

The IED should account for clean hydrogen production technologies

Hydrogen Europe welcomes the European Commission's initiative to update the EU rules on industrial emissions to ensure industry limits its environmental impact and contributes to reaching net zero. Indeed, the updated greenhouse gas reduction target set at 55% by 2030 demands a significant effort to curb emissions from all sectors. As outlined in the EU Strategy for Energy System Integration and the Hydrogen Strategy, the development of a secure, safe, and affordable hydrogen economy in Europe will be necessary to reach the -55% target, not least to decarbonise heavy industries such as steel or cement. Hydrogen is the perfect partner to the Green Deal as a carbon free energy carrier and feedstock to be used in industries with high carbon emissions, since it offers great potential to decarbonise such complex processes. For this reason, we note the need to adapt the IED in a way that facilitates hydrogen to play its full role in industrial decarbonisation.

Directive 2010/75/EU on industrial emissions (IED) applies to the production of hydrogen (production on "an industrial scale" by chemical or biological processing) (Annex I, point 4.2). This directive was adopted at a time where quasi all hydrogen production was done (1) in very large scale, (2) by cracking fossil energy and therefore producing industrial emissions, and (3) where hydrogen was used as an "industrial gas" (i.e., chemical feedstock).

Today, the EU is considering the production of hydrogen (1) in both large centralised and small decentralised ways, (2) with a large proportion produced from water electrolysis which generates no emissions, and (3) to be used for a large part as a clean energy vector further facilitating the integration of renewable energy.

The IED which was designed to regulate emission-emitting industrial processes includes the production of hydrogen, (1) irrespective of the production method (producing or not industrial emissions), and (2) without clear consideration of the size of the production. A hydrogen production facility is considered a traditional chemical production facility, without regard to the type of H₂ production (electrolysis, biogas reforming, natural gas reforming, etc) or the presence (or absence) of hazardous substances involved in the process. As a result, the production of hydrogen via electrolysis (which causes no emissions and has little or zero environmental impact) is subject to the same requirements as industrial processes with no regard for the differences in environmental footprint.

It is therefore essential to adjust the IED to account for clean hydrogen production technologies.

Hydrogen Europe notes the European Commission's first step to clarify the meaning of "production on an industrial scale". However, this clarification does not clearly define a threshold for small scale production of hydrogen. As such, the threshold for production (i.e., industrial scale according to the IED) remains unclear and places high burdens on low volume production sites (e.g., a hydrogen refuelling station (HRS) with on-site production).

As an unintended effect, the obligations prescribed in the IED inhibits the deployment of sustainable production methods such as electrolysis (despite their potential to reduce overall carbon emissions and low environmental risk). Additionality, it increases the overall costs and time required for permitting by imposing complex obligations even when hydrogen is stored (and produced) in small quantities.

Small scale storage of H₂ for retail refuelling and the small-scale production of hydrogen via electrolysis should be explicitly excluded from the scope of the relevant EU acts, including the IED, or at the very least adapted to consider the specific nature of these activities.

The national acts transposing the IED and other acts implementing the obligations should be reviewed in order to identify those requirements which are superfluous (or unintended); those which go beyond the intended obligations prescribed and which unnecessarily burden the production of hydrogen via sustainable processes (such as electrolysis).

We also note that Member States often refer to the NACE codes in defining the scope of the IED implementation. Accordingly, the NACE codes should be adapted to reflect the growing importance of emission free (e.g., via electrolysis) production of hydrogen separately from the manufacturing of industrial gases under which hydrogen production traditionally falls.