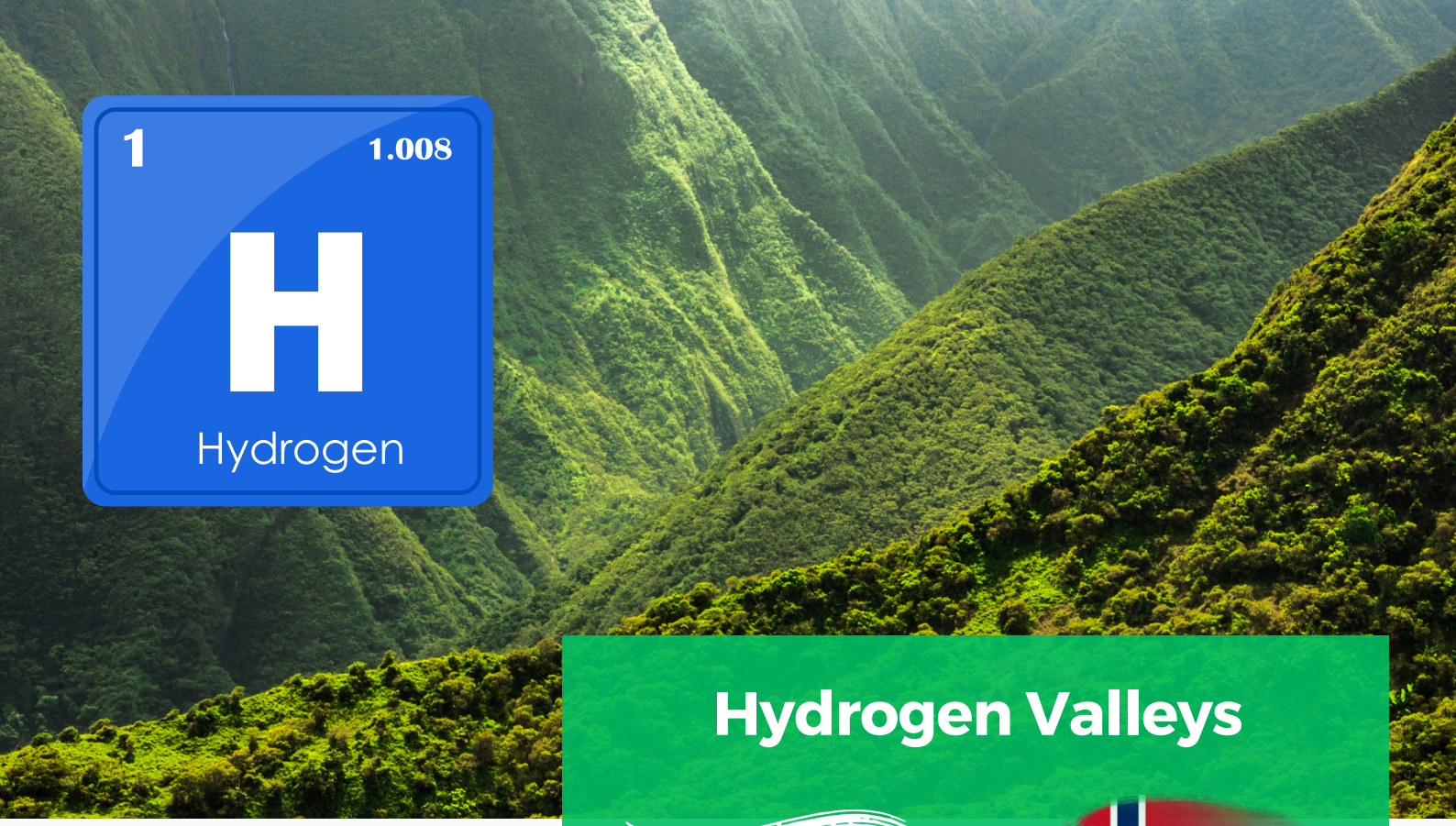

Hydrogen Valleys

Hydrogen valleys are becoming an increasingly visible part of the landscape of the European energy sector, symbolising the future of clean, sustainable energy. Norway and Poland, two countries with different geographical and economic contexts, play a key role in developing this new industry. In this article, we will look at hydrogen valley initiatives, both in Norway, which is a pioneer in the field of hydrogen production and applications, and in Poland, where dynamic activities in this area contribute to the development of sustainable energy technologies. By analysing these initiatives, we will be able to understand how the hydrogen revolution contributes to the transformation of the European energy sector and how it can benefit both countries.

Norway, with its abundance of renewable energy sources and a developed energy sector, plays a key role in the advancement of hydrogen-related technologies. Activities in the hydrogen area are aimed at accelerating changes in the energy sector and supporting the country's sustainable economic growth. The H2 Valley in central Norway is an example of a complete value chain covering the production and use of hydrogen in various sectors such as land, maritime and industrial transport. Investments in projects such as H2 Valley are crucial for the energy transition, and public-private

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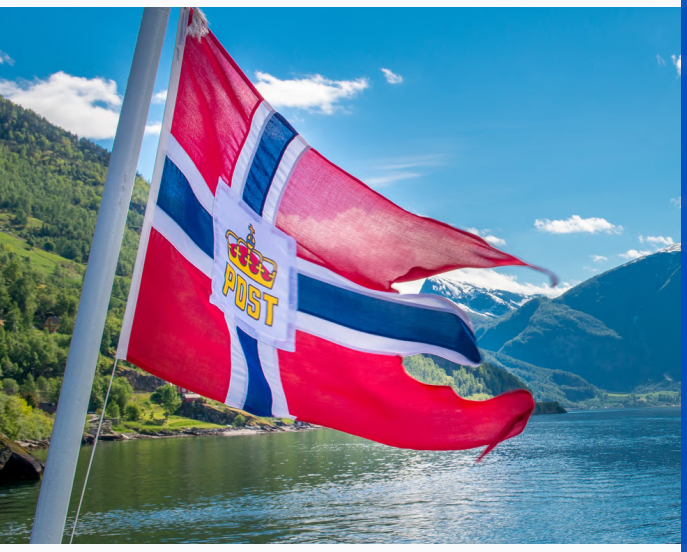
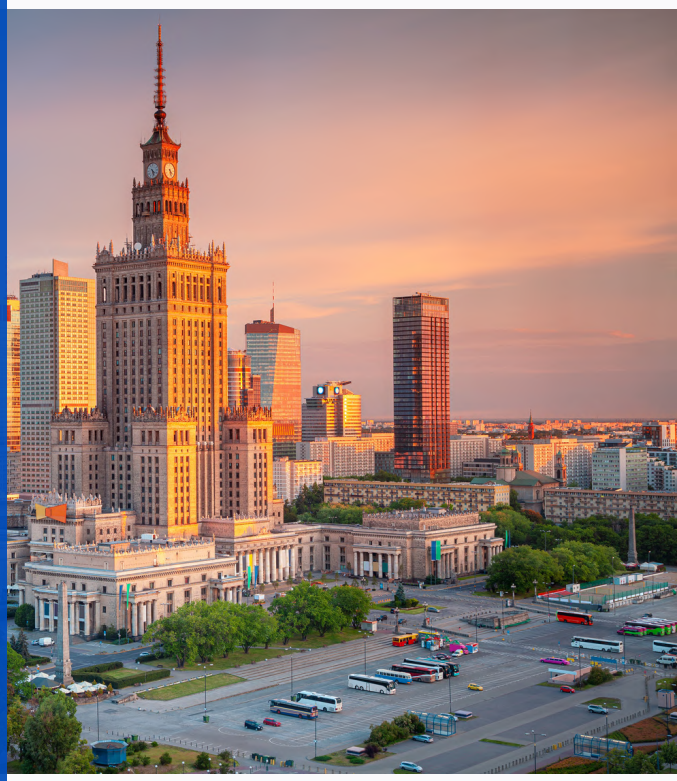
partnerships, including the involvement of key industrial players and research institutions, contribute to the dynamic development of this industry. Norway, with its abundant renewable energy sources and developed energy sector, is key to advancing hydrogen technologies. Activities in the hydrogen area are aimed at accelerating changes in the energy sector and supporting the country's sustainable economic growth. In Norway, there are also areas that can be described as "hydrogen valleys" or regions focusing on the development of hydrogen infrastructure. Norway, known for its abundant natural resources, especially in terms of renewable energy, has great potential to use hydrogen as an energy carrier.



The main developer of the H2 Valley project is the ENERGY Cluster, and the partners are, m.in, SINTEF, HYDROGENi, NTE, H2 Marine, ANEO, Statkraft, Meråker Hydrogen, Greenstat, Equinor, Siemens, SalMar, Moen Marin, Moen Verft, Egil Ulvan Rederi, Thor Dal Rederi, Samskip, Salmonor, ASKO, Gexcon and Fremtidens Industri. The main political sponsors of the project are the Trøndelag District, local municipalities and ENOVA (Ministry of Climate and Environment).

The project involves an investment of €150 million, financed from both public funds (including EU, national, regional and local funds) and private sources. As part of the project, it is planned to produce hydrogen through electrolysis of water using PEM and ALK electrolysers, as well as its storage in the form of compressed gas. Hydrogen will be transported via pipelines, trucks and ships. H2 Valley will focus on various end-uses of hydrogen, including mobility (trucks, trains, ships) and industrial (e.g. supply to the chemical and steel industries). The project is to be implemented in the years 2025-2035.

Poland is also setting new paths in the development of hydrogen technologies. There are various regions in the country that are becoming hubs for hydrogen-related investments and projects. From the Łaszczyński Brothers Central Hydrogen Valley to the West Pomeranian Hydrogen Valley, Poland is focusing on various aspects of hydrogen use, such as the decarbonization of transportation, energy production, and industrial applications. These initiatives, based on cooperation between the public and private sectors and support for research and innovation, aim to promote sustainable economic development and reduce greenhouse gas emissions.



- **The Łaszczyński Brothers Central Hydrogen Valley,** located around Kielce, covers the areas of the Świętokrzyskie Voivodeship, the Łódź Voivodeship, the northern part of the Subcarpathian Voivodeship and the southern part of the Mazovian Voivodeship, focusing on the production of clean hydrogen and the decarbonisation of transport and energy.

- **The Lower Silesian Hydrogen Valley**, located around Wrocław, covers the areas of the Lower Silesian, Opole, Southern Lubuskie and Greater Poland Voivodeships, specializing in hydrogen storage, hydrogen energy production and applications in the chemical and metallurgical industries.

- **The Mazovian Hydrogen Valley**, centred around Płock, covers the northern part of the Mazovian Voivodeship and the Kuyavian-Pomeranian Voivodeship, specialising in the production of synthetic fuels, the petrochemical industry, and applications in transport and industry.

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- **The West Pomeranian Hydrogen Valley**, in the process of being created, is based in Szczecin and focuses on the area of the West Pomeranian Voivodeship, planning to specialize in the production of green ammonia and the use of hydrogen in maritime transport.

- **The Wielkopolska Hydrogen Valley**, centred around Poznań, covers the areas of the Wielkopolska Voivodeship, focusing on hydrogen applications in housing, air transport and bus production.

- **The Silesian-Małopolska Hydrogen Valley**, located in Katowice, covers the areas of the Silesian and Lesser Poland Voivodeships, specializing in the production of low-carbon hydrogen and applications in industry and transport.

- **The Subcarpathian Hydrogen Valley**, located in Rzeszów, covers the area of the Subcarpathian Voivodeship, focusing on the production of zero-emission hydrogen and its use in heating, transport and industry.

- On the other hand, **the Pomeranian Hydrogen Valley**, based in Gdańsk, focuses on the area of the Pomeranian Voivodeship, planning to specialise in hydrogen applications in public transport, hydrogen storage and clean hydrogen production.

These areas are a key environment for the development of hydrogen technologies in Poland, supporting the country's energy transition and promoting sustainable economic development.

In conclusion, hydrogen valleys are a key element of the future of the European energy sector. By investing in research, infrastructure development and international cooperation, Norway and Poland and other countries on the continent are helping to accelerate the energy transition and build a more sustainable future for our planet. Covering geographical areas with diverse needs and potentials, these valleys focus on the production, storage and use of hydrogen as a clean energy carrier.

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Source:

https://h2v.eu/hydrogen-valleys/h2-valley-mid-norway

https://arp.pl/pl/jak-dzialamy/transformacja-energetyczna-/doliny-wodorowe/