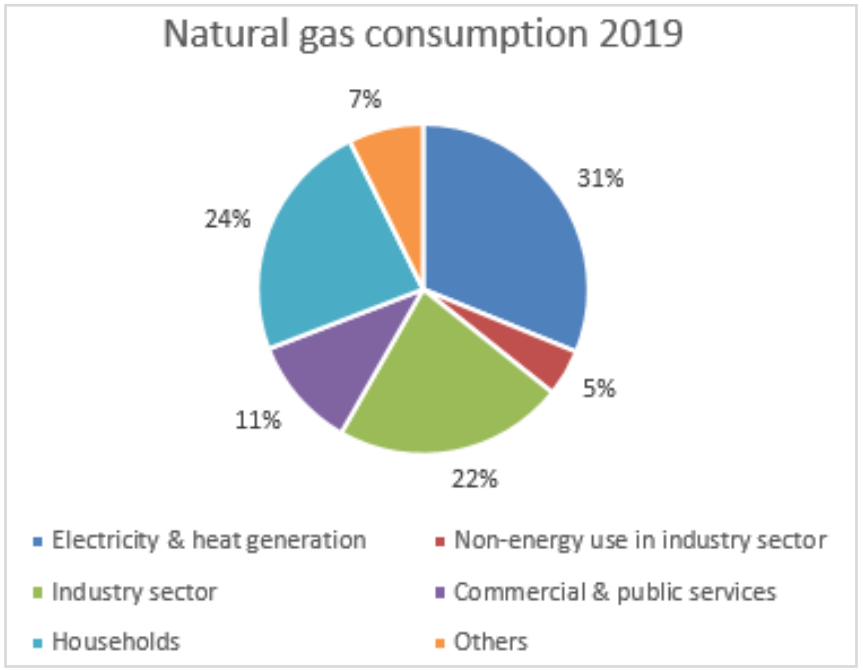
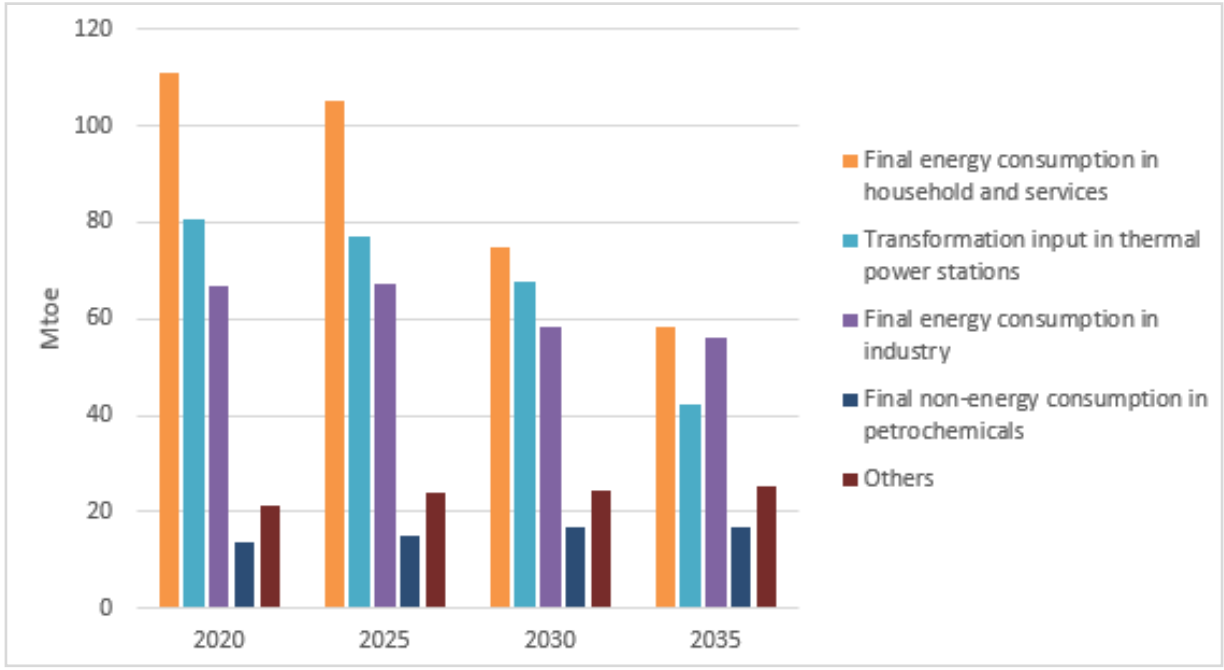
Hydrogen and decarbonised gas markets reform

European Commission

The EU natural gas market today, 2030 and 2035





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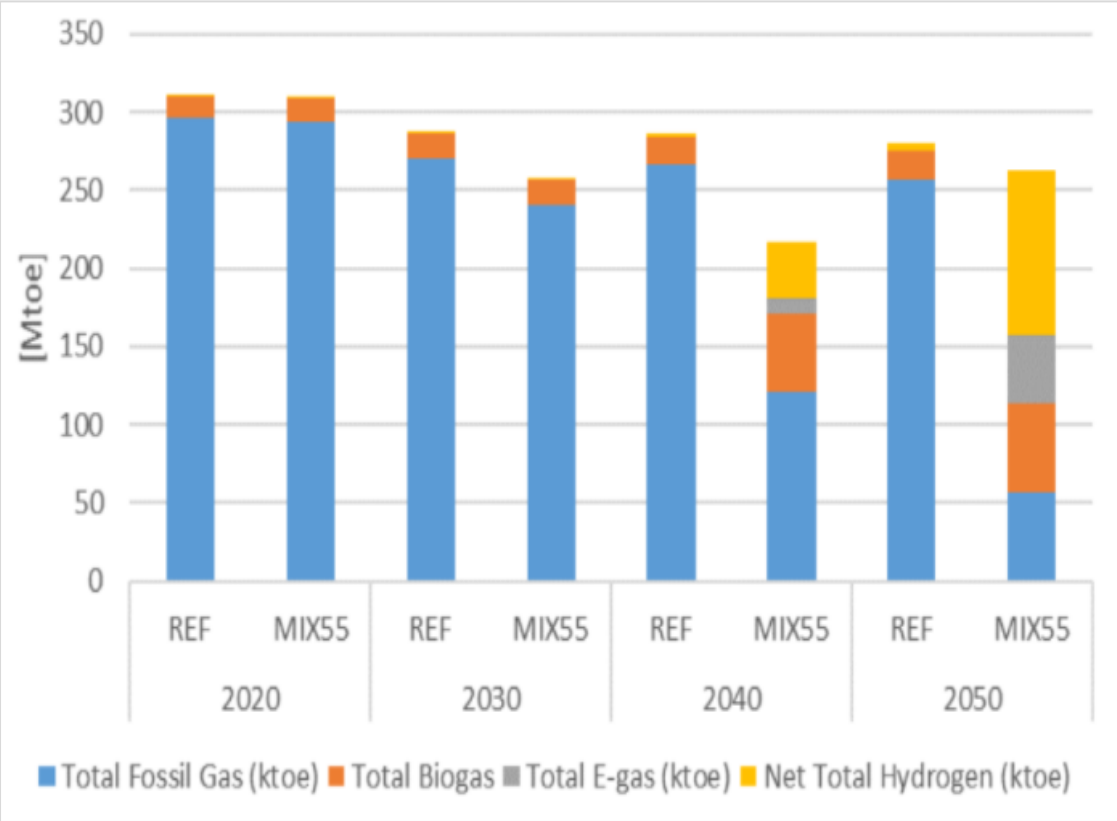
Expected changes in the composition of gaseous energy carriers in the EU towards 2050



- Gaseous fuels will continue to provide an important share of the energy mix by 2050, requiring the decarbonisation of gases.
- Gaseous fuels will include biogas, bio-methane, renewable and low carbon hydrogen as well as synthetic methane.
- MIX55 scenario as presented in the chart is a scenario compatible with the goal of climate neutrality in 2050.

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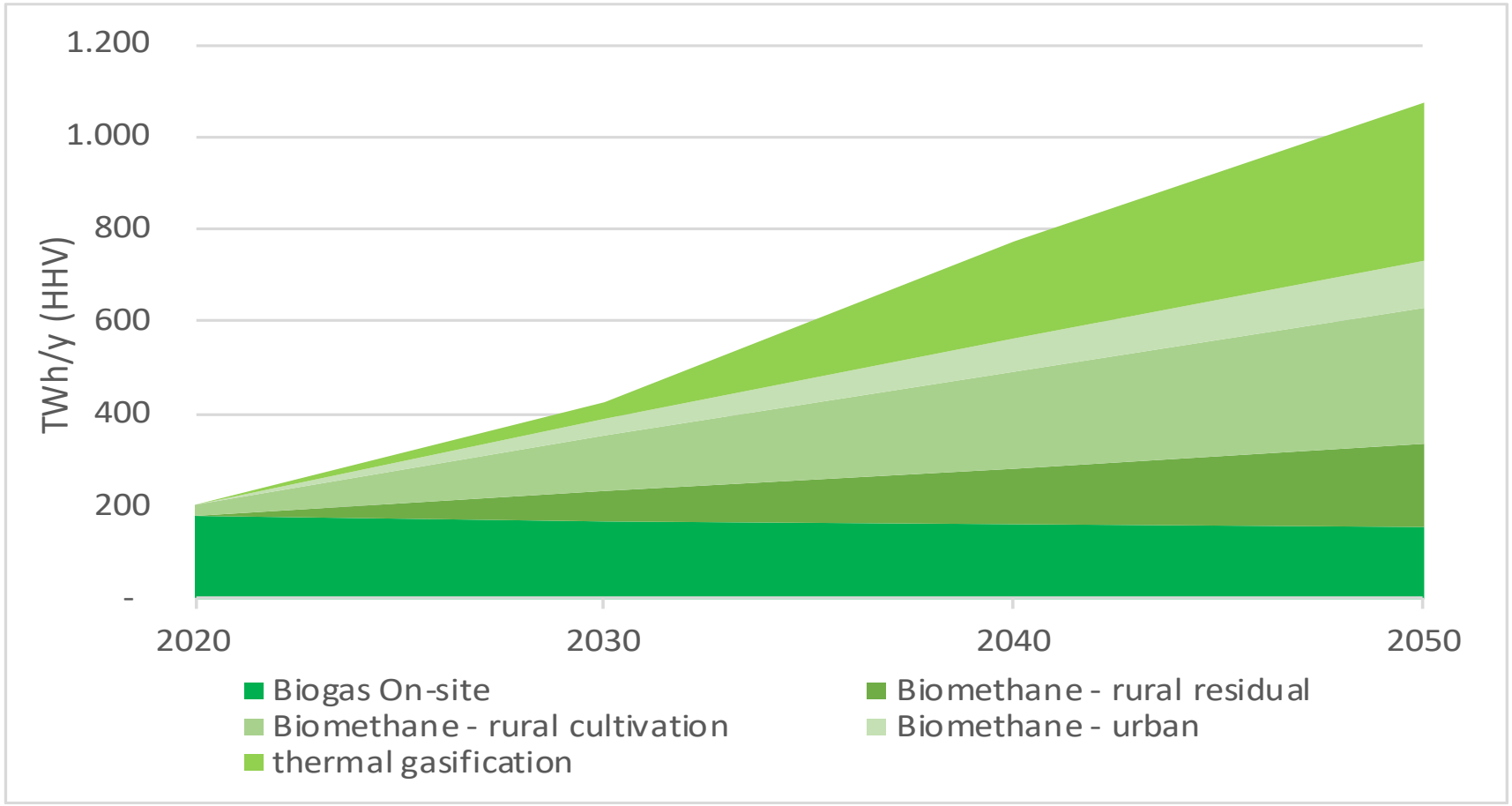
Biogas/biomethane potential in the EU



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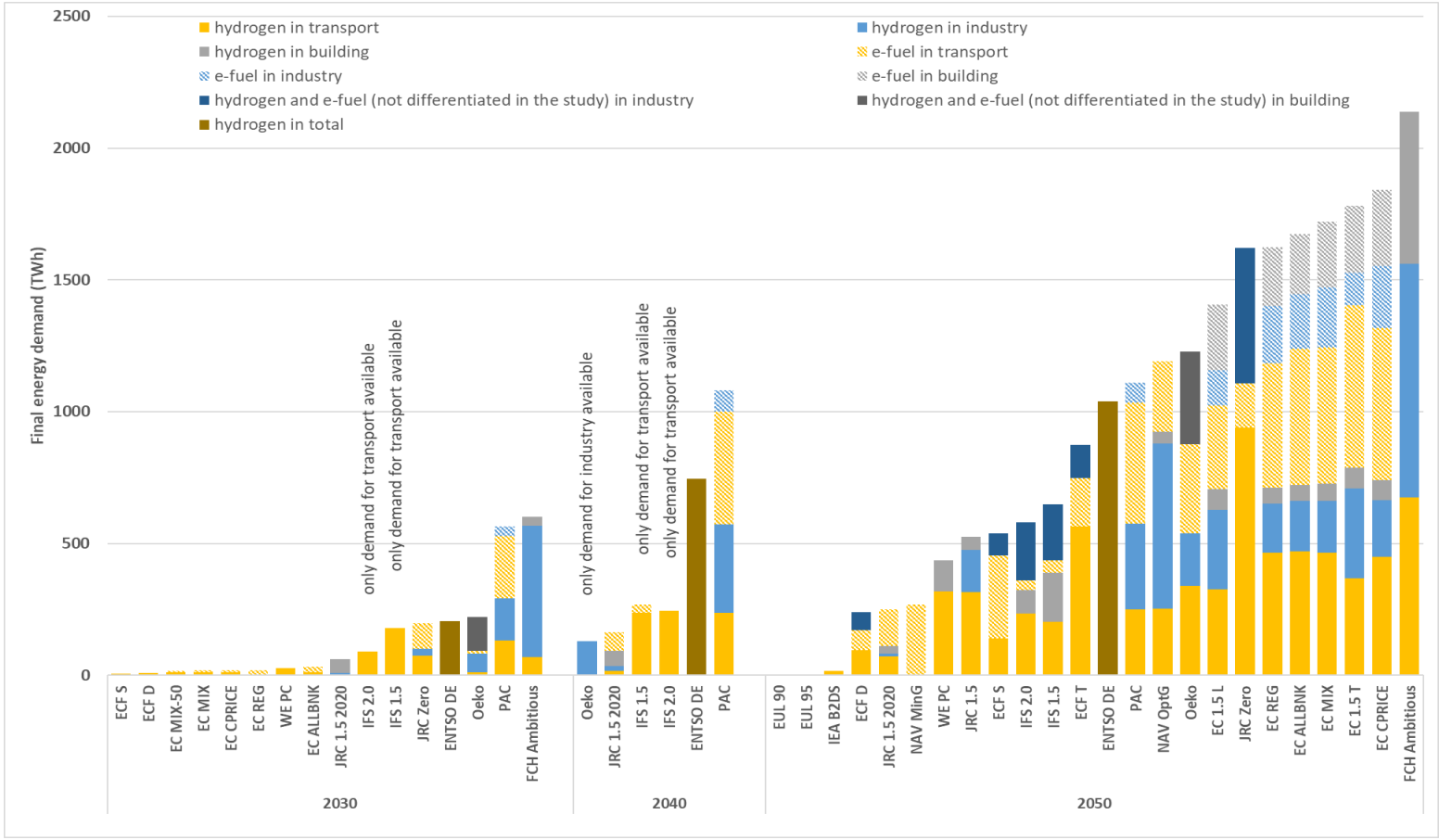
Future hydrogen demand



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Main policy objectives

Current gas framework insufficient to cost-effectively and sustainably achieve 55% GHG reduction and climate-neutrality by 2050.

I. Enabling the development of **dedicated hydrogen** infrastructure and market, allowing hydrogen to become a key component of the energy sector.

II. Facilitating access of into the existing gas network **renewable and low carbon gases**

III. Fostering **phasing out of fossil gas** and avoiding stranded assets

IV. Improving and promoting **consumer** engagement and strengthening **resilience of the gas markets**, including greater energy security

Hydrogen market and infrastructure

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Regulatory framework to cater for staged-development hydrogen market

Transition phase | **2030** | **End phase**

- Negotiated access: flexibility to agree on tariffs (opt-in in regulation possible)
- All vertical unbundling models allowed for H2 network operators
- Legal separation between gas and H2 network operators, transfer of assets and cross subsidisation of H2 networks by natural gas network revenues allowed subject to conditions
- Existing private H2 networks temporarily exempted from unbundling and access rules

- Regulated access regime + no tariffs at cross-border points
- H2 network operators are ownership unbundled or networks are governed by independent system operator
- Networks within one Member State exempted from vertical unbundling until integration in regulated network or connection request by a second H2 producer.
- Equal regulatory regime for intra-EU and import pipelines

Governance

2023

ENTSOG
Infrastructure planning & development tasks under current TEN-E

Hydrogen platform
Scoping/development on:
- Market operation
- Technical
- Network codes
- security of supply

2024

ENTSOG
Infrastructure planning & development tasks under revised TEN-E

ENNOH
Network codes & technical specifications on:
- Market operation
- Technical rules
- Security of supply
- Outlooks, monitoring/reporting, cooperation

2026 on

ENNOH
- Infrastructure planning & development under revised TEN-E, TYNDP for H2
- Network codes & technical specs on: market operation
- Security of supply
- Outlooks, monitoring/reporting, cooperation

Certification for low-carbon hydrogen and synthetic fuels

Harmonised certification system for renewable H2 and low carbon hydrogen

Based on the existing good practices of voluntary and national certification schemes under RED II

Applying a similar life-cycle emission approach

In certifying all types of low carbon hydrogen

Develop a methodology to assess emissions for low carbon hydrogen

Through a Delegated Act to be adopted by the end of 2024, based on the methodologies developed for RFNBOs/RCFs under RED II

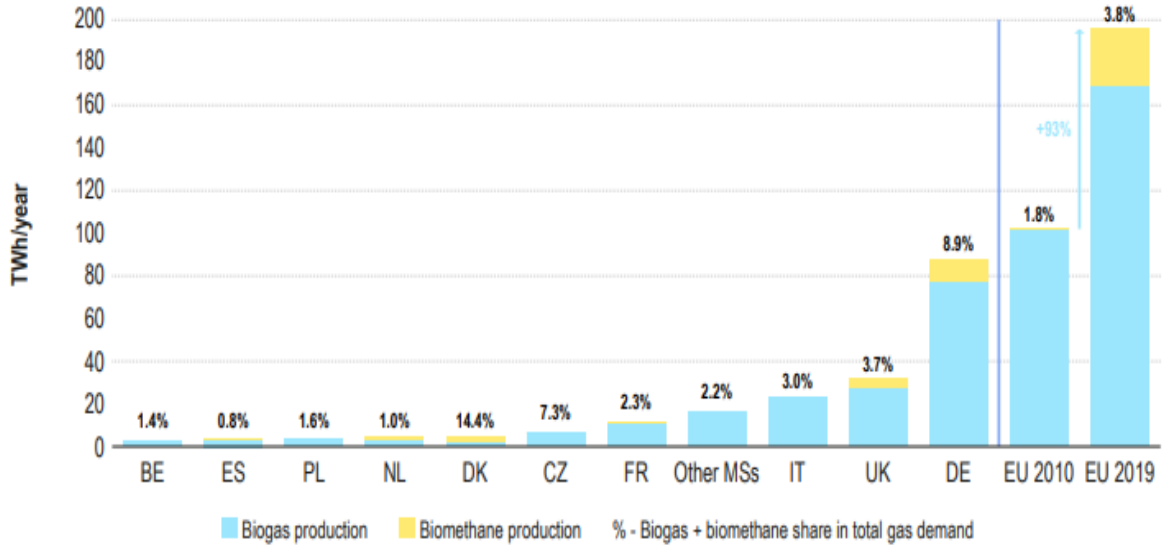
Ensure a **level playing field** in assessing the full greenhouse gas emissions footprint of decarbonisation options, based on renewable H2 and low carbon hydrogen

Allow EU Member States to **effectively compare** and consider them in their energy mix

Carbon-neutral gases: biogases

- Volume of low-carbon gases doubled in the last decade, starting from low base
- Production has focused on biogas and biomethane, which account for 15% of EU domestic gas production and 3.8% of consumption in 2019
- Most biogas is consumed close to production site, for heating, electricity generation, or CHP
- Biomethane injections are generally lower, due to higher production costs, gas quality and other technical constraints
- EU production of biogas could double by 2030, quadruple by 2050, covering 25% of demand

Biogas and biomethane production in selected leading MSs in 2019 and for the whole EU – 2010–2019 – TWh/year and % of total gas demand relative to production



Source: ACER calculation based on Eurostat and EBA

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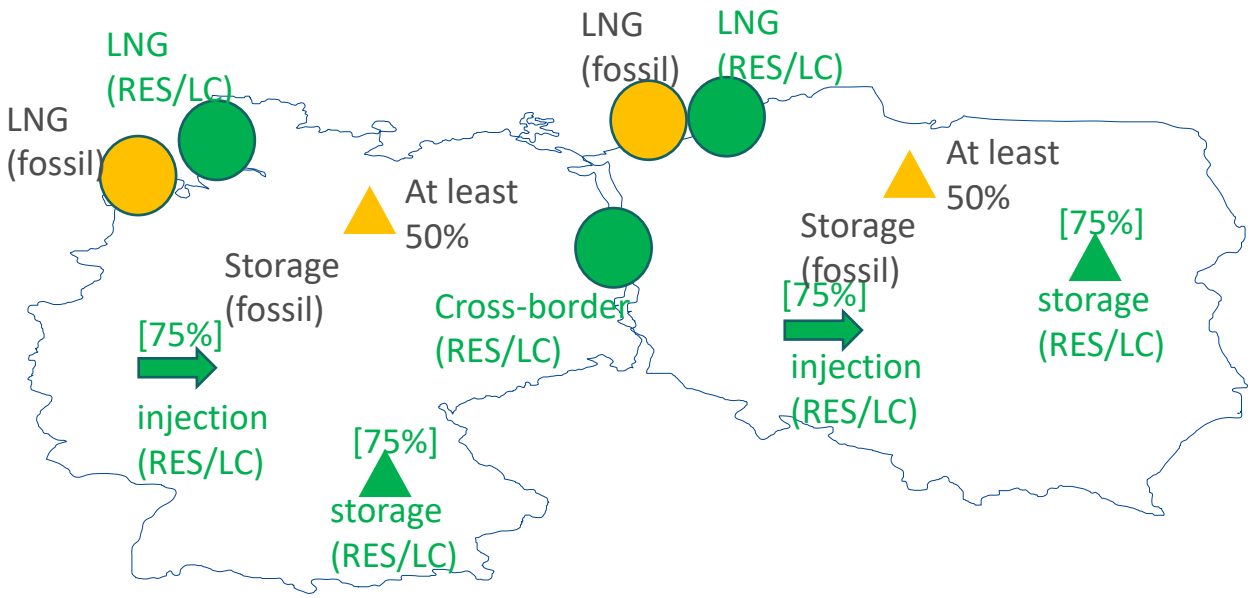
Tariff discounts



New mandatory discounts for renewable and low carbon gases

- Removing (100% discount) the **cross-border tariffs** and for **entry tariffs from LNG terminals** to the grid.
- 75% discount **on entry points (injection)** from renewable and low carbon **production facilities** (e.g. biomethane or hydrogen).
- At least 75% entry points from and exit points to **storage** facilities, in addition to the existing discount.

Existing discounts remain in place

- At least 50% entry points from and exit points to **storage** facilities for **(fossil) natural gas**.
- Voluntary discount on entry points from **(fossil) LNG** to the grid based on security of supply premise (from 0 to 100%).

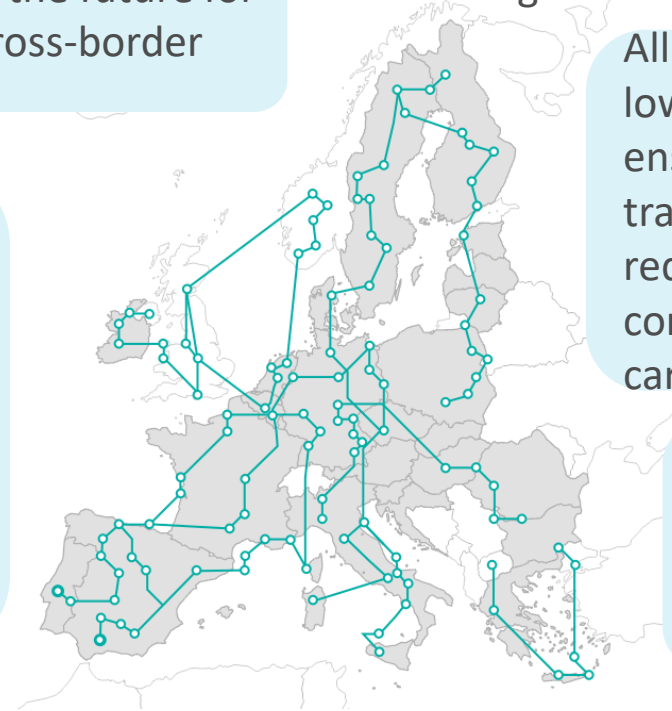
Facilitating access of renewable and low carbon gases into the existing gas network

Removing cross-border tariffs for renewable and low carbon gases. Similarly, in the future for dedicated hydrogen network no cross-border tariffs will apply.

Facilitation of regional gas markets integration.

Allowing and promoting renewable and low-carbon gases full market access (e.g. ensuring gas flows from distribution to transmission level, allowing for tariff reduction for the injection and connection of renewable and low-carbon gases).

Introducing an allowed cap for hydrogen blends at cross-border points to avoid cross-border flow restrictions due to differences in blending, which transmission system operators must accept – no blending obligation; voluntary agreements for higher blends possible.



More transparency and better use of free capacities at LNG terminals and gas storages allowing more flexible gas trade and use of the terminals and storages.

Measures to facilitate gas storages and LNG terminals to receive renewable and low carbon gases.

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Network planning

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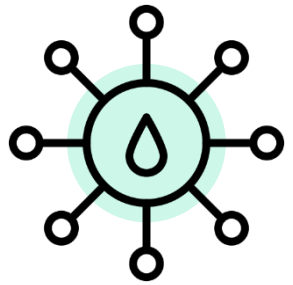
Fostering integrated network planning



Single network development plan at national level of all network operators.

Gas network operators include information on infrastructure that can or will be decommissioned (and could potentially be repurposed for transport of hydrogen).

Alignment with National Energy and Climate Plans and EU-wide Ten Year Network Development Plan.

Separate hydrogen network development reporting to ensure that construction of hydrogen system is based on realistic and forward looking demand projection.

Resilience of gas market

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Promoting consumer engagement

Mirroring provisions from Electricity Directive

Enabling consumers to choose renewable and low carbon gases

Hydrogen

Consumer protection and empowerment

- Contractual rights
- Billing information
- Switching energy provider
- Price comparison tools
- Energy communities for renewable gas
- Smart meters and data protection
- Alternative dispute resolution

Regulated prices under specific conditions

- Energy poor and vulnerable consumers
- Households and microenterprises
- Not for industry (including SMEs)

Excluded

- Measures to foster retail/household market and encourage demand

Included

- Basic consumer rights

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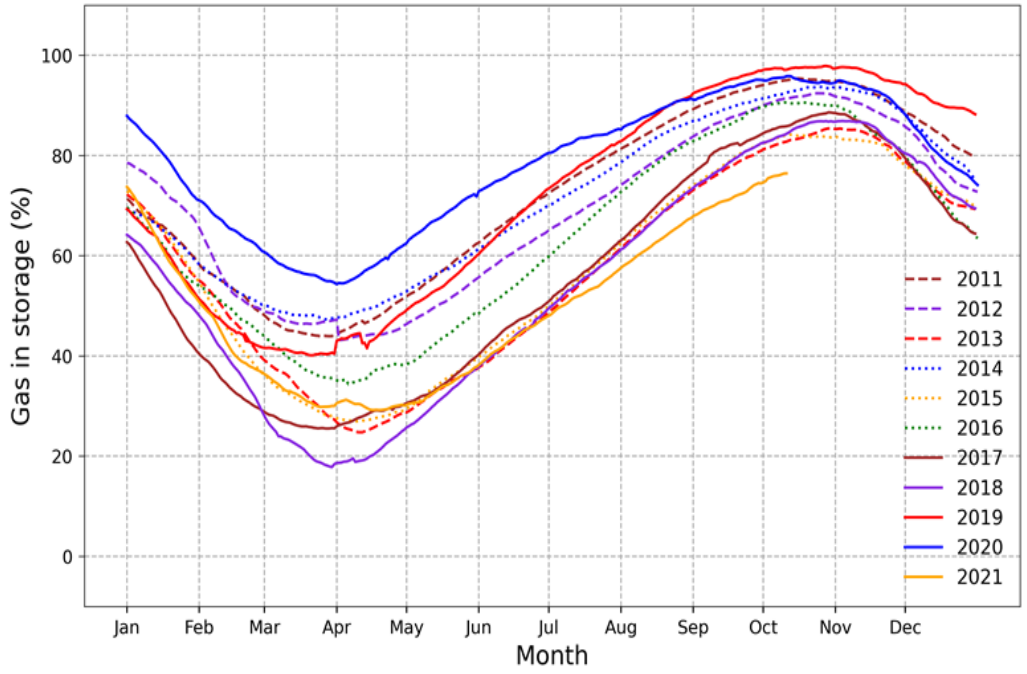
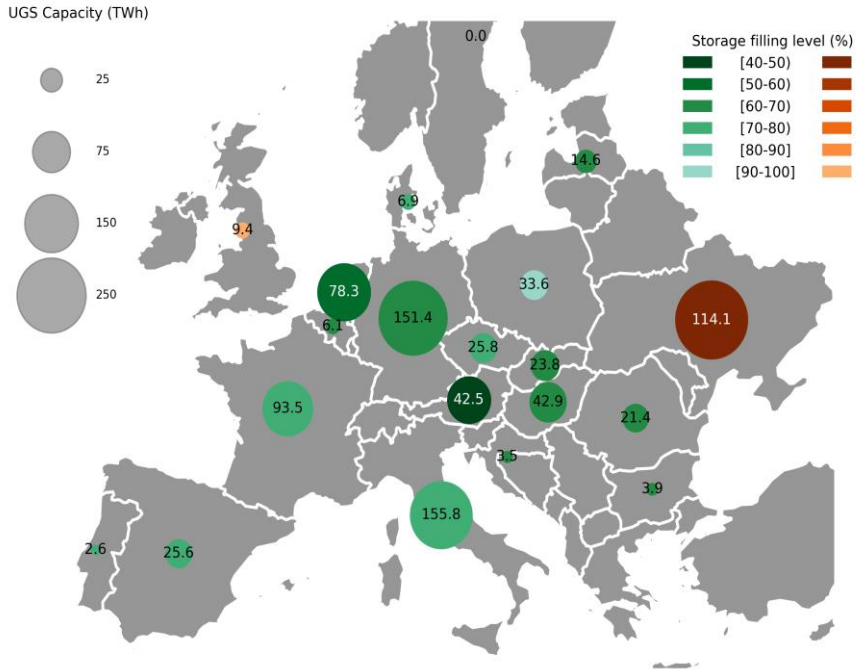
Security of supply / storage: state of play

EU gas in storage (%)



Storage filling levels (%) per country



- Current gas storage level is at 62% - below the 90% average of the last 10 years.
- No immediate risk of disruption at EU level but some regions need to be closely monitored

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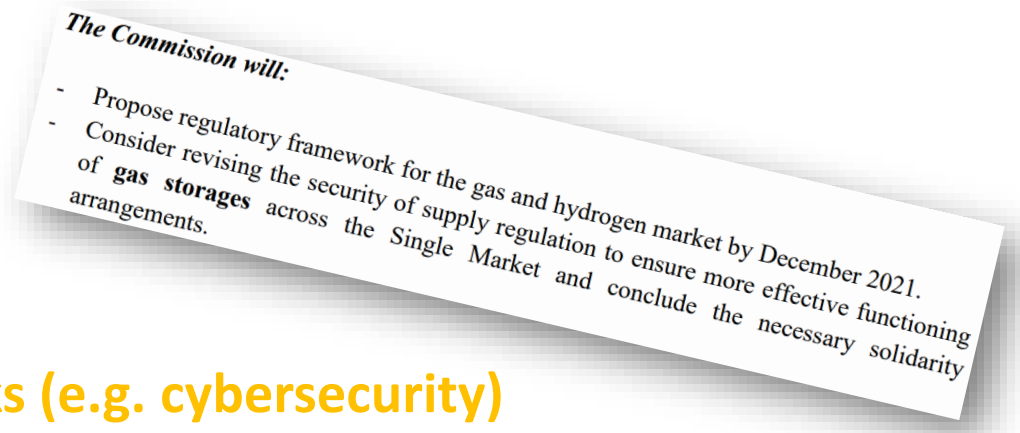
Security of Supply Regulation


The Commission will:

- Propose regulatory framework for the gas and hydrogen market by December 2021.
- Consider revising the security of supply regulation to ensure more effective functioning of **gas storages** across the Single Market and conclude the necessary solidarity arrangements.

- **Adaptation to the energy transition and new risks (e.g. cybersecurity)**
  Extended to renewable gases, future common cybersecurity rules in the gas sector.
- **Making solidarity operational**
  New default arrangements, compensation costs and ex-post control.
- **More effective gas storage, enhanced European role of storage**
  Part of mandatory risk assessment, agreed at regional level.
- [**Joint procurement of reserve stocks**: enabling or stock-tacking provisions to be defined]

Security of supply → Energy security & resilience

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Thank you

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