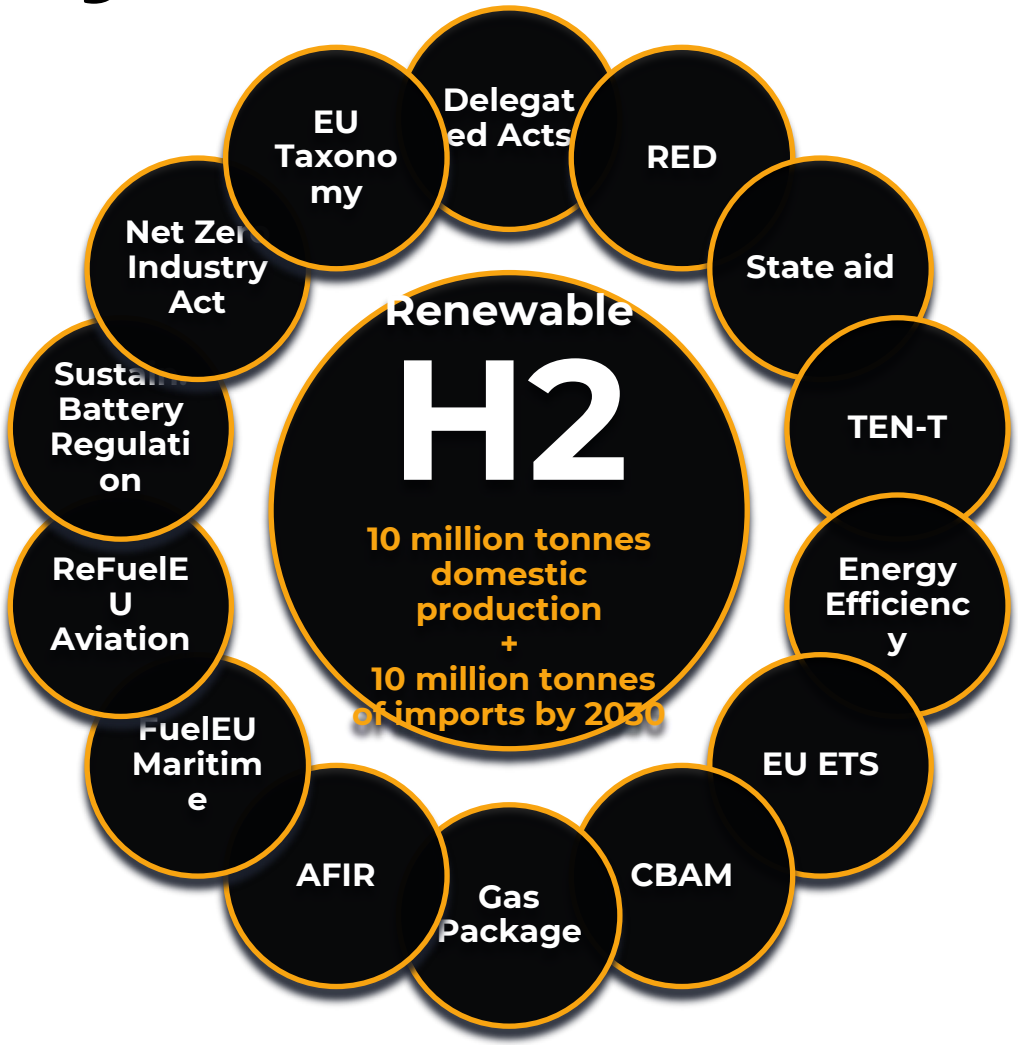
Challenges in the EU approach to hydrogen markets and regulation

Kim Talus

Key messages

- Regulatory framework for RFNBO is complicated
- Regulatory demand for RFNBO has now been established
- Imports of RFNBO are unlikely to amount to significant volumes in the short-term
- Regulatory framework has adjustments built-in and Member state role is critical

EU Regulatory framework for hydrogen



Green hydrogen production rules

- RED III + 2 DA's + Q&A = RFNBO
  - Electrolysers must be powered by additional renewable electricity
  - Power purchase agreement with RE producer necessary in most cases
  - Additionality, temporal and geographic correlation requirements apply in most cases
  - Possibility of adjustments through future Delegated Acts

EU Sectoral Targets for renewable hydrogen/RFNBO

- **By 2030: 42.5% share of renewable energy** in EU overall consumption; additional indicative top-up of 2.5%, allowing to reach 45%
- **Industry** (42% RFNBO by 2030, 60% by 2035), **Transport** (advanced biofuels and RFNBO 1% by 2025, 5.5% by 2030), **Maritime** (RFNBO 1.2% by 2030, possibly 2% by 2034), **Aviation** (RFNBO 1.2% in 2030, 35% by 2050, and SAF 70% by 2050)

- The EU's regulatory obligations create **stable demand** that producers and exporters can rely on when making investment decisions
- Large-scale **production and imports are necessary** to get anywhere near the targets: **10 million tonnes** renewable hydrogen production and imports by 2030

RFNBO import rules – challenges for importers

- Same EU RFNBO rules apply to imports into the EU. Challenges for importers:
  - No subsidies for RE production is allowed (US IRA)
  - Recognition of guarantees of origins is currently not possible (US REC's)
  - Bidding zones and imbalance settlement rules require a certain type of market
  - 'Renewable energy producer' and role of intermediaries is unclear
  - CO2 requirements for e-methanol production (effective carbon pricing mechanism; biogenic CO2; direct air capture) can be difficult to meet
  - Carbon Border Adjustment Mechanism (CBAM) creates more work and costs
  - Plus: access to import infrastructure is uncertain

Long-term access to import facilities

- **Main rule**: Article 32 of the gas and hydrogen directive provides for a negotiated access regime, but access should be ensured (preamble 73)

- **Exemption**: Article 78 of the gas and hydrogen regulation may exempt hydrogen interconnectors, terminals and underground storage facilities

- Conditions (examples):
- **enhances competition** in hydrogen supply and enhance security of supply;
- contributes to decarbonisation and the achievement of the Union's climate and energy targets and was decided by applying the energy efficiency first principle;
- **not detrimental to competition** in the relevant markets which are likely to be affected by the investment, to the proper functioning of the internal integrated market for hydrogen, to the proper functioning of the regulated systems concerned, to decarbonisation or to the security of supply of the Union;
- the infrastructure has **not received Union financial assistance** for works under Connecting Europe Facility

RFNBO sector as a sub-sector in hydrogen market

- Compliance with the RFNBO criteria is not mandatory for producing or importing hydrogen

- But: RFNBO is likely to be a separate sector with its on price dynamic and the rules must be followed in order to count as RFNBOs towards EU legislative targets; not counting as RFNBO is commercially less attractive

Hydrogen market creation

- New framework builds on existing gas market rules and provide similar rights for various stakeholders. The framework allows for multiple adjustments (if the Member States so decides)

- Examples:

- Third party access for networks and underground storage before and after 31.12.2032
- Derogations subject to 7-year review: existing hydrogen networks, geographically confined hydrogen networks, horizontal unbundling
- Hydrogen networks in isolated regions (max 15 years and 2045)
- Capacity contracts: 20 years if operational before 2028, then 15 years but both subject to NRA market assessment
- Inter-temporal cost allocation with State quarantees (ACER recommendation on methodology)

Way forward and possible changes

- **Production of RFNBO**: number of delegated acts will be issued by the Commission on important details – but the demand targets are likely to remain unchanged
- **Market creation**: the Member State and National Regulatory Authorities are in key position – the real timeframe for market creation uncertain
- **State aid and EU subsidies**: time is of essense, if a market is to be created, subsidies are needed now

Way forward - Finland

RFNBO approach is beneficial for the Finnish industry, but:

- Adjustment opportunities need to be utilised
- State aid urgently needed if Finland is to position itself as a leader in the market
- Hydrogen transport infrastructure regulations and related permitting regulations are urgently needed
- Facilitation of permitting for the entire hydrogen value chain is urgently needed
- CO2 transport infrastructure?

Conclusion – markets in the making

Internationally:

- Hydrogen market creation is a global challenge (nationally and in terms of trade)
- The EU is emerging as a global model for hydrogen production framework (the US approaching EU)

Within the EU

- Regulatory details for the production of RFNBO may still change
- Role and definition of low-carbon hydrogen is still unclear
- Demand for RFNBO has been created by regulation and it is unlikely to change
- Market rules have been set but adjustments are possible at national level

UNIVERSITY OF
EASTERN FINLAND

Thank you

uef.fi