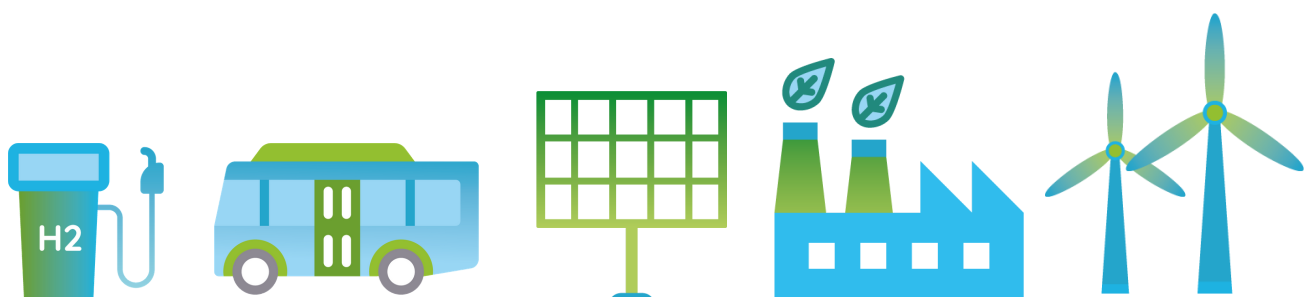


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Hydrogen

THE EU HYDROGEN STRATEGY: HYDROGEN EUROPE'S TOP 10 KEY RECOMMENDATIONS



INTRODUCTION

Hydrogen Europe is the European association representing the interests of the hydrogen industry. We represent the whole value chain from production to final use and its stakeholders. Our mission is to promote clean hydrogen as the enabler of a zero-emission society. With more than 160 industrial companies, 78 research organisations and 23 national associations as members, our association encompasses the entire spectrum of the European hydrogen technologies ecosystem collaborating in the Fuel Cell Hydrogen Joint Undertaking. We are a Brussels-based association fostering knowledge and pushing for fact-based policymaking ensuring that the European regulatory framework enables the role of hydrogen in our society that strives for net zero carbon emissions.

Meeting the EU's long-term climate and energy goals and realising the promise of the Green Deal means carbon free power, increased energy system efficiency and deep decarbonisation of industry, transport and buildings. Achieving all this will require both electrons and molecules, and more specifically: **clean hydrogen (renewable and low carbon hydrogen) at large scale. Without it, the EU will not achieve its decarbonisation targets.** As such, clean hydrogen and hydrogen-based solutions are set to play a systemic role in the transition to renewable sources by providing a mechanism to flexibly transfer energy across sectors, time and place, in order to meet demand.

With a view to the upcoming publication of the European Commission's proposals for an EU Hydrogen Strategy and the Communication on Energy System Integration, this paper outlines our association's top 10 key recommendations. **These recommendations have been developed with the aim of creating a framework that supports and enhances the uptake of clean hydrogen and promotes its role as an enabler for sectoral integration. Moreover, our recommendations aim at making the EU the central market place for clean hydrogen as a global commodity.**



HYDROGEN EUROPE'S TOP 10 RECOMMENDATIONS

1 Define an EU wide terminology for renewable and low carbon hydrogen together with a methodology to calculate life cycle greenhouse gas emissions in order to enable a functioning clean hydrogen economy

2 Establish the principle of CO₂ as the new “currency” of the energy system

3 Promote and support hydrogen market stimulation programs including quotas/targets, dedicated programs and support schemes

4 Enable a competitive hydrogen economy by clarifying the market design and supporting sectoral integration

5 Revise the Trans-European Networks for Energy (TEN-E) Regulation to support the development and roll out of hydrogen networks

6 Revise the directive for the Deployment of Alternative Fuels Infrastructure (DAFI) to boost the use of hydrogen in the mobility sector

7 Support for a strong, effective and all-encompassing Clean Hydrogen for Europe Partnership

8 Remove undue barriers to hydrogen production and hydrogen infrastructure

9 Unlock hydrogen's potential by leveraging innovative financial instruments

10 Launch the Clean Hydrogen Alliance and establish hydrogen as a key element in global EU climate diplomacy and neighbourhood policy



1

Define an EU wide terminology for renewable and low carbon hydrogen together with a methodology to calculate life cycle greenhouse gas emissions in order to enable a functioning clean hydrogen economy



- Rapid agreement on a comprehensive and science-based **uniform EU-wide terminology** for renewable and low carbon hydrogen is necessary to adapt national legal definitions and to provide a clear taxonomy which brings with it legal certainty.
- The adoption of a **methodology for the calculation of the life cycle greenhouse gas emissions** from renewable and low carbon hydrogen is needed and should also be reflected in the EU-wide terminology to allow comparability between energy sources in terms of the emissions factor. As such, we encourage the European Commission to take into account the work undertaken as part of the CertifHy project, which can serve as a good starting point for the development of this methodology, but additionally to take into account the role of 'negative emissions'.

2

Establish the principle of CO₂ as the new “currency” of the energy system

- In order to establish a robust system of carbon reduction the **CO₂ content of energy carriers and vectors will become the “new currency”** of the energy system and EU economic recovery. **A transparent mechanism for tracing and tracking the carbon content is a prerequisite.** This would enable a clear taxonomy and prioritisation.
- Switching from fossil to clean hydrogen solutions needs to become a business case for energy consuming sectors. Regulation across sectors should aim at creating price parity with fossil energy.
- The European Commission should **consider earmarking a share of allowances to finance carbon contracts for difference (CCfDs).** CCfDs could finance the gap between the ETS price and the price parity level of carbon-neutral solutions. Such a mechanism would facilitate integrating renewable and low carbon hydrogen energy into demand sectors.
- The **energy taxation directive should consider the carbon content and contribution to decarbonisation of the various energy sources** whilst also considering the context from an international competition perspective. The ongoing pandemic and its implications across the energy sector compound the need to further address this subject.
- Energy consumers **investing in and utilising low-carbon / renewable feedstocks and fuels should be recognised and (fiscally) rewarded** for their efforts, while high carbon, polluting processes, fuels and feedstocks should face a proportionately higher fiscal burden.

2

- The European Commission should **address the existing shortcomings in the EU ETS legislation concerning CO2 transport**, which could create obstacles for the uptake of low-carbon hydrogen. Specifically, Article 12(3a) and Annex I of the Directive 2003/87/EC create uncertainties with regard to the recognition of CO2 transport modes other than pipelines under the CO2 transport network definition. It is unclear whether the CO2 captured and transferred to ships for transport to permanent storage would be considered as captured given that CO2 transport by ship is not included in the CO2 transport network definition. To enable ship-based CO2 transport solutions to retain their EU ETS allowances is a crucial step towards enabling large-scale low carbon hydrogen projects to move forward. Therefore, the European Commission should resolve the legal issue as soon as possible.
- **Carbon border tax should only be considered as an option of last resort.** Internal EU reforms should be prioritised before employing an instrument that has broader implications. Any added tax should rely on the carbon content and not the lower price of imported goods. As a result, the carbon border tax should be compliant with WTO rules and add costs relative to the carbon content of any good to be imported.



3

Promote and support hydrogen market stimulation programs including quotas/targets, dedicated programs and support schemes

Hydrogen quotas/targets for renewable and low carbon hydrogen on the demand side are desirable. Such quotas /targets are needed to drive decarbonisation and boost the uptake of hydrogen, sending a clear signal to end-users and triggering investment on the production side to meet the demand. The following type of quotas/targets could be set:

An industrial quota/target for **carbon free steel, ammonia, methanol and other chemical products.**

A transport quota/target (a percentage of total volume) for **carbon free kerosene, shipping bunkering fuels, hydrogen powered trains and for hydrogen in transport fuels.**

Heating (**high and low temperature heating**) **quota** (as percentage of energy, not volume) in total gas demand (this does not mean physical blending but countries could choose to do so).

These quotas/targets should **be achievable via pure hydrogen, hydrogen blends and synthetic methane.**

Quotas and targets should be set in 2030 as well as 2050 to maintain momentum for investments into the hydrogen economy both in the short term and the long term.

Incentives should be set to reach the renewable and low carbon hydrogen quotas/targets in the industry and heavy-duty transport sectors.

The development of guidelines for the **EU wide harmonisation of regulations**, uniform standards, definitions and technical rules that govern hydrogen blending should be supported.



Revision of the eco-design and energy labelling provisions for market transformation towards devices capable to process hydrogen blends and hydrogen.

The current revision of eco-design and energy labelling of space heaters should set out a **framework for market transformation towards devices capable to process hydrogen blends and hydrogen, and uptake of hydrogen in gas networks**. It should drive innovation and support synchronization of decarbonisation across the gas value chain, towards a decarbonized building stock in 2050, ensuring that the majority of future installed end-use appliances are capable of processing hydrogen-methane blends or pure hydrogen.

Specific branding/labelling programmes to recognise renewable and/or low carbon hydrogen products are needed; similar to Energy Star programme[1].

Regulation on Eco-Innovations: Allow low-carbon steel to be eligible eco-innovations. Green steel can reduce the CO₂ performance of vehicles of 6-7g CO₂/km per vehicle. Investments in green steel could take off immediately, because the additional costs of low-carbon steel are lower than the effective carbon price created by the fleet regulation.

Review state aid rules and guidelines:

- For projects granted the label of Important **Project of Common European Interest (IPCEI) a state aid of up to 100%** would enable the implementation of hydrogen projects by companies that are vulnerable or have been impacted by COVID-19.
- The outlook for a **possible waiver of state aid rules** if applications for IPCEI projects are presented this year; this might accelerate the kick-starting process considerably.

[1] For more info on the Energy Star programme: https://ec.europa.eu/energy/topics/energy-efficiency/energy-efficient-products/energy-star_en

3

- The list of electro-and trade intensive sectors in Annex 3 of the Guidelines for which an aid in the form of reduction in the funding for support of renewable energy can be granted should be extended with production of clean hydrogen. In order to ensure the necessary investment security in the market introduction phase of the relevant production assets, it is advisable to design the approval for the reduction of the apportionment for the energy purchased on a multiyear basis.
- In order for electrolyzers to play their key role in renewable integration across sectors as well as contribute to the decarbonisation of the power sector through ancillary services, Hydrogen Europe recommends that the guidelines should be reviewed keeping in mind that electricity produced as a result of storage systems should be considered renewable, only if the electricity in the system is of renewable origin.
- Operating aid could be granted to clean hydrogen production facilities through aid schemes and measures similar to those applicable to renewable energy sources (“premium” re. 3.3.2.1.).
- Establish a dedicated chapter on state aid for hydrogen technologies with the following elements: (1) aid intensity up to 100% for hydrogen technologies in first-of-its kind large scale installations; (2) allow cumulating the maximum aid also based on **a reasonable financing gap analysis** rather than only on a rigid eligible cost approach, (3) stronger OPEX support; (4) Faster and simpler notification procedures; (5) increasing notification thresholds for hydrogen technologies to € 200mn, (6) clear rules for cumulation of aid.

4

Enable a competitive hydrogen economy by clarifying the market design and supporting sector integration

Building a clean hydrogen economy and GW electrolyser market requires a European hydrogen market design, where the **development of regulation needs to be agile and fit for purpose.**

A mature hydrogen market will only exist if/when there is enough demand in the various end-uses and a hydrogen backbone infrastructure in place. Several actions can be taken in the short term but also in the medium to long term.

In the short term: Start-up trade in Guarantees of Origin (GO)

- We recommend the EU should focus on enabling market traction for clean hydrogen, with a clear roadmap towards developing rules for trading through the use/acceptance of **EU wide Guarantees of Origin** to prove the carbon intensity of the hydrogen.
- Different approaches of national issuing bodies to Guarantee of Origin can lead to fragmentation and hamper broader trading related aspects of hydrogen. **The EU should propose guidelines to national issuing bodies to encourage common practices and standards**, thus pathing the way towards a more pan-European approach.
- Guarantees of origin need to be supported by a **robust track and trace and auditing system.**
- Since hydrogen imports will become important, **the EU itself needs to play a role as an issuing body, at least for imports.**

In the medium to long term:

- Auctions/tenders for the production of renewable and low-carbon hydrogen to get hydrogen volume in the market
- Start up a hydrogen price index e.g. based on a pricing panel whereby market parties on a regular basis give their hydrogen trading prices.
- Start up a hydrogen trade exchange at a part of the hydrogen backbone, where there are already a couple of suppliers and off-takers.

4

Power to gas plant ownership model and investments in natural gas conversion to hydrogen for flexible supply:

- A clear, predictable and non-discriminatory policy framework that enables and supports the roll out of activities/investments for power-to-gas as well as conversion facilities for hydrogen (steam-methane reforming (SMR) and autothermal reforming (ATR)) from natural gas in combination with CCS, by any players, as a non-regulated activity is needed. Nevertheless, should the following conditions apply:
- The need for investments in power-to-gas assets as well as low carbon hydrogen production facilities has been identified within the context of decarbonisation efforts, and/or within the context of EU network development planning (as approved by European and National Regulatory Authorities (e.g. through a cost-benefit analysis);
- A subsequent gap in private investment is recognised (through, inter-alia, market tests).

Competent authorities shall:

- Launch a tendering process open to all players to enable investments through support mechanisms; the tendering process should offer the same support, at the same level and at the same moment so as to ensure that there is a level playing field between all actors;
- If unsuccessful, provide that Transmission System Operators/Distribution System Operators (TSOs/DSOs) can directly invest as a regulated activity until the market conditions develop significantly.

In case of investment by TSOs/DSOs as a regulated activity, an adequate regulatory oversight should be in place, ensuring transparent and non-discriminatory access to the service. In such a regulated framework, National Regulatory Authorities (NRAs) should regularly monitor market developments. Should markets develop significantly, NRAs might prescribe how:

- Regulated entities shall transfer their respective activities and assets from a regulated to a fully commercial/non-regulated entity; or
- They shall opt to phase-out their activities in this regard.

4

Enabling “HydroGenewables”

On grid	Off-grid
The deployment of electrolyzers connected to the electricity grid must be supported as long as the electricity used is renewable or low carbon according to a defined threshold, backed with a robust GO system. This will contribute to sector coupling and sectoral integration through new flexibility resources to integrate more renewables in the power system.	Large scale renewable electricity-hydrogen integrated production plants are also needed. This type of off-grid integrated model for hydrogen production should be further investigated and supported as it has potential to reduce costs whilst promoting system efficiency. As such, EU auctions and tenders for renewable electricity-hydrogen production should be promoted.

The **upcoming offshore wind strategy** is an opportunity to rework how overall system efficiency gains can be achieved by looking at the optimal way to bring hydrogen from supply source to demand area (i.e. offshore conversion) which can be brought by new gases like hydrogen. Those are issues we need to address to allow the whole infrastructure to play its role.

Removing double grid charging: In the case of electrolyzers, **double grid** (power and gas) **charging relating to the conversion/production of hydrogen is unjustified and should be removed** so as not to impose an undue burden and unfair competition. This should be taken into account when implementing the clean energy package.

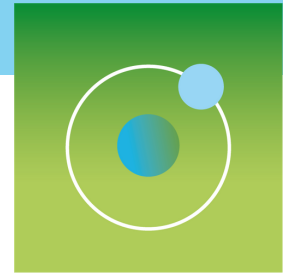
Modifications to the Gas Directive:

- Remove barriers to the development and operation of hydrogen networks.
- The 2009 Gas Directive **should also refer to gases including renewable and low carbon hydrogen** taking into account their specificities.
- The 2009 Gas Directive only refers to natural gas networks. Clarity is needed here to **recognise the evolving role of infrastructure companies**, and to recognise their role in operating natural gas pipelines but also their plans to retrofit/convert existing natural gas pipelines with a view to operating them as clean hydrogen pipelines.

Regulation should not prescribe which energy carrier should be used in which sector, but instead allow for the use of the appropriate energy carrier with a view to promoting overall system efficiency.

5

Revise the Trans-European Networks Regulation for Energy (TEN-E) Regulation to support the development and roll out of hydrogen networks



The upcoming **revision of the Trans-European Networks for Energy (TEN-E) Regulation** should:

- Introduce a **coordinated and holistic approach to develop a European Ten-Year Network Develop Plan (TYNDP)** between electricity, gases and clean hydrogen is essential to optimise the investment efforts required for the transformation of the energy system. In line with the TYNDP framework, **member states should be asked to list and report the planned clean hydrogen and hydrogen interconnection projects on the national level so as to facilitate network planning** and long-term visibility of hydrogen infrastructure development across Europe. It is important to create visibility for the ongoing hydrogen development efforts on the EU- as well as national levels.
- Recognise the **contribution to decarbonisation efforts as a key sustainability criterion** for Projects of Common Interest (PCIs) and **extend the eligibility of PCI status to projects facilitating the integration of renewable and low carbon gases, including hydrogen.**
- The sustainability dimension for the PCI selection should be incorporated on the basis of GHG emissions reduction potential applied in a non-discriminate manner to all technologies and network development plans, as is the case for decarbonisation projects under the Innovation Fund. **Emission performance-based evaluation in the context of TEN-E Regulation would ensure its consistency with the EU's climate and energy legislation** as well as help avoid counterproductive outcomes in terms of energy and resource use.
- Support the **retrofitting of existing cross border gas infrastructure** to transport clean hydrogen as well as provisions that favour the **development of new dedicated clean hydrogen infrastructure**, including open access to infrastructure.

5

- With hydrogen set to take up an important role in transport, particularly in heavy duty road transport as well as maritime and aviation, it is **imperative to create more synergies between the TEN-T regulation and the TEN-E regulation to ensure that hydrogen transported through the TEN-E corridors can be accessed by the relevant refuelling stations along the TEN-T corridor**. The TEN-T Regulation can help to scale the use of clean hydrogen and hydrogen-based solutions in the transport. At the same time, clear boundaries between the TEN-E and TEN-T sections on hydrogen should be established based on hydrogen use – whether as clean fuel in energy or in transport.
- **“Clean hydrogen networks” should be introduced as a new thematic area** under the TEN-E Regulation. Both new infrastructure projects as well as hydrogen transport (including pipelines, maritime, road and other) solutions, intermediate storage and associated infrastructure projects should be encompassed in the framework of TEN-E.
- **The new TEN-E rules should** support the development and **interlinkage of hydrogen clusters**, particularly projects of cross border nature, thus **pathing the way for the development of an EU hydrogen backbone**. It should also **facilitate dedicated hydrogen infrastructure workstreams**. **These cooperative workstreams should cluster hydrogen-ready member states**, promote the development of clean hydrogen infrastructure projects and address standardisation and safety issues in a timely manner.
- Extend the current CCS (capture and storage of CO₂) domain to include CCU (Capture and utilisation of CO₂).
- To enable the scale up of CCS-enabled hydrogen in Europe, the TEN-E framework should include **maritime CO₂ transport in the CO₂ transport network definition**. The CO₂ transport network referred to in Annex II (4)(a) is defined in Directive 2009/31/EC (CCS Directive), which limits the scope to a network of pipelines. A CO₂ transport network should not be limited to pipelines but encompass maritime, road and railway transport that can be part of a shared CO₂ transport network. Other transport solutions and in particular shipping offer an agile and tailor-made option for industrial sites with smaller volumes of CO₂ which are out of reach of CO₂ pipeline for economical or technical reasons. In contrast, a certain minimum capacity is needed to justify the rationale of constructing a CO₂ transport pipeline.

6

Revise the directive for the Deployment of Alternative Fuels Infrastructure (DAFI) to boost the use of hydrogen in the mobility sector



The revision of DAFI should support the uptake of clean hydrogen solutions in the road transport, rail transport (with the inclusion of rail and airport infrastructure for ground movements in the scope of the Directive) and maritime sectors, including in ports and airport logistics:

- Hydrogen should be **added to the list of mandatory fuels**.
- The **specificity of infrastructure for heavy-duty vehicles (HDVs) must be considered**. It is necessary to support hydrogen refuelling stations on the TEN-T Core network next to those at the logistics centres, depots as well as on urban nodes.
- The Directive should reflect the **multi-faceted solutions** that hydrogen technologies can bring to the transport sector's decarbonisation such as **multi-purpose hydrogen refuelling stations at strategic locations** that could serve for different transport applications e.g. at airports and ports.

7

Support for a strong, effective and all-encompassing Clean Hydrogen for Europe Partnership



The **future Clean Hydrogen for Europe partnership** and successor to the Fuel Cells and Hydrogen Joint Undertaking **should be built on three equally important pillars: (1) production of hydrogen, (2) transportation of hydrogen and (3) end uses applications** in transport (trucks, trains, ships and aviation) as well as heat, power and industry. Restricting or even focusing the partnership on pillar 1 and 2 without the end uses would break down the innovation ecosystem successfully created by the current Fuel Cells and Hydrogen Joint Undertaking. It would separate the supply from the demand of hydrogen. Moreover, it would ignore that that end use applications, in particular in transport, are those that require the most R&I.

The future partnership should include **flagship projects** which develop an application up to commercial readiness (e.g. 200 trucks) and serve as a springboard to the massive investments anticipated by the IPCEI, Clean Hydrogen Alliance and EU policies.

Similarly, the future partnership should **support Hydrogen Valleys** (e.g. port, industrial hub, airport city), combining in a single location production and transportation of hydrogen and several end-uses applications and demonstrating the full potential of hydrogen as an enabler for sector integration.

The partnership should **prepare the new generation of applications** (e.g. shipping and aviation) which are hard to abate without hydrogen.

The sheer existence of a strong and robust hydrogen sector today is the clear result of the previous partnerships. In order to consolidate this sector, a continuation is urgently needed and given the growing importance of hydrogen technologies, this should be reflected in a **doubling of the relevant budget**. Moreover, this would be in line with the commitment taken in Mission Innovation to double the budget of public funding R&I for the clean energy including Hydrogen.

8

Remove undue barriers to hydrogen production and hydrogen infrastructure



REDII includes so-called **“multipliers”** where every KWh of electricity used in battery electric vehicle is counted as four times its energy content and the energy of advanced biofuel is counted 2.5 its energy content. **There are no such multipliers for hydrogen or hydrogen-based fuels, albeit they contribute to (net) zero emission**

solutions. It results in a direct economic disadvantage towards the above-mentioned solutions to comply with the 14% renewable energy targets for fuel suppliers. This leads to market distortions and is contrary to current national legislation stemming from European Directives. Multipliers should be applied to hydrogen as well.

The use of renewable electricity from the grid for the production of hydrogen is unnecessarily restrictive and not yet clear. While we acknowledge the spirit of the principle of “additionality”, both proving the additionality and demonstrating the **correlation in time and geography with actual renewable generation** create limitations which could place insurmountable barriers to the introduction of renewable hydrogen in the transport sector. Furthermore, the conditions laid out do not reflect the reality of grid operations.

We urge for a **swift adoption of the relevant delegated act as soon as possible.** The current uncertainties are dissuading investments across the EU.

8

The **EU taxonomy regulation** should take into account the following when developing delegated acts:

- There is a mismatch between the Technical Expert Groups (TEG) designation of hydrogen as a sustainable activity and the construction of new dedicated hydrogen infrastructure as unsustainable. **There should be clear support for the use of dedicated hydrogen pipelines as a sustainable activity.**
- The transportation of hydrogen via pipelines should be taken into account as sustainable activity. Equivalent to the categorisation of electricity transmission and distribution (4.9) **the operation of hydrogen pipelines and the revenues derived from the activity should qualify as eligible** since the transportation of hydrogen via pipeline will represent a central feature of a fully decarbonised European energy system by connecting supply and demand across long distances.
- The Technical Expert Group (TEG) report proposes that the manufacturing of hydrogen should only be eligible if the CO₂ intensity of the electricity mix it is connected to is below 100g CO₂e/kwh over the life cycle. This approach is not in line with the renewable energy directive which defines different conditions for using renewable fuels of non-biological origin towards the 14% transport target. This difference in approaches creates uncertainty on the market and increases administrative burden for potential project developers.
- **Hydrogen as a by-product should also be eligible**, as renewable or low carbon hydrogen whenever they comply with the EU wide terminology for renewable and low carbon hydrogen.

9

Unlock hydrogen's potential by leveraging innovative financial instruments

Scaling up the hydrogen economy needs a dedicated financial engineering as there will be many different sources for public funding enabling a framework for private investment. In order to reduce the complexity and to avoid incompatibilities in the combination of funds, a one-stop-shop should be established which could be managed by the Clean Hydrogen Alliance.

A special EIB fund (equity and/or debt) **on HydroGenewables** and clean hydrogen in general could be set up with earmarked investment capacity for this new sector.

Make accessing global renewable resources a key feature of the EIB's climate bank ambition. To build a fully integrated energy system for climate neutrality, the **EIB should support projects outside the EU aimed at importing renewable energy from the world's most competitive locations for wind and solar energy.**

At present, the EIB's envelope for international project financing focuses on a rigid set of priority countries. This approach is at odds with what it takes to combat climate change. Economies will need to harness the best spots for wind and solar energy worldwide and trade renewable energy has hydrogen and hydrogen-based solutions across the globe. In this context and to increase cost-effectiveness, also larger and promising Power-to-X projects should be developed and built where environmental conditions are more favourable for renewable energy generation.

A fund for "Clean Hydrogen Networks" should be established under the Connecting Europe Facility to correspond to the proposed new thematic area under the TEN-E regulation.

We welcome the Innovation Fund to support large scale demonstration of pre-commercial technologies and IPCEI schemes which we believe are essential for the scale-up of clean hydrogen projects. However, **special measures like waiving state aid rules if applications for hydrogen related projects are submitted until the end of the running year should be considered**, e.g. in the IPCEI context.

A fund involving private sector and public/para-public banks should be set up to support EU-wide deployment of HRS.

The price of hydrogen should be determined in Euro denominations, strengthening Europe's role in the development of a hydrogen market.

10

Launch the Clean Hydrogen Alliance and establish hydrogen as a key element in global EU climate diplomacy and neighbourhood policy



Recognise the Clean Hydrogen Alliance (CHA) as the **key platform for hydrogen** to deliver on the European Green Deal, the new Industrial Strategy and the EU recovery plan, by supporting the creation of a competitive ecosystem for clean hydrogen in Europe and enhancing European energy sovereignty. In particular:

- **Guarantee a balanced representation of industrial stakeholders** in the CHA reflecting the complexity of the hydrogen value chain, from production to end uses.
- **Ensure the Commission's political leadership in the process** and the development of a coherent business and regulatory framework.
- **Promote the endorsement of the 2x40 GW Green Hydrogen Initiative roadmap** by the Clean Hydrogen Alliance as the basis for enabling scale up and mass deployment of hydrogen by 2030.
- **Promote the establishment of a multi-faceted energy system that promotes production and infrastructure pathways for both renewable and low carbon hydrogen.**
- The **EU should define a strategy aimed at harnessing the Union's best wind and solar spots**. Moreover, **this strategy should extend beyond the EU's borders**, enabling the import of renewable energy from outside the EU. Imported renewable energy (hydrogen or hydrogen-based solutions) should be eligible to contribute towards the climate targets or relevant sectors.
- Promote **a new, unique and long-lasting mutual cooperation** on political, societal and economic level between the EU and its neighbours such as North Africa and Ukraine.
- Ensure European industrial leadership in hydrogen technologies - **"made in Europe"** - on the global stage.
- Establish hydrogen as key component of the ongoing EU-Ukraine energy cooperation as well as the **EU-Africa and Euro-Mediterranean partnerships**.



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