UNIDO's International Conference on Hydrogen in Industry

Brief of the conference

The conference brought together countries, producers, developers, consumers, and international organisation and non-profit institutions that support hydrogen development and transformation. The pluralist participants presented their perspectives and discussed topics around the current state of hydrogen development and adoption, the main achievements and obstacles so far, and how to move forward. The sessions covered seven main topics surrounding hydrogen development: the role and pathways for international cooperation, finance, new development opportunities, the supply chain, and the transformation of fertiliser and steel industries. Taken together, the sessions showcased that hydrogen technologies have been proven and are available. However, they still entail challenges like higher costs, lack of harmonised standards and regulation, incomplete infrastructure and logistics, and lack of policy stability, all of which hamper demand creation.

Key takeaways

1. **Low emissions hydrogen is key for a greener, richer, and more resilient world:** Hydrogen is a crucial piece of the energy transition as it enables the decarbonisation of hard-to-abate sectors like steel, fertilisers, and aviation. However, the development impacts go beyond that. As highlighted, for example, by the representatives from Brazil, Ecuador, Egypt, Nigeria, Algeria, and Egypt, hydrogen opens opportunities to create local value through new industries, generate jobs, enhance capabilities, and skills. The recent geopolitical crises and global supply chains disruptions also reinforce the strategic role of low-emissions hydrogen when it comes to energy and food security. For producer countries, it is a chance to strengthen and diversify the domestic energy mix and promote local production of downstream parts of the hydrogen chain like fertilisers. For importing countries, it is a chance to diversify suppliers, mitigating the risk of disruptions and shortage.

2. **Hydrogen solutions haven been proven and are available**: The sessions covering AI, fertilisers, and steel illustrate that hydrogen solutions are already available to a myriad of challenges and sectors. What is lacking today is completing an enabling environment for hydrogen, encompassing policy, logistics, and regulatory and standards issues.

3. **Policy has the centre stage, particularly for demand creation:** Shifting to decarbonisation sources is a policy-driven agenda and market development hinges on targeted measures. However, policy implementation and stability is the main bottleneck today. Development hinges on active governments that provide stable supply and demand policies and de-risking mechanisms like contract for differences, political risk insurance, and currency hedging solutions. However, the bottleneck is not only policy implementation, but mostly, policy uncertainty as changes and retractions in policies deter long term investments.

4. **Shared responsibility to generate shared prosperity:** Collaboration and cooperation are crucial to bridge push hydrogen development forward. Commitments and pledges must translate into deepening public-private partnerships, and private sector and governments must work together to develop trade corridors while countries collaborate to create the global trade infrastructure. There must be greater efforts to increase the volume and access to concessional finance, as current financial flows are falling short of what is required. Genuine burden-sharing must become part of partnerships, spreading the risks inherent to early stage development. Institutions like ISO, the International Hydrogen Trade Forum, and the H2 Global foundation can also support demand creation either directly or by promoting greater harmonisation in standards and certification, a requirement to scale up trade.

5. **Regulatory frameworks must balance environmental and economic sustainability:** A stable regulatory environment with adequate standards and certifications is one of the enablers of offtake agreements and trade. Regulations cannot forfeit on promoting greater environmental sustainability; at the same time, they cannot involve such strict production requirements that they further hamper the economic viability of the market at the current stage.

Important Quotes

Quote	Quote By
"Countries with abundant renewable resources, especially from the South, are positioned to shape the future of doing energy; yet, potential is not sufficient. It must be matched with deliberate policy choices, demand signals from the Global North, strategic investment, (…) and indeed genuine international cooperation"	H.E. Senator Abubakar Atiku Bagudu, Nigeria
"The global uptake of hydrogen and the decarbonization of industry, will only succeed through cooperation across governments, across industries, and across international institutions"	H.E. Wolfgang Hattmannsdorfer, Federal Minister of Economy, Energy and Tourism, Austria
"Sustainability must guide all of our efforts. Hydrogen is not only about climate; we want a just energy transition that benefits all in local communities where the resources are located"	Gerd Müller, Director General, UNIDO

Opening Plenary: Creating new pathways of international cooperation

Name of the session: Creating new pathways of international cooperation

Date: 8th April 2026

Panellists:

Mr. Joseph Mukendwa, Head of Policy Planning and Strategy, Namibia Green Hydrogen, Namibia

Mr. Rodrigo Pinto Scholtbach, Senior Policy Coordinator, International & European Affairs Hydrogen, Ministry of Climate Policy and Green Growth, the Netherlands

Ms. Lais de Souza Garcia, Head, Renewable Energy Division of the Ministry of Foreign Affairs, Brazil

Mr. Gunther Grathwohl, Head, Division for International Hydrogen Ramp-Up, Bilateral Cooperation in Hydrogen Infrastructure, Federal Ministry for Economic Affairs and Energy, Germany

Ms. Rebecca Maserumule, Programme Director, Green Hydrogen Just Energy Transition Investment Plan, Industrial Development Corporation, South Africa

Roberto Cianella, Senior Expert on Hydrogen and its Derivatives, Ministry of the Environment and Energy Security, Italy

Moderator: Mr. Paul Durrant, Head of Climate Innovation & Sector Strategies, Department for Energy Security, the United Kingdom

Brief of the session (50 -100 words)

The opening plenary framed COP30 as a turning point in climate action, shifting the focus of international cooperation from pledges toward concrete implementation. The session brought together representatives from producing and importing countries, development finance institutions, and policymakers to discuss how hydrogen can serve as a bridge between global decarbonisation goals and economic development, particularly for countries in the Global South.

Key takeaways

1. **Hydrogen is more than a decarbonising tool:** Brazil is following a dual strategy to promote domestic consumption, prioritising sectors that today rely on fossil fuel-based hydrogen, and exports. In Namibia, hydrogen-led industrialisation contributes to the mitigation of social challenges like unemployment and a young population. Worldwide, the geopolitical

instability is strengthening the case for hydrogen as it disrupts supply chains and hamper energy security.

2. **Concessional and blended finance is necessary but not sufficient**: The panellists from Namibia and South Africa emphasised that current financial flows are falling short of what is required and needs go beyond that. Producing countries today absorb most of the risks as projects lack credible offtake commitments, harmonized standards and sufficient concessional finance. Genuine burden-sharing must be central to any real partnership. Moreover, grant-based CAPEX support alone will not close the gap. OPEX reduction mechanisms and project structuring are equally important.

3. **International cooperation must now come into action:** Political signalling through MoUs and pledges must now translate into bankable projects, credible offtake agreements, and financial closure. Demand, in particular, is key. Without long-term offtake commitments, projects cannot be bankable and the market will not develop. Private sector and governments must work together to develop trade corridors, while institutions like the International Hydrogen Trade Forum also shift attention to demand creation.

4. **Regulatory frameworks must balance environmental credibility with economic viability:** A stable regulatory environment with adequate standards and certifications is one of the enablers of offtake agreements. The representative from Germany acknowledged that EU's RFNBO criteria may have been overly strict, which risks hampering market scale up. Therefore, Germany is discussion measures like a GHG sub quota in RED III. The representative from Italy argued for building a robust but flexible certification system given the real value of hydrogen lies on its sustainability.

5. **Policy uncertainty is one of the biggest risks today:** Regulatory and policy uncertainty was identified as the single greatest barrier to investment. There must be an active attitude to promote demand creation and provide the required mechanisms so production can take place.

6. **Complementarity vs. shared prosperity**: challenging the framing of North-South hydrogen partnerships as purely complementary, arguing instead for a model of shared prosperity, one where all parties see tangible benefits and are therefore motivated to deliver.

Important Quotes (2 – 3 quotes)

Quote	Quote By
"Technical cooperation and international partnerships are at the heart of the potential for global trade in clean hydrogen"	Mr. Paul Durrant, Head of Climate Innovation & Sector Strategies, Department for Energy Security, UK

"We need to ensure we have skills transfer embedded in our partnerships, and that we are truly partners in industrial development and Namibia is able to progress as well"	Mr. Joseph Mukendwa, Head of Policy Planning and Strategy, Namibia Green Hydrogen, Namibia
"If you look at the current geopolitical situation, it is time to redefine the position of hydrogen within the energy mix of many countries (…), and we have to do it together, the Global South and the Global North"	Mr. Rodrigo Pinto Scholtbach, Senior Policy Coordinator, International & European Affairs Hydrogen, Ministry of Climate Policy and Green Growth, the Netherlands
"What we have been trying to do is fostering discussions so we can exchange best practices and make sure that developing countries are integrated and part of this international supply chain"	Ms. Lais de Souza Garcia, Head, Renewable Energy Division of the Ministry of Foreign Affairs, Brazil
"We have to find the right balance between a regulation that takes economic viability into account and the needs for saving the planet and keeping the Paris goals"	Mr. Gunther Grathwohl, Head, Division for International Hydrogen Ramp-Up, Bilateral Cooperation in Hydrogen Infrastructure, Federal Ministry for Economic Affairs and Energy, Germany
"We need to support the first movers with actual funding to make things happen"	Ms. Rebecca Maserumule, Programme Director, Green Hydrogen Just Energy Transition Investment Plan, Industrial Development Corporation, South Africa

“It is very important to keep aligned the view of hydrogen as not only a decarbonization carrier, but also a driver of widespread economic development.”	Mr. Roberto Cianella, Senior Expert on Hydrogen and its Derivatives, Ministry of the Environment and Energy Security, Italy

UNITED NATIONS
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GLOBAL PROGRAMME
HYDROGEN IN INDUSTRY

Fireside Chat: Unlocking Finance for Hydrogen

Name of the session: Unlocking Finance for Hydrogen

Date: 8th April 2026

Panellists:

Mr. Dolf Gielen, Lead for Hydrogen and Industry, World Bank

Ms. Raquel Anzures, Senior Assistant Vice President, Development Bank of the Philippines

Ms. Alicia Eastman, Co-Founder and Board Director, InterContinental Energy

Moderator: Mr. Cornelius Mattes, CEO, Dii Desert Energy

Brief of the session (50 -100 words)

The fireside chat framed the current geopolitical situation as a new momentum for the development of low emissions hydrogen and derivatives as it offers alternatives for improving energy security and reduces the gap with fossil fuel alternatives. The panellists represented the perspectives from international finance, lender, and developer. They discussed the low emissions hydrogen development, risks that deter investments, the role of developmental banks, and pathways forward.

Key takeaways (6-8 points)

1. **The case for low-emissions hydrogen is strong**: Low-emissions hydrogen can be cheaper, more reliable, and more sustainable than fossil fuel alternatives as geopolitical conflicts disrupt supply chains, raise costs, and hamper energy security. In terms of markets, the expansion of data centres creates more demand for hydrogen, and large fertilizer markets in countries that face natural gas supply constraints make a strong business case for green fertiliser plants – one example is ATOME in Paraguay.
2. **Expectations were off, not market development:** Initial expectations were off because they ignored the timing of projects, but the "death of hydrogen" narrative is also exaggerated. The panellists pointed out that the sector is developing and competitive pricing is closer. Dii mapped 127 hydrogen projects – mostly green – taking place in North Africa and Middle East, and the largest green hydrogen project, a USD 8.9 billion endeavour, is under construction (90% complete). Mid-2025 there were 2 GW of electrolysers in operation; now there are 16 GW under construction and 4 GW with FID. There were offers for renewable ammonia at USD 600/t, while grey ammonia reaches USD 750/t in today's spot market.
3. **There needs to be education and knowledge dissemination:** Low emissions hydrogen growth demands efforts to build knowledge and awareness about the market and

technology across a broad set of stakeholders. Policymakers and actors along the investment chain still lack sufficient understanding of the technology and market dynamics of the sector, constituting a binding constraint on scale-up.

4. **Policy uncertainty or instability pose large risks:** Investors prioritise certainty and stability. Ambiguity in rules, retroactive changes to subsidies, offtake structures, and regulation in general undermine investor confidence and discourage investments.
5. **International cooperation supports financing**: International cooperation and knowledge exchange facilitates broader technology adoption as countries grasp better how to adapt it to their local context.
6. **Projects risks are layered and require different instruments:** Costs of financing hydrogen projects are high because (i) country-specific risks, addressed by instruments offered by MIGA or export credit agencies, (ii) technology specific risks, which can be partially addressed by export credit agencies, (iii) lack of enabling infrastructure, which falls under governments' responsibilities, (iv) cost competitiveness issues, where there is room for optimisation by project developers, and (v) residual offtake risks, which remains could be addressed by scaling up initiatives like H2 Global.
7. **Development banks play a core role:** Development banks act as catalysts, derisking early-stage investments and crowding-in private capital through blended finance and concessional rates that mitigate the bottleneck posed by the cost of funding.

Important Quotes (2 – 3 quotes)

Quote	Quote By
"There's a lot of effects and figures that underpin that the development is actually happening"	Mr. Cornelius Mattes, CEO, Dii Desert Energy
"Development banks can actually really help to develop [hydrogen] and be a mover also when it comes to energy security".	Mr. Dolf Gielen, lead for hydrogen and Industry, World Bank
"What is important is, of course, assistance from other countries for the Philippines to be able to really adapt this technology; second, is to also explore, since financing is very critical, blended finance to lower the costs of investments"	Ms. Raquel Anzures, Senior Assistant Vice President, Development bank of the Philippines
"You're seeing successful projects actually happen, and it's inevitably done by people who are using finance tools, they're using export credit agencies, they're helping change a number of different regulation and they're getting subsidies from countries"	Ms. Alicia Eastman, Co-Founder and Board Director, InterContinental Energy

UNITED NATIONS
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HYDROGEN IN INDUSTRY

Plenary: Hydrogen Project Sustainability: Unlocking new development opportunities

Name of the session: Hydrogen Project Sustainability: Unlocking new development opportunities

Date: 8th April 2026

Panellists:

Ms. Gabriela Prata Dias, Head, Markets Section, UNEP Copenhagen Climate Centre

Mr. Francesco Dadaglio, Programme Manager, ISO

Mr. Deger Saygin, Industry Decarbonization Programme Lead, OECD

Ms. Smeeta Fokeer, Research and Industrial Policy Officer, UNIDO

Mr. Dario Liguti, Director of Energy, Housing and Land Management, UNECE

Moderator: Ms. Patricia Marcos Huidobro, Senior Climate Change Specialist, GEF

Brief of the session (50 -100 words)

The plenary covered the sustainability of the hydrogen economy in a broad sense. It brought together representatives from the key international institutions in the hydrogen economy: UNEPCCC, ISO, OECD, UNIDO, and UNECE to discuss the role of hydrogen not just as a decarbonizing tool, but also to support local value creation, economic opportunities, skills development, and inclusive industrial growth.

Key takeaways (6-8 points)

1. **Environmental sustainability is more than carbon emissions:** Hydrogen is an opportunity for decarbonisation. However, its development will not be sustainable without dealing with four risks: hydrogen leakage, the sustainability around critical-mineral extraction and usage, land-use competition with agriculture, and water competition in water stressed locations.

2. **Technology and skills are there, but the institutional framework is missing**: Solutions for storage, deployment, and low-emissions hydrogen usage are already available. Projects funded by the Green Climate Fund in Latin America and ran by UNECE, for example, blend green hydrogen into the natural gas system, employ it in the cement industry in Chile, and produce green ammonia in Colombia. In terms of technical skills, the experience with oil and gas developed the technical skills required in the hydrogen economy. What is missing

is specific training, certification frameworks, and portable credentials for workers to move across borders. Regional training hubs, industry-vocational partnerships, and locally-adapted curricula are pathways to address that.

3. **Harmonized standards are key trade enablers:** The representative of ISO highlighted that without mutual recognition and an agreed methodology for quantifying embedded emissions, cross-border hydrogen markets cannot scale, as producers cannot prove compliance to regulations like EU's CBAM. The gap in terms of safety standards will also become increasingly significant in the future as hydrogen applications scale.

4. **Policies foster local value creation:** Capabilities are not static and taking advantage of hydrogen opportunities requires active efforts. Countries must define their development objectives and assess their current strengths and weaknesses against them, implementing the required policies and adapting them as needed to develop their capabilities. Countries must foster learning-by-doing through projects and implement innovation policies, industrial strategy, and engage in international cooperation to promote knowledge, technology transfer, and the gradual localisation of the hydrogen value chain.

5. **There are four conditions for successful projects** : Four features help projects reach final investment decisions: A business model linked to mature value chains, which facilitate having long-term offtake contracts; vertically integrated partnerships, often with special purpose vehicles, that align developers, offtakers and financiers; an active government providing stable supply and demand policies and de-risking mechanisms (contract for differences, carbon contract for differences, political risk insurance, currency hedging solutions); and concessional finance availability to mitigate the high upfront capital costs.

6. **Policy coherence is a must to ensure sustainability**: Hydrogen sustainability is inherently cross-cutting, and it can only be delivered if industrial, trade, innovation, energy, and environmental policies are aligned and pulling in the same direction.

Important Quotes (2 – 3 quotes)

Quote	Quote By
"We need to focus on where hydrogen offers the advantages and where other low carbon options are not available, and we need to start from there"	Ms. Patricia Marcos Huidobro, Senior Climate Change Specialist, GEF
"Green hydrogen is not a silver bullet, but a good vehicle to include in the energy mix, especially for hard-to-abate sectors"	Ms. Gabriela Prata Dias, Head, Markets Section,

	UNEP Copenhagen Climate Centre
"If you harmonise to align everyone along the same requirements, we are speaking the same language; that facilitates and acts as a passport to trade across borders"	Mr. Francesco Dadaglio, Programme Manager, ISO
"The four categories for success (…) are: business models, governance, de-risking, and financing".	Mr. Deger Saygin, Industry Decarbonization Programme Lead, OECD
"What matters is how effectively countries use policy to foster learning and upgrading. The risk itself is not in [technology manufacturing] concentration, but treating local value creation as static"	Ms. Smeeta Fokeer, Research and Industrial Policy Officer, UNIDO
"Building the hydrogen ecosystem is starting locally. The first phase for a hydrogen ecosystem is to create the opportunities for hydrogen to be produced where there is need, where there is consumption."	Mr. Dario Liguti, Director of Energy, Housing and Land Management, UNECE

Panel Discussion 1: Building a Resilient Hydrogen Supply Chain for Industrial Transformation

Name of the session: Building a Resilient Hydrogen Supply Chain for Industrial Transformation

Date: 8th April 2026

Panellists:

Ms. Samia Boumaza, Director, Electricity and Gas Regulatory Commission, Algeria

Mr. Pablo Alban, Undersecretary of Policies for Strategic Sectors, Ministry of Economy and Finance, Ecuador

Ms. Ju Wang, Secretary General, International Hydrogen Fuel Cell Association

Mr. Glenn Llewellyn, Vice President, ZEROe Project, Airbus

Ms. Julia Bruchbacher, Head of Business Development, Verbund Green Hydrogen

Moderator: Ms. Maja Tomanic-Vidovic

Presenter: Ms. Ivana Jemelkova, CEO, Hydrogen Council

Brief of the session (50 -100 words)

The panel brought together representative of countries with hydrogen production aspirations – Algeria and Ecuador –, producer and developer (Verbund Green Hydrogen), consumers (Airbus), and cooperation and commercialisation non-profit facilitator (International Hydrogen fuel Cell Association). The presentation by Ms. Ivana Jemelkova (Hydrogen Council) kickstarted the discussion around the fact that hydrogen has a key role to play in the energy transition not only because of the decarbonisation it entails but also because it increases energy security and can be more affordable, building a more resilient future. The panellists continued the dialogue and reflected about the challenges and opportunities to improve the global hydrogen supply chain.

Key takeaways

1. **Development is happening, even if not in the pace initially projected**: The panel's presentation mentioned that as of 2025, we reached $100 billion in committed capital, representing a 10 times growth in five years, and over 510 projects passed FID into construction or operations. In Algeria, for example, the 2026 finance law introduces tax and customs incentives for importing and producing electrolysers and equipment related to hydrogen. In India, commercial agreements are taking place. Hydrogen development is happening quickly; initial expectations were oversized.

2. **Hydrogen leadership requires strategic vision:** The presentation showed the geography of hydrogen is taking place. Europe positioned itself as the global demand centre for hydrogen and has leadership in terms of policies. However, implementation has been slow and incomplete. Meanwhile, Asia became the hotspot for hydrogen development. A key difference is how hydrogen is perceived – not solely as a decarbonisation driver, but as an economic pivotal opportunity. China, the technology and investment leader, frames it as a strategic opportunity for its industry and technology leadership strategy.

3. **Policy uncertainty is the main obstacle today**: Companies that reported delayed, cancelled or paused projects, consistently list market and policy uncertainty as causes behind it according to the Hydrogen Council. Scaling up hydrogen, in particular, requires demand activation and consistency. The representative of the IFCA brought up that countries have introduced, adjusted, and sometimes withdrawn policies, which deters long term investments. The representative of Airbus also named that technologies to use hydrogen are in place, while policies and incentives lack,

4. **Policies need to focus on more than hydrogen directly**: Low emissions hydrogen compete with fossil fuel alternatives that are on a more mature market stage. As the representative of Ecuador emphasised, this means removing fossil fuels subsidy is a crucial, yet challenging task, as they hamper the competitiveness of low emission alternative compared to fossil fuels. In Ecuador, for example, the removal of diesel subsidy facilitates hydrogen use in heavy transport as an alternative solution.

5. **The lack of enabling infrastructure is a key constraint to global supply chains:** There is the pressing need to construct the infrastructure to connect demand and supply. Cross border initiatives like the SouthH2 Corridor, connecting Europe to North Africa, must move one and scale up to enable global trade. Building hydrogen hubs that connect supply, demand, and infrastructure are also a way forward.

6. **Clear regulatory framework, standards and certifications must advance:** A clear regulatory framework is imperative to attract productive investments. In addition, the establishment of global standards to allow a uniform definition, classification, and verification of hydrogen types. Regulations, however, cannot have so strict requirements as some in place today, since this drives up the cost of producing hydrogen. In this regard, institutions like the IFCA play an important role to promote harmonization. International experience is also an opportunity to countries like Ecuador who are in a more initial development stage, as they can learn and adapt their codes to the best practices.

7. **Strengthening global supply chains must be a plural effort:** Industries in which hydrogen have an important role to play, like aviation, are global, policies changes in one place affect worldwide competitiveness, having significant consequences for companies. Global evolution, therefore, requires aligned efforts and a global movement in the same direction.

Important Quotes

Quote	Quote By
"We have entered an entirely new chapter on the hydrogen journey, and, after the emotional roller coaster of the early years, we have actually moved from ambition to delivery"	Ms. Ivana Jemelkova, CEO, Hydrogen Council
"Debt financing alone is no longer sufficient, companies also need capabilities, knowledge, and strong partnership (…) to adapt all these new technologies and enter the new value chain"	Ms. Maja Tomanic-Vidovic
"Algeria is doing the best with international cooperation with the European Union, Germany, and, now, UNIDO, and we are providing the way to be the valuable and strategic supplier of Europe with green hydrogen"	Ms. Samia Boumaza, Director, Electricity and Gas Regulatory Commission, Algeria
"The strategy is really needed, this is why this is a great opportunity with international cooperation to see all the best standards, the best practices, and the models that are working in the world, so Ecuador can catch-up faster"	Mr. Pablo Alban, Undersecretary of Policies for Strategic Sectors, Ministry of Economy and Finance, Ecuador
"From the industry side, we need very stable policy frameworks and we need investments – a lot – in the industry".	Ms. Ju Wang, Secretary General, International Hydrogen Fuel Cell Association
"Hydrogen is mandatory for aviation decarbonisation; we are not an industry where we can use batteries, we are not looking at ammonia, we are not looking at methanol."	Mr. Glenn Llewellyn, Vice President, ZEROe Project, Airbus
"This really strict production criteria for green hydrogen is driving the production costs even more high up rather than bringing it down"	Ms. Julia Bruchbacher, Head of Business Development, Verbund Green Hydrogen

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Fireside chat: Rethinking the Fertiliser Industry: Innovative Business Models for the Future

Name of the session: Rethinking the Fertiliser Industry: Innovative Business Models for the Future

Date: 8th April 2026

Panellists:

Mr. Markus Exenberger, Executive Director, H2Global Foundation

Ms. Vibeke Rasmussen, Senior Vice President, Yara International

Moderator: Mr. Jorgo Chatzimarkakis, CEO, Hydrogen Europe

Brief of the session (50 -100 words)

The session brought representatives of fertilizer production companies and a non-profit that supports the development of the global green hydrogen market. The panellists discussed the importance of low-carbon fertilizer to increase resilience in the future, the obstacles and measures to surpass them.

Key takeaways

1. **Decarbonization has to be phased in the industry:** Many fertilizer plants are integrated, so the change to green ammonia faces stranded assets risks and requires high investments. For integrated plants, the shift is easier if timed with asset depreciation cycles. On the other hand, plants that already purchase ammonia externally can immediately transition by switching suppliers. This is the case of several Yara International plants in Europe, which motivated the agreement between the company and ACME to acquire green ammonia produced in Oman.

2. **International cooperation supports demand creation**: H2Global is an example of how international cooperation supports demand creation. H2 Global offers 10 year-contracts for producers and sell products back into the market in a double-auction system that relies on support by governments to bridge the price difference. It has received USD 9 billion in total, combining the contributions of different countries and involves cooperation with Germany, the Netherlands, Australia, Canada, India, Oman, and Brazil, among others.

3. **Policy stability is paramount:** Market creation requires stability, certainty, clarity and trustworthy price signals. Financing bodies need to have trust and understand hydrogen technologies and market to channel funding into projects.

4. **The narrative must focus on the strategic value of green hydrogen production**: Current crises highlight the risks of relying on fossil fuels and imports that affect different systems like energy and food production. Incentivising green hydrogen production becomes a strategic issue – on the producer side, having a local green hydrogen production increases domestic independence; on the importers side, greater green hydrogen production worldwide allows a diversification of suppliers, improving supply chains resilience. Therefore, the narrative should broaden from climate action to climate action, independence and resilience benefits.

Important Quotes

Quote	Quote By
"This hydrogen production locally helps you do a product that you imported previously, you get more independent, and those who import it anyway (…) can diversify because there are many players"	Mr. Jorgo Chatzimarkakis, CEO, Hydrogen Europe
"We have to become faster if we want to reach our climate goals (…), we need scale, and we really need certainty [in regulation]"	Mr. Markus Exenberger, Executive Director, H2Global Foundation
"It's a big structural change for existing assets and that requires (…) high investments"	Ms. Vibeke Rasmussen, Senior Vice President, Yara International

Panel Discussion 2: Panel Discussion 2: Supporting the Transition to a Low-Carbon Fertiliser Industry

Name of the session: Supporting the Transition to a Low-Carbon Fertiliser Industry

Date: 8th April 2026

Panellists:

Mr. Ahmed Saad Hassan Ali, CEO, Suez Canal Economic Zone Authority, Egypt

Mr. Naoufal Mahdar, Senior Vice-President Climate and Decarbonization, OCP Group

Ms. Adeola Ijeoma Eleri, Deputy Director, Renewable Energy Department, Energy Commission, Nigeria

Mr. Xiaolong Fu, Director, International Hydrogen Energy Centre

Moderator: Mr. Ralph de Haan, Partner, MarineFifty

Presenter: Ms. Vibeke Rasmussen, Senior Vice President, Yara International

Brief of the session (50 -100 words)

The session brought together key fertilizer producers and countries The presentation by Ms. Vibeke Rasmussen (Yara International) kickstarted the discussion around the evolution and potential for green fertilizers to support decarbonization and food security. The panellists continued the discussion, covering topics related to the role of low-carbon fertilizers in improving food security and generating gains for producing countries, main obstacles to scale up, and possible pathways to address them.

Key takeaways

1. **Decarbonisation is a lever for food security:** Locally producing low carbon fertilizers mitigate improves supply chain efficiency, security, and resilience. In Nigeria, improving fertilizer access became a multiple step plan: in 2016, they implemented the Presidential Fertilizer Initiative to improve farmers' access; initially focused on buying and stocking fertilizer. In 2025, the plan moved to its third phase that aims to address sovereignty and warehousing of fertilizers, building the capabilities to achieve local production.

2. **Producing countries benefit from dual strategies to secure demand**: Low emissions fertilizer production cuts across issues like energy and food security. However, while green premium and demand gaps remain, reaching the required uptake volume benefits from a

dual strategy to secure demand in the local and global markets, as the panellist representing the Suez Canal Economic Zone stated.

3. **The green premium can be diluted to generate uptake:** The presentation highlighted that some product chains can absorb the premium associated with green technologies. The Low Emission Ammonia Fertilizer Initiative showed that nearly 10% emissions-reduced bread have less than 1% additional product cost. In another initiative, Yara International has an agreement with PepsiCo Europe and will supply low-emissions fertilizers to Pepsi Co farmers. The collaboration between the companies includes with the collaboration covers the premium for farmers to employ low carbon fertilizers.

4. **Scale up also means investing in learning**: The representative from IHEC highlighted the role of investing in technology advances to decrease the cost of green ammonia. There are different solution pathways throughout the production chain. Examples include (i) AI can support a control system that improves the efficiency of renewable energy, where the difficulty is its variability, (ii) taking advantage of cheaper electrolyser costs to produce hydrogen, (iii) changing the payload of synthetic ammonia, (iv) the efficiency when integrating different production chains, which benefits from testing and comparing different technology solutions. The OCP representative also emphasised the role of spreading knowledge and adoption of sustainable agricultural practices through long term partnerships with farmers.

5. **Centralisation facilitates investment coordination**: Low ammonia fertiliser hubs are a solution to achieve the required complementary investments. The production of fertilizers requires an ecosystem of infrastructure, transport infrastructure and upstream and downstream activities, as well as the required skills and workforce to develop the sector. Countries like Egypt invest in this solution as the Suez Canal Economic Zone seeks to develop such a hub, building as well on related activities like shipping.

Important Quotes

Quote	Quote By
“It is not only a simple cleaner ammonia story, it is a full system transition”	Mr. Ralph de Haan, Partner, MarineFifty
“If you can distribute the cost throughout the value chain, the cost [difference] of the end product (…) is not substantial”	Ms. Vibeke Rasmussen, Senior Vice President, Yara International
“It’s not mutually exclusive either to focus on exports or the local market (…). Demand at this stage is very important to secure, not just locally, but globally”	Mr. Ahmed Saad Hassan Ali, CEO, Suez Canal Economic Zone Authority, Egypt

"Decarbonisation is not a trade-off with food security, decarbonisation is a lever for food security; it gives a local answer to a global issue"	Mr. Naoufal Mahdar, Senior Vice-President Climate and Decarbonization, OCP Group
"When Nigeria started looking at green hydrogen and PtX, it was from a climate point of view and the potential for foreign exchange earnings from exports; (…) now, it's obvious that it is important that we develop it even for our own security, food security and economic stability.".	Ms. Adeola Ijeoma Eleri, Deputy Director, Renewable Energy Department, Energy Commission, Nigeria
"With [improved] technology, we can build a total ecosystem and support technology so we can solve a lot of problems"	Mr. Xiaolong Fu, Director, International Hydrogen Energy Centre

Panel Discussion 3: Driving the Transformation in Steelmaking

Name of the session: Driving the Transformation in Steelmaking

Date: 8th April 2026

Panellists:

Mr. Matthias Pastl, Senior Vice President, Group Public Affairs, voestalpine AG

Ms. Maria João Duarte, Representative to the EU Institutions, Mitsubishi Heavy Industries EMEA

Ms. Piedad García Alvarez, Material & Innovation Developer, IKEA

Ms. Karina Sousa, Director of the Department of Energy Transition, Ministry of Mines and Energy, Brazil

Moderator: Ms. Harley Higgins-Watson, Facilitator, Hydrogen Breakthrough Agenda

Brief of the session (50 -100 words)

The session started with a presentation by the World Steel Association, who kickstarted the dialogue by presenting the pathways and market change projections linked to steel decarbonisation. The panellists represented countries, producers, and consumers in the steel production chain, and they continued the discussion focusing the demands from each perspective and the pathways to move the steel structural transformation forward. As framed in the discussion, under the Brazilian COP 30 presidency, the decarbonisation of steel gained momentum, but now it is time to bring plans into action.

Key takeaways

1. **Technology availability is not the obstacle, policy is:** The panellists agreed that steel decarbonisation has surpassed the experimentation or pilot projects stage, but the technology steel lacks competitiveness and needs to be derisked. This calls for a transversal development strategy that align skills and capacity development, industrial, energy, and environmental policies. Decarbonisation is policy-driven, but policies so far have not created the conditions for hydrogen-based-DRI to become economically viable. It requires environmental measures like strong EU's ETS coupled with CBAM, CAPEX and OPEX reduction, stable and cheaper electricity prices, and demand-side policies to create the market.

2. **Industrial transformation benefits from a modular approach**: The decarbonisation route must adapt to the company's and local conditions. The Voestalpine AG representative, for example, cited that while hydrogen is a significant component of the company's R&D, electrification is currently the main decarbonisation because it is more flexible, requires fewer adaptations in productive processes, meaning less technology lock-in, and the infrastructure is mostly available. Hydrogen remains a future route with 3-5 years' timeline because the enabling infrastructure and framework still lacks. Currently, hydrogen is not available either in terms of volume or cost competitiveness.

Initiatives like the SouthH2 Corridor connecting Italy, Germany, and Austria to North Africa must be completed to enable the shift towards hydrogen.

3. **Industrialisation gains require an integrated approach:** The Brazilian representative emphasised that the country's interest in hydrogen goes beyond decarbonisation or commodity trade. Instead, hydrogen represents an opportunity to promote industrialisation, generate jobs, and develop new technologies. For that, policymakers must have a vision broader than hydrogen production alone; they need to integrate under the same policy plan different value chains – for example, hydrogen and steel, fertilisers and low carbon fuels.

4. **For end customers, it boils down to price**: Markets with expensive products may have higher willingness to pay for green steel. However, this is not the case for all end customers of steel. As stated by the representative of IKEA, the end customers often are indifferent to the type of steel employed in the production process, but they remain sensitive to cost and cannot pay for the cost difference in place today. Therefore, while the policy, regulation, and cost reductions do not advance, demand will face a hard constraint t

Important Quotes

Quote	Quote By
"It is a huge challenge on one side of the coin with a huge opportunity on the other side when you flip that coin"	Ms. Harley Higgins-Watson, Facilitator, Hydrogen Breakthrough Agenda
"There has to be a dialogue across the value chain, as well as a policy which is permissible and helps make the transformation possible"	Mr. Rizwan Janjua, Head of Technology, World Steel Association
"[Hydrogen] plays a vital role in [steel] transformation, but it has to fit into the specific enabling conditions and framework conditions of the member state or country you are in"	Mr. Matthias Pastl, Senior Vice President, Group Public Affairs, voestalpine AG
"The technologies are, to a certain extent, available, but they need to be derisked"	Ms. Maria João Duarte, Representative to the EU Institutions, Mitsubishi Heavy Industries EMEA
"[Our customers] deserve to have safe, nice, beautiful products as sustainable as we can, but also that they can afford"	Ms. Piedad García Alvarez, Material & Innovation Developer, IKEA
"We have to coordinate our strategies or initiatives or policies to go ahead in this structural trajectory and make this shift"	Ms. Karina Sousa, Director of the Department of Energy Transition, Ministry of Mines and Energy, Brazil