EU HYDROGEN MARKET: FIT FOR INVESTMENTS?

Brussels, May 31st, 2023

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Roundtable on
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EU H2 regulation vs market reality check

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- The regulatory architecture supporting H2 deployment is comprehensive and carefully designed (EU Commission).
- Nevertheless, to fulfill its mandate it has to be an attractive and efficient tool for market participants globally.
- The construction of the financing framework through the Hydrogen Bank should play a catalyzing role.

The H2 policy and regulatory landscape

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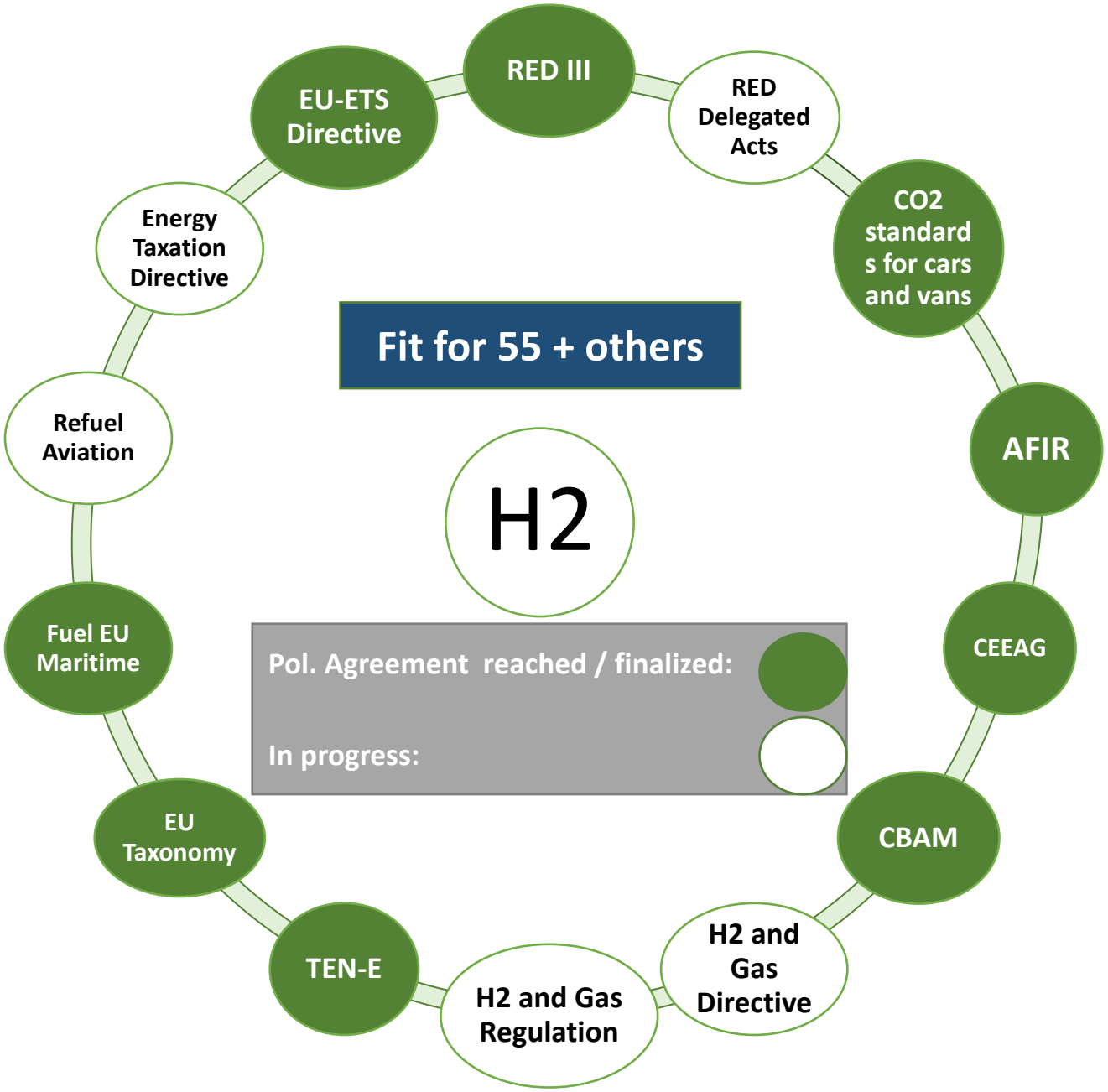

USA IRA H2 subsidies

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- The Clean Hydrogen Production Tax Credit **(PTC - 45V)** creates a new 10-year incentive for clean hydrogen production tax credit with up to $3.00/kilogram for projects beginning construction by 2033.

- Projects must begin construction by 2033
- Eligibility includes retrofit facilities
- Cannot stack with the Carbon Capture and Sequestration Tax Credit (45Q)
- Can stack with renewable energy production tax credit and zero-emission nuclear credit
- Projects are required to promote good-paying jobs by following prevailing wage standards and apprenticeship requirements to receive the full credit

CARBON INTENSITY (KG CO_2 PER KG H_2)	MAX HYDROGEN PRODUCTION TAX CREDIT ($/KG H_2)
4–2.5	$0.60
2.5–1.5	$0.75
1.5–0.45	$1.00
0.45–0	$3.00

- In addition (cannot stack with 45V):
  - CCS projects (**45Q**) are entitled to a credit for each metric ton of qualified carbon dioxide captured and sequestered or used during the 12-year period.
  - Clean H2 Projects can also elect to claim an investment tax credit **(ITC-48 a)** by treating clean hydrogen production facilities as energy property.

Source: USA Office of Energy efficiency and renewable Energy

Could EU compete with the RoW?

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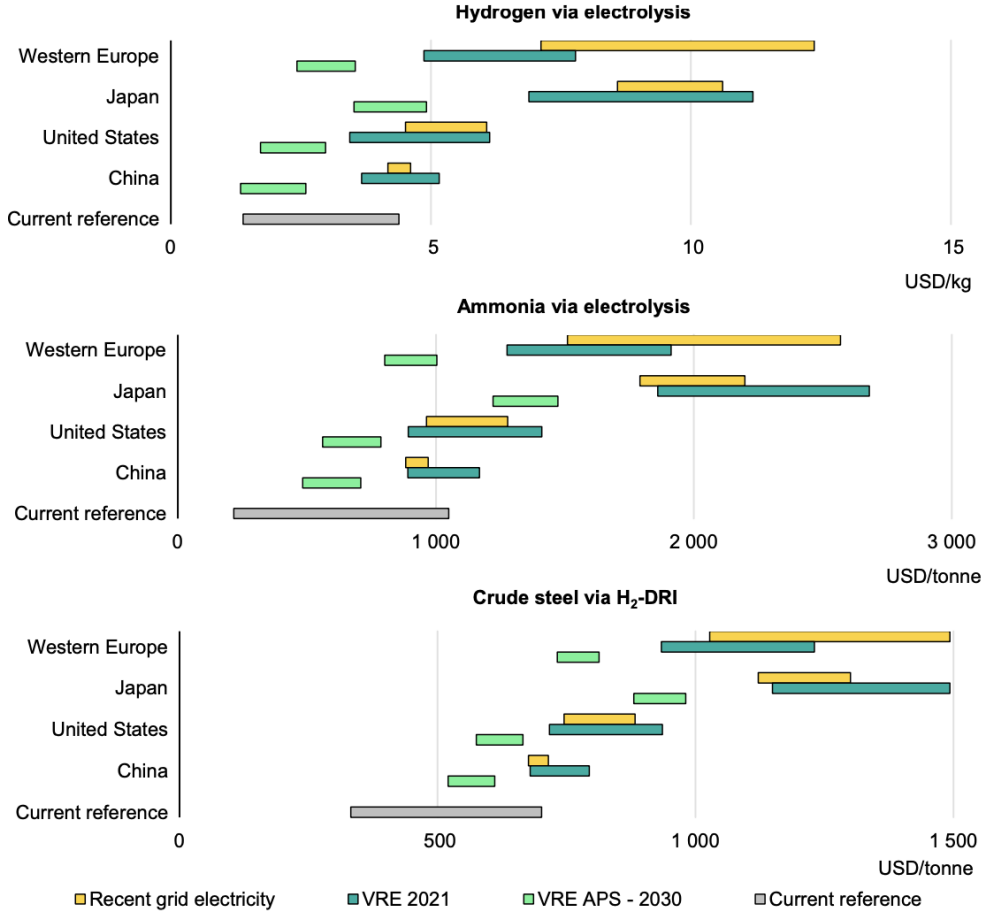
- Considerable variations in electricity costs for industrial users between countries
- This bears implications on the competitiveness of industries exposed to international trade
- Widespread cost reduction foreseen by 2030
- China set to overcome the US for all the three cost benchmarks by 2030

Production costs for hydrogen and hydrogen-based commodities produced via electrolysis



VRE = variable renewable energy ; APS = Announced Pledges Scenario ; H_2-DRI = hydrogen-based direct reduced iron.

Source: IEA Energy Perspectives 2023

Questions for discussion

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- Is the proposed regulatory framework practical and attractive enough to direct hydrogen investments to the EU?
- Have enough financial means been provided to make sure EU companies will lead the transition towards a decarbonized hydrogen market?
- Are the financial tools and instruments employed fit for purpose?