

Flash

Energy



National Hydrogen Strategy [EH-H2]

A lit discussion has been taking place in Portugal, in particular in last few months, in respect to the potential and benefits of green hydrogen as an instrument at the service of energy transition and other public policies. On 14 August 2020 the [National Hydrogen Strategy \(EN-H2\)](#) was adopted, thus outlining the guidelines for the strategic policy Portugal is engaging.

The implementation of the EN-H2 will entail a reshape of the regulatory framework and will require the mobilization of very large investments (public and private), thus opening the door to re-design the energy sector in Portugal.

Targets for 2020-2030

5%	of final energy consumption	10-15%	of injection on the natural gas transmission networks
5%	of road transport consumption	50 - 100	supply stations
5%	of industry consumption	2 - 2,5 GW	of electrolysers' capacity

Key initiatives

- Implementing a supporting mechanism for green hydrogen production;
- Adopting the regulatory legal framework for hydrogen, in respect to, *inter alia*, licensing procedures, injection in the natural gas transmission networks, quality and safety procedures;
- Setting out targets for the incorporation of hydrogen in several economic sectors until 2030;
- Supporting the investment in hydrogen projects – a support line will be launched in 2020 (around EUR 40M);
- Submitting a formal application for the qualification of Sines project for the implementation of green hydrogen as an Important Project of Common European Interest (IPCEI);
- Implementing a National Alliance for Hydrogen for the promotion of debates on the energy sector.

Opportunities leading to decarbonization

- Current infrastructures viability and sector coupling;
- Reinforcement of the renewable energy sources and increasing resilience of the electric system;
- Reinforcement of Portugal's potential as renewable energy exporter, through Sines and the interconnection pipelines (linking the Iberian Peninsula to Europe);



- Promotion of industrialisation and set up of a hydrogen cluster (similar to the wind cluster developed in the 2000's);
- Fuelling investigation, innovation and development, in particular:
 - Hydrogen production technology;
 - Hydrogen storage;
 - Distribution and fueling of liquid and gas hydrogen;
 - Supply stations;
 - Injection on the natural gas transmission networks;
 - Fuel cells;
 - Structural and functional material for electrolysis which can potentially reduce costs and increase efficiency;
 - Synergies with other renewable gas.

Strategy for the value-chain

The current features of the national energy system determined the selection of a number of strategic configurations for the hydrogen value-chain, including:

- Power to gas (P2G) in order to allow the injection of hydrogen directly to the natural gas transmission networks;
- Power-to-mobility (P2M) local transportation and production of hydrogen for transport fuelling;
- Power-to-industry (P2I) substitute natural gas for hydrogen in order to reduce GHG emission;
- Power-to-synfuel (P2FUEL) potential of hydrogen to decarbonise fuel production;
- Power-to-power (P2P) Renewable energy in excess can be turned into hydrogen.

Financing and supporting mechanisms

Financing

Listed below are the public funding mechanisms which will be directed to the development of the EH-H2:

- [NextGenerationEU \(NGEU\)](#)

National Funding

- [POESUR - Operational Programme for Efficiency and Sustainability on the use of Resources](#)
- Portugal 2030
- [Environmental Fund](#)
- [Innovation Supporting Fund](#)
- Consumption Efficiency Promotion Plan (PPEC)
- Portuguese Promotion Bank
- Blue Fund

European Funding

- [InvestEU](#)
- [Recovery and Resilience Facility](#)
- [Just Transition Mechanism](#)
- [REACT-EU - Recovery Assistance for Cohesion and the Territories of Europe](#)
- [Horizon Europe](#)
- [Connecting Europe Facility – CEF](#)
- [Innovation Fund](#)
- [InnovFin Energy Demo Projects](#)
- [EEA Grants 2014-2021](#)
- European Investment Bank



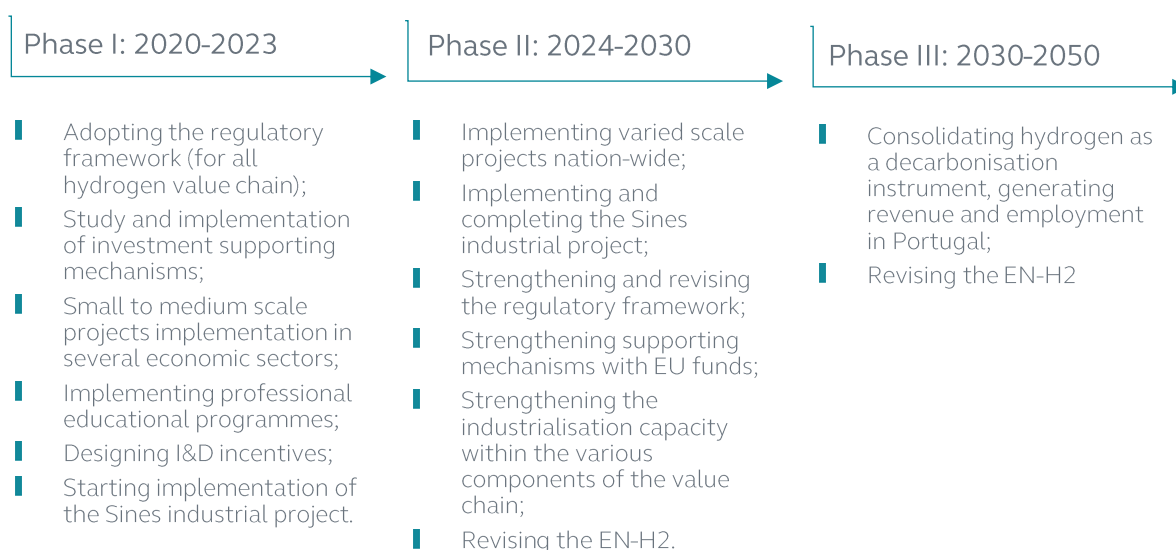
Supporting Mechanisms

The design and shape of the envisaged supporting mechanisms are yet to be determined; within the limits of EU law several solutions the following supporting mechanisms shall be explored and shaped in view of implementing the EH-H2:

- Initial exemption of transmission networks injection fee;
- Incentive to production, in particular covering the price difference between the green hydrogen production costs and the natural gas in the Iberian market price (MIBGAS);
- Participation in the electricity service system's market;
- Tax incentives in view of a progressive replacement of natural gas by green hydrogen;
- Guarantees of origin have been extended to low carbon gases and for gases of renewable origin.

In the context of the ongoing discussions, the Energy Services Regulatory Authority (ERSE) has warned about the risks of adopting mechanisms to support production of gases of renewable origin that may impact the final price, thus burdening consumers in the future.

Implementation phases



Final remarks

The EH-H2 has consolidated the essential features of public policy choices in respect to hydrogen as well as identified the financing and supporting mechanisms to implement it, thus accelerating the discussion about how to implement it and the emergence of new projects connected with the production and storage of hydrogen.

The implementation of EN-H2 is expected to bring interesting news and opportunities, both for new players and for the reconfiguration of existing projects and the performance of installed players. In view of implementing the required changes, the process of adapting the regulatory framework is already underway, in particular:

- [Decree-law no. 62/2020, of 28 August](#), has adapted the organization and operation rules of the National Gas System and the respective legal regime, with a view to the development and regulation of renewable sources gas production activities and production of low-carbon gases, as well as the incorporation of these gases in the National Gas System, and
- [Decree-law no. 60/2020, of 17 August](#), has set out the mechanism for the issuance of guarantees of origin for low carbon gases and for gases of renewable origin.