



DELIVERING REPOWEREU

The Port of Rotterdam (“the Port”) is working with various partners towards the introduction of a large-scale hydrogen network across the port complex, making Rotterdam an international hub for hydrogen production, import, application and transport to other countries in Northwest Europe¹. The large-scale use of hydrogen has the potential to considerably reduce carbon emissions in industry and transport, and contribute to achieving the EU’s climate objectives for 2030 and 2050. Moreover, the transition to becoming a CO₂-neutral port by 2050 will transform the Port’s labour ecosystem, in which currently 90,000 jobs are directly related to the throughput and processing of commodities that are still predominantly fossil in nature.

The Port has calculated that it will be able to produce and receive at least 4.6 million tonnes of hydrogen and its derivatives by 2030^{2, 3}. This will allow the Port and all its connected companies and partners to make a substantial contribution to achieving the targets outlined in the REPowerEU plan, i.e. produce, transport and import a total of 20 million tons of renewable hydrogen and/or related RFNBO’s by 2030, and increase Europe’s energy independence⁴. In addition, the Port can further boost the transformation of the Antwerp-Rotterdam-Rhine-Ruhr-Area (“ARRRA”) to becoming the EU’s largest clean industrial cluster. In order to deliver on the REPowerEU plan, the Port would like to issue the following policy recommendations.

1. PROVIDE LEGAL CERTAINTY FOR EU AND NON-EU ECONOMIC OPERATORS

In order to achieve the REPowerEU ambitions, we need strong demand and supply side signals and a stimulating regulatory framework. The Port expects to produce 600 thousand tons of green and low-carbon hydrogen and import 4 million tons of

hydrogen and its derivatives by 2030. In order to realize the production volumes by 2030, 24 hectares in the Port’s industrial complex have been earmarked for an initial 2 - 2,5GW conversion park that will convert green electricity from offshore wind farms into green hydrogen using electrolysis^{5, 6}. In addition, various companies are developing production facilities in parallel on their own sites. After 2030, the Port has the ambition to develop additional surface area for the large-scale production of green hydrogen.

Recommendation: the Delegated Acts on renewable hydrogen and RFNBO’s in transport under the 2018 Renewable Energy Directive II⁷ are crucial regulatory building blocks of the hydrogen economy. However, the Delegated Acts must be designed in such a way that it incentivizes the deployment of the first large-scale renewable hydrogen projects, attract investors and ensure legal certainty for EU and non-EU economic operators.

a) The Delegated Acts should boost the market development of renewable hydrogen with flexible

1 [Port of Rotterdam](#), “Hydrogen projects in Rotterdam”

2 [Port of Rotterdam](#), “Rotterdam can supply Europe with 4.6 megatonnes of hydrogen by 2030”, 10 May 2022

3 Derivates such as ammonia, methanol, synfuels or liquid organic hydrogen carriers

4 [European Commission](#), “REPowerEU: A plan to rapidly reduce dependence on Russian fossil fuels and fast forward the green transition”, 18 May 2022

5 [Port of Rotterdam](#), “A dedicated site for electrolysis”

6 [Port of Rotterdam](#), “7.4GW Windfarms North Sea connected to Rotterdam”

7 Delegated Act on the methodology setting out the rules for the production of RFNBOs (RED II Article 27.3) and the Delegated Act on the methodology to assess the GHG emissions of RFNBOs and recycled carbon fuels (RED II Article 28.5)

conditions regarding the 'Additionality' principle, especially for hydrogen projects commissioned before 2027. Too stringent conditions will hamper production facilities in their production to diversify and maximise the generation of renewable energy and result in inviable business cases, thereby potentially hampering the uptake of the European hydrogen economy.

- b) The Delegated Acts must create legal certainty for non-EU economic operators (e.g. exporting countries, exporting companies, investors) to accommodate import flows, guide investments and minimise administrative burden. To ensure that Europe is perceived as an attractive destination for exporting countries/companies, the Commission must create awareness and proactively inform economic operators from third countries on how to comply with the provisions outlined in the Delegated Acts.

In its adoption of the Renewable Energy Directive II (2021/218 (COD)), the European Parliament voted in favour of scrapping the Delegated Act on Additionality and including some of its provisions directly into the Renewable Energy Directive (Article 27.3), rather than delegating this to the European Commission via the Delegated Act.

The Port welcomes the position of the European Parliament. At the same time, neither the Commission's Delegated Acts nor the European Parliament's position sufficiently appreciate the role of hydrogen imports and a level playing field. The Port underlines it remains of the utmost importance that European hydrogen certification is implemented with speed and transparency to third countries in order to provide investment clarity and legal certainty for EU and non-EU economic operators. [Please read our full contribution to the Delegated Acts here.](#)

2. IMPLEMENT A ROBUST HYDROGEN CERTIFICATION SCHEME FOR HYDROGEN IMPORTS

In REPowerEU, the European Commission rightfully acknowledges the need for importing hydrogen

carriers to ensure the security of supply in the future. Europe does not have the capacity to produce enough renewable energy to meet the objectives. The sooner Europe starts replacing imports of oil, gas and coal with imports of green and low carbon energy, the sooner it will achieve the European climate and diversification objectives.

To accommodate the diversification of energy supplies, an internationally recognised hydrogen certification scheme is fundamental.

Together with Gasunie and various Dutch Seaports, the Port is launching partner of HyXchange, a hydrogen trading platform experimenting with certification and pricing pilots.

Recommendation: the Port underlines the need for an internationally recognised, trustworthy verification and certification scheme that can be applied to local production as well as imported renewable and



low-carbon hydrogen to ensure imported hydrogen is recognized as value-adding parts of the solution and to provide security to end-users. The Port would like to recommend the CertifHy approach as a baseline methodology for developing such schemes.

This certification scheme should be operational by the end of 2023 at the latest, in order to give import and export parties the much-needed security for the necessary contracting and investments to welcome the import flows as early as possible. In anticipation, the European Commission should be ready to endorse any national hydrogen certification schemes for preliminary practical use by the end of 2023.



3. SUPPORT THE PARALLEL DEVELOPMENT OF PUBLIC AND PRIVATE HYDROGEN INFRASTRUCTURE

The Port currently accommodates approximately 13% of the total EU energy demand and supplies a large part of the ARRA cluster – the largest EU industrial cluster – with fossil fuels and feedstock. Reducing the carbon emissions in industrial hubs such as the ARRA cluster will be a fundamental part of the transition towards climate neutrality.

In order to supply the industry with vast quantities of sustainable energy and feedstock needed to decarbonize, new infrastructure such as the Delta Corridor⁸ - a cross-border pipeline bundle including hydrogen connecting Rotterdam with Chemelot and North Rhine Westphalia and generating an annual contribution of around 22 million tons of avoided and abated emission – will be developed.

Recommendation: Converting the existing gas pipeline backbone alone is not sufficient for the capacity required to decarbonize industrial clusters and hard-to-abate sectors. EU policymakers must safeguard the parallel development of new, high-quality private hydrogen networks and private infrastructure for other hydrogen carriers like ammonia, alongside the deployment of public hydrogen infrastructure in the revision of the EU gas market rules⁹.

- a) The Port underlines the need for new infrastructure to cater for new demand (not only gaseous hydrogen, but also other forms that can be transmitted through pipelines) and connected industrial consumers. Hydrogen infrastructure should be aligned with industry needs to not miss out on crucial connections. National hydrogen networks must be developed (based on the European Hydrogen Backbone) alongside private business-to-business networks to create robust hydrogen supply chains. In order to achieve this, policymakers should safeguard a parallel approach in the revision of the gas market rules and should commit to financially support business-to-business hydrogen networks through the TEN-E/PCI framework.
- b) The Port supports the Commission proposal to establish the European Network of Network Operators for Hydrogen (“ENNOH”) as responsible entity for the development of the hydrogen network (Article 40, Gas Regulation). The specific hydrogen market needs justify the establishment of a dedicated entity responsible for the market development with its own statutes, mission statement, resources and work program. The Port also believes this would boost transparency and accountability regarding market development. Although synergies with ENTSO-G and ENTSO-E should be explored, ENNOH should be in the lead to compile the dedicated 10-year network development plan for hydrogen to best answer market demands.

⁸ [Port of Rotterdam](#), “Broad industry support for Delta Corridor project”, 6 April 2022

⁹ [European Commission](#), “Commission proposes new EU framework to decarbonise gas markets, promote hydrogen and reduce methane emissions”, 15 December 2021

4. STIMULATE THE DEPLOYMENT OF IMPORT INFRASTRUCTURE

Industrial seaports fulfil, as clean energy hubs, a crucial role in the import, production, conversion, storage and distribution of hydrogen and its

revision of the EU gas market rules (Article 2 (8), Gas Directive). According to the proposed definition, hydrogen terminals can only be used for liquid hydrogen and ammonia, meaning that other technologies (e.g. methanol, LOHC) cannot be used in the hydrogen terminals. The Port believes



derivatives. In Rotterdam, the first import projects could add up to at least 4 Mt in 2030. The Port is already familiar with hydrogen in industry and the transshipment of hydrogen carriers such as ammonia. In addition, the Port has experience in the transshipment of cold energy carriers such as LNG and chemicals such as methanol. This experience can be applied to the new forms of hydrogen that are anticipated: liquid hydrogen, ammonia and LOHC. Rotterdam's existing tank storage and infrastructure for hydrogen and hydrogen carriers add to the Port's appeal as an import location. Companies will be able to develop existing fossil energy assets for hydrogen and hydrogen carriers.

Recommendation: to ensure security of supply and diversification, the deployment of new import infrastructure is of paramount importance. The Port asks the Commission to provide flexibility to first-mover projects and create a favourable regulatory framework to stimulate the deployment of the much-needed import infrastructure based on a technology-neutral approach.

a) The Port asks for clarity concerning the definition of a hydrogen terminal as outlined in the proposed

the EU should keep the regulatory framework for hydrogen import terminals technology-neutral to not restrict the use of any new technologies.

- b) In order to stimulate first-mover projects and avoid the risk of slowing down the development of infrastructure, the Port believes that hydrogen import terminals should be exempted from third party access (Article 7, Gas Regulation).
- c) Hydrogen imports will arrive in various liquid and gaseous forms and need (terminals with) storage facilities. The importance of above-ground storage facilities should be acknowledged in the revision of the EU gas market rules (Article 2 (6), Gas Directive).

5. DEVELOP A COORDINATED APPROACH TOWARDS ENERGY EXPORTING COUNTRIES

The EU will have to import large volumes of renewable hydrogen if it is to meet the targets as stated in REPowerEU. Green hydrogen can be produced wherever there is abundant supply of sun, wind and space. From Southern Europe and Africa to Australia and

Latin America. In order to make use of this supply, the EU will need to build strong and resilient energy partnerships across the globe to meet the growing demand for clean hydrogen.

The Port welcomes the announcement in the EU External Energy Strategy to develop and accommodate major hydrogen corridors, amongst others in the North Sea¹⁰. The North Sea Corridor, covering the large seaports of Antwerp, Rotterdam and North Sea Port, has a substantial import potential of hydrogen and its derivatives and a highly integrated supply corridor that can leverage offshore renewable capacity in the North Sea with import capacity and national or regional hydrogen backbones in the Netherlands, Belgium and Germany.

Recommendation: develop a harmonized and coordinated EU approach towards energy exporting countries in order to match demand with supply and create robust hydrogen supply chains.

- a) In order to stimulate the development of local hydrogen markets and overseas production facilities, the Port recommends to boost cooperation between public and private stakeholders in North-West Europe by means of Green Hydrogen Partnerships or by initiatives such as the recently announced European Hydrogen Bank¹¹.
- b) To support energy partnerships and foster a faster development of hydrogen production projects outside Europe, the Commission should engage with the EIB in discussions on re-defining priority countries for investments to better align them with the objectives of the REPowerEU Plan. The Commission should consider how a Global

European Hydrogen Facility, based on the model of H2Global or other likewise initiatives, could be set up, financed, and be administered.

6. CLOSING THE FINANCIAL GAP WITH CO₂-EMITTING ALTERNATIVES



As long as energy made from fossil fuels is cheaper than renewable and low-carbon hydrogen and derivatives, the latter will not get the momentum required to achieving the objectives as put forward in REPowerEU. Carbon Contracts for Difference offer the opportunity to guarantee investors in innovative climate-friendly technologies and practices a fixed price that rewards CO₂ emission reductions above the current price levels in the EU ETS, thus levelling costs on the demand side.

Recommendation: The Port welcomes the announcement of the Commission to roll out carbon contracts for difference to support a full switch to hydrogen-based production processes. The Port underlines the need to preserve a level playing field between EU Member States and finance the gap between the EU ETS price and the price parity level of carbon-neutral solutions.

¹⁰ [European Commission](#), "EU external energy engagement in a changing world", 18 May 2022

¹¹ [European Commission](#), "2022 State of the Union Address by President von der Leyen", 14 September 2022

More information

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