



EU Energy Policy & Fit for 55 package

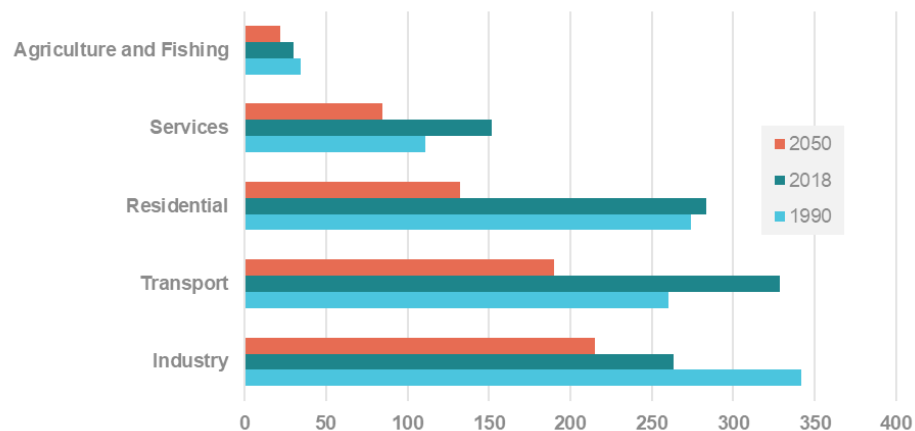
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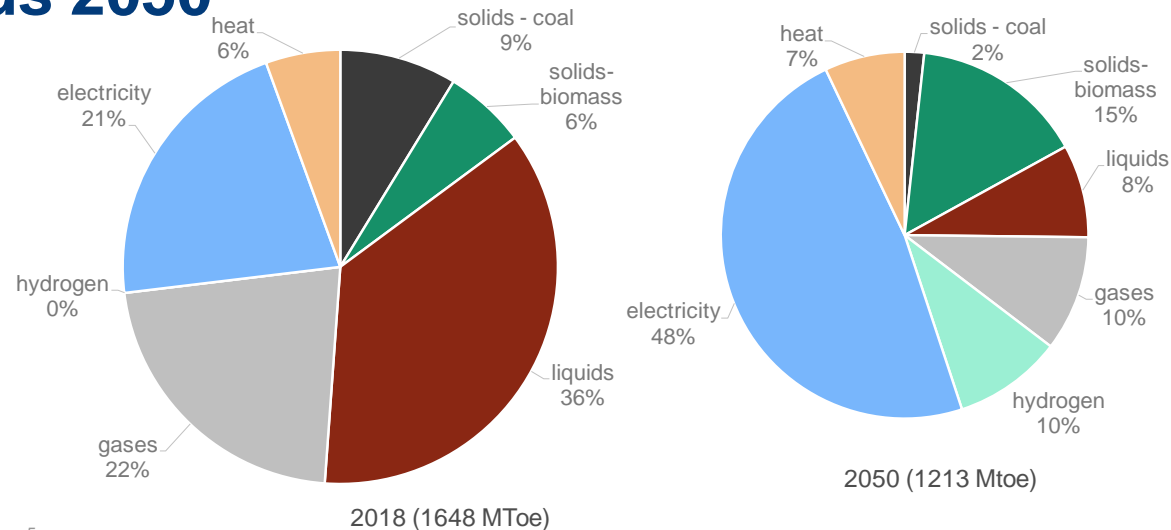
GERG, 3 December 2021

A changing energy landscape towards 2050



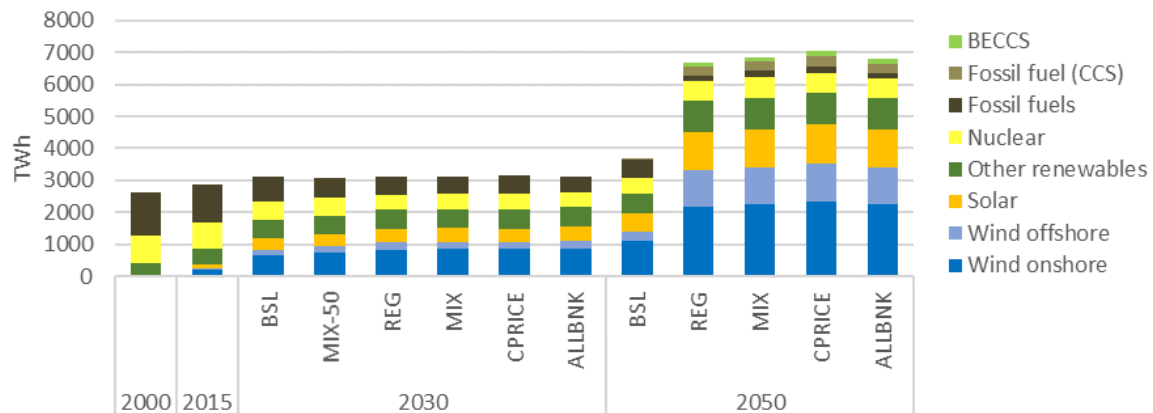
Source: Mtoe, based on EU28 Eurostat/LTS 1.5LIFE/TECH scenarios

(1) Changing demand



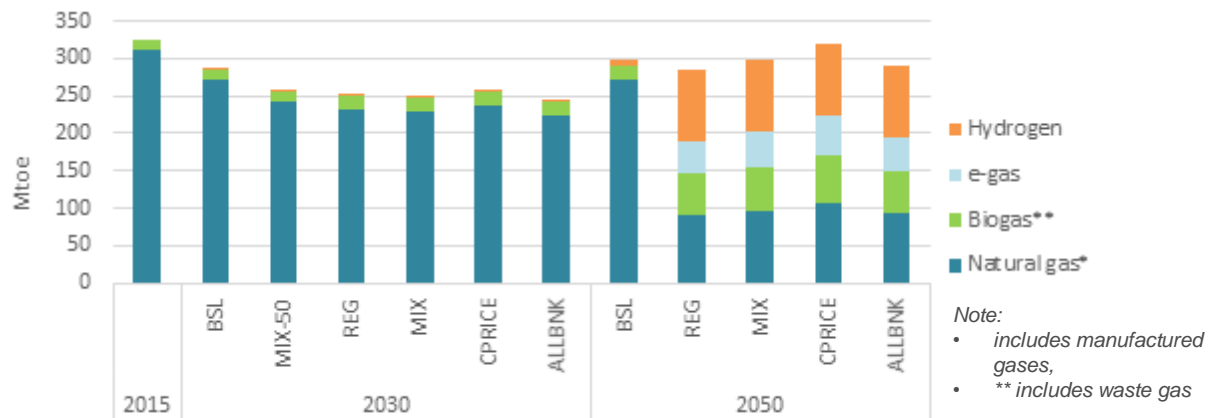
Source: Based on EU28 Eurostat/LTS 1.5LIFE/TECH scenarios

(2) Changing energy carriers



Source: 2015: Eurostat, 2030-2050: PRIMES model

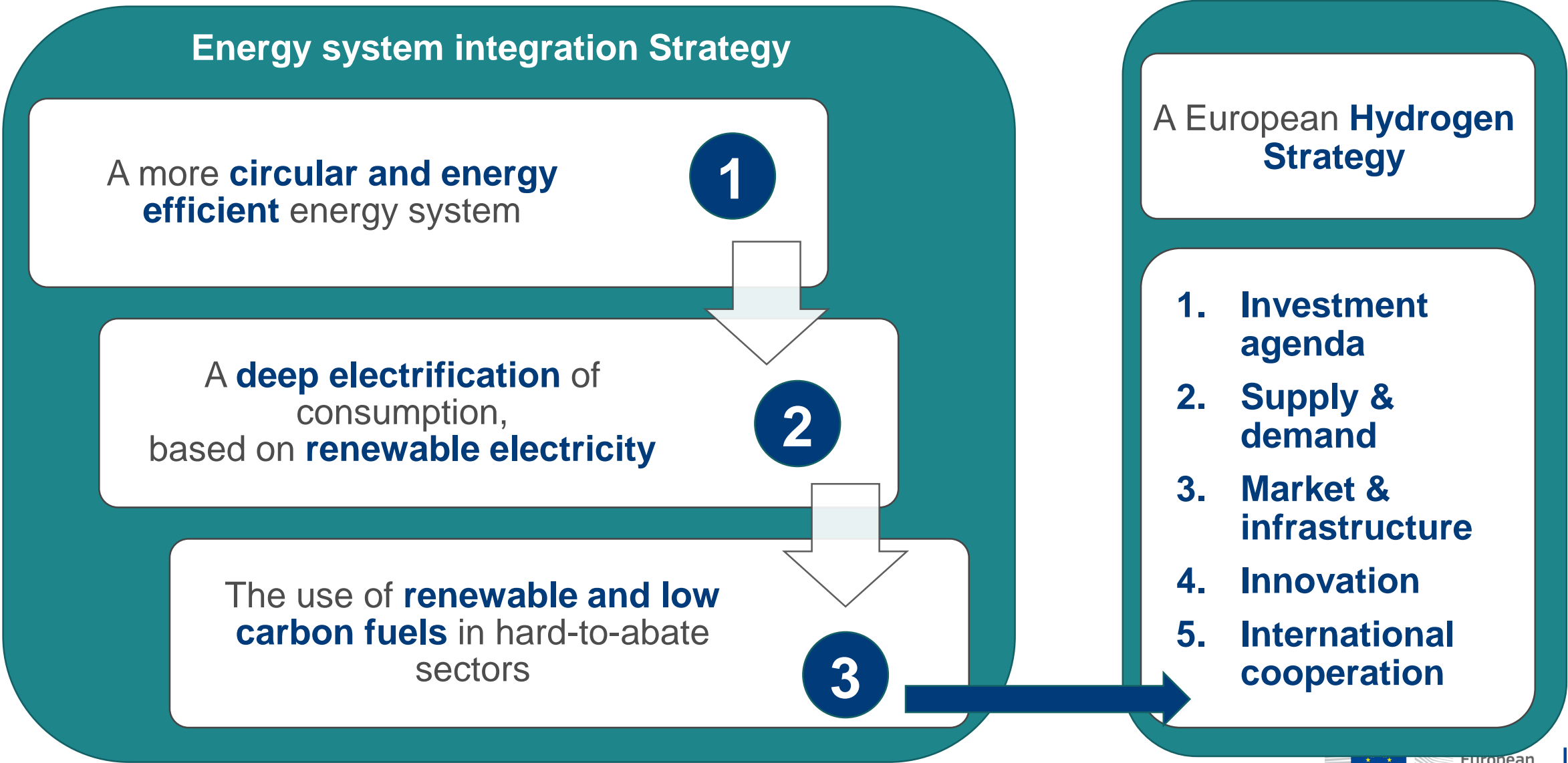
(3) Massive increase RES-E



Source: 2015: Eurostat, 2030-2050: PRIMES model

(4) Renewable and low-carbon gases

Laying the foundation for a climate-neutral energy system – Green Deal objective



EU Hydrogen Strategy: an action plan

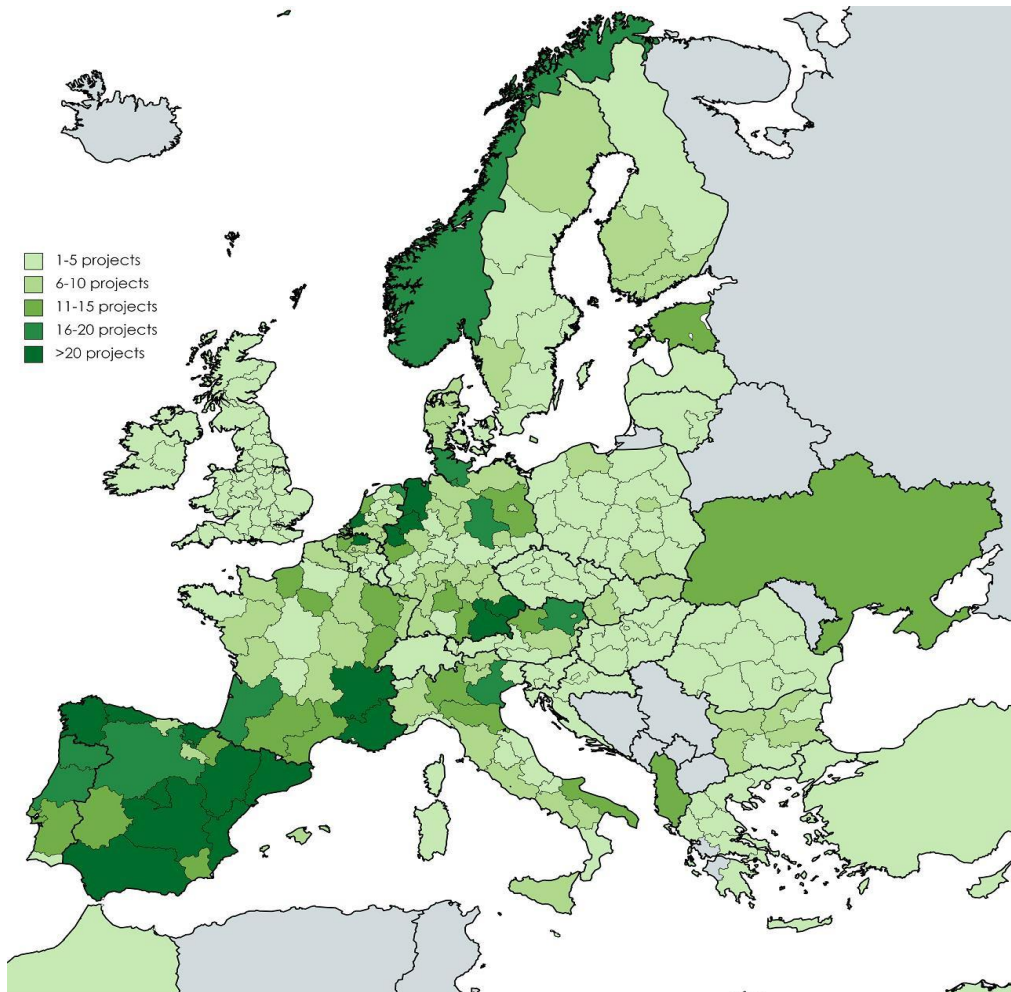
Full value chain approach,	Actions oriented towards	Main tools involved (*)
An investment agenda	<ul style="list-style-type: none"> • Create project pipeline • €220-340 bln renewable power, €24-42 bln electrolyzers, €65 bln infrastructure 	Clean Hydrogen Alliance, InvestEU, IPCEI, State aid, Cohesion policy
Boosting demand and scale up production	<ul style="list-style-type: none"> • Comprehensive terminology and EU-wide certification of hydrogen • Support schemes and CCfD for renewable and low-carbon hydrogen • Demand-side policies in end-use sectors 	RED, EU ETS, Transport policy, Industrial strategies
Develop hydrogen infrastructure and markets	<ul style="list-style-type: none"> • Planning of hydrogen transport, storage and dispatch infrastructure • Ensure access, develop liquid hydrogen markets and integrity of internal gas market 	TYNDPs, TEN-E, TEN-T, AFID, CEF, decarbonisation of gas package
Research and Innovation	<ul style="list-style-type: none"> • Scale up electrolyzers • Develop hydrogen value chain • Innovative hydrogen technologies 	Clean Hydrogen Partnership, ETS Innovation Fund, Horizon Europe,
The international dimension	<ul style="list-style-type: none"> • International standards, regulation and definitions for hydrogen • Promote cooperation 	IEA, IRENA, CEM, G20, Neighbourhood policy, EU-Africa Green Energy Initiative, bilateral energy dialogues, € benchmark

(*) Non-exhaustive list

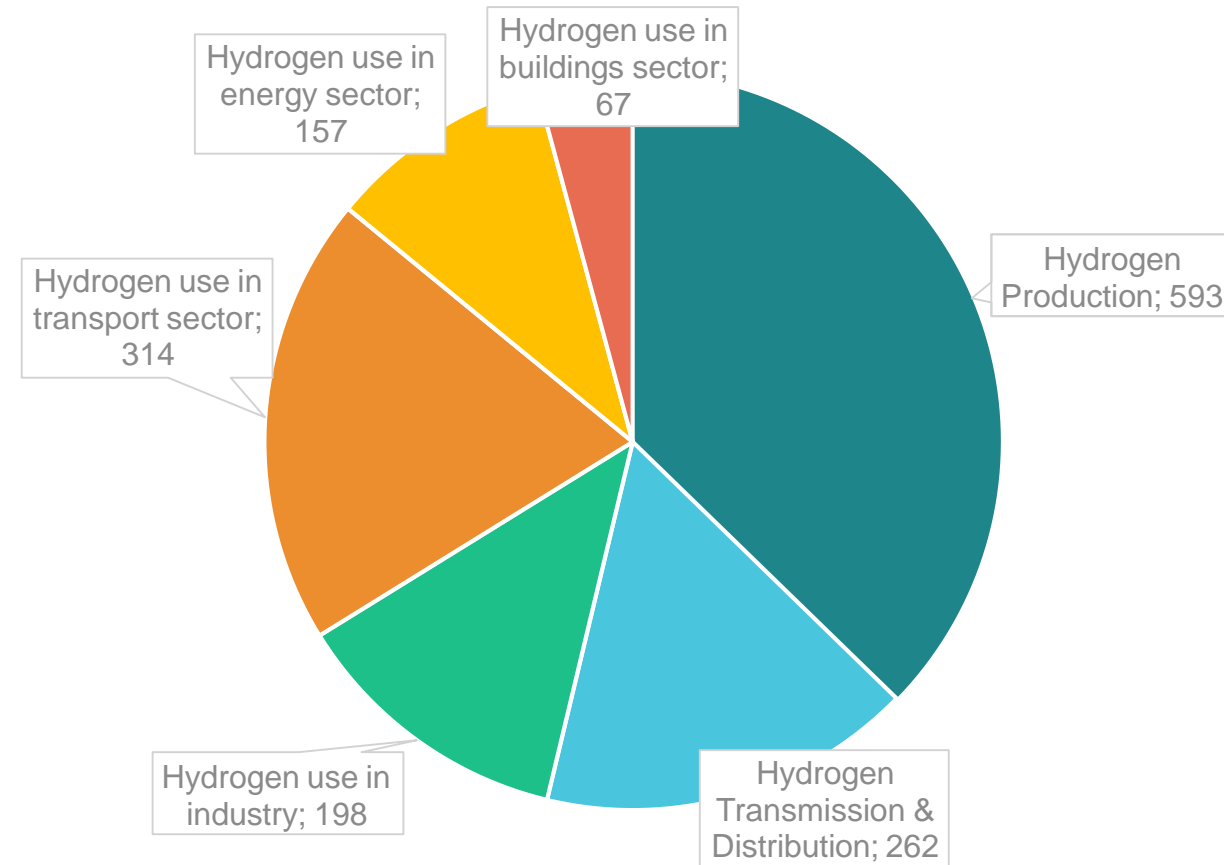
R&I partnerships

- **European Partnership on Clean Hydrogen – successor of FCH JU**
- Development and deployment of European clean hydrogen technologies, contributing to a sustainable, decarbonised and fully integrated energy system.
- It will focus on production, distribution and storage of clean hydrogen to supply hard to decarbonise sectors such as heavy industries and heavy-duty transport applications.
- **European Partnership for Clean Steel - Low Carbon Steelmaking**
- Synergies: Clean Steel will focus on converging the smelting process to iron ore reduction using hydrogen
- **Processes4Planet – Transforming the European Process Industry for a sustainable society**
- Synergies: P4P will focus on the adaptation of industry processes to integrate FCH technologies
- **European Partnership for Clean Aviation**
- Synergies: Clean Aviation will perform technology integration into the ground and later on flying demonstrations
- **European Partnership – Towards zero-emission road transport (2ZERO)**
- ✓ Synergies: 2Zero will focus on the integration of the fuel cell system in the heavy – duty vehicles and collaborate with Clean hydrogen on the demonstration activities of those prototypes
- ✓ **European Partnership on zero-emission waterborne transport**
- ✓ Synergies: ZEWT will address technology integration, implementation and validation for both maritime and inland large scale shipping

The Hydrogen Alliance - Overview of all eligible projects collected*

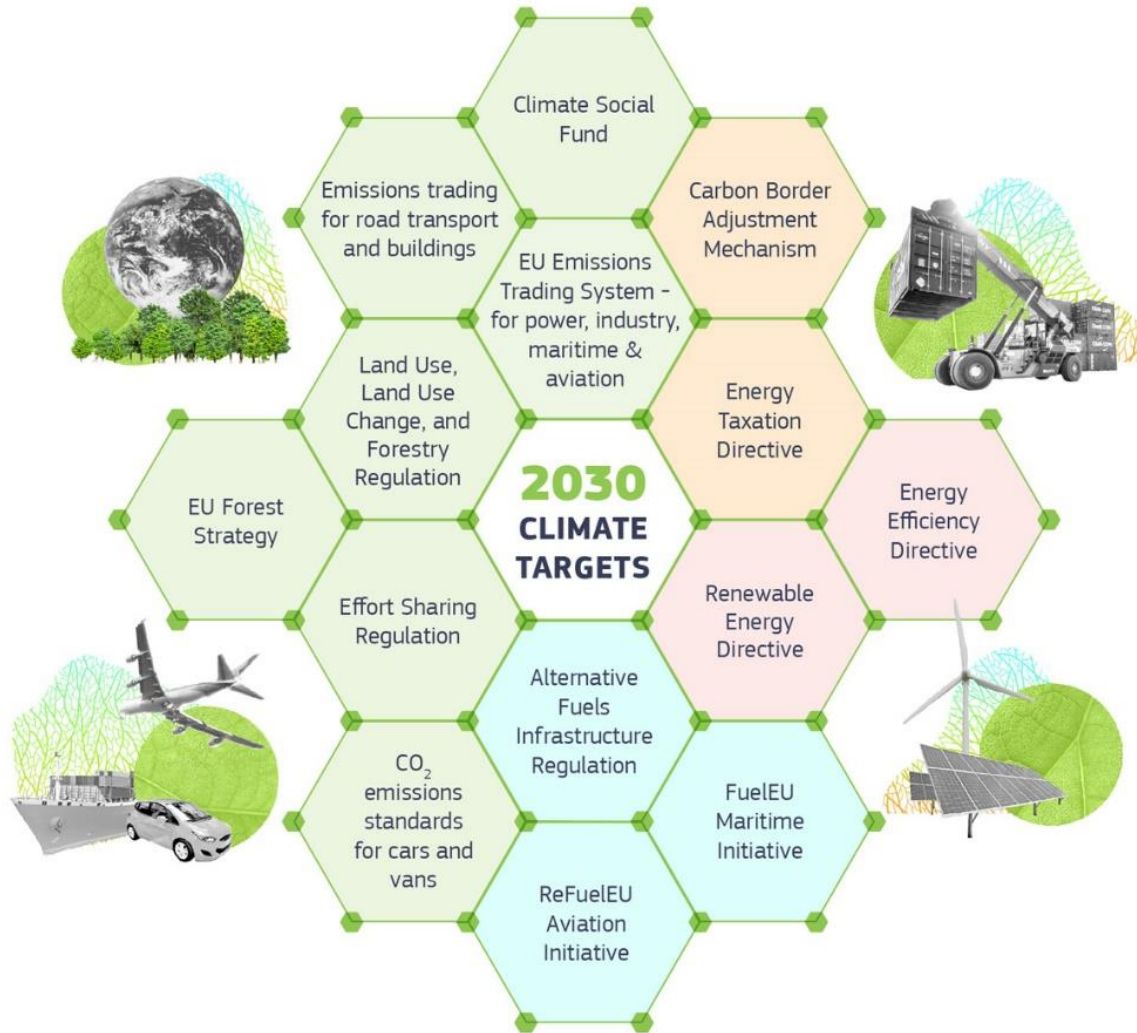


Projects collected per type



* Actual project location by NUTS2 region; a project covering more than one region appears more than once

The Fit for 55 Package – Overview



The package aims to make the EU ‘fit for 55’ and **deliver the transformational change** needed in a

- **fair,**
- **cost-efficient and**
- **competitive way.**

It cements the **EU’s global leadership** by action and by example in the **fight against climate change**

Policy mix at a glance

Pricing	Targets	Rules
<ul style="list-style-type: none">• Stronger ETS including in aviation• Extending the ETS to maritime, road transport, and buildings• Updated Energy Taxation Directive• Carbon Border Adjustment Mechanism	<ul style="list-style-type: none">• Updated Effort Sharing Regulation• Updated LULUCF Regulation• Updated Renewable Energy Directive• Updated Energy Efficiency Directive	<ul style="list-style-type: none">• Stricter CO₂ performance for cars & vans• New infrastructure for alternative fuels• ReFuelEU: More sustainable aviation fuels• FuelEU: Cleaner maritime fuels
Support measures		
Using revenues and regulations to promote innovation, build solidarity and mitigate impacts for the vulnerable, notably through the new Social Climate Fund and enhanced Modernisation and Innovation Funds		

The Fit for 55 Package consists of a set of **inter-connected proposals that strike a careful balance** between pricing, targets, standards and support measures.

Fit for 55 package: focus on initiatives (1)

✓ RED II proposal:

- fostering the % renewables in the EU's energy mix by 2030 and certification and a certification system for **renewable and low-carbon fuels**.
- Overall target: substantial **increase in renewable energy** from the current **32% target today** to **38%- 40% by 2030**.

✓ Energy Efficiency Directive

- a more ambitious binding annual target for reducing energy use at EU level.
- Overall target: new EU binding target for final and primary energy consumption (36% and 39%)

Fit for 55 package: focus on initiatives (2)

- ✓ **Alternative Fuels Infrastructure Regulation:** 12.9 target for the reduction of the greenhouse GHG emissions for transport fuels, incl. at least one electric charging each 60km and h2 refuelling station each 150 Km
- ✓ **FuelEU aviation and maritime proposals:** stimulate the uptake of sustainable fuels, including hydrogen
- ✓ **EU Emission Trading Scheme:** extending and deepening the scheme, also production of H2 with electrolyzers to receive free allowance and carbon contracts for difference
- ✓ **Energy Taxation Directive:** preferential tax rates for the use of renewable and low carbon H2

Hydrogen and gas markets decarbonisation package

- The main aims of the planned Hydrogen and Gas Market Decarbonisation Package, are:
 - I. Facilitating the **integration of renewable and low-carbon gases** in the existing gas grid. This concerns biomethane injected at distribution level, gas quality in the existing networks, access of renewable gases to LNG terminals.
 - II. Enabling **the development of dedicated hydrogen infrastructure and market**, allowing hydrogen to become a key component of the energy sector.
 - III. Fostering more integrated **network planning** between electricity, gas and hydrogen networks
 - IV: Promoting **consumer engagement** in the RES and low-carbon gas markets.
- Will include terminology and certification of low-carbon hydrogen
- Open public consultation that was finalized in June gives good impression of concrete elements that will be addressed in the package
- Adoption and publication of this package planned for December this year

Support measures for a fair transition

- The **Recovery and Resilience Facility** and the **EU Structural Funds**
- The **Social Climate Fund**: 1) **support households, transport users, and micro-enterprises**; 2) **support investments** in energy efficiency, buildings renovation, clean heating and cooling, integration of renewable; 3) **provide direct income** support for vulnerable households; 4) **finance zero-and low-emission mobility**
- **Financed by the EU budget**, using an amount equivalent to **25% of the expected revenues ETS building and road transport**. It will provide **€72.2 billion** for the period **2025-2032**





Thank you

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