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Unsere Energie gehört der Zukunft.

Hydrogen
What is the suitable regulatory framework?

Carola Millgramm, Head of Gas Department

28th September, 2023

Agenda

1. The contribution of hydrogen to a climate-neutral economy
2. Already existing regulatory cornerstones
3. Regulatory cornerstones in the pipeline
4. What we still need for a suitable framework

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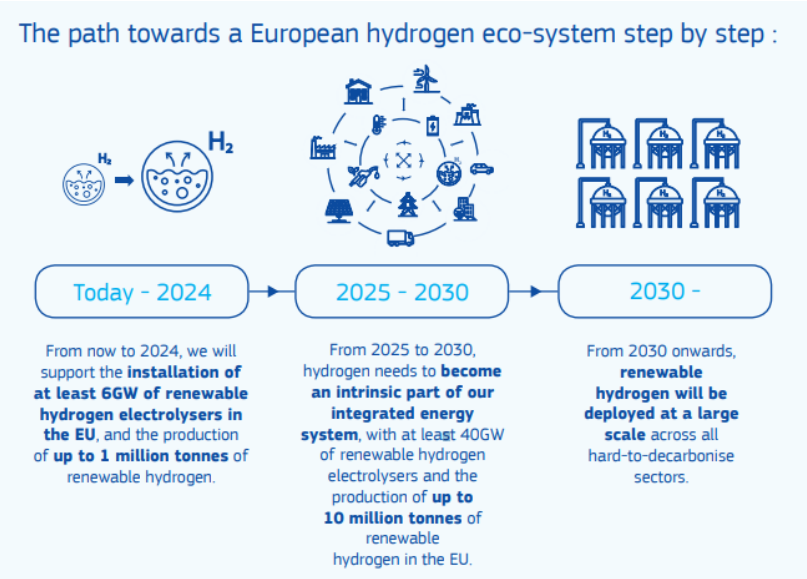
The target is climate neutrality by 2040

Renewable H_2 shall be an intrinsic part of the integrated energy system

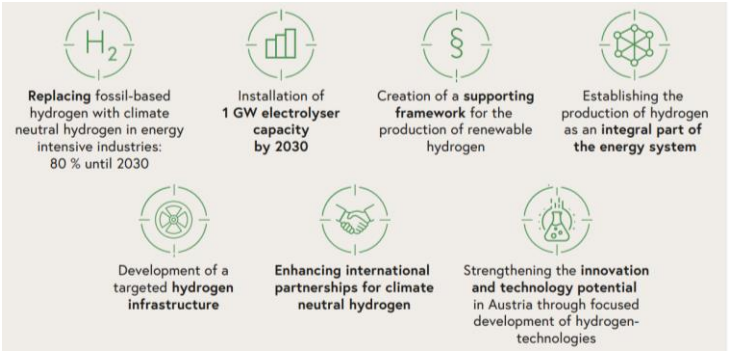
The EU approach towards clean, renewable H_2



Source: EC, 2020, A Hydrogen Strategy for a climate neutral Europe.

The Austrian approach towards climate-neutral H_2

- Replacing 80% of the fossil-based H_2 by 2030
  1 GW electrolyser capacity by 2030
- Production and import of climate-neutral H_2 of 70 TWh by 2040
- Efficient and focused use of H_2



Source: BMK, 2022, Hydrogen Strategy for Austria.

Austrian future infrastructure needs for molecules

The gas infrastructure was developed to serve transit and domestic needs in the past

- Gas is used today in industrial production processes, production of power and heat and heating of households
- Large gas infrastructures are available for
  - Domestic gas production (minor)
  - Gasimport, -export and transit
  - Storage
  - Regional and local transport to many network users

A targeted, purpose-appropriate H_2 infrastructure will be needed

- H_2 will be used primarily in industrial production processes, transportation sector and for peak load balancing in electricity
- H_2 Infrastructure will be needed for
  - Domestic production (depending on user preferences)
  - H_2 import, export and transit
  - Regional transport to less users
  - Storage

The size and scale of the future H_2 (and gas) infrastructures might not be (fully) clear yet, however, we need to start with no-regret decisions now to reach climate-neutrality.

The potential needs of Austrian molecule usage

Source: Study of Frontier Economics/TU Wien

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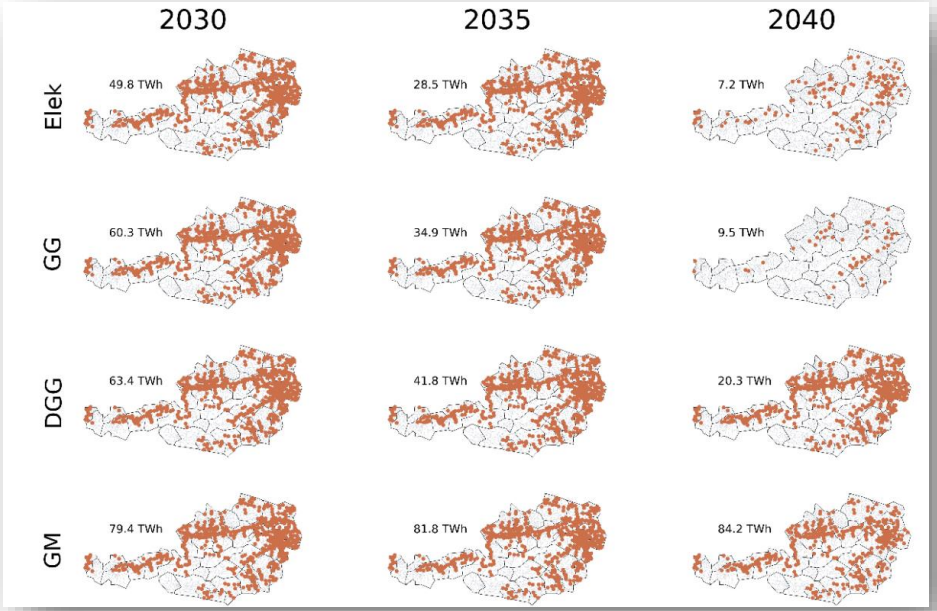
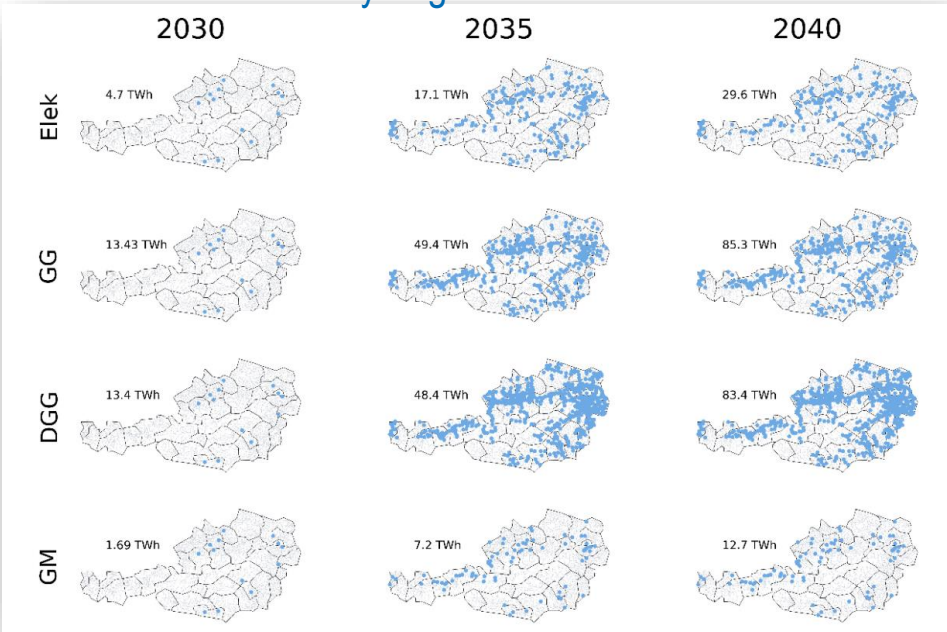
Methane needs



49.8 – 79.4 TWh/a → 7.2 - 84.2 TWh/a

Hydrogen needs



1.69 – 13.43 TWh/a → 12.7 – 85.3 TWh/a

The shift from gas to hydrogen system

Source: Study of Frontier Economics/TU Wien

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Abbildung 26 Methannetz (Fernleitungsebene, Netzebene 1, Netzebene 2) 2030/2035/2040 in den vier Szenarien

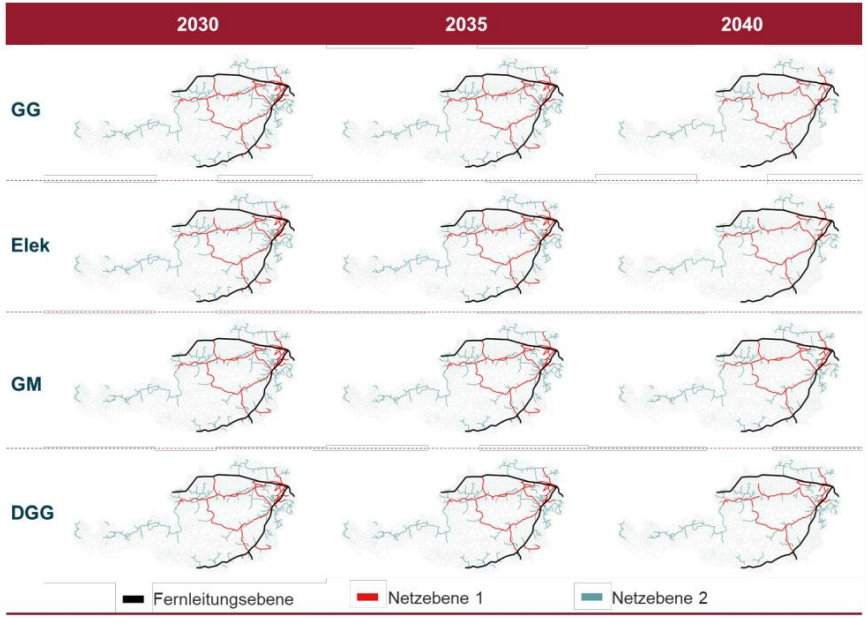
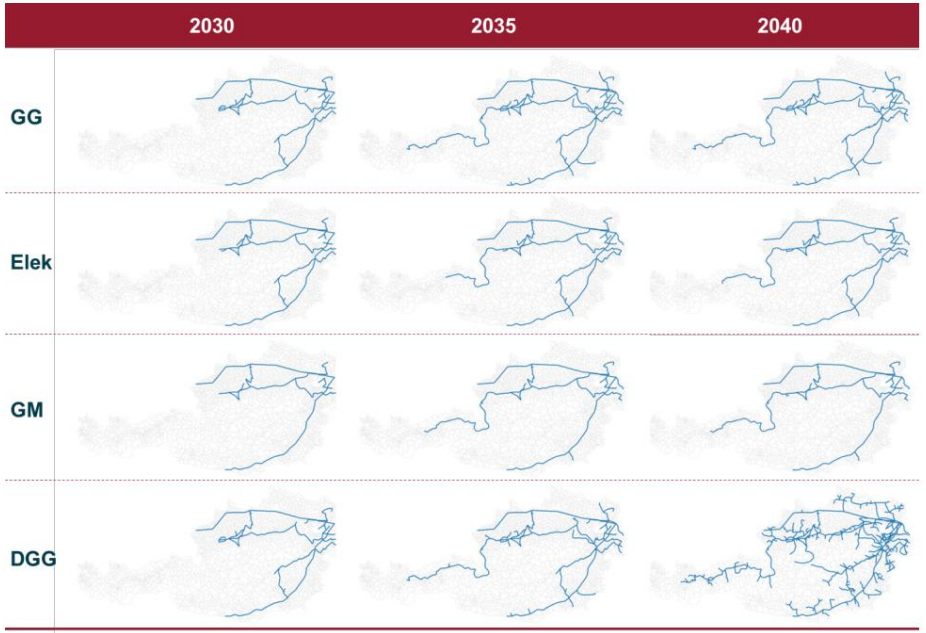


Abbildung 31 Wasserstoffnetz 2030/2035/2040 in den vier Szenarien



Quelle: Frontier Economics/TU Wien

Hinweis: Szenarien: Elek = Elektrifizierung; GG = Grüne Gase; DGG = Dezentrale Grüne Gase; GM = Grünes Methan

H_2 transit via Austria

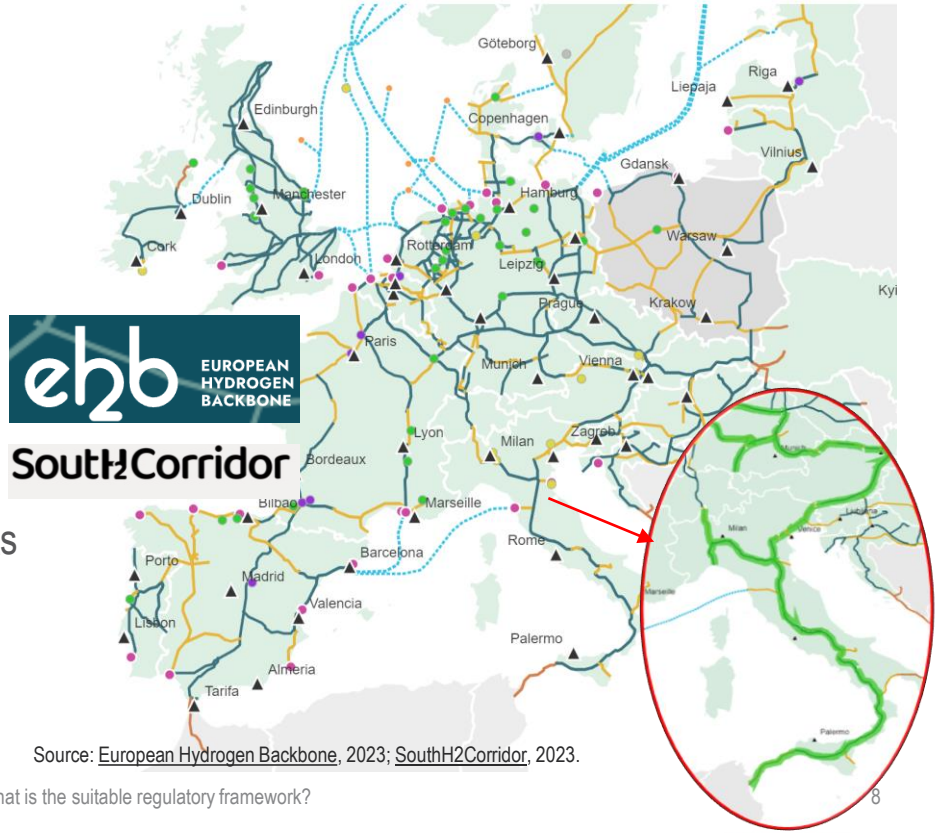
Building on existing assets

The existing Austrian gas system is characterized by

- It's historic role as a transit (E-W and N-S) country with large transport capacities,
- It's large storage facilities,
- It's physical hub, with importance for the whole region,
- It's mature and suitable regulatory framework, and
- It's location in the very heart of the EU.

… all together can be repurposed and developed for future H_2 needs.

- Austria could play a central role in EU hydrogen imports and transits
- TSOs, DSOs, storage operators, the hub operator and other market participants are actively preparing for a possible European H_2 future.



Source: European Hydrogen Backbone, 2023; SouthH2Corridor, 2023.

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The fundament for a suitable H_2 regulation exists

Moments of surprise should be unlikely

- H_2 strategies at EU and national level set out the targets.
- Development of EU legislative framework for Hydrogen is on its way
  - Common understanding that the Internal Energy Market principles, fundamentals and logic will apply for hydrogen as well.
- A clear EU definition of green hydrogen (e.g. to be eligible for funding) exist.
- First step has been already taken by the Austrian regulator
  - E-Control supports H2 development within the given competencies.
  - E-Control approved H2 projects in the 2023 Austrian network development plans to support the development further:
    - ✓ H2 readiness of existing transmission pipelines (WAG, Penta, SOL, TAG) as part of the European Hydrogen Backbone; (also PCI candidates)
    - ✓ H2 Collector Ost to connect planned electrolyser(s)

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The overarching legal framework is close

„Everything is going to be fine in the end.“ (Oscar Wilde)

The EU „H_2 and decarbonised gas market package“ is at the heart of the H_2 regulatory framework

- The finalisation is urgently needed, hopefully by the end of 2023.
  - The window of opportunity for progress under this European Commission ends rather soon.
  - Entry into force of the directly applicable Regulation (usually 20 days after publication) will mark the starting point for the EU H_2 market.
- The basic principles of the package will – most likely - cover
  - NRA supervision
  - Third-party access
  - Non-discrimination and transparency
  - Customer protection
  - Unbundling provision
  - Temporary exemptions from regulation
- Negotiations on some details and elements are still ongoing.

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A regulatory framework fit for purpose

Political decisions to unleash EU H_2 market development

Sufficient regulatory certainty is needed for further progress in decarbonisation

- The transposition of the Directive in national law will take additional time (up to 18 months).
- Austria is, however, preparing for the national transposition at a working level already.
- A clear legal competency to regulate the H_2 market for E-Control is needed.
- In case the law will provides for it, some additional national ordinances for the ramp-up of a H_2 market could be prepared swiftly, e.g. for:
  - Market Model rules including network access rules,
  - Network charges (tariffs), etc.
- Political support/public funding is needed for the financing of the development of the hydrogen infrastructure

Thank you!

Dr. Carola Millgramm, Head of Gas Department

+43 1 24724 800

carola.millgramm@e-control.at

www.e-control.at

***Energy** for our future.*

E-Control
Rudolfsplatz 13a, 1010 Vienna
Phone: +43 1 24 7 24-0
Fax: +43 1 247 24-900
E-Mail: office@e-control.at
www.e-control.at
Twitter: www.twitter.com/energiecontrol
Facebook: www.facebook.com/energie.control


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