

H₂

European Clean Hydrogen Alliance

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Dear Readers

The Alliance's fourth newsletter brings you information about a new European Commission initiative, tHrive, to promote hydrogen clusters in the EU.

We are also proud to bring you news of a partnership with EIT InnoEnergy to facilitate access to finance for projects in the Alliance pipeline (information session on 7 April) and information on the Innovation Fund small-scale project call (information session on 28 April). Wacker Chemie will share its experience of applying for the Innovation Fund at an online session on 5 April.

We hope you will enjoy the read, including about PGNiG's underground salt caverns project in Poland and updates from across the Alliance!

Your European Commission Hydrogen Team in the Directorate-General for Industry

Spotlight on: Project tHrive: Hydrogen Alliance promoting EU hydrogen clusters

Hydrogen clusters will play a key role in the deployment of large-scale hydrogen projects. On this basis the Commission identified a number of emerging hydrogen clusters using the project [pipeline of the European Clean Hydrogen Alliance](#).

Following an assessment of these clusters and the projects located in them, we contacted concerned national/regional authorities to explore the potential to work together on the rapid development of some of these clusters.

Based on these discussions, we are pleased to announce the first group of clusters. These are: in France, the region of Auvergne-Rhône-Alps; Estonia; and in Spain, the northern region of Asturias. Other clusters will be added following ongoing assessments and contacts with authorities in EU countries.

In the first step, together with the relevant national/regional authorities, we will invite stakeholders with (planned) hydrogen projects in these clusters to a seminar to present their projects, to discuss bottlenecks they face, and to examine how we can accelerate their deployment. Other Alliance members interested in undertaking a project in the relevant clusters will be welcome to attend as well.

Based on this stakeholder input, the relevant national/regional authorities and the Commission will then define tailor-made actions to advance the development of these clusters. The customised actions could involve advice on infrastructure planning or project financing, as well as match-making with other stakeholders or questions about the regulatory context. With this initiative, we will make a concrete contribution to accelerating the large-scale deployment of hydrogen.



European Commission partners with EIT InnoEnergy's European Green Hydrogen Acceleration Center to accelerate and de-risk green hydrogen projects

In its REPowerEU Communication on 8 March 2022, the European Commission underlined the strategic importance of green hydrogen by doubling the EU's green hydrogen production target previously set out in the European Hydrogen Strategy to over 10 million tons of domestic production. Meeting this ambition depends on innovative hydrogen projects reaching commercial scale earlier and with bigger impact. In this context, the European Commission is partnering with EIT InnoEnergy's European Green Hydrogen Acceleration Center.

Upon selection, projects will benefit from potential investments as well as targeted de-risking and acceleration services provided by EIT InnoEnergy. EIT InnoEnergy was set up in 2010 and co-funded by the EU to accelerate Europe's energy transition. The European Green Hydrogen Acceleration Center (EGHAC) was founded in 2020 and is supported by Breakthrough Energy.

EGHAC creates industrial players by helping to de-risk and accelerate their green hydrogen (and derivatives) projects. EGHAC does this through early-stage investment and acceleration services delivered in collaboration with its ecosystem.

In addition, EGHAC supports green hydrogen projects by assessing their business case, performing a team assessment, and introducing them to a tailor-made advisory committee to accelerate and de-risk these projects. Key to EGHAC's success is the value-chain approach; by bringing all stakeholders together, including off-takers, the risks and benefits can be shared so that the premium for a

carbon-free produced end-product is kept to a minimum.

GET INFORMED AND START THE APPLICATION PROCESS

The European Commission and EIT InnoEnergy will host an information webinar on April 7. You can register on the [Alliance's member platform](#).

The webinar will introduce EIT InnoEnergy's European Green Hydrogen Acceleration Center and its support activities to project holders, the partnership put in place with the European Commission, the services offered and the project selection process. Promoters that have a project in the European Clean Hydrogen Alliance pipeline can start the process **by answering a questionnaire looking at basic project information and seven key criteria** (e.g. colour of H₂, SOP date, size etc.).

The deadline for submitting the questionnaire is 21 April 2022.

The team at EIT InnoEnergy's European Green Hydrogen Acceleration Center will assess the information and conduct due diligence on the selected projects. Validated projects will be admitted to the Business Investment Platform run by EGHAC.

Selected projects will be eligible for possible investment and for detailed curation along key business dimensions (such as access to market, sales and growth, supply chain and industrialisation, value chain and project ecosystem, technology enhancement, governance strategy, regulation, access to human capital, access to finance).

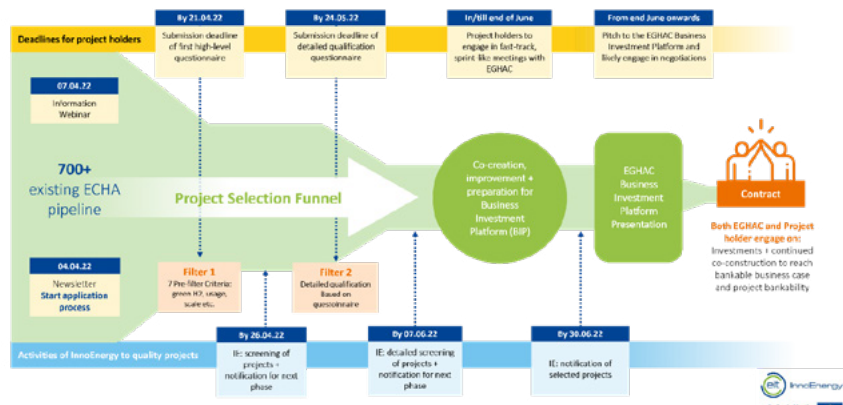


Director General Kirsten Jorna and Diego Pavia (CEO, EIT InnoEnergy)



EGHAC European Green Hydrogen Acceleration Center

Project funnel and project selection process



EU Innovation Fund: small-scale project call now open

On 31 March the European Commission launched the second call for small-scale projects under the Innovation Fund, one of the world's largest funding programmes for the deployment of innovative low-carbon technologies.

This new call makes EUR 100 million available for projects that aim to reduce greenhouse gas emissions in energy and industry while bringing low-carbon innovations to the market, and which have total capital costs ranging from EUR 2.5 million to EUR 7.5 million. The Innovation Fund can support up to 60% of a small project's capital expenditure.

Projects will be evaluated against their potential to avoid greenhouse

gas emissions, their innovation, their financial and technical maturity, their potential for scaling up, and their cost efficiency. The call is open for projects from all EU Member States, Iceland and Norway until 31 August.

There will be a general [info day](#) on 6 April where speakers from CINEA, the European Commission's DG CLIMA Climate Action and the Joint Research Centre (JRC) will introduce the call for proposals and the step-by-step application process. A specific hydrogen event for European Clean Hydrogen Alliance members will take place on 28 April on the [Alliance's member platform](#).

Reminder to project promoters: submit your proposals to Hydrogen Europe & Tech Tour's European Hydrogen Financing Forum by 30 April. Selected hydrogen projects will be invited to present to a panel of corporate, financial, and government investors. More info under the "Presenting Company" section of [this page](#).

How to use the "Marketplace" feature on the Alliance's member platform

Did you know that the European Clean Hydrogen Alliance's member platform allows you to post information about your hydrogen project that can be viewed by the 1900 registered participants on the platform? [The Marketplace](#) feature can be used by all members

of the Alliance to post details about planned activities in hydrogen. There are currently 160 potential opportunities for partners, funding, or knowledge sharing. For more details on how to use the Marketplace feature, please see page 5 of the attached ECHA B2Match quick guide.

The screenshot shows the 'Marketplace' section of the European Clean Hydrogen Alliance - Members Platform. The navigation bar includes 'Home', 'Speakers', 'Participant', 'Marketplace', 'Agenda', 'Meetings', and 'Messages'. The 'Marketplace' tab is highlighted with a red circle. Below the navigation bar, there is a search bar with '142 Opportunities found' and a toggle for 'PROJECT COOPERATION (142)'. The search bar is circled in red. Below the search bar, there are two project listings. The first listing is 'Hydrogen Network' with a 'Click for details' button and a 'See contact profile' button. The 'Hydrogen Network' title and the 'See contact profile' button are circled in red. The second listing is 'Developing our demonstrator unit with our partner' with a 'Connect via video' button. The 'Connect via video' button is circled in red.



News from the Alliance

Roundtable on clean hydrogen for industrial applications: on 21 March, Director-General of Industry Ms Kerstin Jorna presented and exchanged with members on the energy crisis and the REPowerEU communication. Two hydrogen projects, Neste: SHARC, and Wacker: RHYME Bavaria, were presented and discussed. The [Energy Transitions Commission](#) (ETC) provided their views on electricity demand and the development of electrolyser production capacity and costs. Views were provided on transport, storage, and international trade of hydrogen. The importance of industrial clusters during the ramp-up phase of the hydrogen economy was highlighted.

Roundtable on clean hydrogen for residential applications: on 22 March, members exchanged with Director-General of Industry Ms Kerstin Jorna on how heating technologies and distribution grids can support the EU ambition to replace natural gas imports for heating with hydrogen, since 40% of gas consumption in Europe is absorbed by the residential and tertiary buildings sector. Because heating technologies and most distribution grids in Europe can already use blends of H₂ with gas; members of the roundtable shared demonstration projects for 100% hydrogen use across Europe that are ready today, testifying to the readiness of this sector to ramp up the hydrogen market in Europe.

Upcoming events

5 APR
9.30-
10.30
CET

Matchmaking session: insights from the funding and permitting processes of a hydrogen project

Wacker Chemie AG will share experiences from their application process for relevant funding instruments, including the Innovation Fund and the IPCEI instrument in 2021. This session will take place on the [Alliance's member platform](#)

7 APR
14.30-
15.30
CET

Presentation of EIT InnoEnergy's European Green Hydrogen Acceleration Center (investment and acceleration programme)

The European Commission and EIT InnoEnergy will introduce the European Green Hydrogen Acceleration Center's support activities to project holders, the services offered and the project selection process. This session will take place on the [Alliance's member platform](#).

28 APR
11.30-
12.30
CET

Presentation of the Innovation Fund's small-scale project call

The European Commission will introduce the call for proposals and the step-by-step application process, including a specific focus on hydrogen projects. This session will take place on the [Alliance's member platform](#).

**22
MAR**

Presentation of EU state aid tools

The presentations from this session are available on the [Commission's Alliance webpage](#) under the "Timeline" section.

**24
MAR**

Presentation of the EIB's financing and advisory services

The presentations from this session with the EIB are available on the [Commission's Alliance webpage](#) under the "Timeline" section.



Profiling a project from the Alliance pipeline: PGNiG's underground salt caverns storage project

In line with previously announced plans, PGNiG, Poland's largest natural gas company, has taken steps to enable gradual diversification of the Group's business. Although already active in the import, storage, sale and distribution of gas and liquid fuels, as well as heat and electricity generation, PGNiG aims to expand its range to the production and sale of hydrogen and related services and to increase overall sales of gaseous fuels by PGNiG.

Further development of renewable energy sources (RES) requires parallel development of grid flexibility tools such as demand-side response and large-scale energy storage systems. Hydrogen is an energy carrier that could be used as a key component of future large-scale energy storage systems.

PGNiG's project "Underground storage of hydrogen in salt caverns" is a key element of energy security in a low-carbon economy. It consists of a group of projects, from a demonstration project with an R&D scope to large-scale commercial projects, that are based on a coherent systemic approach to the storage of hydrogen in salt caverns to ensure the security of the supply of a zero-emission energy carrier.

The project will start with a pilot installation in Mogilno consisting of a 5 megawatt (MW) electrolyser and a salt cavern with a volume of 20,000 cubic metres. It is expected to obtain all permits for construction at the end of 2024. The pilot plant operation will start in 2027.

The first two commercial caverns (volume of 200,000-300,000 cubic metres) will be located in Kosakowo, close to the Baltic Sea coast, to take advantage of the energy produced by offshore wind farms. The estimated commissioning date is the end of 2029.

The second wave of commercial installations will consist of two additional salt caverns located in Mogilno with a volume of 200,000-300,000 cubic metres. The expected commissioning of the Mogilno 2 Plant is the end of 2031.

Both locations (Kosakowo and Mogilno 2) will store green hydrogen produced using 100 MW electrolysers located at each location. The aim of the project is to provide secure, cost-effective, large-scale energy storage in the form of hydrogen to ensure the development of irregular RES sources and transition to a zero-carbon economy.



Construction of a large-scale underground storage for Green Hydrogen

1. UGS Mogilno - demonstration installation:
 - ✓ Electrolyser 4,6 MW. Fuel cell 1 MW
 - ✓ H2 Compressor 90 kW
 - ✓ 1 salt cavern capacity - ca 4 000 MWh
2. Commercial caverns/UGS Kosakowo?UGS Mogilno
 - ✓ Electrolyser 100 MW for each location
 - ✓ H2 Compressor 2 MW for each location
 - ✓ Storable H2 capacity - min. 80 000 - 130 000
 - ✓ Fuel cell / H2 Turbine min 50 MW as a part of CCGT plant for each location

