

e-Methanol from Scotland will soon be available for delivery to Germany. (Photo: Adobe Stock)

PRESS RELEASE

Projects and AI applications along the e-methanol supply chain

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HyLion network: e-methanol for CO₂-reduced supply chains

- In Scotland, partners in the HyLion network plan to produce CO₂-reduced hydrogen from renewable energies in the near future and then convert it into e-methanol
- Planned use in shipping, aviation, and motorsport for applications in the UK and Europe
- MHP is providing strategic and operational advice on this project and supporting the network with digital solutions along the entire supply chain, among other things
- The HyLion network consists of strong partners such as ARUP, McPhy Energy S.A.S, Bosch Manufacturing Solutions GmbH, E. ON Energy Infrastructure Solutions, CO₂ Recovery Ltd & The Carbon Removers, Mareneco Ltd, Cadeler A/S, and P1 Fuels
- The aim of e-methanol production is to contribute to the decarbonization of supply chains

Ludwigsburg / Lockerbie – The overarching aim of the HyLion network is to establish a transnational, European end-to-end supply chain for CO₂-reduced hydrogen and e-methanol. The plan is to produce e-methanol in Scotland and supply it for various applications in the UK and Europe – including Germany. The management and IT consultancy MHP provides strategic and operational advice on the development and digitalization of an efficient supply chain. The aim is to make a steadily growing contribution to the decarbonization of European supply chains.

Markus Wambach, Group COO at MHP: “As a network of many strong partners, HyLion has the potential to produce e-methanol in Europe for Europe and thus make an important contribution to the decarbonization of global supply chains. With AI applications, supply chains can also be made more efficient across the board. And with a transnational supply chain for CO₂-reduced hydrogen and e-methanol, the basis can be created for greenhouse gas-reduced solutions in shipping and aviation – and even for motorsport.”

Over 9,000 metric tons of hydrogen and around 45,000 metric tons of e-methanol per year planned as first pilot

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In an initial pilot, the plan is to use 63,000 metric tons of biogenic CO₂ per year for the production of e-methanol. This CO₂ is to come from biomass on the one hand and from the whisky industry on the other. This results in 9,000 metric tons of hydrogen and 45,000 metric tons of e-methanol per year for the pilot project. In addition to the initially planned production volume of 25 metric tons of hydrogen and the resulting 125 metric tons of e-methanol per day, there is already enormous potential for scaling up in subsequent years from today's perspective: Electrolyzer capacities can be significantly and almost modularly expanded; also, from today's perspective, around 380,000 metric tons of CO₂ from biomass as well as 300,000 metric tons of CO₂ from the whisky industry are available for the HyLion network. The plant is expected to start production at the beginning of 2028.

"CO₂-reduced hydrogen plays an essential role in achieving the climate targets. The stricter CO₂ reduction targets and the increasing political decisions to replace fossil fuels will significantly increase the demand for e-methanol in the future. The abundant wind resources in Northern Europe, especially in Scotland, provide an ideal basis for scalable production of CO₂-reduced hydrogen and derivatives," explains Dr. Sylvia Trage, Partner at MHP and responsible for Supply Chain Excellence.

Planned procedure: network of renowned companies

It is planned that E. ON Energy Infrastructure Solutions will provide the biogenic CO₂ for the production of e-methanol from the biomass power plant in Lockerbie. The other part will come from the whisky production process. Here, the Carbon Removers and CO₂ Recovery Ltd will extract, liquefy and store the CO₂. Both will then be processed in an e-methanol synthesis plant delivered by a European company. The hydrogen required for e-methanol synthesis will be produced using an electrolyzer (80 MW) from the French company McPhy Energy S.A.S.. Bosch Manufacturing Solutions GmbH will be responsible for water treatment and, if necessary, desalination. The hydrogen produced will then be fed into a synthesis process together with the biogenic CO₂ in order to produce e-methanol. P1 Fuels' technology will convert e-methanol into an e-fuel that fits seamlessly into the existing fuel infrastructure and offers a decarbonization solution for the automotive industry, international and national racing series, and light aircraft, for example. Another customer for the e-methanol will be the shipping company Cadeler A/S.

The location in the south of Scotland, which is operated by E. ON Energy Infrastructure Solutions, offers numerous advantages, such as a developed infrastructure, a connection to the electricity grid and local energy supply. Mareneco Ltd will supply, handle, and transport the e-methanol to the marine industry, for example to the ports of Cairnryan and Grangemouth.

MHP has leading consulting role

MHP supports with consulting expertise in the area of strategic business field development and comprehensive network coordination in the various project phases as well as in the digitalization of the entire supply chain. Once it is in place, the experience gained can be transferred to comparable projects. Suitable use cases, for example in transportation and logistics applications, will also be launched. Global engineering and sustainable development consultancy ARUP is responsible for pre-project planning (front end engineering design (FEED)), in close coordination with MHP and the alliance partners.

HyLion with the 'Green Investment Portfolio' status of Scottish Development International is already well advanced: Key technology partners along the supply chain and initial customers have committed to supporting the network. Only projects that fit Scotland's hydrogen strategy, have sufficient scalability and business cases and bring benefits to Scotland will receive this status from the Scottish Government.



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About MHP

As a technology and business partner, MHP has been digitizing the processes and products of its around 300 mobility and manufacturing sector customers worldwide for 28 years and providing support for their IT transformations along the entire value chain. For the management and IT consultancy, one thing is certain: digitization is one of the biggest levers on the path to a better tomorrow. This is why MHP, a Porsche AG company, provides both operational and strategic consulting in areas such as customer experience and workforce transformation, supply chain and cloud solutions, platforms and ecosystems, big data and AI, as well as Industry 4.0 and intelligent products. Headquartered in Germany, the consultancy operates internationally with subsidiaries in the USA, Mexico, the UK, Romania, and China. More than 5,000 MHP employees are united by their pursuit of excellence and sustainable success. It is this aspiration that will continue to drive MHP – today and in the future.

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