PEACE

NEWSLETTER No. 10

on hydrogen production

August 2026

Content

1. Editorial

Welcome to the 10th edition of the PEACE newsletter.

As the PEACE project enters its final implementation phase, we are pleased to share several important outcomes. During the past months, the consortium has made substantial progress in stack development and system integration, culminating in the ongoing **assembly of our 50 kW high-pressure alkaline electrolysis demonstrator**. These achievements are the result of the dedication and close collaboration of all project partners.

In this issue, you will also discover how PEACE is contributing to a broader understanding of **hydrogen integration into industrial applications**, helping to improve the efficiency and competitiveness of renewable hydrogen production. Alongside our technical developments, we continue to disseminate scientific results, engage with the hydrogen community, and support Europe's transition towards a sustainable hydrogen economy.

Beyond the project itself, the European hydrogen landscape continues to evolve rapidly. We therefore bring you **updates on the latest Hydrogen Bank auction**, new **sustainability initiatives**, upcoming **events**, and future funding opportunities that will shape the next generation of hydrogen innovation.

We hope you enjoy this issue and look forward to sharing the final results of our project in the coming months.

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2. About PEACE

"Pressurized Efficient Alkaline EleCtrolysEr" (PEACE) project is a research and innovation activity funded under the EU Horizon Europe programme by the Clean Hydrogen Partnership and coordinated by the German Aerospace Center (DLR). The PEACE project will deliver **high-pressure alkaline electrolysis** (AEL) technology which will substantially **reduce hydrogen production costs**. We will propose a new concept of hydrogen production with **two-stage pressurization** that will be demonstrated on an AEL system of 50 kW capable of operating at pressures exceeding 50 bar. The integration of advanced components, innovative design, and optimized operation strategies will be explored through modelling and experimental testing, ultimately aiming to demonstrate a system with impressive efficiency characteristics (see more on PEACE website).

Project members: German Aerospace Center (DLR); Materials Mates Italia (MMI); Eindhoven University of Technology (TU/e); Brandenburgische Technische Universität Cottbus Senftenberg (BTU); GRANT Garant (GG); The Hydrogen Chemistry Company (HyCC); Technical University of Denmark (DTU)

PEACE Project Team (February 2026), Source: PEACE project (CC-BY-NC-ND 4.0)

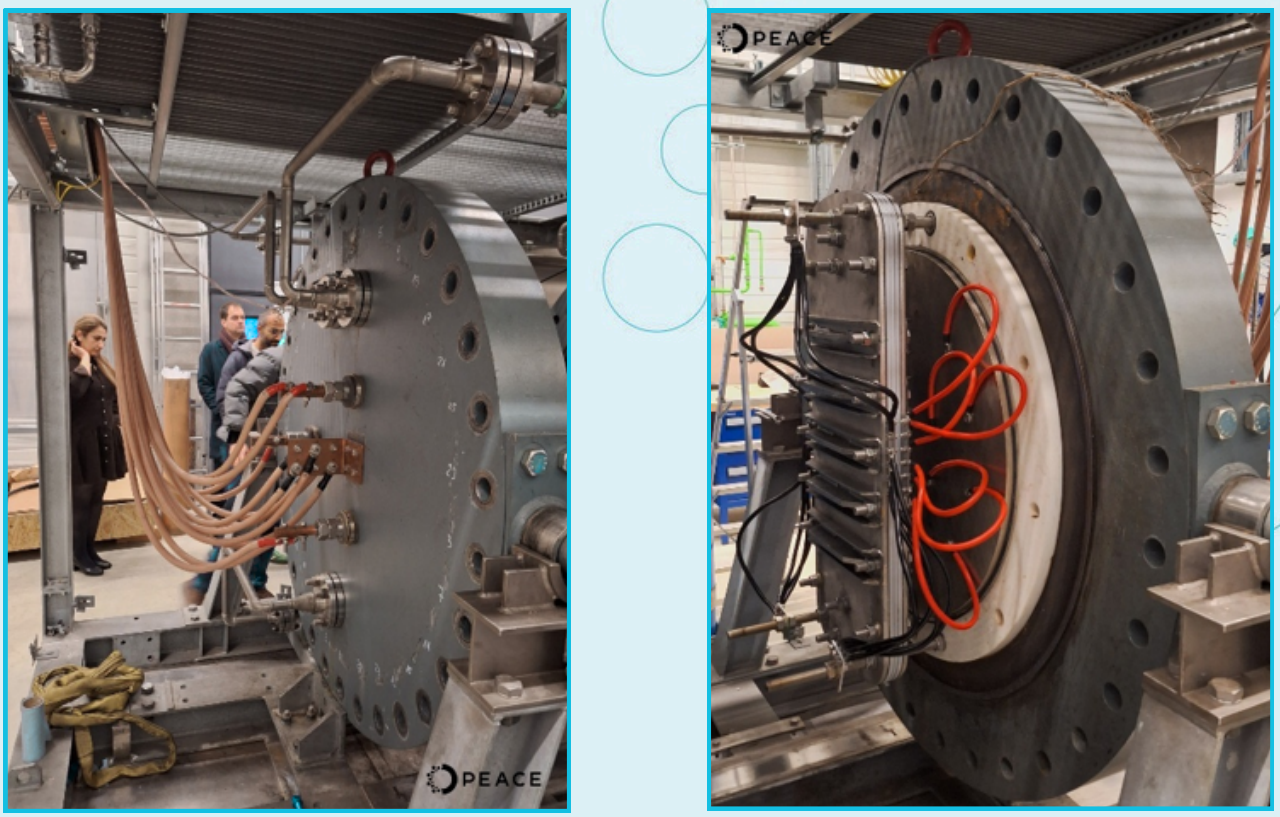
2.1 PEACE PROJECT MEETING IN COTTBUS TO ADVANCE HIGH-PRESSURE ALKALINE ELECTROLYSIS

In February 2026, the PEACE consortium gathered at **Brandenburg University of Technology Cottbus - Senftenberg (BTU)** for its 6th project meeting to review progress and plan the next steps towards delivering its innovative high-pressure alkaline electrolysis technology.

PEACE project team at BTU test site, Source: PEACE project (CC-BY-NC-ND 4.0)

The meeting highlighted significant **technical achievements**, including successful performance tests of pressurised electrolysis cells, progress in short-stack testing, and the ongoing production of the 15-cell demonstrator stack. Partners also shared updates on system modelling, industrial integration, life-cycle assessment, certification activities, and communication and exploitation efforts. A joint **knowledge-sharing session** with the **CLEANHYPRO project** was hosted during the project meeting, aligning research excellence with market deployment capabilities.

The PEACE project meeting concluded with a **visit to the BTU hydrogen testing facility**, where the **PEACE three-cell short stack** had been assembled and tested, paving the way for the project's 50 kW high-pressure alkaline electrolysis technology demonstrator. The consortium also agreed on a six-month project extension to ensure completion of the CE marking under the Pressure Equipment Directive (PED 2014/68/EU) and the successful validation of the PEACE technology.



BTU test site with the short stack and pressure vessel, Source: PEACE project (CC-BY-NC-ND 4.0)

With the project entering its final implementation phase, the consortium remains focused on **validating the technology** and supporting the future deployment of efficient, cost-effective green hydrogen production.

Read the full meeting report on the PEACE project website.

2.2 PEACE PROJECT MOVES TOWARDS ITS 50kW ELECTROLYSIS DEMONSTRATOR

The PEACE project **50kW alkaline electrolysis stack** assembly is currently ongoing, bringing the consortium closer to demonstrating its innovative dual-pressure electrolysis technology for efficient green hydrogen production.

Building on the testing of the project's short stack, partner **Materials Mates Italia (MMI)** is leading the assembly of the full-scale demonstrator. The latest design incorporates improvements to the stack structure and gasketing system, enhancing mechanical stability, reliability and performance under pressurised operating conditions.

PEACE high-pressure AEL system, Source: PEACE project (CC-BY-NC-ND 4.0)

In parallel, the consortium is preparing the documentation required for **CE marking under the Pressure Equipment Directive (PED 2014/68/EU)**, a key step before the stack can be integrated into the pressure vessel at Brandenburg University of Technology Cottbus–Senftenberg (BTU) for system demonstration.

By producing pressurised hydrogen directly during alkaline electrolysis, the PEACE dual-pressure concept aims to reduce the need for downstream compression, helping make green hydrogen production more efficient and cost-effective.

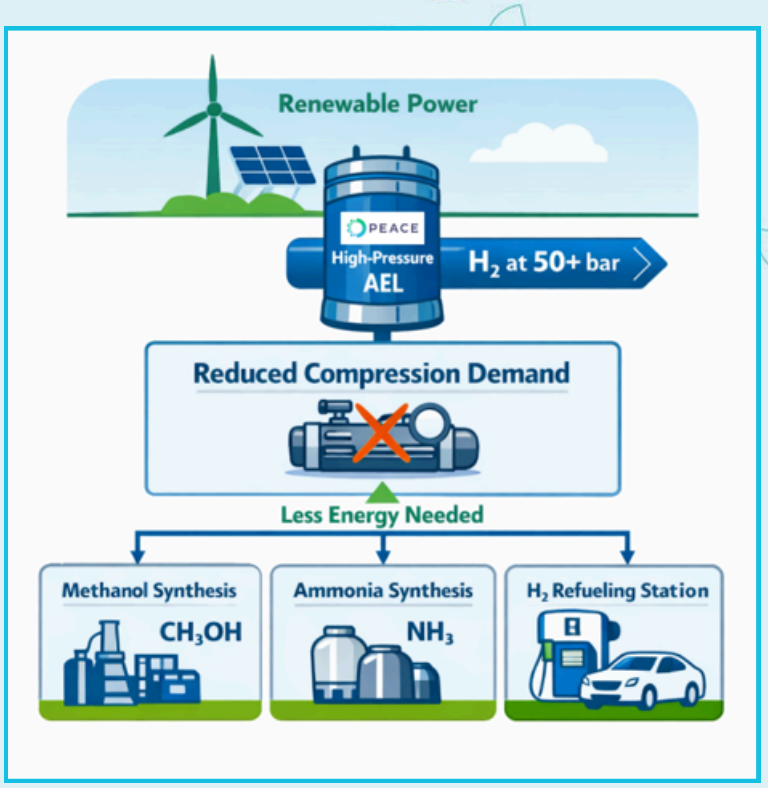
Read the full article on the PEACE project website.

2.3 PEACE PROJECT DEMONSTRATES THE BENEFITS OF HIGH-PRESSURE HYDROGEN INTEGRATION

The PEACE project has successfully completed its investigation into **integrating high-pressure alkaline electrolysis technology into downstream industrial hydrogen applications.**

Working together, project partners **The Hydrogen Chemistry Company (HyCC)** and the **German Aerospace Center (DLR)** assessed how the PEACE high-pressure electrolyser can support key industrial sectors, including **methanol and ammonia production**, as well as **hydrogen refuelling stations**.

The study confirmed that producing hydrogen at elevated pressures can significantly **reduce the need for downstream compression** - one of the major energy demands in hydrogen value chains. By lowering compression requirements, the PEACE technology has the potential to **improve the overall efficiency of hydrogen production** and industrial conversion processes while **reducing operational costs**.



PEACE high-pressure AEL system supporting key industrial sectors,
Source: PEACE project (CC-BY-NC-ND 4.0)

These findings support the continued development of the PEACE high-pressure alkaline electrolysis technology, contributing to Europe's transition towards a more sustainable hydrogen economy.

Read the full article on the PEACE project website.

2.4 PEACE PROJECT ON STAGE AT FDFC 2026

The PEACE project was represented at the renowned **International Conference on Fundamentals & Developments of Fuel Cells and Electrolyzers** (FDFC 2026), held on 5-7 May 2026 in Montpellier, France.

PEACE project researcher **Saksham Pandey** from the Sustainable Process Engineering Group at **Eindhoven University of Technology (TU/e)** delivered a presentation entitled: “Bubblolysis: the bubble story of alkaline water electrolyzers”, co-authored with Arif Kubilay Özdemir and Matheus T. de Groot (TU/e).

Saksham Pandey (TU/e) at FDFC 2026, Source: PEACE project (CC-BY-NC-ND 4.0)

The presentation explored **bubble behaviour in alkaline water electrolysis** using micron scale visualization in an alkaline flow cell under high current densities. Saksham demonstrated that oxygen and hydrogen bubbles differ in both size and dynamics: oxygen bubbles tend to stick, whereas smaller hydrogen bubbles glide on the electrode surface. Based on polarity- and current-switch experiments, the researchers presented evidence that **solutal Marangoni forces** play a key role in governing bubble dynamics.

These findings provide valuable insights that can support the optimisation of electrode design and operating parameters, contributing to the development of more efficient alkaline water electrolyser systems.

3. Hydrogen News

3.1 THIRD HYDROGEN BANK AUCTION SELECTS NINE PROJECTS

The third **Hydrogen Bank auction** has marked another important milestone in supporting Europe's renewable hydrogen ambitions. Closed in February 2026, the auction attracted 58 bids from 11 countries, with demand exceeding the available budget by more than six times.

In May 2026, **nine hydrogen production projects** have been **selected** for implementation, receiving approximately €1.09 billion in EU funding from the Innovation Fund, financed through the EU Emissions Trading System.

Five projects (one from Greece, Spain, Austria, and two from Denmark) were selected to boost the production of renewable hydrogen fuels of non-biological origin (**RFNBO**). **Two** selected **projects** (from Finland and Germany) aim to produce **electrolytic low-carbon hydrogen**. The third group of projects includes **low-carbon electrolytic and RFNBO hydrogen supply for the maritime and aviation sector**: **two** Norwegian projects were selected.

The projects are expected to **produce more than 1.3 million tonnes of hydrogen** and avoid almost 9 million tonnes of CO_2 emissions over a 10-year operational period.

Additional support will come from Spain and Germany, which will provide a further €1.7 billion in national funding through the Auctions-as-a-Service mechanism to support reserve-list projects implemented in their own territories.

To be noted that the **fourth Hydrogen Bank auction** is to be launched before the end of the year.

Source of the news

3.2 EUROPEAN HYDROGEN SUSTAINABILITY AND CIRCULARITY PANEL SETS PRIORITIES FOR SUSTAINABLE HYDROGEN DEVELOPMENT

The renewed **European Hydrogen Sustainability and Circularity Panel** (EHS&CP) has launched its activities with a **first workshop** held in Brussels on 11–12 June 2026. Bringing together 16 experts, the Panel will support the development of a more sustainable and circular hydrogen economy by addressing key challenges across the hydrogen value chain.

The Panel's work will focus on strengthening **life-cycle assessment (LCA) methodologies**, identifying **sustainability data gaps**, developing **best practices**, and supporting future **sustainability priorities for hydrogen technologies**. Its activities will be coordinated through four dedicated Task Forces working closely with the **Clean Hydrogen Partnership** and the wider research community.

The growing importance of sustainability assessment is also reflected in the **PEACE project,** which is finalising a **comprehensive cradle-to-grave LCA of its high-pressure alkaline electrolysis technology**, aiming to quantify environmental impacts and identify opportunities for further improvements (coming soon on the PEACE project LinkedIn profile).

Source of the news

4. Hydrogen Events

10th Regional Symposium on Electrochemistry - South-East Europe, 20 - 24 September, Prague (CZ)

The Symposium will bring together leading researchers, scientists, and experts from Europe to exchange knowledge and discuss the **latest advances in electrochemical research**, covering a broad range of topics, including physical and applied electrochemistry, electrochemical engineering, energy conversion and storage technologies, sensors, materials, and environmental applications.

Event link

21st Netherlands Process Technology Symposium (NPS21), 4 - 5 November, Maastricht (NL)

Hosted by Maastricht University, 2026 edition of the Netherlands Process Technology Symposium is dedicated to "**Chemical Engineering for a Sustainable Tomorrow**". Recent developments in sustainable manufacturing processes will be highlighted, with six topical sessions: Reaction Engineering & Catalysis; Separation Processes & Transport Phenomena; Process Systems Engineering; Renewable Carbon Conversion; Recycling Technologies & (Bio)chemical Process Engineering. Deadline for abstract submission is set to 31 August 2026.

Event link

5. Hydrogen Project Funding Opportunities

HYDROGEN CITIES

A forthcoming Coordination and Support action (CSA) (**HORIZON-MISS-2027-04-CIT-02**) aims to **accelerate the adoption of renewable hydrogen in cities.** Creation of twinning partnerships between experienced Hydrogen Valleys and cities seeking to decarbonise hard-to-abate sectors such as industry, heavy transport, aviation, and maritime activities will be supported (grant amount expected: €5 million).

Through tailored mentoring, feasibility studies, implementation roadmaps, and knowledge exchange, the initiative will **help cities develop practical hydrogen strategies** while fostering collaboration between local authorities, industry, researchers, and citizens. The call creates new opportunities for cities and industrial stakeholders to collaborate on deploying renewable hydrogen solutions, helping translate successful Hydrogen Valley experiences into practical decarbonisation projects.

Opening date: 9 February 2027
Submission deadline: 7 October 2027

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"Pressurized Efficient Alkaline EleCtrolysEr" (PEACE) is a research and innovation project funded under the EU **Horizon Europe programme** by the **Clean Hydrogen Partnership.**

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Clean Hydrogen Partnership

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