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H2Uppp Info

H2Uppp paves the way for companies to develop the green hydrogen market.

The News Bulletin of the International Hydrogen Ramp-up Programme (H2Uppp)
commissioned by the German Federal Ministry for Economic Affairs and Energy (BMWE)

Dear GH2 enthusiast,

We are delighted to present the inaugural edition of the news bulletin "H2Uppp-Info". From this edition onwards, we will provide you with news updates from the H2Uppp programme every three to four months.

We hope you find this edition informative and interesting.

Yours sincerely,
Regine Dietz
Programme Director

In this edition

The Programme

Driving Green Hydrogen Projects in Emerging Markets Forward

H2Uppp is a market-oriented programme by the German Federal Ministry for Economic Affairs and Energy (BMWE) that supports the development of green hydrogen and Power-to-X (PtX) projects through public-private partnerships (PPPs). It connects German and EU companies with local partners in developing and emerging markets to unlock opportunities across the hydrogen value chain. Through this initiative, the BMWE promotes early-stage development of green hydrogen and derivatives projects, helping scale global hydrogen markets and attracting investment for local economic benefits such as job creation, tax revenue, and business growth.

H2Uppp operates in ten target countries: Algeria, Brazil, Chile, Colombia, Egypt, India, Morocco, Namibia, Thailand, and South Africa. It provides hands-on support for identifying and developing projects, including guidance on investment conditions, regulatory frameworks, and export requirements. Implemented by GIZ in close cooperation with the German Chambers of Commerce Abroad (AHKs), H2Uppp helps de-risk investments and create favourable conditions for project success. Read more.

The International Hydrogen Ramp-up Programme (H2Uppp) of the German Federal Ministry for Economic Affairs and Energy (BWME) promotes projects and market development for green hydrogen in selected developing and emerging countries as part of the German National Hydrogen Strategy.

PPP update

12 New Projects Initiated in One Year

In May 2024, H2Uppp entered its second project phase, which will last until December 2026. After four calls for proposals, the programme has since entered 11 new public-private partnerships (PPPs). Additional PPPs are in preparation and will start soon.

Argentina

The Gaucho project: The international project developer RP Global plans a large-scale green hydrogen and ammonia project close to two Patagonian ports, leveraging the region's strong wind resources. In this project, GIZ will assess the project's economic feasibility, infrastructure, and export logistics. RP Global will conduct environmental impact studies aligned with IFC standards. Together with the International PtX Hub, the partners will address regulatory framework questions and engage stakeholders through training and capacity-building.

Brazil

Securing safety standards for Green Hydrogen in ports: The trade in methanol and ammonia grows, so does the need for port capacity and trained personnel. To meet rising safety and logistics demands, GIZ, TÜV Rheinland Akademie and SENAI are launching a training programme at the Port of Pecém. The program will certify workers in safe handling, storage, and refuelling of hydrogen and its derivatives. Backed by ANTAQ, this project will set the foundation for similar trainings across other Brazilian ports.

Oxyfuel Welding with Green Hydrogen: In a PPP with Messer Cutting Systems, H2Uppp will demonstrate the use of green hydrogen for thermal cutting processes (oxyfuel technology) in the metalworking industry and establish a corresponding training programme.

Chile

Brine-to-Value – unlocking sustainability through brine valorisation: As green hydrogen production is growing in scale in arid regions like northern Chile, desalination becomes essential. But brine waste also poses environmental risks. To address this, K-UTEC AG Salt Technologies and H2Uppp will explore to recover minerals like sodium, magnesium, potassium, boron, strontium, and lithium from brine using solar evaporation and reverse osmosis.

Frontera project: Green ammonia production in Tierra del Fuego poses challenges. As part of the PPP with project developer ANGH – a joint venture between NORDEX SE (Germany) and Acciona (Spain)- GIZ is conducting analyses on optimised logistics, infrastructure planning, circular economy approaches, and carbon footprint reduction. ANGH leads the plant design, while local stakeholders are actively engaged and capacity-building measures are provided for public authorities. The insights gained are highly relevant for similarly remote regions lacking established infrastructure.

Colombia

AkuaippaHy project: In this PPP, the Viridi RE Group is developing an e-methanol project in La Guajira region – an area with optimal conditions for hydrogen exports. The project builds on Viridi's experience with a similar project in Spain, which will be replicated and scaled up sevenfold to enhance efficiency and reduce costs. The partnership between GIZ and Viridi will evaluate project economics, permitting pathways, the availability of RED II-compliant carbon sources, water resources, and the associated environmental and social impacts. A key milestone will be an inclusive participation processes with local Indigenous communities including the provision of trainings.

India

Green Methanol Project Development in India: In partnership with the European engineering firm 3E and the Indian renewable energy developer ReNew, GIZ is supporting the development of a green methanol export project in Odisha, India. In line with India's ambitious green hydrogen goals, the project will initially analyze and map potential green hydrogen production locations. The project will also assess the feasibility of a RED II-compliant methanol production site, and related regulations.

Index and Trading Platform: The PPP cooperation between GIZ, the European Energy Exchange (EEX) and the Indian Gas Exchange (IGX) initiates an Indian hydrogen index and trading platform. The introduction of a hydrogen price index in India similar to the EEX Hydrogen Index (HYDRIX) is intended to provide reliable price signals in a transparent manner both nationally and internationally. In addition to analysing the current market and trading requirements, the focus is on networking with players in production, trade, transport and consumption as well as political decision-makers and regulatory authorities.

Mexico

Ten Achiwa X — Green Hydrogen Hub in Coatzacoalcos: In this project, GIZ, Linde AG, Geostock, and local partner ASM, focus on large-scale hydrogen storage in salt caverns. The goal is to integrate storage into a broader industrial hydrogen hub, strategically located near refineries and the Interoceanic Corridor — a key logistics route for shipping and trade. German expertise, particularly from Linde's operations, supports technical and economic assessments of hydrogen production and storage. GIZ is conducting analyses on water and energy inputs, infrastructure needs, off-taker potential, and socio-economic impacts.

Thailand

Green Hydrogen for Energy-Self-Sufficient Hotels and Islands: On many Southeast Asian islands without grid access, hotels rely on diesel generators for power—despite their environmental impact. This PPP, implemented by GIZ and EGS-plan, compares renewable energy systems – including PV-based green hydrogen solutions – to conventional diesel setups in hotel resorts. EGS-plan brings expertise in sustainable building energy concepts.

Ukraine

Green H2 Uzhgorod in Ukraine: Pipeline-based H_2 exports to Europe play an important role in the future scenarios for the Ukrainian economy. The project supports early market development by analysing techno-economic feasibility of H2 production and the use of previously regulated renewable electricity, environmental impacts, legal requirements, technical standards, and feed-in to the Central European Hydrogen Corridor. The analysis is conducted by N1Capital, an Ireland-based developer of renewable energy projects. GIZ will integrate the findings into policy dialogue with national and local stakeholders, while also supporting broader stakeholder engagement.

Global

Unlocking Carbon Markets for Fertiliser Produced with green Ammonia: The shift from grey to green NH_3 in fertiliser production is a key element of the H_2 transition in the global south. The project wants to bridge a financing gap by exploring access to carbon market funding. GIZ and the German think-tank Perspectives Climate Research are jointly developing a methodology for green fertiliser production under Article 6 of the UNFCCC. A recognised methodology is essential for issuing and trading emission certificates under the Paris Agreement. Revenues from certificate sales help ease conversion costs, improving the viability of projects.

News

Successful 5th Call for Proposals Receives 51 Project Submissions

> The large number of submissions shows that we are meeting a demand.
>
> Regine Dietz
> Programme Director

On 14 March 2025, H2Uppp closed its fifth call for proposals of green hydrogen / PtX project ideas. The call received a total of 51 submissions. 25 project ideas came from South America, followed by 13 entries each from Africa and Asia. In total, project ideas came from 14 countries: Argentina, Brazil, Chile, Colombia, India, Indonesia, Mexico, Morocco, Namibia, Sri Lanka, South Africa, Thailand, Uruguay and Vietnam.

Replicating H2Uppp Projects: New Knowledge Base Available on Ptxhub.org

H2Uppp has launched a knowledge base on the International PtX Hub website to share PPP results and more. At www.ptxhub.org/h2uppp companies, business developers and other hydrogen experts can find valuable information on green hydrogen market entry and business models in selected countries outside Europe.

Exploring GH2 Opportunities in South-East Asia

What factors are influencing the green hydrogen and derivatives markets in South-East Asia? By exploring the diverse infrastructure, policy ambitions and economic drivers, the trade dynamics study by H2Uppp canvasses current and future prospects for green hydrogen on a country-by-country basis. The study identifies the industries in which green hydrogen will have the most significant impact. Get the study.

Women in Green Hydrogen: LATAM Chapter with New Video

The LATAM chapter of the global network of *Women in Green Hydrogen* has produced a video with the support of H2Uppp. In this video, the chapter show-cases its initiatives and women representatives share their experiences and perspectives on initiatives that are helping build a more sustainable and inclusive future.

Looking back: PPP Success stories

From Concept to Realisation: Green NH_3 Production in Off-grid Plants in Mexico

Prospect Hy2Gen plant in Mexico

From August 2022 to December 2023, the German hydrogen plant operator Hy2gen AG, the Mexican project developer Mexión and GIZ jointly investigated the feasibility of an off-grid green ammonia production plant in the Mexican state of Campeche. The feasibility study showed that 205,000 tonnes of green hydrogen could be produced annually at the selected site on the Gulf of Mexico. Based on these results, Mexión and Hy2gen AG are now planning the realisation of the production plant. With the support of GIZ Mexico, Hy2Gen was able to find key supporters among the Mexican authorities. As a result, the Wiesbaden-based company gained confidence in the Mexican location.
Access the final report (in Spanish).

Country Perspective: India

Business Round Tables: Where Indian Project Developers Meet with German Tech

With the Indo-German Green Hydrogen Business Roundtables, H2Uppp provides a platform for hydrogen experts from both countries to identify business and project opportunities. The events are an integral part of the programme's activities in India. They bring together German technology providers and Indian green hydrogen project developers to explore market opportunities and to strengthen partnerships. In cooperation with AHK India and the Indo-German Energy Forum Support Office (IGEF-SO), three business roundtables were held in Delhi, Mumbai, and Ahmedabad in February 2025. Discussions focused on market developments and opportunities for Indo-German partnerships, with a particular highlight being the green shipping roundtable as part of the Green Shipping Conclave. The topic of green fuels, especially ammonia, featured prominently in the context of India's decarbonisation efforts and broader international discussions. The overarching goal was to strengthen the presence of innovative German technologies in the Indian maritime sector, such as ship engine solutions from German manufacturer MAN. Read more here, here and here.

Strengthening the H_2 Partnership between India and Germany

A second H2Global-Hintco auction round was launched in February 2025 to support the development of a green hydrogen and PtX market economy. The mechanism aims to bridge the price gap between supply and demand. The recently opened supply-side auction includes two government-backed calls for green hydrogen derivatives relevant to India, worth at least €1.05 billion. According to Dr Christian Storost, head of the International Hydrogen Ramp-up Division at Germany's Federal Ministry for Economic Affairs and Energy (BMWE), these auctions present a major opportunity for Indian developers. In his keynote speech at the Hintco Roadshow event held in Mumbai during the Green Hydrogen Conference on 7 April 2025, he asserted that hydrogen would play a pivotal role in decarbonising Germany's industry. Addressing Indian hydrogen project developers, the BMWE representative confirmed that Germany intends to import hydrogen and will strengthen its cooperation with India in the future.

Deep Dive: 3 Questions to the Experts

Unravelling the EU RFNBO Certification Process

To sell Renewable Fuels of Non-Biological Origin (RFNBOs) in the European Union, companies must undergo a certification process that demonstrates the product requirements set out in the Hydrogen Delegated Acts of the EU Renewable Energy Directive. The certification process is complex and requires thorough preparation by the applicant. We ask Jan-Hendrik Scheyl, certification expert at H2Uppp.

Why is the EU RFNBO certification process so demanding?

Scheyl: The RFNBO certification balances regulatory compliance, market integrity, and international interoperability – while managing the risk of fraud and ensuring measurable climate benefits. The whole process involves several steps defined by EU-recognised certification schemes and it requires strong technical, organisational, and procedural knowledge on the part of the applicant. For example, concepts like relevant energy input or mass balancing need to be understood and applied according to the requirements, and this not only in the production process but along the full value chain. So, there is are several different important aspects to make up the whole certification puzzle. This is what makes the process so complex.

What challenges might arise during an RFNBO audit?

Scheyl: The main challenge is the audit preparation and being aware of all the aspects that will be checked during the audit. It is not enough to have understood the regulatory rules and to apply them in the production set-up, but it is necessary to prepare the company and its employees for the certification and audit process. An auditor will also check that the RFNBO certification process is effectively integrated into a company's management system.

To what extent does H2Uppp provide knowledge on the RFNBO certification process?

Scheyl: At H2Uppp, we have developed an expert-level RFNBO workshop series that includes a combination of theory, practical exercises and expert guidance. The workshops are led by consultants (LBST and Hincio), a certification scheme operator (CertifHy) and auditors (TÜV Süd). This arrangement facilitates direct interaction between participants and the practitioners of the RFNBO certification process. This is a significant advantage as each hydrogen or PtX project is unique and requires a tailored approach to certification. The workshop facilitates consultation with experts on individual cases.

So far, we have successfully held RFNBO workshops in Brazil, Colombia and India, with another workshop planned for South Africa. The participants have demonstrated a high level of expertise in their respective fields, creating a conducive environment for mutual learning. In addition, we will be publishing a compendium of learning and insights from all the workshops. Contact: jan-hendrik.scheyl@giz.de

The H2Uppp World Map

Project Partners from the Private Sector

Argentina: RP Global Austria GmbH, **Brazil:** Mele Group, Messer Cutting Systems GmbH, SAP SE, TÜV Rheinland Akademie, **Chile:** Acciona Nordex Green Hydrogen S.L., K-UTEC AG, INERATEC GmbH, Soventix Chile Spa & SI Investment GmbH, & Pabettin GmbH, **Colombia:** SAP SE, Viridi RE GmbH, **India:** 3E B.V. & Renewable E-Fuels Private LTD, RWE Supply & Trading GmbH, European Energy Exchange (EEX) AG & Indian Gas Exchange Ltd. (IGX), **Mexico:** Hy2Gen AG & Mexión Corporation SRL, Siemens Energy S. de R.L., Linde GmbH & Geostock S.A.S. & Cydsa, **Turkyie:** Burgbad AG & Eczacibasi Holding, **Thailand:** EGS-Plan GmbH, Enapter GmbH & Chiang Mai University, Ukraine: N1 Capital Ltd, **Global:** Perspectives Climate Research gGmbH, Renewables Academy AG

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International Hydrogen Ramp-up Programme (H2Uppp)

Friedrich-Ebert-Allee 32,36
51133 Bonn, Germany

T +49 228 44 60-0
F +49 228 44 60 – 115
E h2uppp@giz.de
www.giz.de/en

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Responsible for the content: Regine Dietz

Text, Design and Layout: Detlev Tenzer

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