

3rd Issue,  
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# H4D Review



**THE WORLD BANK**  
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## Dear H4D Partners:

The [Hydrogen for Development \(H4D\) Partnership](#) is a global initiative convened by the World Bank (WB) to build a platform for knowledge sharing, capacity building, and financing by fostering international cooperation needed to afford tailored-made solutions for developing countries and emerging markets on clean hydrogen. The knowledge produced by the H4D Partnership will support the implementation of policies and regulations to build a hydrogen economy. The [Energy Sector Management Assistance Program \(ESMAP\)](#) provides the Secretariat of the H4D Partnership and works closely with partners, stakeholders, and observers.

The World Bank team is pleased to announce the third quarterly newsletter, H4D Review. The goal is to provide the latest information about the activities, analytical work, and upcoming events on green and low- carbon hydrogen to H4D's partners, stakeholders, and observers.



## List of H4D Partners

As of September 30, 2023, H4D has 38 partners, including associations, business organizations, hydrogen clusters, knowledge institutions, laboratories, public agencies, and development institutions.

List of H4D Partners (status September 30, 2023):

- ✓ Africa Green Hydrogen Alliance (AGHA)
- ✓ Australian Hydrogen Council (AHC)
- ✓ Electricity Commercialization Chamber of Brazil (CCEE)
- ✓ Center for Hydrogen Energy Systems Sweden (CH2ESS)
- ✓ Corporation for the Promotion of Production (CORFO)
- ✓ Development Agency of the State of Ceara (ADECE)
- ✓ Dii Desert Energy
- ✓ German Development Cooperation (GIZ)
- ✓ Fuel Cell and Hydrogen Energy Association (FCHEA)
- ✓ Freeport Saldanha
- ✓ Green Hydrogen Organization (GHO)
- ✓ H2 Argentina Consortium
- ✓ H2 Colombia
- ✓ H2 Chile
- ✓ H2 Korea
- ✓ H2 Mexico
- ✓ H2LAC
- ✓ Hydrogen Catapult
- ✓ Hydrogen Council
- ✓ Hydrogen Egypt
- ✓ Hydrogen Europe
- ✓ International Finance Corporation (IFC)
- ✓ India Hydrogen Alliance (IH2A)
- ✓ Industrial and Port Complex of Pecém (CIPP)
- ✓ Japan Bank for International Cooperation (JBIC)
- ✓ Japan Hydrogen Association (JH2A)
- ✓ Movement of Enterprises of France (MEDEF)
- ✓ Ministry of Foreign Affairs of The Netherlands (MINBUZA)
- ✓ Ministry of Energy and Mineral Resources in Jordan (MEMR)
- ✓ National Renewable Energy Laboratory (NREL)
- ✓ Research Institute of Sweden (RISE)
- ✓ OECD Environment Directorate
- ✓ Petroleum Development Authority of Sri Lanka (PDASL)
- ✓ Rocky Mountain Institute (RMI)
- ✓ Netherlands Enterprise Agency (RVO)
- ✓ Western Cape Government (WCG)
- ✓ World Bank (WB)

The H4D team extends a warm welcome to the new partners: Freeport Saldanha, Japan Bank for International Cooperation (JBIC), MEDEF, OECD Environment Directorate, Petroleum Development Authority of Sri Lanka (PDASL), Western Cape Government. These institutions joined the initiative between May and September 2023. We expect the number of partners to continue growing, as we reach out to other key players in the hydrogen space (governments, IFIs, business associations).

# Operationalizing H4D



From October 23-26, 2023, eleven H4D partner organizations and a number of stakeholders gathered in Santiago de Chile to discuss the advancements of the H4D working program. The partners attending the meeting in person were: Câmara de Comercialização de Energia Elétrica (CCEE), Centre for Hydrogen Energy Systems Sweden (CH2ESS), Chilean Economic Development Agency (CORFO), GIZ, Green Hydrogen Organization (GHO), H2ar Consortium, H2 Colombia, Japan Hydrogen Association, Rocky Mountain Institute (RMI), RVO, and World Bank.

H4D co-chairs informed on the progress of the activities implemented the past six months and reached the following agreements in the four work streams (WS):

## WS 1. Clean hydrogen technologies, infrastructure, and systems integration (Co-chaired by JH2A and RMI)

Progress and agreements: (a) Short paper on Hydrogen Consumption and Export: The Indian Perspective (to be published by mid-2024); (b) Short paper on Systems Integration (to be delivered by mid-2024); and (c) Short paper on shared infrastructure: Chile's perspective (to be delivered by mid-2024).

## WS 2. Enabling frameworks - policies, laws, regulations and institutional capacities (Co-chaired by CCEE and Hydrogen Council)

Progress and agreements: (a) Capacity building workshops on certification, new use of hydrogen such as steel and maritime, economic impact of hydrogen economy, etc.; and (b) Handbook on regulations for exporting hydrogen to Europe, based in the Delegated Acts (to be delivered by mid-2024).

## WS 3. Investments, financing, business models and procurement (Co-chaired GHO and FCHEA)

Progress and agreements: (a) Provided comments to Flagship Report Scaling Hydrogen Financing for Development (completed); and (b) Short paper on global best practices to define offtake (to be delivered in 2024).

## WS 4. Socioeconomics and sustainability (Co-chaired by H2 Colombia and AGHA)

Progress and agreements: (a) Collect and define 5 socio-economic case studies, including Chile, Colombia, and Namibia (to be published by early-2024); and (b) Collect and define 5 case studies on social acceptance including best practices from the Netherlands and Chile (to be published by early-2024).

# Partners' news



## Showcasing Innovation: JH2A presence at HEM2023

In September 2023, JH2A participated in the Hydrogen Energy Ministerial and exhibited the technology advancements of eight companies (Asahi Kasei, INPEX, ENEOS, Kansai Electric Power Company, Kobe Steel, Toshiba, Chiyoda Corporation, and Mitsubishi Gas Chemical) on clean hydrogen. ([link](#))



## IH2A's Green Hydrogen Equipment Report Unveiled

In October 2023, IH2A published a Hydrogen Equipment Manufacturing and Services report that estimates the addressable market for Indian-manufactured hydrogen equipment to be worth USD 45-50 bn by 2030.



## Argentina launched its National Hydrogen Strategy

The Government of Argentina presented the country's [new national hydrogen strategy](#). Through strategic collaboration, H2AR contributed with essential insights, emphasizing the advancement of local technology and production throughout the hydrogen value chain. The strategy prioritizes clean H2 production and introduces dual approaches: serving the local market and building a strong presence in the export market.



## Freeport Saldanha hosted 2nd annual South African Green Hydrogen Summit (SAGHS)

In a unique event held at Freeport Saldanha on October 16-17, Cape Town hosted a summit that convened high-level policymakers, business leaders, investors, and civil society representatives. The primary objective of this forum was to delve into the limitless potential of clean hydrogen within South Africa and to highlight its pivotal role in steering the nation's just energy transition.



## H2Colombia presented a hydrogen project database

H2 Colombia presented a hydrogen project database that maps the activities private companies are implementing to develop a clean hydrogen economy. ([link](#))



## CCEE issued first certifications for renewable hydrogen produced in Brazil

CCEE issued the first hydrogen certificate in Brazil, ensuring that the hydrogen produced by EDP and Furnas was manufactured with energy from renewable sources. The certification process is shaped as a voluntary market, in which buyers define the rules for evaluating the product's sustainability criteria and follow the European standard. ([link](#))



## Australia Hydrogen Council hosted Asia Pacific Hydrogen Summit & Exhibition 2023

On October 26-27, Australian Hydrogen Council brought together over 500 global hydrogen leaders, policy makers, and energy stakeholders to share ideas and foster connections in the Asia Pacific region. ([link](#))



## Climate and Energy Transition Finance Summit (CETFis) in India

The CETFis initiative discussed the need of blended finance to achieve their climate commitments in emerging markets and developing countries. The initiative discussed the role of carbon taxes, technology innovation and market-making as critical solutions to help deploy the clean hydrogen industry. ([link](#))



## Fast & Fair Permitting: Bridging Progress and Community Trust Initiative

In September 2023, the GHO presented a 9-point plan for fast and fair permitting as a set of recommendations for government, industry and community leaders to speed up planning and permitting for renewable energy and green hydrogen infrastructure and networks in close consultation with citizens and communities. ([link](#))



## Latest events and presentations by WB and H4D Partners

### Second Partners Meeting of the Hydrogen for Development (H4D) Partnership, October 15-26, Chile



Co-hosted with CORFO, H4D held its second partners meeting [\(link\)](#) This event was in the sidelines of the 5th Green Hydrogen Summit for Latin America and the Caribbean (LAC). [\(Link\)](#)

### Finance for a Just Renewable Energy and Hydrogen Economy Roundtable at OECD, June 22, France



The OECD Clean Energy Finance and Investment Mobilization program and the GHO co-organized this event to mobilize financing commitments for renewable energy and green hydrogen in the leadup to COP28. [\(link\)](#)

### An overview of recent developments in MENA region



The World Bank and Dii Desert Energy hosted the webinar “An overview of recent developments in MENA region”. [\(link\)](#)

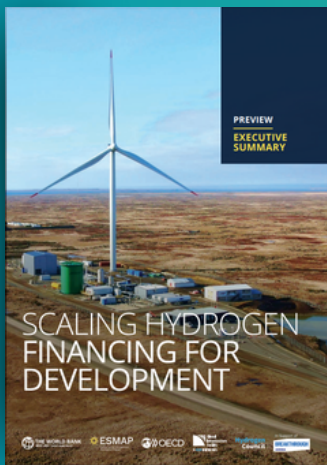
### European Hydrogen Week, November 20-24, Belgium



Co-organized by the European Commission, Hydrogen Europe and the Clean Hydrogen Partnership. [\(link\)](#)



## Recent publications and articles on clean hydrogen



### Scaling hydrogen financing for development

[DOWNLOAD Executive Summary](#) | [Slide Deck](#)

This report unveils a unique and in-depth proposal to transform ideas into attractive investment projects. It highlights how policy and financial risk mitigation mechanisms play a critical role in slashing the funding gap and reducing the cost of hydrogen generation. World Bank will lead this publication on financing hydrogen in developing countries to be presented at COP 28.

The plan includes the launch of a 10 GW capacity initiative – 10 times of today’s global hydrogen production using renewable energy input – by developing priority projects across emerging markets and developing countries to demonstrate viability of the nascent clean hydrogen industry, reduce financing costs, and boost adoption rates by creating scalable solutions.



Hydrogen Europe presented two significant position papers. Firstly, on [H2 Valleys Roadmap](#) highlighting its strategic significance. Secondly, Hydrogen Europe articulated its perspective on [Net Zero Industry Act \(NZIA\)](#) underlying its crucial role in advancing the hydrogen sector.



The OECD Environment Directorate published the Working Paper “Financing cost impacts on cost competitiveness of green hydrogen in emerging and developing economies”. [\(link\)](#)



## Major hydrogen project financing updates in the news

**8.4 billion invested**

NEOM achieved financial close at a total investment value of 8.4 billion, securing financing for the world’s largest renewable hydrogen plant to produce green ammonia at scale in 2026.

**2 billion financing**

The Government of Australia announced the establishment of the \$2 billion Hydrogen Head Start initiative to underwrite the biggest green hydrogen projects to be built in the country.

**transparency index HYDRIX**

European Energy Bourse (EEX) published a green hydrogen index called HYDRIX supporting the transparency of the EU hydrogen market.



## Upcoming WB and H4D activities



**#COP28: Scaling Global Clean Hydrogen Financing**

World Bank Pavilion, 5:00-5:45 pm (UTC+4). [\(link\)](#)



**Finance - Infrastructure Funds**

Mission Innovation’s Clean Hydrogen panel, 1:00 pm (CET). [\(link\)](#)



**#COP28: Trading Hydrogen to Bolster Energy Security**

Business & Buildings Pavilion, 4:45-5:45 pm (UTC+4). [\(link\)](#)



**#COP28: Nordic Rally to the Valley**

Nordic Pavilion, 5:15 - 6:00 pm (UTC+4). [\(link\)](#)



**#COP28: Africa's booming hydrogen economy**

Climate Action Innovation Zone, 2:25 - 2:40 pm (UTC+4). [\(link\)](#)

