

Training Day

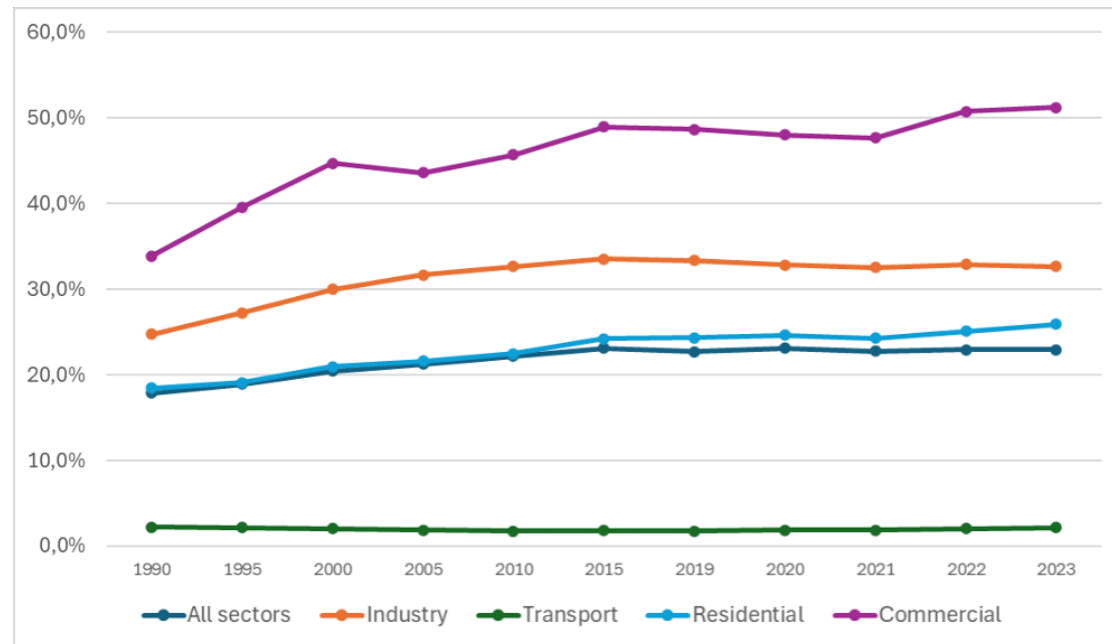
Decarbonising demand: recent EU policies and regulation

Ilaria Conti,
Vice-Chair of UNECE Group of Experts on Gas

UNECE, Geneva - 28th April 2026

Industry decarbonisation, including through electrification, is now a core priority of EU policies

Clean Industrial Deal (CID) + Industrial Decarbonization Accelerator Act (IDAA) : focus on energy-intensive industries such as steel, metals and chemicals ('hard-to-abate')



How to overcome/mitigate these barriers?

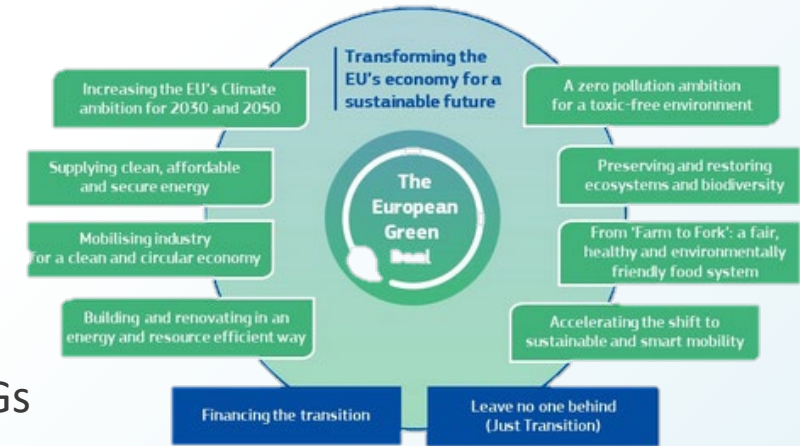
- Electrification as one of the main decarbonization pathways for energy-intensive industries.
- Half of the fossil consumption of the EU industry could be electrified with current technologies ([McKinsey, 2020](#))
- But: electrification rate of the EU industry has been stagnating over the past decades, at around 33% (see table).
- Among the main barriers to electrification, the industry identified: inadequate taxation levels (i.e., tax rates higher for electricity than for fossil fuels), high investment costs, increased and uncertain energy procurement costs, and pressure from international competition ([Eurelectric, 2025](#)).

Decarbonising the EU energy system via 'clean molecules'

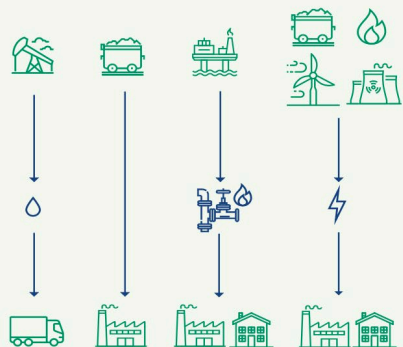


EU Green Deal (2019) → Focus: decarbonisation of EU economy

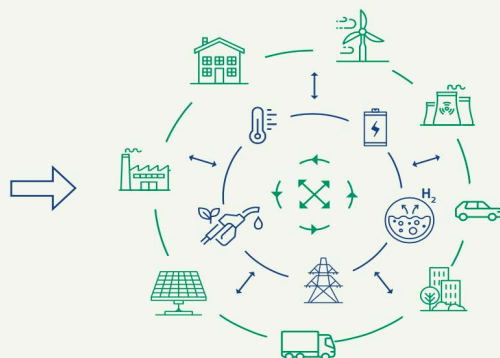
- Gradual **phase out** of fossil fuels
- Gas as a **back-up to electrification**. Main role as security of supply provider, insurance value of storage
- Replacement with '**clean molecules**' (hydrogen, biogas and biomethane, synthetic gas) in **hard-to-abate sectors**
- **Emissions abatement**: not only CO₂, also methane emissions and other GHGs



The energy system today : linear and wasteful flows of energy, in one direction only



Future EU integrated energy system : energy flows between users and producers, reducing wasted resources and money



Energy System Integration: the six pillars

1. A more circular and efficient energy system
2. Electrification via RES
3. Renewable and low-carbon fuels in hard-to-abate sectors
4. Consumers' empowerment
5. Integrated infrastructure
6. Digitalisation

Acceleration via policy and regulation (2022-2026)



REPowerEU (2022) → **Focus:** diversification and resilience

- Response to the crisis and to scarcity and price volatility.
- Measures to increase technological and geographical diversification, and pursue a more diversified energy mix via acceleration of hydrogen, biogas/biomethane and others.

REPOWER EU TRACK	FOCUS	FF55 AMBITION BY 2030	REPOWEREU MEASURE	REPLACED BY THE END OF 2022 (BCM equivalent) estimate	ADDITIONAL TO FF55 BY 2030 (BCM equivalent) estimate
GAS DIVERSIFICATION	NON-RU NATURAL GAS	-	LNG diversification	50*	50
		-	Pipeline import diversification	10	10
	MORE RENEWABLE GAS	17 bcm of biomethane production, saving 17 bcm	Boost biomethane production to 35bcm by 2030	3.5	18
		5.6 million tonnes of renewable hydrogen, saving 9-18.5 bcm	Boost hydrogen production and imports to 20mt by 2030	-	25-50

Source: EU Commission, REPowerEU

Hydrogen and Decarbonised Markets Package(2024)

→ **Focus:** adjust the existing framework to allow and promote the integration of clean molecules
 Development of dedicated H2 infrastructure
 Access of renewable and low-carbon gases to the existing network
 Integrated network planning
 Consumers protection
 Security of supply

Methane emissions regulation, Clean Industrial Deal, Grids Package, Industrial Decarbonisation Accelerator Act, etc. →

Focus: boosting decarbonisation while preserving competition of EU industry.

The ACER Hydrogen Market Monitoring Report (December 2025)



WFER IX



Highlights:

- Only 2 Member States have transposed the new Renewable Energy Directive
- +51% increase in electrolyser capacity. Today 308 MW vs EU Hydrogen Strategy Targets (6 GW in 2024, 40 GW in 2030)
- Electricity supply costs (excluding grid tariffs) may account for up to 50% of renewable hydrogen's production costs.
- Renewable hydrogen is 4x more expensive than fossil-based hydrogen



Regulatory certainty

Accelerate the transposition and implementation of the amended **Renewable Energy Directive** to ensure regulatory certainty and accelerate market development.



Implement legislation

Implement the **hydrogen and gas decarbonisation package without delay** to facilitate the deployment of infrastructure and a well-functioning hydrogen market.



Targeted investments

Prioritise and target funding toward projects in **hard-to-abate sectors** that are ready to transition to renewable and low-carbon hydrogen, to stimulate demand.



Infrastructure

Facilitate **renewable hydrogen production through faster permitting and grid connection** for both electrolyzers and renewable electricity projects.



System decarbonisation

Speed up **decarbonisation of the power sector** to lower electricity costs and enhance electrolyser utilisation.



Market optimisation

Enable flexibility in the **electricity market, rethink electricity grid tariffs and grid incentives**, which can also optimise electrolyser location and performance.



Risk assessment

Assess the **risks of low-carbon hydrogen pathways**, including its underlying costs, infrastructure uncertainties and lock-in effects, before committing to large-scale deployment.



Market certainty

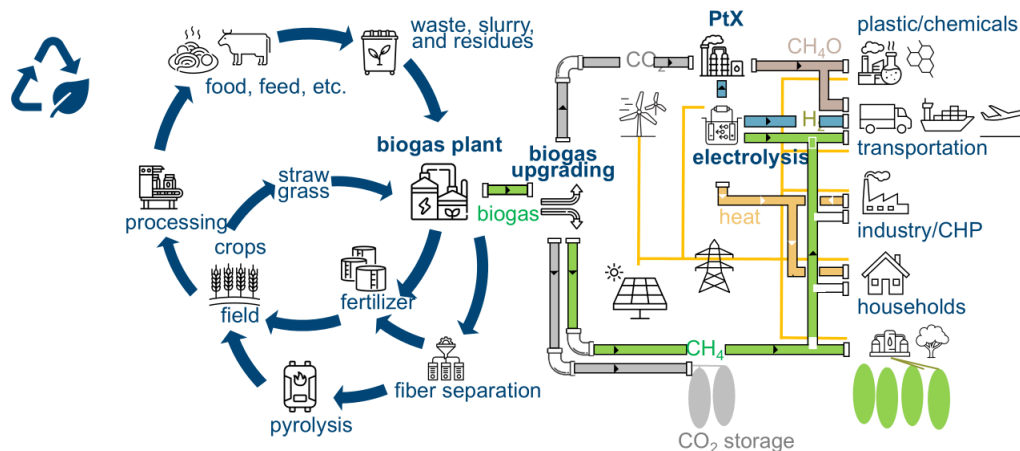
Align **hydrogen network development with market realities** to manage market uncertainties and reduce the risk of stranded assets.

Upgraded role for biogas and biomethane in the energy transition



Accelerate EU (published 22.04.2026)

*“Biogas and biomethane can also play a more strategic role in **replacing imported fossil fuels**, particularly in sectors where electrification is more difficult Biomethane production in existing plants could be increased by about 10% to 30%. [...] **creating local value**, particularly in rural areas”*



“On biomethane, the Commission will continue supporting initiatives to advance the production of gaseous molecules of non-fossil origin, including sustainable biogas and biomethane [...] taking careful consideration of the scaling up of existing plants, reducing permitting bottlenecks and improving the transport of sustainable feedstock across regions”.



Thank you for your attention!