

Competitive bidding under the EU's hydrogen bank: How to make it work for the climate

Ensuring access to hydrogen for hard-to-abate industries with the highest GHG abatement potential

1. The context

The European Commission has started to set up the Hydrogen Bank. Its primary aim is to spur investments in Europe's hydrogen economy to achieve the EU's 2030 hydrogen production and consumption targets.

Two new financing mechanisms will be set up: one granting support for hydrogen production in the EU and another one supporting hydrogen production in third countries. The Commission has decided to focus first on supporting European renewable hydrogen production. The aid will be granted under the umbrella of the Innovation Fund through the newly foreseen competitive bidding scheme. A pilot auction is planned for autumn 2023 with a tentative budget of 800 million euros. The aid is expected to be granted as a fixed premium (a fixed subsidy to be received by the producer per ton of hydrogen produced).

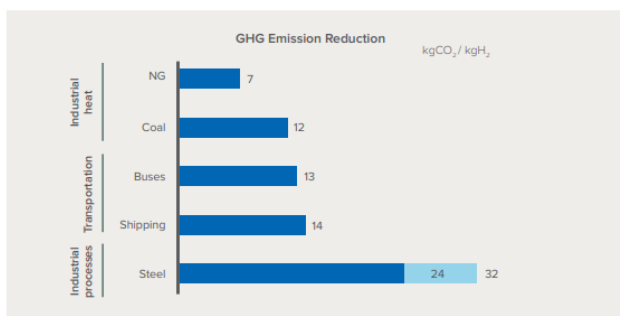
2. The challenge

The European Commission gave initial indications on the envisaged auction design over the last months, notably through its communication from 16 March 2023 on the European Hydrogen Bank. In addition, the draft economic Terms and Conditions (T&C) of the 2023 Innovation Fund pilot auction published on 31 March provide further detail.

While some fundamental decisions, such as striving for a simple and lean support scheme, go in the right direction, an important question remains unanswered: Given that green hydrogen will remain a scarce commodity for the foreseeable future, **how to ensure that the aided hydrogen production will deliver the highest impact in the fight against climate change?**

Sectors such as the steel industry rely on the availability of large quantities of affordable renewable and low-carbon hydrogen to decarbonise by switching from coal-based primary steel production to hydrogen-based production. At the same time, they offer the highest greenhouse gas abatement potential per ton of hydrogen used (for steel, more than 25 tons of CO₂ abatement per ton of hydrogen used). Consequently, policymakers should prioritise the use of hydrogen in these sectors. From a climate policy perspective, relying simply on each sector's capacity to pay could lead to an inefficient allocation of scarce resources.

Achieved CO₂ emission reduction for each consumed kilogram of hydrogen



Source: Rocky Mountain Institute, January 2020, Hydrogen's Decarbonization Impact for Industry Near-term challenges and long-term potential. [Link](#).

3. The way forward

To ensure that supported hydrogen delivers the highest impact in the fight against climate change, the European Commission should implement prioritisation in the auction design of the competitive bidding scheme – at least during the initial development phase of the hydrogen market.

Therefore, aid should only be granted to projects delivering hydrogen to the hard-to-abate sectors with the highest greenhouse gas abatement potential per ton of hydrogen used and with no commercially and technically viable alternative options to decarbonise, such as steel.

Such an obligation should be enshrined in the **prequalification requirements**. Concretely, project developers should have to provide proof of an offtake agreement (MoU, Lol) with one or several off-takers from a prioritised hard-to-abate sector. The European Commission should define the list of prioritised sectors based on the best available scientific evidence and enshrine them in the **Terms and Conditions of the Innovation Fund pilot auction for renewable hydrogen production** (as an off-taker restriction). The Terms and Conditions shall also foresee sanction for aided projects finally not delivering the hydrogen to off-takers from the defined priority sectors. Currently, the draft Terms and Conditions¹ foresee no off-taker restrictions while acknowledging the risk that the subsidised hydrogen might end up outside hard-to-abate sectors.

Prioritisation aligns with the EU's hydrogen strategy that foresees a step-wise approach to developing the hydrogen market, focusing on a few hard-to-abate sectors before wider deployment after 2030. It also contributes to the REPowerEU plan of prioritising hydrogen use in industrial applications to reduce Europe's dependency on fossil fuel imports from Russia.

Introducing prioritisation in the auction design would also be in line with the recommendation by the research consortium advising the European Commission on the set-up of the competitive bidding scheme:

“At least in the short- to medium-term, green or low-carbon hydrogen will be a scarce energy carrier. Therefore, its use should ideally be restricted to hard-to-abate sectors where no other more efficient and competitive options exist for reaching climate neutrality. This implies that green or low-carbon hydrogen should mainly be directed at basic industries and long haul-transport.”²

¹ https://climate.ec.europa.eu/system/files/2023-03/policy_funding_innovation_draft_term_conditions_pilot_auction_en.pdf

² Fraunhofer ISI, Guidehouse (2022): Options for a competitive bidding mechanism under the Innovation Fund - general assessment and two specific options.