



The EU Hydrogen Strategy & future implementation actions

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A full value chain approach

Building on the Green Deal and Recovery Plan objectives

The Energy System Integration

The Hydrogen Strategy

- An investment agenda
- Boosting demand and scaling up production
- Develop hydrogen infrastructure and markets
- Research and innovation
- The international dimension

The Hydrogen Alliance

The Hydrogen Strategy – a roadmap to 2050

2024

- 6 **GW** of renewable hydrogen electrolyzers
- Replace **existing hydrogen production**
- Regulation for liquid hydrogen markets
- Planning of hydrogen infrastructure

2030

- **40 GW** of renewable hydrogen electrolyzers
- New applications in **steel and transport**
- Hydrogen for electricity balancing purposes
- Creation of “Hydrogen Valleys”
- Cross-border logistical infrastructure

2050

- Scale-up to **all hard-to-decarbonise sectors**
- Expansion of hydrogen-derived **synthetic fuels**
- EU-wide infrastructure network
- An open international market with € as benchmark

Making it happen – an action plan for Energy System Integration

Pillar	Actions oriented towards	Main tools involved (*)
A more circular and energy efficient energy system	<ul style="list-style-type: none"> • Better apply Energy efficiency first principle • Better mobilise waste heat • Better mobilise biowaste 	RED, EED, TEN-E CAP, LIFE funding
A deep electrification of consumption, based on renewable electricity	<ul style="list-style-type: none"> • Increased supply RES electricity • Faster electrification end-use sectors • Roll out EV infrastructure & new loads integration 	RED, IED, AFID, TEN-E, TEN-T, CO2 emissions for cars, Offshore RES, Renovation wave Network code on Demand side flexibility EU funding
RES & low carbon fuels for hard-to-abate sectors (incl. hydrogen)	<ul style="list-style-type: none"> • Promoting RES fuels from biomass • Promoting RES hydrogen • Enabling CCUS incl. for synthetic fuels 	RED, Aviation/Maritime initiatives, EU funding + Hydrogen Strategy Follow-up
Energy markets fit for decarbonisation & distributed resources	<ul style="list-style-type: none"> • Creating a level playing field across carriers • Review gas regulatory framework • Improve customer information 	ETD, ETS, State Aid, gas legislation , Guidance on non-energy price components
A more integrated energy infrastructure	<ul style="list-style-type: none"> • More integrated planning at gas, electricity, heat and hydrogen • Better governance 	TEN-E, TEN-T, RED, EED, TYNDP
A digitalised energy system & supportive innovation framework	<ul style="list-style-type: none"> • Ensure digitalisation support energy system integration • Research and innovation as a key enabler 	Energy Digitalisation Action Plan, Network Code on cybersecurity, Impact oriented research outlook

(*) Non-exhaustive list

Making it happen – an action plan for the Hydrogen Strategy

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 electrolysers, €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 electrolysers • 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

Thank you for your attention