Working Group Power-to-X for Applications

Position Paper

Implementing the Hydrogen Accelerator in RePowerEU

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VDMA

The Mechanical Engineering Industry Association (VDMA) is the largest European industrial association. VDMA represents more than 3.400 member companies in the SME-dominated mechanical engineering industry in Germany and Europe. With around 1,3 million employees in Germany and a turnover of EUR 230 billion (2019), the sector is the largest industrial employer and one of Germany's leading sectors of industry overall. The major players of the hydrogen value chain are organised in VDMA: from renewable energy generation to plant manufacturers (electrolysers, Fischer-Tropsch- and Methanol-to-Gasoline-synthesis, methanation plants, etc.). It also includes the manufacturers for the use cases of hydrogen and P2X across all sectors (e.g. plant manufacturers for steel and chemicals, gas turbines, fuel cells manufacturer, mobile machines, hydrogen-based firing technology for high-temperature processes, shipping & jet engines). The VDMA platform "Power-to-X for Applications" (P2X4A) brings together all the competencies of the important stakeholders, including those from adjacent fields - such as the automotive and petroleum industries.

Introduction

It is with great concern that VDMA views the humanitarian catastrophe triggered by Russia's invasion of Ukraine. This war of aggression calls into question many of the pillars of European energy policy. It highlights the dependence of the EU and individual member states on Russian natural gas, mineral oil and coal. This dependence must be ended as quickly as possible. Hydrogen, so far important mainly for climate policy reasons, will play a key role in this. Thus, overnight, hydrogen has become a strategic goal for security policy.

VDMA supports the European Commission's objective of the RePowerEU communication, according to which European demand for Russian natural gas is to be reduced by two-thirds by the end of 2022 and eliminated by 2030. The goal of increasing the available quantity of renewable hydrogen to 20 mt by 2030 is ambitious - but we believe it is feasible!

Even if the current production capacity of renewable hydrogen worldwide is only a few GW, plant manufacturers, including VDMA Members, can rapidly ramp up their production capacities for electrolysers. Already today, established electrolyser manufacturers are planning larger production facilities against the background of the Green Deal and EU Hydrogen Strategy targets. At the same time, new industry players are also entering this market in anticipation of higher demand in the future.
Securing skilled labour and the availability of necessary raw materials need political support for the ambitious ramp-up of the market.

The mechanical and plant engineering sector is ready for industrial scaling. However, implementing the Hydrogen Accelerator successfully will only be possible through bold action and an enabling regulatory framework that allows for an industry learning curve and flexibility until 2030.

VDMA proposes the following four points for implementing the Hydrogen Accelerator:

1. A pragmatic approach to accounting renewable energy electricity for hydrogen production creates more flexibility until 2030 (Delegated Act, Art. 27, REDII)

The delegated act regarding Art. 27, REDII, may potentially prove to be the biggest regulatory hurdle for an accelerated hydrogen ramp-up. The “additionality” criterion for renewable hydrogen production is best fulfilled by Member States via their National Energy and Climate Plans, and not by individual project operators. Existing renewable energy assets and Power Purchase Agreements (PPA) that are used for hydrogen production, should also be eligible to fulfil this criterion. Furthermore, a more pragmatic temporal correlation of renewable energy and hydrogen production should be allowed, hence a longer balancing period, without limiting operating hours of electrolysers. After 2030, a market-based system should provide incentives to build electrolysers for grid balancing and flexibility services.

2. Accelerated expansion of the hydrogen production – in Europe and beyond

The European Union has many good locations where renewable hydrogen can be produced at low levelized cost of energy. Especially the regions in Southern Europe as well as in the North and Baltic Seas can be quickly developed as large-volume supply regions. In addition, other regions in the Black Sea region can also play a major role in the medium term.
But other regions, such as MENA, even Australia and Chile, can become important production locations – especially if the easier-to-transport hydrogen derivatives (such as synthetic fuels and ammonia as hydrogen carrier) are imported from the more distant regions. Diversification lays the foundation for a new resilience and security of supply in energy policy.
To achieve this, the European Union needs to a adopt a distinctive hydrogen diplomacy and accelerate hydrogen partnerships around the world. To speed up the availability of green hydrogen the focus should be on both large and small decentralized hydrogen production plants.
At the same time, the Global Hydrogen Facility should be created along the lines of the German "H2Global" and well-coordinated with existing national initiatives. A key success factor is a double auction model which secures supply and demand at competitive prices. Contracts for Difference should compensate for higher costs at the beginning. The financial instrument should be temporary and only serve as an impetus for the formation of a competitive global hydrogen market.

3. Accelerate the expansion of infrastructure and drive it forward large scale

The development of hydrogen infrastructures needs to be more ambitious, more rapid, and more extensive. Hydrogen storage and the use of infrastructures for transport (ports, rail, truck transport, pipelines) should be re-evaluated. A more integrated energy system planning of hydrogen, natural gas, and electricity infrastructure at EU and Member State level needs to be established. Planning procedures for hydrogen projects need to be simplified and shortened. A situation similar to wind and solar PV expansion where planning and permitting seriously put at risk the EU’s renewable energy goals, must be avoided at all cost for hydrogen projects. Regulatory barriers for transmission operators must be avoided.

4. Strengthen the regulatory framework of hydrogen demand in the "Fit for 55" package

Last year, the European Commission proposed the "Fit for 55" package, a comprehensive legislative package to implement the ambitious 2030 climate targets. Quotas for "renewable fuels of non-biological origin" (RFNBOs) are proposed in many of the individual dossiers.

Against the background of the accelerated ramp-up, these quotas must now be reviewed and increased:

- The RFNBO quota in **RED III** is the most effective instrument for reducing emissions by ramping up renewable hydrogen and derived fuels. However, the proposed quota is not high enough to incentivize sufficient investments in RFNBOs for transport. To make sure that enough RFNBOs are available in 2030 and to frontload investments the 2.6% quota should be brought forward to 2026. The sub-quota should then be doubled by 2030.
- The EU should assume an international role model for the maritime energy transition globally. We therefore call for adding to **Fuel EU Maritime** a separate and more ambitious reduction path: this extra path should **regulate intra-EU shipping** and **lead to climate-neutral European shipping as early as 2045**. In addition and to encourage the availability of synthetic fuels, a **sub-quota for RFNBOs** should be introduced in the maritime sector.
- **ReFuelEU Aviation** creates the strongest incentive to decarbonise aviation. The quotas for synthetic fuels should level the ambition and competence of the RFNBO industry. We call for an introduction of **a new sub-target in 2027 of 0.8%** and a more **ambitious target of 2.5% in 2030 for synthetic fuels**.
- In aviation and shipping, a **"book and claim" approach** can facilitate market ramp-up, especially in the initial phase. At the same time it must be ensured that (analogous to the regulation for biofuels**) no allowances have to be surrendered for the use of synthetic fuels**. To this end an implementing act is provided for in the EU ETS (Art. 14.1). This implementing act must be adopted in a timely manner in order to create certainty for the investments in synthetic fuels. At the same time, a transition phase should be created to allow first-movers using synthetic fuels without disadvantages.

Implementing the Hydrogen Accelerator is ambitious, but feasible. The industry is ready with its expertise. Production facilities can be scaled up at the necessary speed in the years to come. But the industry needs clear signals that demand is developing. An accelerated market ramp-up of hydrogen can mitigate price burdens for consumers, preserve industrial value chains and create new jobs. However, to reap the first fruits of this accelerated ramp-up from the middle of this decade, bold action is needed: the corresponding regulatory decisions must be taken this year!

VDMA is happy to contribute with its expertise to the further political process of implementing RePower EU.

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