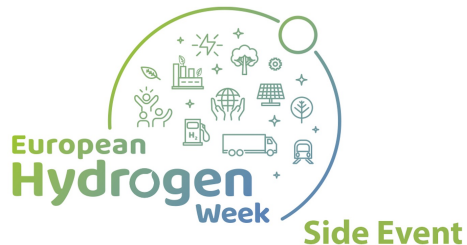


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The principle of technological neutrality and hydrogen incentives

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ERCST

Roundtable on
Climate Change and
Sustainable Transition

Content

Hydrogen incentives in EU legislative framework, are they technologically neutral?

Why is technological neutrality important for the ramp-up of the hydrogen economy in the EU?

How to support the demand side of the market?

Are hydrogen incentives in EU regulatory framework technologically neutral?

Technologically neutral	Technologically determined	?
❖ EU-ETS: provides a technologically neutral price signal. ❖ EU-ETS funding mechanisms: cover a wide range of technologies. ❖ CO₂ standards for cars and vans: introduces a phase out date for internal combustion engines. ❖ State Aid Guidelines for climate, environmental protection and energy: includes low-carbon hydrogen.	❖ RED III: proposes binding targets for RFNBOs for industry and transport.	❖ EU Taxonomy: establishes a GHG ems. reduction threshold, but in practice difficult to meet if not with RES. ❖ Hydrogen and Gas Package: incentives for low-carbon hydrogen?, incentives for the development of the hydrogen network. ❖ REFuel EU Aviation: Council position includes a definition for synthetic low carbon fuels for aviation which should count towards the SAF obligations. ❖ Carbon Contracts for Difference: according to REPowerEU communication just renewable hydrogen and its applications in industry. ❖ EU Hydrogen bank: To be clarified.

Why is technological neutrality important

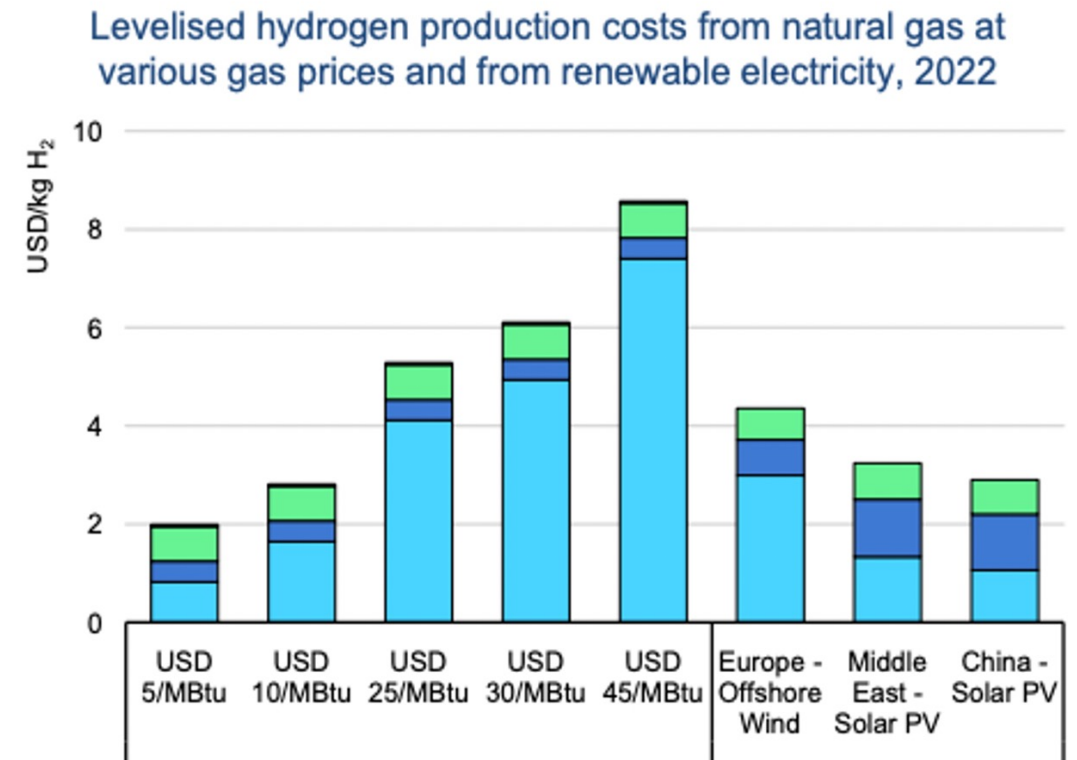
- **The Demand side needs sufficient volumes of hydrogen at affordable prices:**
 - If the demand side is to achieve the targets in the RED and the hydrogen market is to be ramped-up before 2030, renewable hydrogen alone may not be enough.
 - Against this backdrop, three non-exclusive options:
 - Making some elements of the renewable hydrogen definition more flexible during a transition period.
 - Take a technologically neutral approach and make low-carbon hydrogen count towards the RED targets during a transition period.
 - Reduce the EC ambition including the 50% RFNBO target in RED III.
- **Remain competitive in an increasingly competitive global market**
 - US approach: The IRA includes a tax credit that is available for 10 years, with a level of support that depends on the GHG footprint of the H₂ produced.

How to support the demand side of the market

- Effects of the energy crisis in the hydrogen production costs and hence on certain industries: opportunity vs. cost



Source: trading economics EU Dutch TTF Gas Futures EUR/MWH



Source: IEA Global Hydrogen Review 2022

How to support the demand side of the market

- **Three non-exclusive options to support industry in the transformation of their production processes:**
 - **Business as usual:** this involves the subsidization of natural gas;
 - **Acceleration:** leveraging on the existing crisis and accelerate the deployment of renewable and other forms of low carbon hydrogen.
 - This option requires the adoption of a technologically neutral approach to incentivize both, the production and demand side of the market.
 - **Importing the final product:** importing the final product (amonia, fertilizers, in the future green steel) from third countries with better access to cheap renewable electricity and natural gas.
 - This may be the case if the EU bets just on one technology and does not provide the demand side of the market with enough support.