



# Research & Innovation as a driver of the green transition

*von der Leyen Commission*

#EUGreenDeal

Research and  
Innovation

Mobilising Research & Fostering Innovation

Transforming the EU's economy for a sustainable future

Mainstreaming sustainability in all EU policies

Designing a set of deeply transformative policies

The European Green Deal

And leaving no one behind

Leave no one behind (Just Transition)

Financing the transition

The EU as a global leader

A European Climate Pact

Designing a set of  
deeply  
transformative  
policies



# MAJOR DEVELOPMENTS FOR EU ENERGY POLICY

- ▶ Russia's invasion of Ukraine, compounded by **high and volatile energy prices**, has put the spotlight on the **EU's energy security**
- ▶ **REPowerEU Plan**: joint European action for more **affordable, secure and sustainable energy**, supported by legislation and financing
- ▶ A **rapid clean energy transition** is required, **boosting the EU's decarbonisation efforts** and **reducing the EU's dependence on Russian fossil fuels**
- ▶ Aiming for **45% share for renewable energy** and **36-39% improvement in energy efficiency** by 2030
- ▶ **Additional investment of €210 billion is needed between now and 2027** to hit targets, with **Russian fossil fuel imports** currently costing European taxpayers nearly **€100 billion per year**
- ▶ **Financial support** from Recovery and Resilience Facility, Cohesion Policy, Connecting European Facility, and other sources (e.g. European Investment Bank, Innovation Fund)

# GREEN DEAL INDUSTRIAL PLAN

- ▶ **Green Deal Industrial Plan** aims to enhance the competitiveness of Europe's net-zero industry, providing a more supportive environment for **scaling-up the EU's manufacturing capacity for net-zero technologies and products**
- ▶ **Net Zero Industry Act** will massively increase the **technological development, manufacturing production and installation of net-zero products** and energy supply in the EU over the next decade
- ▶ **Critical Raw Materials Act** will help **reduce the EU's reliance on imports of the materials needed for the green transition**, by **strengthening the value chain** for these materials, investing in strategic projects, **diversifying our imports**, and **improving circularity**



**Research &  
Innovation powering  
the Green Deal**

# MOBILISING RESEARCH & FOSTERING INNOVATION

- ▶ At least **35% of Horizon Europe funding** (over €33 billion) dedicated to climate action
- ▶ Horizon 2020 **Green Deal Call of €1 billion**
- ▶ Four '**Green Deal Missions**' (climate adaptation, oceans, cities and soil)
- ▶ **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

# THE ROLE OF R&I POLICY IN THE EGD

- ▶ DG Research and Innovation is **actively engaged** across **all European Green Deal work streams**
- ▶ As a **key enabler** of the various transitions called for by the European Green Deal, research and innovation can **drive, navigate and accelerate the green transition and the digital transition**
- ▶ Research and innovation must **develop, demonstrate and deploy solutions** widely and at scale
- ▶ Research and innovation is a **policy of opportunity** and should **play a key role** in helping Europe achieve **climate neutrality** by 2050



# HORIZON EUROPE GREEN DEAL MISSIONS



Adaptation to climate change,  
including societal transformation



Climate-neutral and  
smart cities

Soil health and food



Healthy oceans, seas,  
coastal and inland waters



# EUROPEAN GREEN DEAL CALL

- ▶ Launched in September 2020, the **Green Deal Call under Horizon 2020** is worth **€1 billion** and is a direct contribution to the **Green Deal** and the **Recovery Plan**
- ▶ Major **cross-cutting** call to provide **innovative solutions**, demonstrate **tangible results** and instil confidence in citizens that **action is underway**
- ▶ The Call addressed the major priorities of the Green Deal, with eight thematic areas and two horizontal areas – ‘**strengthening knowledge**’ and ‘**empowering citizens**’ offering a longer-term perspective
- ▶ **73 projects** funded and ongoing, with **results in the next short- and medium-term**

# EUROPEAN RESEARCH AREA & THE GREEN DEAL

- ▶ The **European Research Area (ERA)** is the ambition to create a **single, borderless market for research, innovation and technology** across the EU
- ▶ The ERA will prioritise **investments and reforms in R&I**, boost **market uptake of results**, strengthen the **mobility of research** and the **free flow of knowledge and tech**, and **improve access to excellence** for researchers
- ▶ **ERA Actions 10-14** prioritise ‘Taking up together challenges posed by the twin green and digital transition, and increasing society’s participation in the ERA’, covering topics like the **EU Missions**, the **green energy transformation**, **industrial ecosystems**, **empowering higher education institutions**, and bringing **science closer to citizens**
- ▶ Example: **ERA industrial technology roadmap for circular technologies and business models** – focus on textiles, construction and energy-intensive industries

# GREEN HYDROGEN

- ▶ The **EU's Hydrogen Strategy** and **REPowerEU Plan** lay out a **comprehensive framework to support the uptake of renewable and low-carbon hydrogen**, with the aim of decarbonising the EU in a cost-effective manner while reducing our dependence on imported fossil fuels
- ▶ The **supply, storage and distribution** of renewable hydrogen must become **more efficient, less costly, and more reliable**
- ▶ **Hydrogen Accelerator**: REPowerEU doubled the target to **produce 10 million tons of renewable hydrogen in the EU and import 10 million tons** each year by 2030
- ▶ **European Hydrogen Bank**: Aims to support investments and the development of the hydrogen market during the scale-up phase by **enabling cost-efficient and predictable purchase and sale of renewable hydrogen** within and outside the Single Market (**€3 billion**)

# EU R&I SUPPORT FOR GREEN HYDROGEN

- ▶ **EU R&I Framework Programmes:** Between **2008-2021**, EU R&I investment of **over €1 billion** in developing hydrogen technologies, leveraging a further €1 billion from the private sector
- ▶ **Clean Hydrogen Partnership** (Horizon Europe): It covers the **entire value chain**, from production and storage to distribution and use, with **€2.4 billion** in funding (€1.2B EU + €1.2B private)
- ▶ **European Clean Hydrogen Alliance:** Links industry, public authorities, research organisations and civil society, pooling resources to **bring scale and impact to industrialisation efforts**
- ▶ **ERA pilot on Green Hydrogen:** Implementation of a **strategic research agenda**, with the creation of a common **European Data Observatory**, development of **Open Innovation Test Beds**, and support for the **skills** required by the hydrogen economy.
- ▶ **Clean Hydrogen Mission under Mission Innovation:** International cooperation with the aim of establishing **100 Hydrogen Valleys worldwide** by 2030.



I THANK YOU

Contact: [eoghan.kinirons@ec.europa.eu](mailto:eoghan.kinirons@ec.europa.eu)

© European Union 2021

Unless otherwise noted the reuse of this presentation is authorised under the [CC BY 4.0](https://creativecommons.org/licenses/by/4.0/) license. For any use or reproduction of elements that are not owned by the EU, permission may need to be sought directly from the respective right holders.