2 / September 2025

H2Uppp Info

News Bulletin of the International Hydrogen Ramp-up Programme (H2Uppp)

In this edition

Scaling-up

Ineratec to set up PtL plant in Chile

Photo: Interatec GmbH

Following a PPP with H2Uppp on the feasibility of producing Power-to-Liquid (PtL) in Chile, Ineratec has secured financing for a PtL plant and established a strategic partnership with COPEC, a large Chilean fuel company. Prior to this, the PPP with H2Uppp had identified ten locations in Chile where a total of 50,000 litres of PtL could be produced each year.

Read more about:

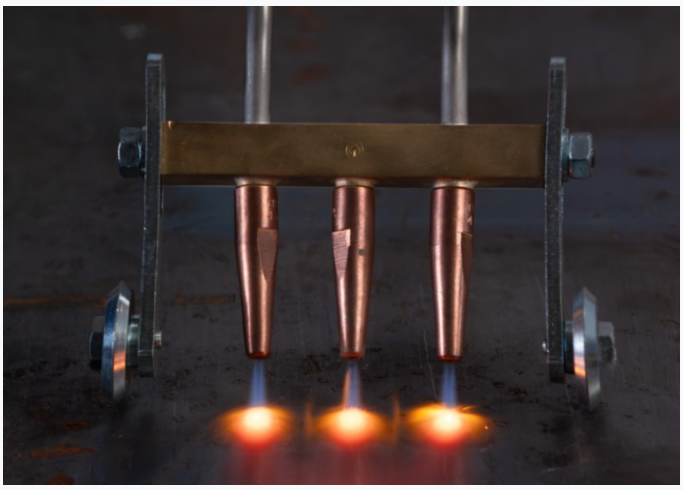
The Ineratec/COPEC cooperation

The final report of the PPP with Ineratec

New PPPs

Replacing LPG in oxyfuel combustion

Cleaner cutting in Brazil



A flame straightening torch operating on hydrogen. Photo: Messer Cutting Systems

In a PPP cooperation, Messer Cutting Systems and H2Uppp are replacing LPG with green hydrogen in oxyfuel processes for steel cutting, reducing emissions and improving workplace safety, for example in the construction, piping and shipbuilding industries. In partnership with Brazil's National Service for Industrial Apprenticeship, SENAI, the project will train 1,000 professionals with support from a mobile unit that promotes hydrogen adoption across Brazilian industry. Read more about the cooperation and the project.

The German Federal Ministry for Economic Affairs and Energy is supporting entrepreneurial engagement in the ramp-up of hydrogen in the Global South through the International Hydrogen Ramp-up Programme (H2Uppp).

Frontier Project

Advancing Green Ammonia from Chile

The Frontera Project in Tierra del Fuego, Chile, aims to produce green ammonia from wind-powered hydrogen for global markets. A public-private partnership between GIZ and ANGH supports the project's early-stage planning with technical studies, territorial engagement, and sustainability assessment – e.g. optimising the project design for the production and transport of either electricity or hydrogen, up to the point of ammonia synthesis. Read more.

On 28 May 2025 Fernando V. Beguiristáin, Director of Legal Advisory, Institutional Relations, and Public Affairs at ANGH and Javier Ortiz de Zúñiga,, Head of H2Uppp Chile Hub, signed a cooperaton agreement. Photo: Acciona

From sewage sludge to feedstock

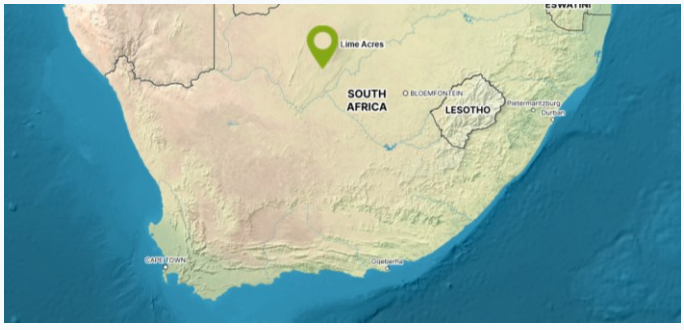
Southa Africa's innovative venture into green methanol production

Symbolic photo, © ian-photoken123 / unsplash

H2Uppp and the German engineering services provider FEV will explore the use of sewage sludge to produce green methanol at a site in Gauteng Province, South Africa. In this PPP, the sewage sludge will undergo treatment and decomposition to produce fertiliser by-products, water, short-chain hydrocarbons and CO_2. Some of the resulting water will be used for electrolysis to produce green hydrogen using renewable electricity. This green hydrogen will then be used to synthesise green methanol. Read more.

Shared collector grid for PtX

Investigating the production of green hydrogen in rural South Africa



Courtesy of mapy.com

Enertrag SE, a developer and operator of energy solutions, has joined forces with H2Upp to design a shared collector grid for PtX developers in South Africa's Northern Cape. The PPP aims to unlock renewable energy generation in remote areas where grid access is limited. Read more.

Advancing green inter-island transport

Hydrogen-powered ferries for Indonesia

A conventional ferry docking at Air Putih Harbour in Indonesia. Photo: Fikri Al Rifqi / Istock

In a new PPP with compressor manufacturer Neumann & Esser and French hydrogen infrastructure developer HDF Energy, H2Uppp will be assessing the feasibility of operating hybrid hydrogen and battery-powered ferry systems in Indonesia. Inter-island maritime transport is an essential backbone for economic and social activities in the archipelagic nation. Today, many existing ferry operations rely on fossil fuels and are constrained by isolated energy grids. Read more.

Large-scale PtX production

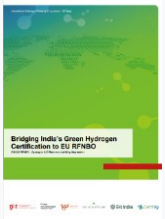
Thailand eyes green hydrogen hub

Representatives from H2Uppp, PTT and Thyssenkrupp Uhde signed a cooperation agreement in Bangkok. Photo: PTT

The German industrial plant engineering firm Thyssenkrupp Uhde and the Thai gas processing company PTT have launched a project to stimulate the green hydrogen and PtX market in Thailand. The initiative will focus on southern Thailand, and explore the production of green hydrogen, e-methanol, e-ammonia, urea and sustainable aviation fuel (SAF) alongside existing PTT infrastructure. The project will provide a blueprint for large-scale production and commercialisation. Thyssenkrupp Uhde (Thailand) will contribute its expertise in chemical processes. PTT aims to reach net zero emissions by 2050. H2Uppp serves as the public partner in this PPP cooperation. Read more.

New publication

Aligning India's GH2 framework and EU RFNBO requirements



A new white paper on bridging India's green hydrogen certification framework with EU RFNBO standards explains key regulatory gaps, proposes technical and policy alignment strategies and supports credible, dual-compliant production to ensure competitiveness and sustainability of India's green hydrogen in the global hydrogen economy.

Deep Dive

Three questions to the expert

‘Safety is at the core of the hydrogen economy’

Hydrogen, ammonia and methanol are key elements in the energy transition but also have hazard potential. Handling these substances requires specialist knowledge and a strong focus on safety. We spoke to Philip Miltrup, an expert in process engineering and the systemic integration of Power-to-X at H2Uppp and the PtX Hub.

Why is safety the foundational principle of any PtX project?

Miltrup: Safety is not just a regulatory requirement — it’s essential for long-term viability, public acceptance and environmental integrity. Implementing safety from the ground up means conducting thorough risk assessments, enforcing strict operational protocols, investing in staff training and aligning with international best practices. A strong safety culture protects people, infrastructure and investment, making it the cornerstone of scalable and responsible PtX development.

Which hazards need to be considered when transporting and storing hydrogen, ammonia and methanol for use in PtX applications?

Miltrup: Hydrogen is extremely flammable, and its flame is nearly invisible in daylight, which poses detection challenges. However, leaked hydrogen disperses quickly into the atmosphere, reducing explosion risks if proper ventilation is in place. Safe handling depends on high-pressure containment, cryogenic storage systems and robust leak detection technologies. When managed with industry-standard protocols, hydrogen can be handled as safely as other fuels — although it requires unique safety strategies due to its physical properties.

Ammonia poses serious health risks due to its toxicity and corrosiveness. It can cause severe respiratory damage even at low concentrations and reacts dangerously with moisture and certain metals. In addition, ammonia is very harmful to aquatic environments — even small amounts can reduce oxygen levels in the water, upset the natural balance and be toxic to fish and other aquatic animals. Methanol, while less volatile, is highly flammable and toxic if inhaled, ingested or absorbed through the skin. Both substances require tightly sealed, pressure-rated storage, leak detection systems, proper ventilation and personnel training to prevent exposure and ensure safe handling during long-distance transport and storage.

You are a PtX safety trainer. What does this training cover?

Miltrup: The PtX safety trainings offered by H2Uppp and the International PtX Hub provide essential knowledge on the hazards, risks and regulations associated with handling hydrogen, oxygen, ammonia and methanol in PtX operations as well as mitigation strategies. It is aimed at decision-makers, regulators, project developers, consultants, academics and any other stakeholders who handle PtX chemicals. The training can be delivered in a variety of formats, including online, on-site or hybrid and can last from two hours to a full day. philip.miltrup@giz.de

Roadshow

LATAM

Europe & Latin America sync on hydrogen future

In May, over 50 professionals from Argentina, Brazil, Chile, Colombia and Uruguay toured Germany and the Netherlands. Highlights included site visits, matchmaking and the Latin America Side Event at the World Hydrogen Summit 2025 in Rotterdam. Co-organised by BMWE's H2Uppp and the Dutch Foreign Office, the event hosted 150+ participants and offered more than 300 matchmaking meetings. Read more about the event here.

Delegates from LATAM visited Thyssenkrupp Uhde. Photo: GIZ

India

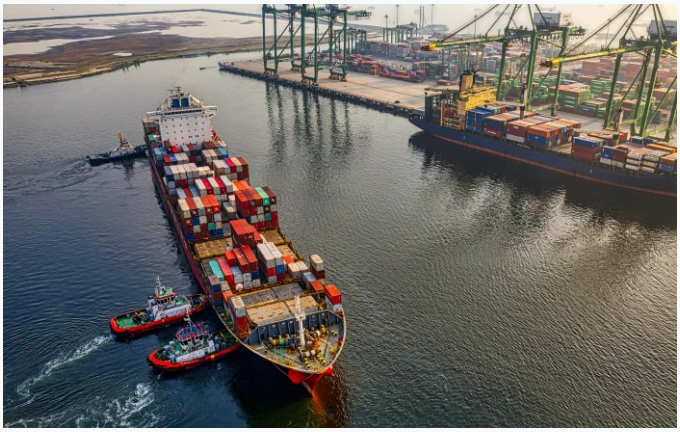
Indo-German matchmaking at World Hydrogen Summit 2025

The Indian business delegation on site visit of the Thyssenkrupp steel facility in Duisburg. Photo: IGEF

An Indian business delegation visited the Rhine-Ruhr metropolitan region and Rotterdam in May to gain insights into Germany's industrial decarbonisation strategies and to explore collaboration and business opportunities. The delegation met with leading German hydrogen technology providers (more here) and visited the World Hydrogen Summit in Rotterdam. For the occasion, H2Uppp co-organised an EU-India Networking Lunch on Green Hydrogen Developments, for delegates and other stakeholders to discuss market developments and opportunities for collaboration (more here).

Brazil

H2 safety training expedition to Europe for port decarbonisation



Symbolic photo. © Tom Fisk / pexels

In July, H2Uppp led a technical mission with GIZ, TÜV Rheinland and SENAI Ceará, focusing on hydrogen safety in port hubs in Germany and the Netherlands. Participants gained insights into hydrogen and gas operations, safety protocol procedures, ammonia terminal planning and regulatory pathways for port decarbonisation. The mission forms part of the training-of-trainers (ToT) programme, which was initiated through a PPP that aims to strengthen safety standards in hydrogen at the Complexo do Pecém in Brazil.

Conference

African Green Hydrogen Summit

De-risking challenges in PtX projects at an early stage

Addressing early-stage challenges in PtX projects at the African Green Hydrogen Summit. Photo: GIZ

At the 2025 African Green Hydrogen Summit in Cape Town, H2Uppp hosted a session on early-stage challenges in Power-to-X (PtX) projects. Speakers from GeFP and Enertrag highlighted key hurdles — from biogenic carbon sourcing and hybrid fuel regulation to grid connectivity in remote areas like South Africa's Northern Cape. H2Uppp emphasised the role of PPPs in de-risking early-stage activities and enabling scalable, replicable models for Africa's green hydrogen future. Read more about this year's summit.

SEA Conference on Green Hydrogen and PtX

Boosting German–Southeast Asia Cooperation on GH2

Photo: German-Thai Chamber of Commerce (GTCC)

The H2Uppp Southeast Asia Conference on Green Hydrogen and Power-to-X (PtX), co-hosted by the German Thai Chamber of Commerce (GTCC) on 21 July, brought together over 200 experts and stakeholders to strengthen cross-regional cooperation on clean energy. Serving as a platform for policy, finance and innovation exchange between the region and Germany, leaders from GIZ, GTCC, the German Embassy, the industry and Thailand's Ministry of Energy highlighted the need for joint action to decarbonise hard-to-abate sectors through green hydrogen and PtX technologies. Read more.

SAF prospects in Southeast Asia

From waste to wings: sustainable aviation fuel in Southeast Asia

Speaker at the SEA SAF Forum. Photo: GIZ

In H2Uppp organised a forum delving into SAF prospects in Thailand and Southeast Asia at the Asia Sustainable Energy Week 2025. The forum noted that while countries like Thailand have abundant feedstocks, exploring alternatives such as biomass-to-fuels is key to ensuring sustainability. With existing technologies and policies supporting SAF, the main challenge is aligning implementation with transport sector decarbonisation goals. Read on.

Webinar

Vietnam

Sparking green H_2 collaboration between Leipzig and Ho Chi Min City

A webinar exploring German-Vietnamese business opportunities in green hydrogen, framed by the city partnership between Leipzig and Ho Chi Minh City, gathered 73 participants from Vietnamese and German energy firms, research institutions and education sectors in early July. Co-organised by H2Uppp and the German Chamber of Commerce Abroad, the event centred around tangible project development, featuring concrete investment plans and demo projects in green hydrogen. Participant feedback revealed strong interest in deepening exchanges on project execution and market insights tailored to Vietnam. To build on this momentum, a Leipzig business delegation will visit Ho Chi Minh City in October 2025.

India

Aligning India's GH2 certification scheme with EU RFNBO standards

H2Uppp and partners co-hosted a webinar on aligning India's recently launched Green Hydrogen Certification Scheme (GHCI) with the EU's RFNBO standards in June. Over 170 participants from across the green hydrogen value chain joined to unpack the synergies and differences between India's GHCI and the EU's RFNBO standards. At the event, a white paper was launched to guide developers on achieving dual compliance with both frameworks.

India

Exploring German electrolysers for India's green hydrogen mission

In August, H2Uppp and the Indo-German Chamber of Commerce co-hosted a webinar on how cutting-edge German electrolyser technologies can support India's growing demand for green hydrogen on a large scale. More than 220 participants had the opportunity to hear Siemens Energy and Thyssenkrupp nucera share real-world project experiences and lessons learned, and to learn how these solutions can be adapted to the Indian market. Thyssenkrupp nucera presented its large-scale alkaline water electrolysis technology solutions, while Siemens Energy discussed preparation for market readiness of their PEM technologies for gigawatt scaling.

Workshop

India

Scoping the E-methanol production in India for export to EU

Photo: ReNew

An exclusive stakeholder workshop on green e-methanol production in India was held in July. The event was organised within the framework of a PPP between 3E, ReNew E-Fuels and H2Uppp. The exchange provided valuable insights for the ongoing feasibility and planning phase of the PPP project which aims to develop a green e-methanol project for export from India to Europe. It brought together technical experts, policy-makers, offtakers and industry representatives to discuss criteria for site selection, biogenic CO_2 sourcing, production processes, offtake requirements and the regulatory landscape.

PtX safety training in SEA

Building safe PtX futures: training efforts in Viet Nam and Malaysia

Photo: GIZ

Ensuring safe handling of green fuels is becoming increasingly important. Two PtX safety training courses, held in Malaysia and Viet Nam in July, delved into the safety risks of Power-to-X substances and how they can be managed effectively. Under expert guidance from the International PtX Hub and H2Uppp, participants explored key safety concepts. A blend of theory and practical application helped equip attendees with essential knowledge to develop and operate Power-to-X projects more safely. Read more.

Social Media

Green Hydrogen Hub Viet Nam goes social

The Green Hydrogen Hub Viet Nam – a knowledge and capacity-building platform dedicated to accelerating the development of a green hydrogen economy in Viet Nam – recently joined LinkedIn. The Hub is part of a PPP with H2Uppp and the Vietnamese-German University, and serves as a space for meetings, workshops and real-world technology showcases.

Event calendar

Upcoming events co-organised by H2Uppp:

H2 LATAM SUMMIT, 8 - 10 October 2025, in Fortaleza, Brazil

International Conference on Green Hydrogen (ICGH) in India
Conference and Trade Fair 6 - 7 November 2025

Upcoming events organised by Energy Solutions Made in Germany:

Bioenergy-to-X incl. SAF in Indonesia
Energy Trade Mission, 29 September - 2 October 2025

Renewable Energy India Expo
Trade Fair 30 October - 1 November 2025

Energy efficiency in industrial processes in Chile
Energy Trade Mission, 10 - 14 November 2025

Energy-efficient Solutions for Industry in Cambodia and Viet Nam
Energy Trade Mission, 17 - 21 November 2025

MITTELSTAND GLOBAL ENERGY SOLUTIONS MADE IN GERMANY

The H2Uppp World Map

Project Partners from the Private Sector

Argentina: RP Global Austria GmbH, **Brazil:** Messer Cutting Systems, SAP, TÜV Rheinland, Mele Group. **Chile:** Acciona Nordex Green Hydrogen S.L., K-UTEC, Ineratec, Soventix Chile Spa & SI Investment, & Pabettin. **Colombia:** SAP, Viridi RE. **India:** 3E B.V. & Renewable E-Fuels, RWE Supply & Trading, European Energy Exchange (EEX) AG & Indian Gas Exchange Ltd. (IGX). **Indonesia:** Neumann & Esser & HDF Energy. **Mexico:** Hy2Gen & Mexión, Siemens Energy, Linde & Geostock & Cydsa, **Turkey:** Burgbad AG & Eczacibasi Holding, **Thailand:** EGS-Plan, Enapter & Chiang Mai University, **South Africa:** Enertrag, FEV. **Ukraine:** N1 Capital, **Global:** Perspectives Climate Research, Renewables Academy

Imprint

As a federally owned enterprise, GIZ supports the German Government in achieving its objectives in the field of international cooperation for sustainable development.

Published by:
Deutsche Gesellschaft
für Internationale Zusammenarbeit (GIZ) GmbH

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September 2025

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The German Federal Ministry for Economic Affairs and Energy is supporting entrepreneurial engagement in the ramp-up of hydrogen in the Global South through the International Hydrogen Ramp-up Programme (H2Uppp).