ACER

European Union Agency for the Cooperation of Energy Regulators

CEER

Council of European Energy Regulators

Workshop on Market Framework for Hydrogen

Session II – Renewable value, additionality and the accounting of renewable penetration

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Energy policies towards decarbonisation

How we started:

- 1, 2, 3 Packages
- Liberalisation
- Unbundling
- Internal energy market
- New EU entities & NCs

Where we are going:

- New actors
- Energy system integration
- Carbon-neutral society
- Hydrogen
- Energy efficiency

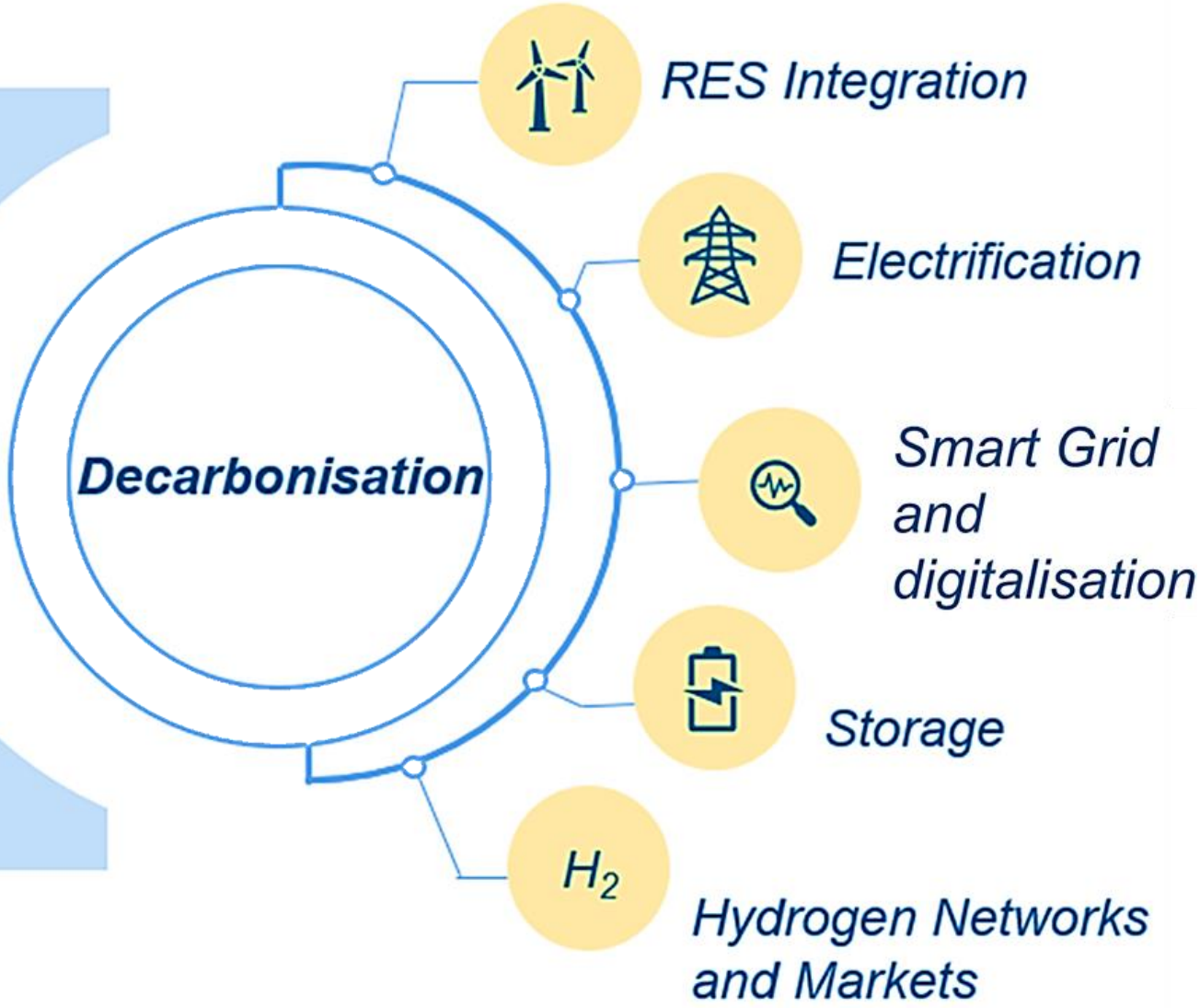
Where we stand:

- Clean Energy Package
- Decentralisation
- Prosumers
- Energy efficiency

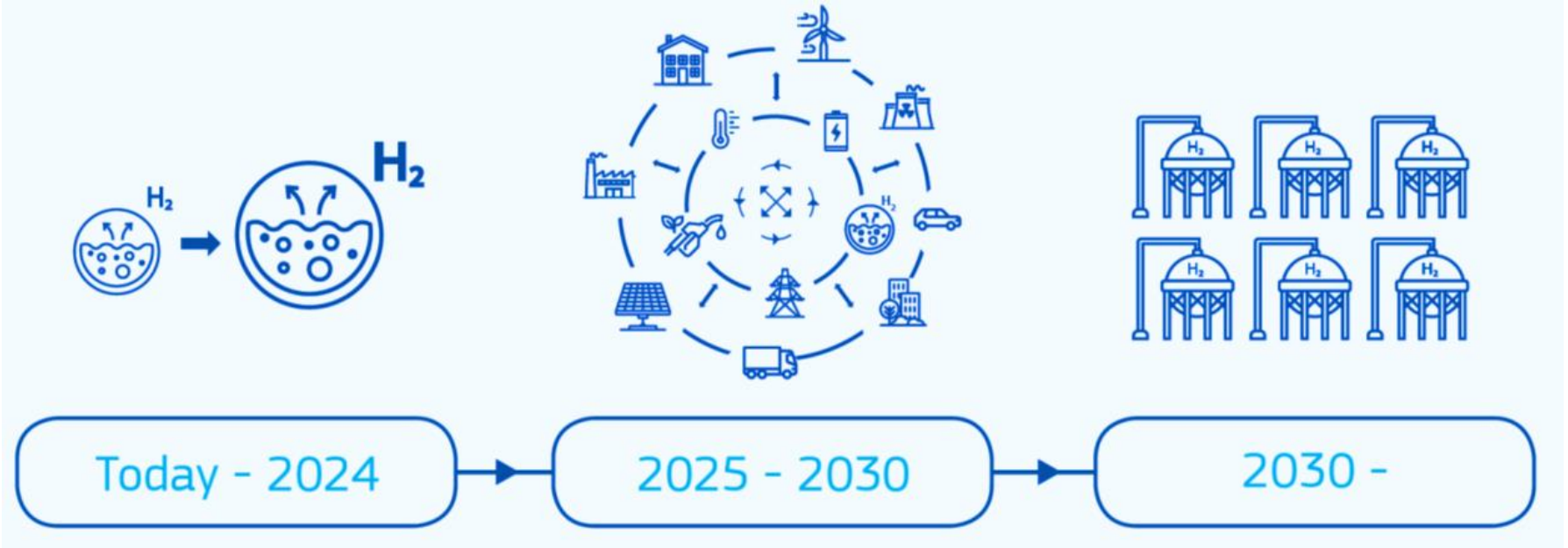
Energy System Integration has several dimensions

In a future, with a volatile renewable energy source based power system, new solutions will be needed

Interlinkages between energy vectors allows us to optimise the resources and costs



Hydrogen as part of the solution



Source: EU hydrogen strategy

"We must achieve climate neutrality by 2050. There will be no extra time, no second chance… We need to ***fully decarbonise hydrogen production****. We need* ***out-of-the-box solutions*** *to transform how we produce, how we heat and how we travel… In the coming years, we will need all your ingenuity and entrepreneurial spirit"*

Ursula Von der Leyen to the Hydrogen Council, January 2021

White Paper: When and how to regulate hydrogen networks?

1. Consider **a gradual approach to the regulation of H2 networks** in line with market infrastructure development

2. **Apply a dynamic regulatory approach** based on periodic market monitoring

3. **Clarify the regulatory principles** from the outset

4. **Foresee temporary regulatory exemptions** for existing and new H2 infrastructure development as B2B networks

5. **Value the benefits of repurposing of gas assets** for H2 transport

6. **Apply cost-reflectivity** to avoid cross-subsidisation between the gas and H2 network users

White Paper: Regulatory Treatment of Power-to-Gas

Revisit	**Revisit the current set of definitions** for major activities in the context of integrated gas and electricity sectors
Consider	**Consider investment and management of power-to-gas installations as market-based activities** which are open to competition among market players
Allow	Allow **involvement of system operators** in the development and operation of power-to-gas installations, only **in exceptional cases**
Include	Include **power-to-gas installations** and their **suitable** locations in **system needs analysis**
Define	**Define cost-reflective network tariffs**, which should be applied to comparable activities across electricity and gas sector in a technologically-neutral way
Avoid	**Avoid distortive effects of taxies and levies** on the integrated energy system
Ensure	**Ensure traceability** of renewable energy **throughout the integrated energy system**

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- **Definitions and criteria for sustainable gases should be set unambiguously** in order to monitor whether the gases coming from power-to-gas installations are environmentally sustainable, thereby allowing their economic valorisation (for example, through a Guarantees of Origin system).
- Indeed, as the EU Hydrogen Strategy points out, power-to-gas installations will only **produce renewable hydrogen if the electricity stems from renewable sources.**
- Important to improve the often used "colour labelling" of hydrogen production, and to **set criteria to define the carbon emissions** associated to the overall production process.
- Use of renewable energy should also be **traceable across the whole value chain** (also through the existing instruments in Directive (EU) 2018/2001).

Additionality considerations

Increase in electrification (demand-side fuel switching) **creates challenges to the decarbonisation** of the electrical system

Additionality condition seems a good approach to overcome these challenges, namely by**:**

- Avoiding “cannibalisation” of existing RES electricity
- Avoiding marginal CO2 emissions
- Promoting local energy production
- Promoting innovation in RES technologies
- Avoiding infrastructure investments for stand-alone solutions

Discrimination between existing and new demand technology/solution needs

Criteria of additionality might not take into account different RES situations in MS (MS with high RES energy mix and MS with lower penetration)

With regards to GOs, a **mass-balancing system might not work properly in a network-based commodity** system (electricity, gas). At least for these sectors, **apply a book-and-claim approach enabling consumers to choose the green content/CO2 avoided of the energy consumed**

Certification and verification systems should **ensure GHG impact of energy conversions along the value chain** (e.g. RES electricity used to produce RES hydrogen) **are fully taken into account**, while avoiding double-counting

Certification system should ideally **span consistently across all sectors**, and **cover all renewable and low carbon fuels**


A commitment to decarbonisation through a more sustainable energy system
Thank you very much for your attention!