

Green Hydrogen Compact Catalogue

Summary

Achieving the Paris Agreement target of keeping the global temperature rise to below 1.5C will require a fundamental transformation of the global energy mix. Hydrogen produced with renewable energy – “green” hydrogen - can play a key role in this transformation as a sustainable, carbon neutral fuel. In order to achieve targets of net zero emissions, increasing the uptake of green hydrogen will be critical, especially in energy intensive sectors where emissions are hardest to abate. Sectors such as heavy industry, shipping and aviation.

Hydrogen is already in widespread use but today more than 95% of hydrogen is produced from natural gas and coal and is thus incompatible with a long-term sustainable energy system. While green hydrogen is receiving increased attention from governments and industry, it is still not ready to take off.

A barrier to the expansion of green hydrogen is the cost of production, which is currently two to three times higher than that of blue hydrogen. Bringing down the costs of green hydrogen requires a holistic approach that, among other things, includes enabling policy frameworks, regulation, certification, investments, research and development and public-private partnerships. In other words, enabling green hydrogen requires reliable commitments across both the public and the private sectors.

The aim of this Green Hydrogen Compact catalogue is to catalyse commitments by national and subnational governments, businesses, international organizations and other stakeholders into common goals and collaborative actions, to facilitate the expansion of green hydrogen and accelerate the development of a green hydrogen value chain.

By inviting stakeholders to present what they see as the biggest challenges as well as solutions to the expansion of green hydrogen, this Catalogue contributes to increasing the understanding of how we can meet these goals. Through showcasing the action being taken by stakeholders across the value chain, the Catalogue aims to spark dialogue and collaboration and inspire further commitments.

The Catalogue is a result of a broad and inclusive partnership among Denmark, Germany, Chile, IRENA, World Economic Forum, the COP26 High Level Champions, the Global Environment Facility and Bloomberg NEF

While the Catalogue will be launched at the UN High level Dialogue on Energy in September 2021, the initiative will continue to drive ambition and action on green hydrogen. The Catalogue will be open for more contributions and we invite all stakeholders involved in the green hydrogen value chain to be a part the Catalogue.

The Impact of the Catalogue

The Catalogue consist of 29 Energy Compacts, which includes Compacts from three governments (Denmark, Chile, Germany), one by the EU Commission, two subnational government (the Basque region and Groningen Province), 30 private sector companies and 1 international organization (UNIDO). There is several partnerships among the Energy Compacts. As example *Green Fuels for Denmark*, aimed at delivering 1.3 GW electrolyzer production capacity and 2-3 GW renewable energy generation by 2030, include Maersk, Ørsted, Haldor Topsøe, COWI, DFDS, Copenhagen Airport and DSV in a joint Energy Compact.

Consolidated this accounts for a total commitment of 129 GW electrolyzer capacity and 268 GW renewable energy production.

The Catalogue has collected Energy Compacts from the entire value chain of green hydrogen, including actors in the financial sector, renewable energy production capacity, hydrogen and downstream fuel production facilities and off-takers.

Engagements

The Catalogue has been many months underway with several engagements including a workshop for interested parties and a roundtable with key stakeholders in the value chain, where actors from more than 50 countries participated. The official launch was on September 16 at the Energy Action Day hosted by Denmark, IRENA, UNEP and World Economic Forum. Finally, the launch of the Catalogue will be marked by a high-level panel dialogue and reception Wednesday 22 of September in New York.

