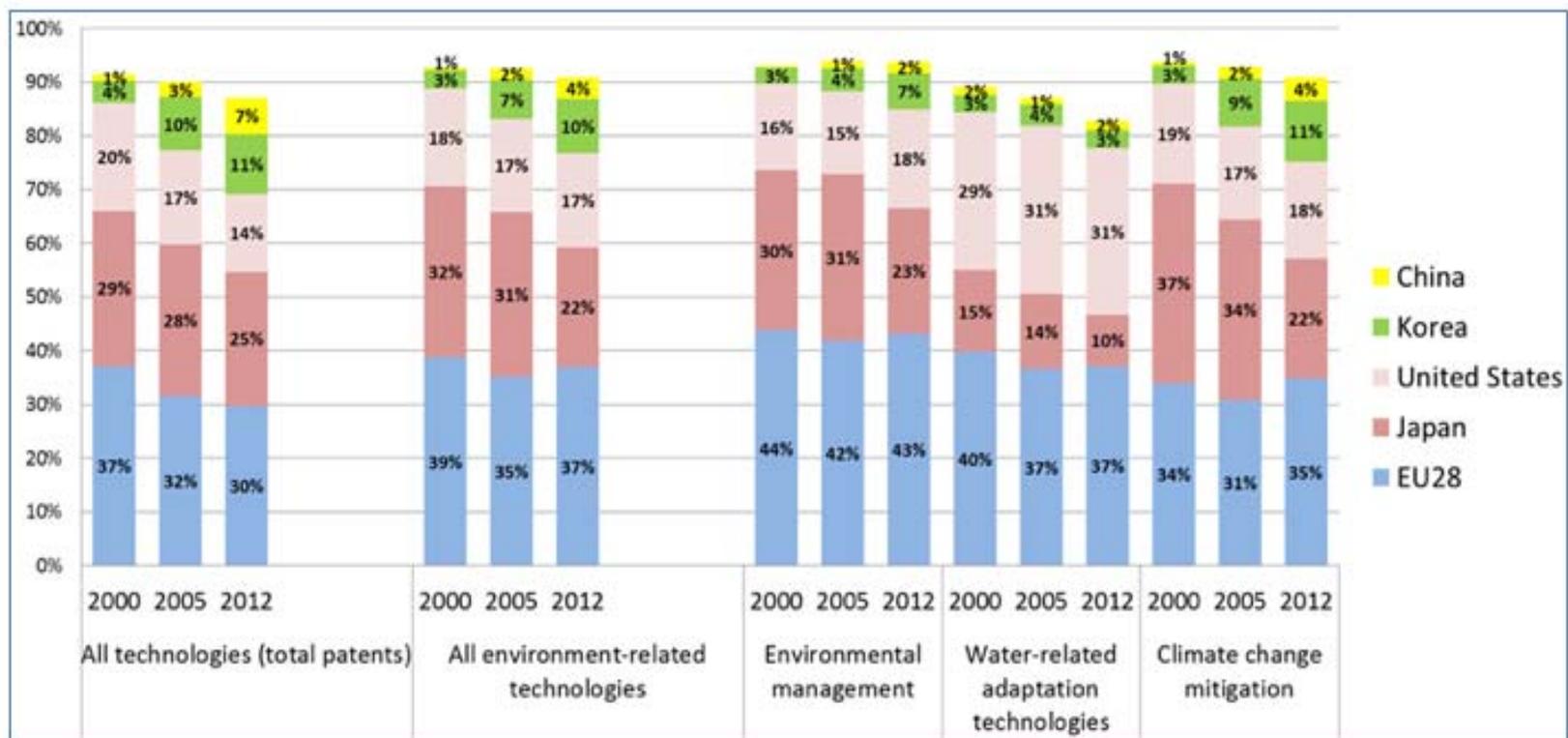


Figure 5 Evolution of World's share in technology development, total and environment-related technologies, 2000, 2005 and 2012, patent family size ≥ 2 , fractional counts by country of residence of the inventor(s)

Source: OECD data treated by EC, DG RTD



EU policies for the transition to SD: The Circular economy package

- Goal: reuse, repair, refurbish and recycle existing materials and products by **turning 'waste' into a resource**
- **Radical changes** are needed i.e in supply-chain management and industrial design
- Research and Innovation in Horizon 2020: 2016-2017 and 2018-2020 dedicated calls (€650M and € 960M respectively)
- Pilot to bring together innovators and regulators in the EU through a voluntary agreement to detect regulatory bottlenecks - **Innovation Deals**
- Support to Circular Economy **Financing** through an Expert Group



EU for the transition to SD: A resilient Energy Union with a forward looking climate policy



- Goal: ensure that Europe has **secure, affordable and climate-friendly energy.**
- **Research and Innovation (R&I)** will support breakthroughs in low-carbon technologies and finance projects in partnership with the private sector
- Horizon 2020 WP 2018-2020 will invest EUR 3.3 billion for 'Building a low carbon climate resilient future' as a major contribution to the reach 35%



Deep Decarbonisation Pathways – a research and innovation initiative

- Require a societal / holistic approach
 - behavioural issues
 - public information / acceptability / engagement
- A R&I topic by nature, to feed into future policies design
- Often run out of range of existing models

A High Level Panel of 9 personalities to advise Commissioner Moedas, delivering a report, end of 2018.





The EU Research and Innovation programme - Horizon 2020

- The largest and most comprehensive R&I programme in the world with a budget of €77 billion (in current prices) for 2014-2020
- A core part of Europe 2020, Innovation Union & European Research Area:
 - Responding to the economic crisis to invest in jobs and growth
 - Addressing people's concerns about their livelihoods, safety and environment
 - Strengthening the EU's global position in research, innovation and technology
- Three pillars:
 - Excellent Science; Industrial Leadership; Societal Challenges





Funding for Societal challenges (€ million)

Health, demographic change and wellbeing	7 257
Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the Bioeconomy	3 708
Secure, clean and efficient energy *	5 688
Smart, green and integrated transport	6 149
Climate action, environment, resource efficiency and raw materials	2 956
Inclusive, innovative and reflective societies	1 259
Secure societies	1 613
<i>Science with and for society</i>	<i>445</i>
<i>Spreading excellence and widening participation</i>	<i>816</i>

* Additional funding for nuclear safety and security from the Euratom Treaty activities (2014-2018)





Horizon 2020: a tool for achieving the SDGs?

- *The SDGs provide a common ground for engaging all countries and different partners in the implementation of a universal and transformational agenda*
- *H2020 promotes sustainability in Europe and globally*
- *Its 60% expenditure commitment to Sustainable Development and 35% to Climate Change place the EU-funded research at the heart of the realisation of the Post-2030 Agenda*
- *H2020 openness to the world is an opportunity for increased international R&I cooperation in support of the SDGs*



Horizon 2020 expenditure tracking exercise: Sustainable development, climate and biodiversity





Tracking targets

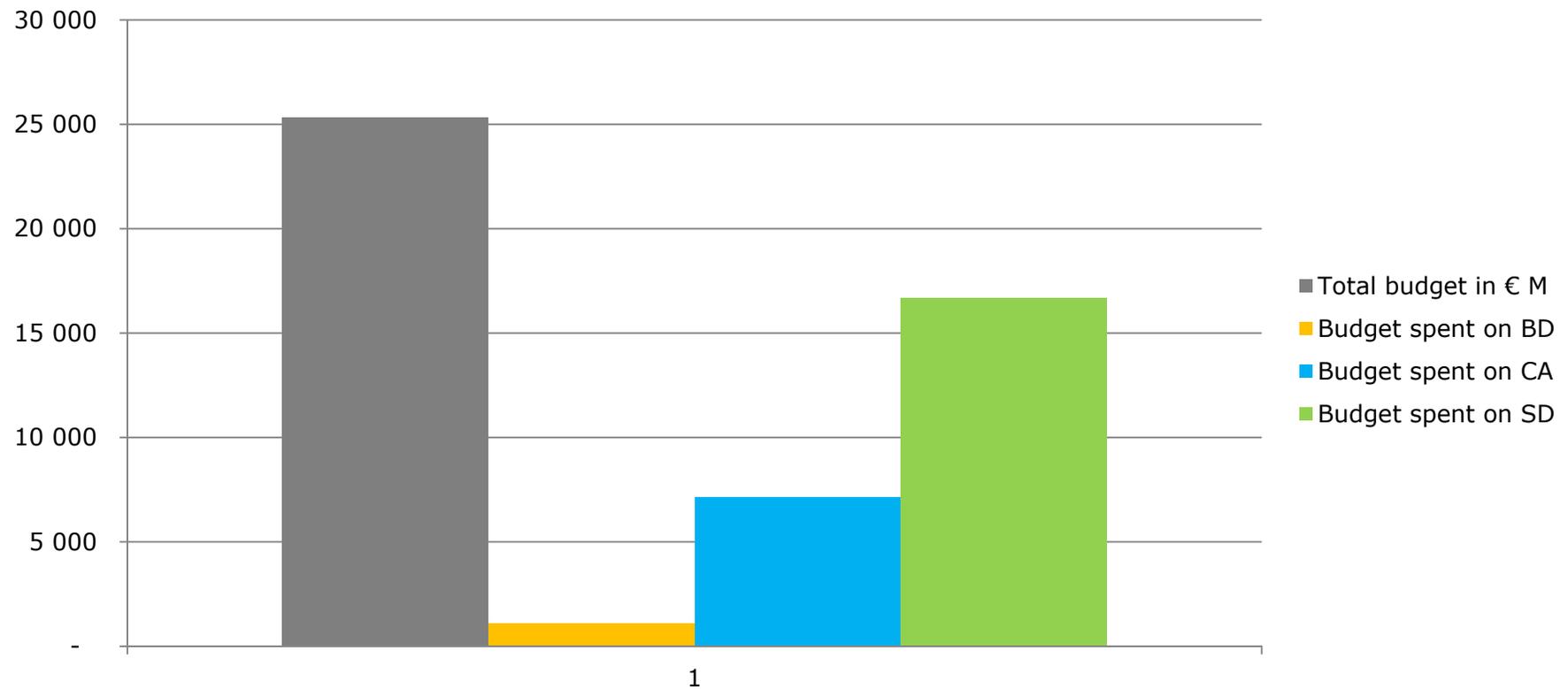
EU 2014-2020 (MFF)

- at least 20 % spent on climate action
- obligation to report on biodiversity expenditure

Horizon 2020

- 35 % on climate action
- 60 % on sustainable development

State of play –2014-2017





Horizon 2020 - Open to the World

- *Bilateral and regional cooperation*
- *Multi-lateral cooperation around global challenges:*
 - GEO (Group on Earth Observation): 105 nations and the European Commission, and 103 Organizations creating a Global Earth Observation System of Systems (GEOSS) that will link Earth observation world-wide

BELMONT

- **F O R U M**: a network of funding agencies committed to solution-oriented actions in global change research
- European and Developing Countries Clinical Trials Partnership Programme (EDCTP2, 2014-2024) : new drugs, vaccines, microbicides and diagnostics against HIV/AIDS, tuberculosis and malaria





In the future...The EU has to take the lead in Sustainable Development and act as a frontrunner

- *Actions to steer investment towards Sustainable Development & Climate targets are underway (2018-2020 Work Programme).*
- *A reflection on how to ensure the relevance and impact of EU programmes on Sustainable development takes place within the MFF review.*
- *These orientations will also guide the preparation of FP9, the next Framework Programme for Research and Innovation.*

Thank you!

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More information:

www.ec.europa.eu/research

Participant Portal:

www.ec.europa.eu/research/participants/portal/desktop/en/home.html

<https://ec.europa.eu/programmes/horizon2020/en/what-work-programme>

SC5 social media network on 'Yammer':

<http://www.tinyurl.com/greenRTD>

Reports:

"LAB-FAB-APP Investing in the European Future we want"

https://ec.europa.eu/research/evaluations/pdf/archive/other_reports_studies_and_documents/hlg_2017_report.pdf#view=fit&pagemode=none

"R&I policy framework for green growth & jobs"

<http://bookshop.europa.eu/en/changing-gear-in-r-i-pbKI0216237/?CatalogCategoryID=7QwKABstDHwAAAEjK5EY4e5L>

The role of science, technology and innovation to achieve the SDGs: [http://bookshop.europa.eu/en/the-role-of-science-technology-and-innovation-policies-to-foster-the-implementation-of-the-sustainable-development-goals-sdgs--](http://bookshop.europa.eu/en/the-role-of-science-technology-and-innovation-policies-to-foster-the-implementation-of-the-sustainable-development-goals-sdgs--pbKI0415809/?CatalogCategoryID=Gj0KABst5F4AAAEjsZAY4e5L)

[pbKI0415809/?CatalogCategoryID=Gj0KABst5F4AAAEjsZAY4e5L](http://bookshop.europa.eu/en/the-role-of-science-technology-and-innovation-policies-to-foster-the-implementation-of-the-sustainable-development-goals-sdgs--pbKI0415809/?CatalogCategoryID=Gj0KABst5F4AAAEjsZAY4e5L)



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Horizon 2020 Work Programme for Research & Innovation 2018-2020

Societal Challenge 5 'Climate action, environment, resource efficiency and raw materials'

Name UNIT xx
Organisation - DG

Research and
Innovation

Horizon 2020 Work Programme 2018-2020

- **Budget of ca. €30 billion**
- **Responding to big priorities:**
 - Increased investment in sustainable development and climate related R&I
 - Integrating digitisation in all industrial technologies and societal challenges
 - Strengthening international R&I cooperation
 - Societal resilience
 - Market creating innovation
- **Promoting R&I policy goals of open innovation, open science and open to the world**

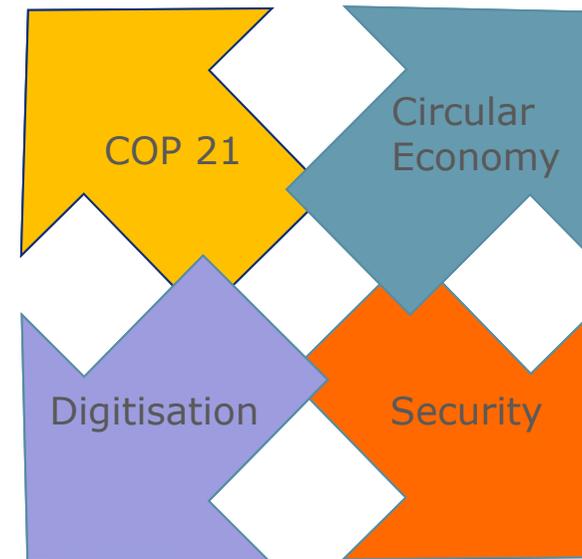
Horizon 2020 Work Programme 2018-2020

- **Challenge-based approach**, with **big high-impact calls** and **broader topics** oriented towards **missions**, each supporting a balanced portfolio of projects
- **Focus areas:**
 - Building a low-carbon, climate resilient future
 - Connecting economic and environmental gains – the Circular Economy
 - Digitising and transforming European industry and services
 - Boosting the effectiveness of the Security Union
- **Making research and innovation more visible** through communication, open access to research results, new emphasis on data management

Focus Areas and other cross-cutting priorities

€ 7 billion for 4 mutually reinforcing focus areas

- aligned to political priorities
- expected to have exceptional impact
- implemented through 'virtual calls cutting across the programme (description in 'General Introduction', common call identifier of contributing calls and topics)



Further cross-cutting priorities

- Migration (€ 200M)
- Batteries (€ 100M + € 100M to come)
- Blue Growth, Cities

Focus Area *'Building a low-carbon, climate resilient future'*

Covers the main actions in Work Programme 2018-2020 which can contribute to the goals of the Paris Agreement

- limit global temperature rise to well below 2°C, make efforts to limit this to 1.5°C;
- enhance adaptive capacity, strengthening resilience and reducing vulnerabilities;

Aims to develop ground-breaking solutions capable of achieving carbon neutrality and climate resilience of Europe and beyond in the second half of the century

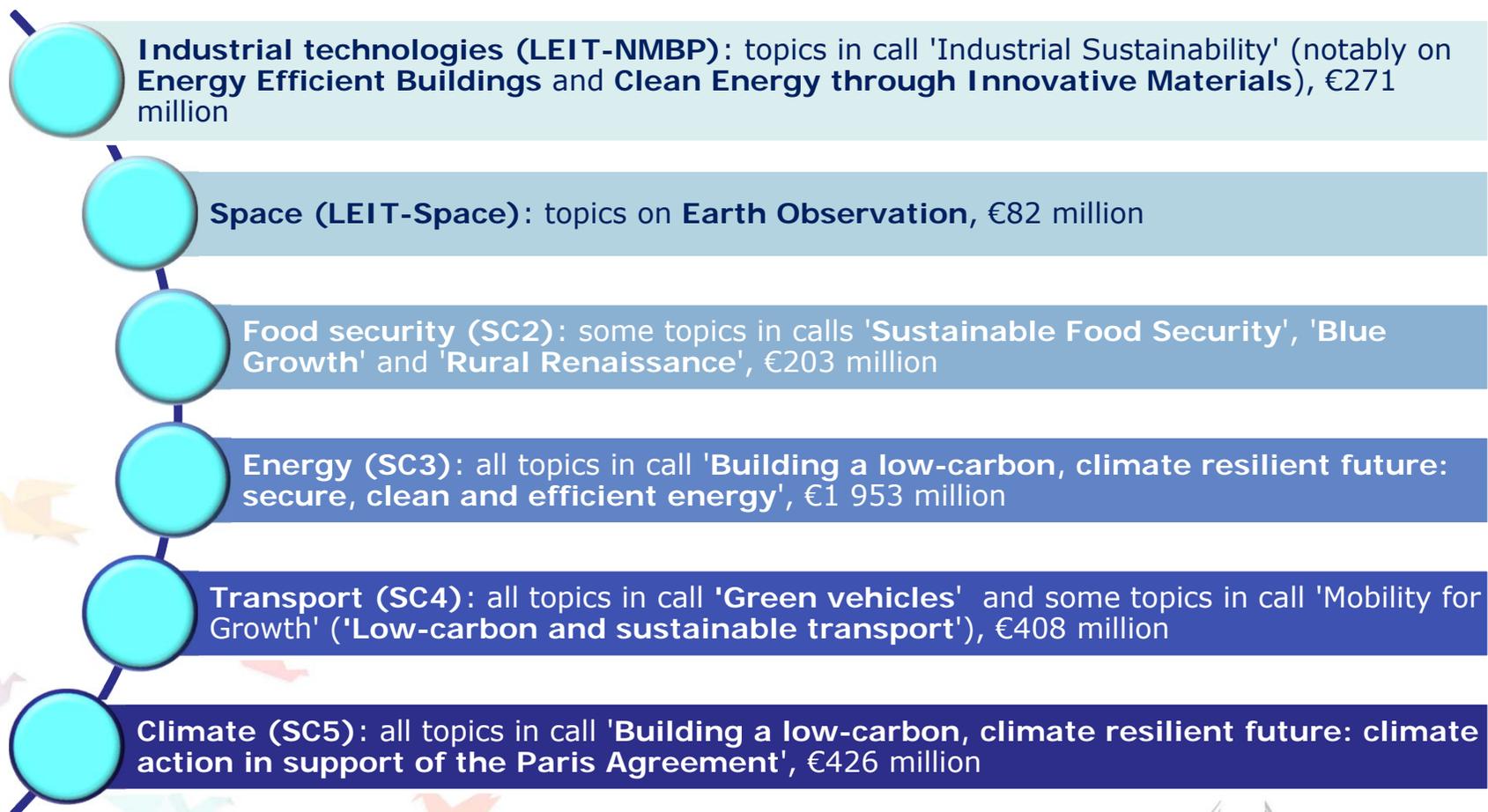
Integrating multiple angles of society, economy, technology, industrial value chains, the energy system, environment, health, land use and governance

Total indicative budget (2018-2020):
EUR 3 343 million



'Building a low-carbon, climate resilient future'

Focus Area



'Connecting economic and environmental gains – the Circular Economy'

Focus Area

Covers the main actions in Work Programme 2018-2020 which will directly **support the circular economy policy**

– integrating production, consumption, waste management and raw materials

* Ensure that growth no longer requires increasing consumption of resources, energy, water and primary raw materials

* Minimise waste, including from plastics

* Enhance industrial competitiveness

SDGs:

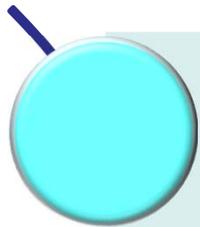


Total indicative budget
(2018-2020):

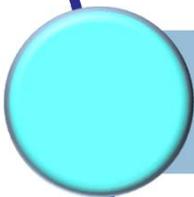
EUR 940 million

'Connecting economic and environmental gains – the Circular Economy'

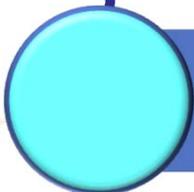
Focus Area



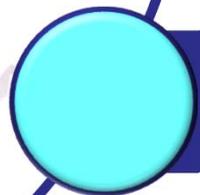
Industrial technologies (LEIT-NMBP): topics in call 'Industrial Sustainability' (notably **Sustainable Process Industry and Catalysing the Circular Economy**); and in industrial biotechnology: €370 million



Food security and Bioeconomy (SC2): topics in calls 'Sustainable Food Security', 'Blue Growth' and 'Rural Renaissance', including access to risk finance: €253 million



Energy (SC3): Carbon dioxide reuse: €12 million



Climate, Environment and Raw Materials (SC5): topics in call 'Greening the economy in line with the SDGs' – circular economy and raw materials: €306 million

Societal Challenge 5: Climate action, environment, resource efficiency and raw materials

Work Programme 2018-2020

Focus:

- ✓ demonstrating a strong commitment to supporting the UN's Sustainable Development Goals (SDGs) and the targets of the COP21 Paris Agreement
- ✓ moving to a greener, more resource efficient and climate-resilient economy in sync with the natural environment



2 multiannual calls:



"Building a low-carbon, climate resilient future: climate action in support of the Paris Agreement"

"Greening the economy in line with the Sustainable Development Goals (SDGs)"

Total indicative budget 2018-2020 €1.1bn



Thank you!

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