

Unit C.7

R&I towards a Green Recovery

Directorate C
Energy, Climate & Transport

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Europe's moment: Repair & Prepare for the Next Generation *#NextGenerationEU*

- *...reflecting the crucial role of **research and innovation** in driving the shift towards a clean, circular, competitive and climate neutral economy.*
- ***Research and innovation** will be essential.... to strengthen our autonomy and leadership in value chains.*
- *...**datasets** available for the common good through more open access for research, innovation and SMEs.*
- *As Europe sets off on its path to recovery towards a greener, digital and more resilient economy and society, the need to improve and adapt **skills, knowledge and competences** becomes all the more important.*

Europe's moment: Repair & Prepare for the Next Generation #NextGenerationEU

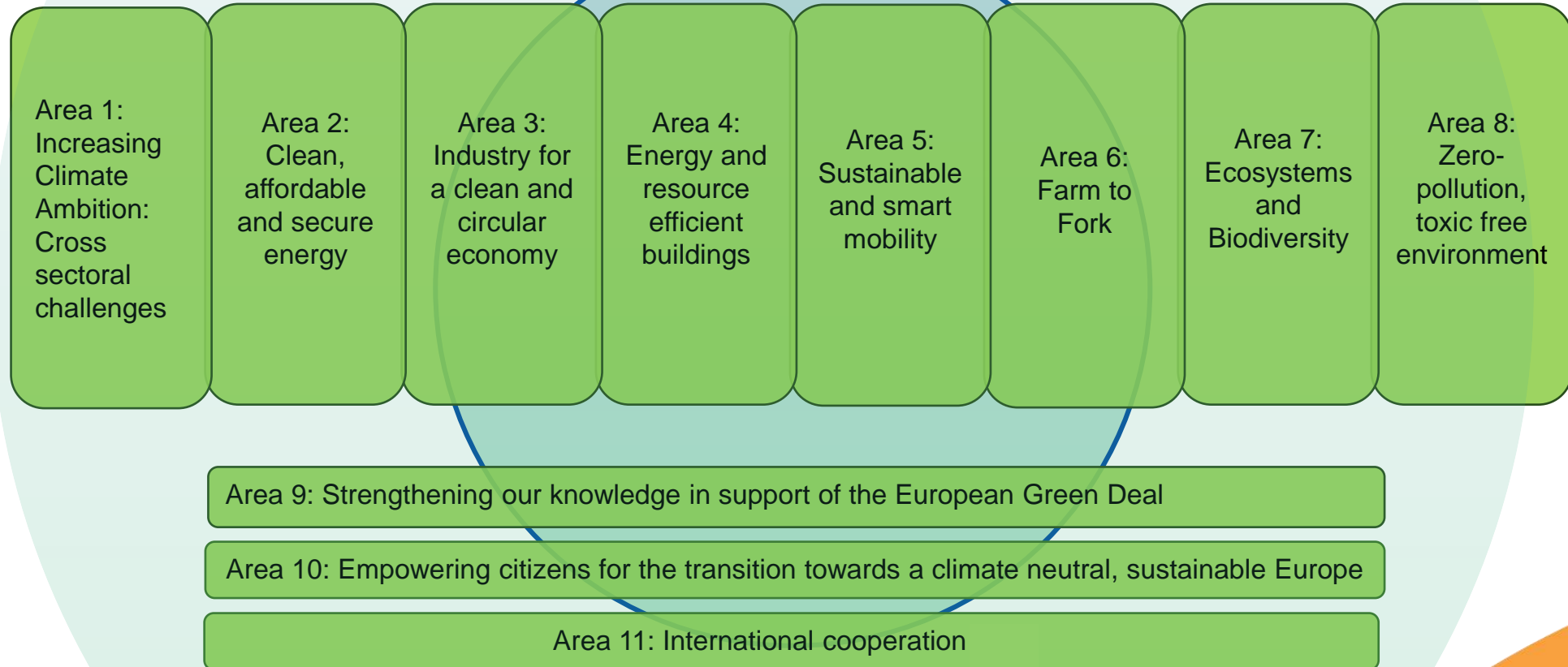
The European Green Deal as the EU's recovery strategy:

- A massive **renovation wave** of our buildings and infrastructure and a more **circular economy**, bringing local jobs;
- Rolling out **renewable energy** projects, especially wind, solar and kick-starting a **clean hydrogen economy** in Europe;
- **Cleaner transport and logistics**, including the installation of one million charging points for electric vehicles and a boost for rail travel and clean mobility in our cities and regions;
- Strengthening the **Just Transition Fund** to support re-skilling, helping businesses create new economic opportunities.

MOBILISING RESEARCH AND FOSTERING INNOVATION

- At least **35% of Horizon Europe funding** for climate solutions
- Horizon 2020 **Green Deal Call** of ca **€1 billion**
- Four '**Green Deal missions**' (climate adaptation, oceans, cities and soil)
- **Several European Partnerships** with industry and Member States
- **European Institute of Innovation and Technology** support to young researchers and innovators
- **European Innovation Council** focused on radically new, breakthrough products, services and processes
- **Data and digital infrastructure** in support of the ecological transition

STRUCTURE OF THE GREEN DEAL CALL



Commission Work Programme 2020



- Strategy for smart sector integration (non-legislative, Q2 2020);
- Renovation wave (non-legislative, Q3 2020);
- Offshore renewable energy (non-legislative, Q4 2020)

electrification, networks, infrastructure, carriers..

INTEGRATED SET PLAN

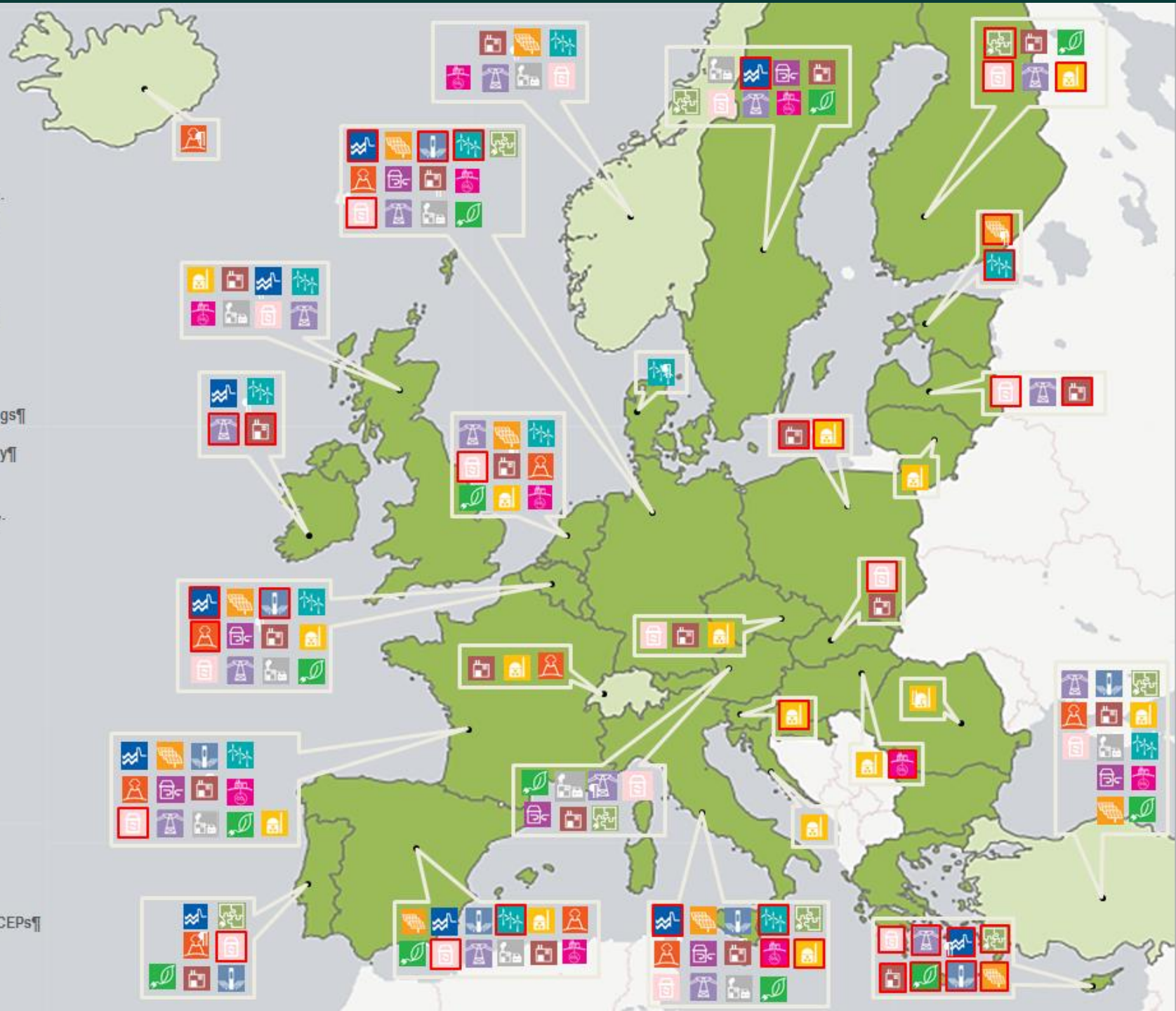


- The 2020 monitoring & reporting progress
- Powering the SET-Plan for the EU Green Recovery - EUSEW – 26/6
- The SET-Plan Conference under the German Presidency

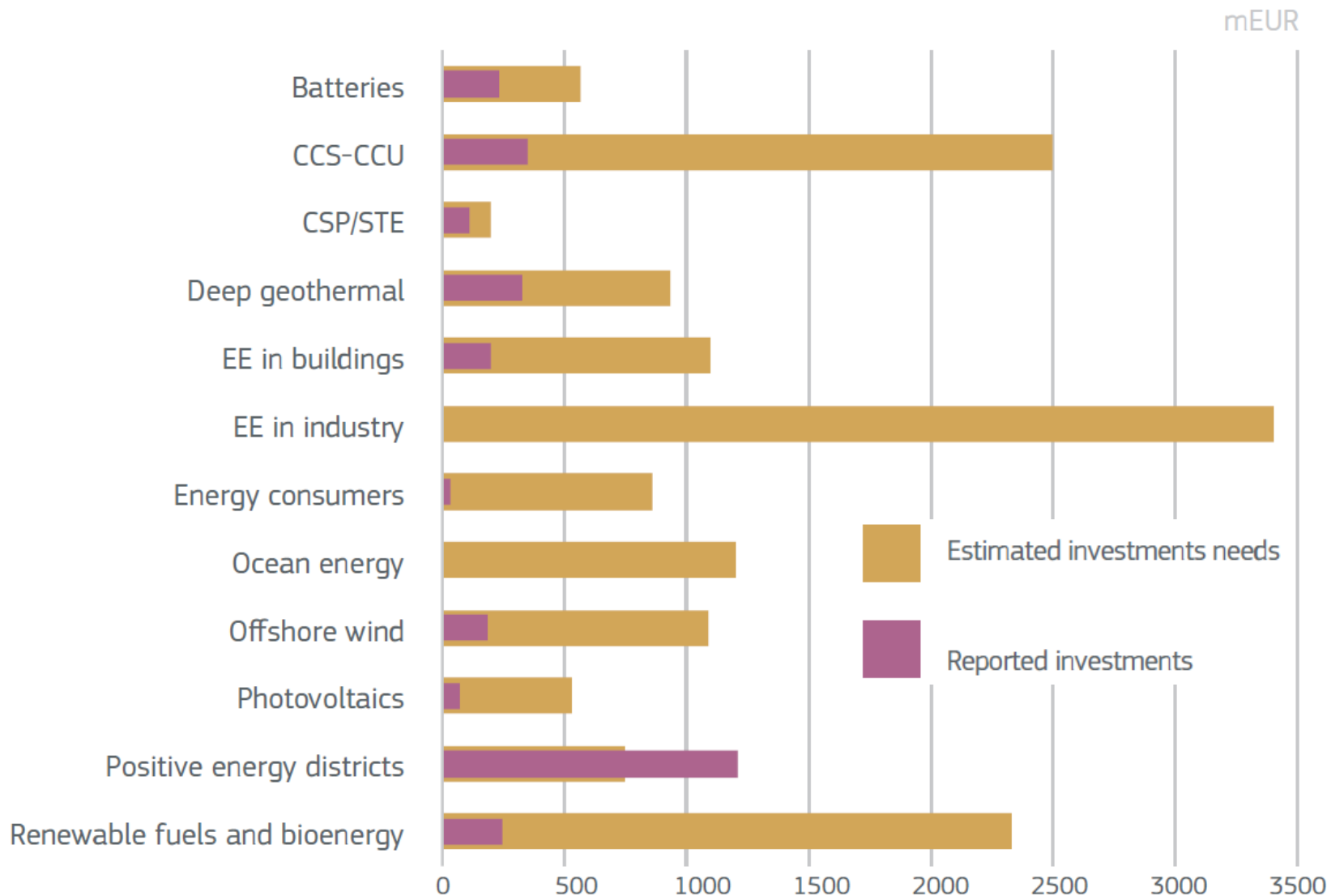
Consistency between SET-Plan commitments and technology priorities in the draft NECPs (2019)

LEGEND

- Solar-Photovoltaics
- Concentrated-Solar-Power-/Solar-Thermal-Electricity
- Offshore-Wind-Energy
- Deep-Geothermal-Energy
- Ocean-Energy
- Energy-Efficiency-in-Buildings
- Energy-Efficiency-in-Industry
- Smart-Solutions-for-Energy-Consumers
- Positive-Energy-Districts
- Energy-Systems
- Batteries-(E-Mobility-and-Stationary-Storage)
- Renewable-Fuels-and-Bioenergy
- Carbon-Capture-Utilisation-and-Storage
- Nuclear-Safety
- SET-Plan-not-mentioned-in-NECPs



Reported investments vs estimated needs (2019)

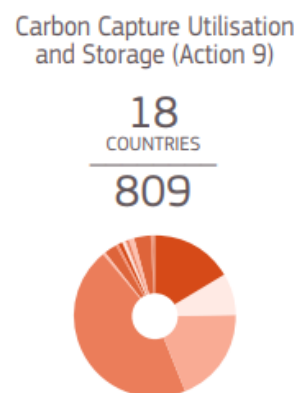
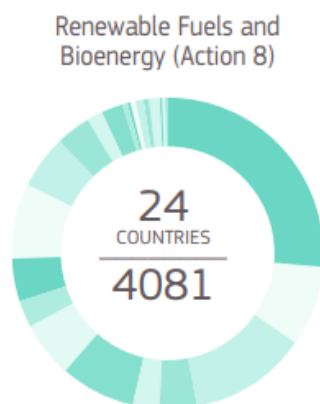
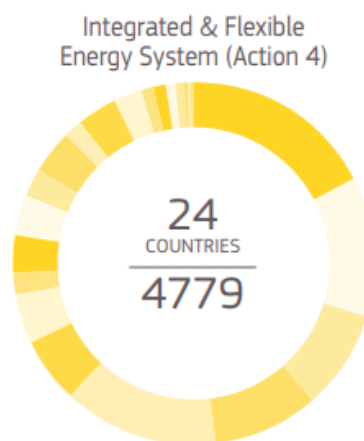
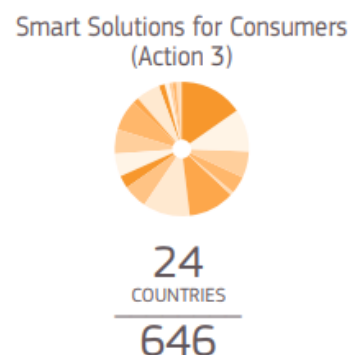
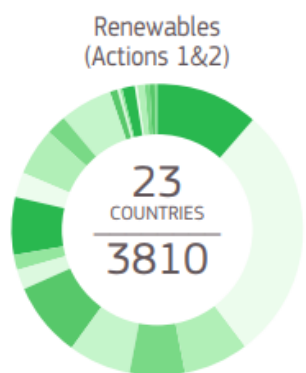


- Reported funds amount to 3.1 billion EUR, representing **15%** of estimated R&I investments needs by IWGs (20 billion EUR)
- *Positive energy districts* R&I projects received funding in excess of the estimated 750 million EUR (**161%**)
- *Energy systems* IWG reported the lowest share of committed investments (2%) compared to the estimates stated in its IP.

<https://setis.ec.europa.eu/publications/set-plan-implementation-progress-reports/progress-implementation-working-groups-2019>

Monitoring public investment in energy R&I

NATIONAL R&D EXPENDITURE PER SET PLAN ACTION (2012-2016) [EUR MILLION]

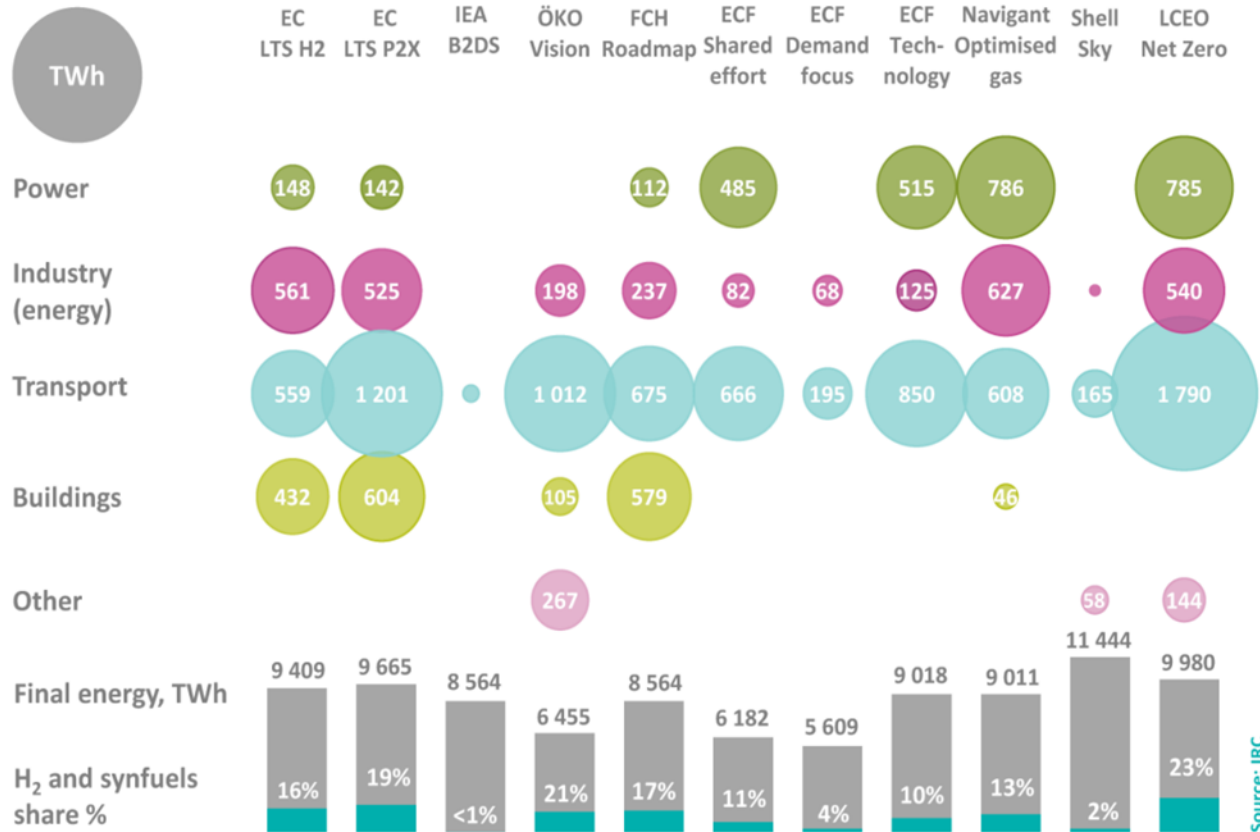


- Who is investing in low-carbon energy R&I?
- Are we investing enough?

Leading up to 2030, an investment in excess of EUR 20 billion is expected in R&I activities that impact the clean energy transition, and the EU in low-carbon energy technologies.

Source: JRC based on IEA data and own data collection, in SET Plan delivering results (2018)

The role of H₂ in EU decarbonisation scenarios



- Great volumes of H₂ may be needed for the decarbonisation of the EU
- Transport and industry are the main end-use sectors; H₂ consumption in buildings shown in LTS
- H₂ may supply up to a quarter of the EU's final energy consumption

Consumption of hydrogen and share in final energy in EU decarbonisation scenarios in 2050 (JRC116452)

The role of R&I in Europe's Recovery



"Our renewed commitment to modernize our economies, making them greener, more digital and more resilient, will ensure that we come out stronger from this crisis. Research and innovation are vital to ensure a sustainable recovery for all."

Mariya Gabriel, Commissioner for Innovation, Research, Culture, Education and Youth

INVESTMENTS IN RESEARCH AND INNOVATION ARE KEY FOR A SUSTAINABLE AND INCLUSIVE RECOVERY

R&I are critical levers to ensure a sustainable and inclusive recovery, while boosting the resilience of our production sectors, the competitiveness of our economies and the transformation of our socio-economic systems. There are a number of key strategic areas where R&I initiatives can assist the recovery, and assist in the short term.



€13.5 billion proposed increase of Horizon Europe budget through Next Generation EU, a €750 billion recovery plan



The budget increase will be used to provide European support for health and climate-related research and innovation activities. The additional budget will go to:

- Horizon Europe's **Health cluster** to tackle challenges such as the coronavirus pandemic, the extension of clinical trials, innovative protective measures, virology, vaccines, treatments and diagnostics, and the translation of research findings into public health policy measures.
- Horizon Europe's **Climate Energy and Mobility cluster** and the **Digital Industry and Space cluster** to scale up R&I resources in climate-related domains and to ensure that European enterprises have access to the technologies and data they need. This will strengthen support for the competitiveness of EU industry in related economic sectors and promote a recovery consistent with the **European Green Deal's** goals.
- The **European Innovation Council (EIC)** to provide additional means for emerging and breakthrough innovations by small and medium-sized enterprises, start-ups, and midcaps. The EIC has a huge potential to support the recovery and the EU's ambitions on digitalisation and climate.

https://ec.europa.eu/info/sites/info/files/research_and_innovation/strategy_on_research_and_innovation/documents/ec_rtd_covid19-recovery-factsheet.pdf

Thank you



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