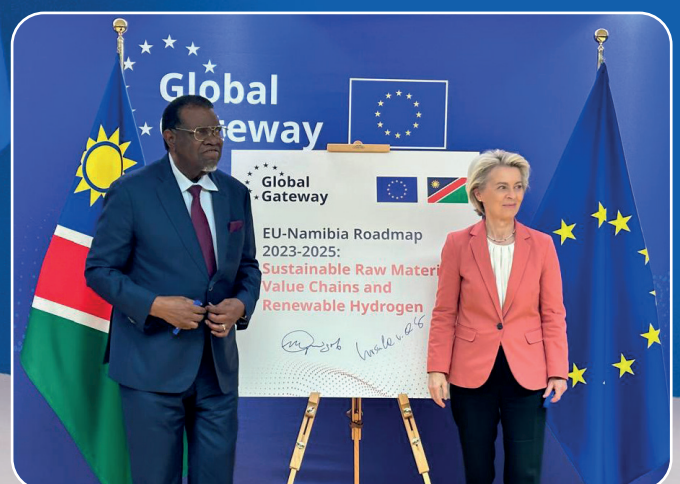


- Rising costs kill green hydrogen projects
- EU Commits €133.5m to boost Lobito Corridor
- DRC gets €180m from EU to strengthen ties
- Defining moment for Namibia's green hydrogen sector

Global Gateway Forum

Namibia missed the event where SA, DRC and Angola signed funding deals

SA received €4.7 billion, DRC's funding increased from about €200m in 2022 to a combined €380m, while Angola received commitments of roughly €283.5m.



Over 1,500 green hydrogen projects announced across 70 countries

The Hydrogen Council's Hydrogen Insights 2024 report says 1,572 clean-hydrogen projects have been announced across more than 70 countries, up from just 228 in 2020..



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Namibia misses Global Gateway Forum

Namibia once stood as the symbolic face of Europe's green-hydrogen hopes — now it risks fading from the Global Gateway spotlight



Namibia signed a memorandum of agreement with the EU Commission to establish an EU-Namibia Strategic Partnership in 2022.

Under this MoU, the EU has made available N\$26 billion in loans and grants for the implementation of different infrastructure,

studies and strategic partnership programmes.

Although the MoU has no expiry date, the EU Embassy in Windhoek says there is a roadmap agreed upon to support the implementation of the partnership with activities planned for 2023–2025.

According to the EU Embassy in Windhoek,

given the relevance of the activities under the roadmap, an extension is currently under discussion.

During this year's Global Gateway Forum in Brussels, Namibia did not feature prominently as it did in 2022, when the late President Hage Geingob led a huge



delegation for the EU–Namibia Business Forum.

EU Ambassador to Namibia Ana Batriz Martins said President Netumbo Nandi–Ndaitwah was invited to attend the 2025 Global Gateway Forum during the recent visit of the EU Commissioner for International Partnerships, Jozef Sikela, to Namibia.

"She indicated her interest but delegated the Deputy Prime Minister and Minister of Industries, Mines and Energy Hon. [Natague] Ithete. As he was not able to participate, Namibia was represented at the Forum by MIME Executive Director Moses Pakote," Beatriz Martins said.

Namibia's peers — Angola, the Democratic Republic of the Congo (DRC), Zambia and South Africa — had high-level representation in Brussels, where they all secured major

investment packages.

A tale of diverging trajectories

In 2022, Angola received about €150 million under the Global Gateway's Africa–Europe Investment Package, focused on preparatory studies and logistics planning for the Lobito Corridor.

By 2025, that cooperation had matured into €133.5 million in implementation-phase funding, including €76.5 million announced in January for infrastructure and trade facilitation and €57 million in October for agriculture and vocational training.

In total, Angola's Global Gateway commitments now stand at roughly €283.5 million.

The DRC followed a similar pattern, progressing from about €200 million in 2022 to

The EU has made available N\$26 billion in loans and grants under the 2022 Strategic Partnership MoU — yet much of it remains in early rollout



more than €180 million in 2025, directed toward the Kivu–Kinshasa Green Corridor, electrification projects and sustainable mining governance — a combined €380 million since 2022.

South Africa, meanwhile, vaulted ahead: in March 2025, Brussels unveiled a €4.7 billion Global Gateway package to support its Just Energy Transition, digital connectivity and vaccine manufacturing.

Together, these developments cemented Angola, the DRC and South Africa as core

pillars of the EU's Africa portfolio — while Namibia, once the symbolic face of Europe's green-hydrogen hopes, receded into silence.

Nothing for Namibia this round

Beatriz Martins said Namibia's 2022 MoU with the EU was a roadmap, not specifically on projects, of which several were indeed identified under six pillars.

She said the six pillars included value chain integration and business facilitation; ESG cooperation and mobilisation of funding; capacity building, training, and skilled development; cooperation on research; and development and regulatory development.

"Targeted projects are at various stages of maturity and development," she said.

In November 2023, the European Investment Bank announced a €500 million financing window to support Namibia's green-hydrogen value chain.

The fund was designed to provide loans, guarantees and technical assistance for renewable generation, desalination and hydrogen infrastructure. Yet by mid-2025, only €50 million had been allocated to feasibility work for Hyphen Hydrogen Energy and Cleanergy Solutions Namibia.

The EIB's 2024 annual report still lists Namibia's hydrogen sector as "pipeline."

Another project, the EU-Namibia Vocational Skills and Green Jobs Initiative, launched in March 2024 with €25 million, supports technical training and employment in renewable-energy sectors.

It is jointly funded by the EU Commission (€15 million) and Germany's GIZ (€10 million) and implemented through the Namibia Training Authority and NUST's Hydrogen Campus in Walvis Bay.

The EU also financed a €7 million feasibility study for the Port of Walvis Bay in 2023, assessing berthing, storage and ammonia-export readiness. Its findings, published in 2024, guided Walvis Bay's designation as a hydrogen-export node.

In addition, a €20 million Renewable-Energy and Grid Integration Programme, jointly run by the EU-Africa Infrastructure Trust Fund and Germany's KfW, is to improve NamPower's solar-battery and grid-stabilisation capacity between 2023 and 2025.

These projects amount to roughly €552 million in

identifiable commitments associated with Global Gateway or Team Europe funding.

However, the majority remains either preparatory or in early rollout, with no consolidated investment package comparable to those of Angola or the DRC.

A missed Brussels moment

The way forward

Policy analysts say the next six months are decisive.

Namibia can still revive its partnership by renewing the 2022 MoU, appointing a new Green Hydrogen Commissioner, and fast-tracking feasibility projects to the bankable stage.

EU Commission officials have confirmed that a second Global Gateway review mission is planned

for early 2026; if Namibia demonstrates progress by then, it could regain access to unallocated Team Europe funds.

Equally crucial will be rebuilding investor confidence after several setbacks — including the postponed HyRail project between TransNamib and Cleanergy Solutions, originally scheduled to launch in April 2024 and now indefinitely delayed. That initiative, meant to be Namibia's first hydrogen-powered rail demonstration, was handed to Cleanergy but never reached the commissioning stage.

Namibia remains part of the Global Gateway framework, but without a renewed agreement or new headline funding, it faces challenges.

Its peers have turned early pilot projects into multi-billion-euro partnerships; Namibia's progress, by contrast,

Over its first eleven years, Langer Heinrich produced more than 43 million pounds of uranium oxide, generating between US\$2.4 billion and US\$2.6 billion in export revenue for Namibia.

BB

has been slowed by institutional drift.

Yet the opportunity still exists.

The EU continues to view Namibia as a crucial node in its sustainable raw materials and green hydrogen strategy. Re-engagement — with clear leadership, technical preparation and political follow-through — could still restore Namibia's place at the centre of Europe's green-industrialisation map.

DRC gets €180m from EU to strengthen ties

The European Union has announced €180 million in new investments to support the Democratic Republic of Congo (DRC) through its Global Gateway strategy, deepening economic cooperation and bolstering regional peace, integration, and sustainability.

The announcement was made during the 2025 Global Gateway Forum in Brussels, where European Commission President Ursula von der Leyen met with President Félix-Antoine Tshisekedi Tshilombo.

Their discussions reaffirmed the EU's recognition of the DRC

as a key partner in Africa's green and digital transitions and a central actor in advancing global sustainability.

"The DRC holds enormous potential for Africa's green industrialisation," von der Leyen said after the meeting. "Our cooperation aims to unlock that potential—creating jobs, protecting biodiversity, and ensuring that natural resources become engines for sustainable development."

Under this new partnership package, the EU and its Team Europe partners will channel funds into energy, transport, biodiversity, and critical raw materials—all aligned with the DRC's national development and regional integration goals.



A total of €60.5 million will fund the Kivu–Kinshasa Green Corridor. This initiative combines nature conservation, infrastructure development, and green-economy growth in one of the DRC’s most ecologically sensitive and economically vital regions.

Another €16 million will support the Lobito Corridor, strengthening agricultural value chains and boosting transboundary trade between the DRC, Angola, and Zambia.

A €20 million grant will help electrify the city of Kisangani, unlocking an additional €70 million in concessional loans from the French Development Agency (AFD) to improve urban energy access.

A further €13.8 million will advance sustainable mining and critical-raw-materials governance, including €2 million for the Cobalt4Development programme and €11.8 million to strengthen the Ministry of Mines and promote traceable, ethical value chains.

The European Union has announced €180 million in new investments to support the Democratic Republic of Congo through its Global Gateway strategy.



Collectively, these initiatives reflect the EU’s long-term vision to align economic growth with peacebuilding and environmental stewardship in the DRC and Central Africa.

The investments are designed to improve living conditions, create local jobs, and reduce the country’s dependence on raw resource exports by fostering value addition and industrial diversification.

President Tshisekedi welcomed the EU’s support, saying the partnership “marks a new era for the DRC — one where development and peace go hand in hand, and where our natural wealth becomes

a source of dignity and opportunity for all Congolese.”

The EU–DRC cooperation falls under Global Gateway, the EU’s global investment framework that aims to mobilise up to €300 billion worldwide by 2027 for clean, digital, and resilient infrastructure.

Through this initiative, Europe seeks to foster equal, transparent partnerships with African countries, prioritising sustainability over dependency.

The DRC projects are among the most comprehensive Global Gateway investments in Central Africa to date, connecting local economic transformation with global climate goals and regional stability.

As von der Leyen summed it up: “The future we are building with the DRC is one of partnership, resilience, and shared prosperity — a future powered by clean energy, sustainable trade, and peace.”

EU Commits €133.5m to boost Lobito Corridor

The European Union has pledged €133.5 million in grants to support Angola's economic diversification and infrastructure development, with a strong focus on the Lobito Corridor—a strategic trade route linking Angola to the Democratic Republic of

Congo and Zambia.

Announced through the Global Gateway strategy, this year's commitments include €57 million in new grants and an earlier package of €76.5 million unveiled in January 2025.

The funds will help strengthen agricultural value chains, logistics, and trade efficiency along the corridor,

reinforcing Angola's ambitions to become a regional transport and export hub.

At the 2025 Global Gateway Forum, European Commission President Ursula von der Leyen met with Angolan President João Lourenço, reaffirming Europe's long-term commitment to Angola's sustainable



growth, job creation, and regional integration.

The talks also underscored Angola's growing diplomatic influence as chair of the African Union and upcoming host of the EU–AU Summit in Luanda.

Under the initiative, €50 million will go toward improving agricultural production and market access, particularly for smallholder farmers, while an additional €8 million—including €7 million from the EU and €1 million from the Netherlands—will fund the “From Transport to Trade: Lobito Corridor Catalyst” project. This will establish the Caala Logistics Platform, a modern facility designed

■ ————— ■

The Angola package stands among the most significant European investments in southern Africa under Global Gateway.

■ ————— ■

to streamline storage, handling, and transport along the railway corridor.

These investments form part of a wider €2 billion Team Europe package for the Lobito Corridor across Angola, Zambia, and the DRC, positioning the route as a key driver of intra-African trade and regional industrialisation.

President Lourenço welcomed the EU's support, calling the corridor “a bridge between nations and a pathway to shared prosperity.”

Through Global Gateway, the EU aims to mobilise up to €300 billion in sustainable investments worldwide by 2027, focusing on clean transport, digital infrastructure, and renewable energy.

The Angola package marks one of the most significant European investments in southern Africa under the initiative, reflecting a deepening partnership centred on sustainable growth and mutual benefit.

Defining moment for Namibia's green hydrogen sector

Namibia's bold green hydrogen experiment, once hailed as Africa's model for clean industrialisation, has entered a defining moment.

Within weeks, three developments have shaken the foundations of the country's flagship renewable-energy drive — the resignation of James Mnyupe, the withdrawal of RWE from its offtake talks with Hyphen Hydrogen Energy, and the Ohlthaver & List Group's sale of its 51 per cent shareholding in Cleanergy Solutions Namibia.

Each event tells a different part of the story: a young industry navigating the tension between ambition and execution.



James Mnyupe was the face and voice of Namibia's green hydrogen dream for five years. As Economic Adviser to the late President Hage G. Geingob and Green Hydrogen Commissioner, he shaped the country's policy direction, investor engagement and international partnerships.

His departure marks the end of an era in which



one individual bridged the worlds of policy, finance and diplomacy to give the hydrogen vision a coherent identity.

In his farewell note, Mnyupe called it "the highest honour of my professional journey," expressing pride in helping to "diversify the economy, create meaningful employment and position Namibia as a global player in the emerging green

industrialisation space.”

He will join Thyssenkrupp Uhde as Senior Vice-President for Sub-Saharan Africa, where he plans to establish a regional base that could still serve Namibia’s ambitions. Yet his exit leaves a clear vacuum in leadership and institutional continuity at a critical time — as Namibia shifts from policy frameworks to project delivery.

On 29 September 2025, German power utility RWE confirmed that it had withdrawn from Namibia’s US\$10 billion Hyphen Hydrogen Energy project, once seen as the country’s breakthrough in securing a European export foothold.

In 2022, RWE had

**Three developments
have shaken the
foundations of
Namibia’s flagship
renewable-energy
drive.**



signed a non-binding memorandum of understanding to take up to 300,000 tonnes of green ammonia per year from 2027, a deal widely reported as Hyphen’s earliest commercial success.

However, with the hydrogen demand in Europe developing more slowly than expected, RWE reassessed its global portfolio.

“We can confirm that RWE is currently not pursuing any further

projects in Namibia,” the company said, adding that it had reviewed its hydrogen pipeline and “included the project with Hyphen in Namibia.”

Hyphen spokesman Ricardo Goagoseb clarified that RWE had never made a binding commitment. Still, the exit erases a symbolic milestone that had given investors confidence in the project’s export viability.

The decision also followed months of international scrutiny over the project’s location in Tsau Khaeb National Park.

Nama traditional leaders and European rights groups argued that ancestral land rights had been overlooked.

RWE denied any link between the complaints

and its decision, but the episode exposed the social sensitivities accompanying large-scale energy projects in Namibia's conservation zones.

The third significant development came in October 2025, when the Ohlthaver & List Group of Companies (O&L) announced it would sell its 51 per cent stake in Cleanergy Solutions Namibia to H&I Infra NV, a subsidiary of Belgium's CMB.TECH.

The deal, awaiting clearance from the Namibian Competition Commission, transfers full ownership of Cleanergy to its European partner.

For O&L, one of Namibia's oldest conglomerates, the

Cleanergy venture had marked a historic entry into the country's green hydrogen space.

The joint venture developed Namibia's first public hydrogen refuelling station in Walvis Bay and was expected to pioneer hydrogen-powered locomotives under the HyRail project with TransNamib.

The HyRail initiative was launched in partnership with CMB. TECH was announced in 2023 as Africa's first hydrogen-powered rail pilot, intended to convert a series of diesel locomotives to dual-fuel engines using locally produced hydrogen.

The project was initially scheduled to commence in April 2024, but it was

His departure marks the end of an era in which one individual bridged policy, finance and diplomacy.



postponed to April 2025 due to supply-chain and financing delays.

It was eventually handed over to Cleanergy Solutions Namibia to drive forward. However, like several other pilot projects in the sector, HyRail stalled before implementation, leaving TransNamib still reliant on traditional diesel traction.

"As O&L, we are immensely proud of our role in co-founding

Cleanergy and laying the cornerstone of Namibia's green hydrogen future," said Executive Chairman Sven Thieme.

"This milestone reflects our purpose of creating a future where we enhance life and our commitment to pioneering industries that empower Namibia's economy."

CMB.TECH said it remained committed to the partnership's original goals, with a focus now shifting to ammonia production, storage, berthing and pipeline development.

The transition effectively turns Cleanergy into a wholly foreign-owned entity, highlighting both the scale of capital required and the limited domestic capacity to

sustain it.

The convergence of these three events has sent ripples through Namibia's energy and investment community.

Mnyupe's resignation removes the architect who personified the vision and carried political and investor confidence across continents.

RWE's withdrawal underscores the fragility of early hydrogen markets and the need for bankable offtakers before large-scale construction can begin. O&L's exit, and the quiet fading of the HyRail project, show how domestic firms face structural and financial constraints in sustaining participation once international partners

take control of significant assets.

Yet, these shifts do not signal collapse — instead, a transition from enthusiasm to realism. Namibia's hydrogen roadmap remains one of the most advanced on the continent, with policy alignment, permitting systems and foreign partnerships already in place.

The challenge now lies in converting policy into production — building infrastructure, securing long-term offtake contracts, and ensuring that communities share in the benefits of industrialisation.

Over 1,500 green hydrogen projects announced across 70 countries

The Hydrogen Council's Hydrogen Insights 2024 report says 1,572 clean-hydrogen projects have been announced across more than 70 countries, up from just 228 in 2020.

These projects represent over half a terawatt of planned electrolyser capacity valued at around US\$680 billion, though only US\$75 billion has

These projects represent over half a terawatt of planned electrolyser capacity valued at around US\$680 billion.

reached final investment decision (FID).

However, the number of projects that have reached FID or entered operation remains limited.

Flagship plants in Saudi Arabia, China, the United

States, and Europe are leading construction, while emerging projects in Namibia and Chile signal geographic diversification.

Cancellations in Australia and delays



across Europe illustrate that cost, infrastructure, and offtake remain key hurdles.

The confirmed projects now advancing mark the world's first wave of industrial-scale green-hydrogen production — setting the foundation for what could become a global clean-energy commodity trade in the next decade.

The International Energy Agency (IEA) reports that total installed electrolyser capacity for dedicated hydrogen production reached about 1.4 GW by 2023 and could rise to 5 GW by 2024.

The announced capacity to 2030 is approaching 520 GW, though less than 4% of this has been entered into construction.

The flagship projects

Among the most advanced developments is the NEOM Green Hydrogen Project in Saudi Arabia's Tabuk region. Backed by Air Products, ACWA Power, and the Saudi state-owned NEOM company, the facility will use about 4 GW of wind and solar power to run 2.2 GW of electrolysers, producing roughly 600

tonnes of hydrogen daily. It reached financial close in May 2023 and is now under construction, with first output expected in 2026 or 2027.

In China, the world's largest electrolyser market, state-owned Sinopec commissioned the Kuqa Green Hydrogen Plant in Xinjiang in 2023.

The project uses 260 MW of electrolysers powered by renewable electricity, producing industrial hydrogen for refinery use.

Despite early technical challenges, it remains the largest operational green-hydrogen facility worldwide and anchors China's broader plan to exceed 100 GW of electrolyser capacity by 2030.

In the United States, ACES Delta in Delta, Utah, represents one of the most ambitious hydrogen-storage projects globally. The complex, developed by Mitsubishi Power, Chevron, and Magnum Development, combines 220 MW of electrolysers with underground salt-cavern storage exceeding 300 GWh. It reached FID in 2022 and is now

Europe hosts more than 400 announced hydrogen projects — led by Germany, Spain, France, and the Netherlands.



under construction, with partial operations due mid-decade.

Europe's most visible project is Holland Hydrogen I in Rotterdam. Owned by Shell, it will operate 200 MW of electrolysers to produce around 60 tonnes of hydrogen per day.

Construction began after FID in 2022, and the facility is designed to supply the company's Pernis refinery and heavy-transport customers via a new pipeline network.

Another major European scheme is Normand'Hy in Port-Jérôme, Normandy, led by Air Liquide with support from TotalEnergies.

The first phase includes at least 200 MW of electrolysers feeding the local industry. The project

has advanced through permitting and financing and is expected to move to FID by 2026.

In Spain, Iberdrola's Puertollano Hydrogen Plant — paired with a 100 MW solar farm and 20 MWh battery system — has already entered operation. It uses a 20 MW electrolyser to supply green ammonia production by Fertiberia, marking Europe's largest operating industrial hydrogen site.

Farther south, Chile's Haru Oni pilot plant in Punta Arenas — developed by HIF Global with Siemens Energy — operates on a smaller scale, using a 1.2 MW electrolyser powered by wind to produce e-methanol and synthetic gasoline. The pilot aims to scale into commercial e-fuel exports later in the decade.

Namibia's Hyphen project

Namibia's Hyphen Hydrogen Energy project in southern

Namibia's Hyphen Hydrogen Energy project stands among Africa's most ambitious renewable-hydrogen ventures.



Africa remains one of the continent's most ambitious renewable-hydrogen ventures. The planned development, located in the Tsau Khaeb National Park near Lüderitz, covers up to 4,000 km² of desert land leased from the Namibian government.

The developers — a joint venture between Germany's Enertrag and Nicholas Holdings of the United Kingdom — plan to build multi-gigawatt solar and wind generation to produce hydrogen for export as ammonia.

Hyphen was awarded its concession in 2021 and continues environmental

and engineering studies ahead of FID.

In 2025, German utility RWE withdrew from its non-binding offtake memorandum, citing slower European market growth, but project sponsors said negotiations with other buyers are ongoing.

The Namibian government expects construction to begin later in the decade, potentially creating thousands of temporary jobs and hundreds of permanent positions.

Project scale and geography

The largest concentration of green-hydrogen projects is in Asia and the Middle East, followed by Europe, North America, and Latin America. China accounts for roughly half of global installed electrolyser capacity, while the European Union hosts more than 400 announced projects, mainly in Germany,

Spain, France, and the Netherlands. The United States lists about 76 planned projects over the next five years, representing USD 36 billion in capital commitments.

Other emerging clusters include Australia's coastal industrial zones, North Africa's export corridors, and the southern cone of South America, where abundant wind resources offer low-cost electricity for hydrogen production.

Failures and withdrawals

The rapid expansion has also brought a series of cancellations and delays. In Australia, Trafigura shelved its Port Pirie Hydrogen Project in South Australia in March 2025 after feasibility studies found cost overruns. The proposed AUD 471 million plant was to supply hydrogen for lead-smelting operations, but failed to secure commercial offtake.

Covering 4,000 km² of desert in Tsau Khaeb National Park, Hyphen could transform southern Namibia into a green-energy hub.



Also in South Australia, the state-backed Whyalla Hydrogen Power Project — part of the region's "green steel" initiative — was cancelled in 2025 after the associated steelworks collapsed. The Auditor-General's report cited significant sunk costs and contractual liabilities.

In Namibia, withdrawing RWE from Hyphen's prospective offtake agreement was another setback, though the project remains active.

Across Europe and North America, several early pilot projects have also been delayed

or downsized due to equipment shortages and slow permitting. Data from Hydrogen Europe's Clean Hydrogen Monitor (2024) shows that only about 4% of announced capacity is currently under construction across the continent.

The operational picture

As of late 2025, only a small fraction of the world's green-hydrogen projects are operational. Fully functioning sites include Sinopec's Kuqa plant in China, Iberdrola's Puertollano facility in Spain, and HIF Global's Haru Oni pilot in Chile. Projects under active construction with secured financing include NEOM Green Hydrogen in Saudi Arabia, Shell's Holland Hydrogen I in the Netherlands, and ACES Delta in the United States.

Advanced projects awaiting FID include Air Liquide's Normand'Hy in France and Hyphen Hydrogen Energy in Namibia.

Green hydrogen entering complex phase

The global green hydrogen revolution — once heralded as the definitive pathway to deep decarbonisation — is now entering a more complex phase.

Over the past year, across Europe, Africa, Asia, Australia, the United States and the United Kingdom, the story has become one of mixed fortunes: large-scale announcements,

pilot breakthroughs, costly delays and major withdrawals.

Europe continues to drive the policy and infrastructure agenda, yet momentum has slowed.

The International Energy Agency's Global Hydrogen Review 2025 shows global hydrogen demand rising to nearly 100 million tonnes in 2024, but low-emission hydrogen accounting for

less than 1 per cent.

Since 2020, more than 200 low-carbon projects have reached final investment decisions, but nearly half of the latest European Hydrogen Bank awardees have postponed or cancelled implementation.

While countries such as Germany, the Netherlands and Spain are expanding electrolyser capacity,



project developers struggle with high capital costs, uncertain offtake and supply-chain inflation. Europe remains a frontrunner in ambition — yet the economics are biting hard.

The UK's early success

The UK has taken concrete steps, with ten commercial-scale green-hydrogen projects signing contracts and the first real-world trial injecting hydrogen into the national gas network completed in October 2025.

Regulatory reforms are underway to speed up permitting and introduce more evident emissions caps for hydrogen facilities.

However, industrial decarbonisation projects like the conversion of Scunthorpe steelworks face uncertain supply and price structures.

Britain's hydrogen

ambitions are alive — but scaling from pilot to profit remains the next great test.

US expansion and retrenchment

Across the Atlantic, the US has seen both record investment and notable retreat. The Department of Energy's Hydrogen Program Plan (2025 update) supports 52 projects in 24 states, and Plug Power secured a US\$1.66 billion federal loan guarantee to build six hydrogen plants beginning in Texas.

Yet, Washington is simultaneously reassessing parts of its US\$7 billion hydrogen-hub programme, considering funding cuts to four of the seven designated hubs.

European firm thyssenkrupp Nucera also pulled out several US projects in August 2025, citing tighter financing

Washington is reconsidering parts of its US\$7 billion hydrogen-hub programme — a signal of shifting priorities.



conditions and legislative uncertainty. The US, therefore, embodies both the promise of scale and the risk of policy fatigue.

Big ambitions, harsh realities

In Australia, enthusiasm has collided with economic gravity. The A\$50 billion Australian Renewable Energy Hub lost BP as a partner in mid-2025, and the US\$15 billion Desert Bloom hydrogen project in the Northern Territory was shelved earlier this year.

Nonetheless, new ventures persist in Asia: India's Andhra Pradesh announced a US\$1.3 billion hydrogen-and-ammonia facility, and Japan and South Korea continue to invest heavily in electrolyser development and hydrogen shipping technology.

Asia's governments are betting on scale to reduce costs — but private capital remains cautious.

Early hope, uneven execution

Africa's hydrogen landscape reflects both its potential and fragility. In North

■ ————— ■
Saudi Arabia's NEOM project — the world's largest planned hydrogen hub — remains on track, but at a cost exceeding US\$8.5 billion.
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■ ————— ■ **66** ■ ————— ■
Africa, TotalEnergies and VERBUND's H₂ Notos project in Tunisia targets 200,000 tonnes per year, eventually scaling to 1 million. In Namibia, Hyphen Hydrogen Energy's flagship project suffered a blow when Germany's RWE withdrew from its planned offtake

agreement in late 2025, citing slow demand growth in Europe.

Namibia also saw structural shifts, including Green Hydrogen Commissioner James Mnyupe's resignation and O&L's sale of its 51% stake in Cleanergy Solutions to CMB.TECH, and the stalled HyRail pilot with TransNamib underscored the sector's growing pains.

Mauritania, Egypt and South Africa continue to court European and Middle Eastern investors elsewhere on the continent, but most projects remain in pre-feasibility stages.

Saudi Arabia's NEOM project in the Middle East — the world's largest planned hydrogen hub — remains on track for 2026 commissioning, though costs have exceeded US\$8.5 billion. Oman and the UAE also pursue export-oriented hydrogen-ammonia ventures targeting Asian and European markets.

The global picture

Over 1,000 low-emissions hydrogen projects have been announced worldwide, but fewer than 15 per cent have achieved financing or construction status. Investors increasingly cite volatile

electricity costs, policy inconsistency, and uncertain demand as the main barriers.

Still, momentum persists. In Europe and Asia, new offtake frameworks and subsidy schemes are emerging; in the US, hydrogen tax credits remain central to the Inflation Reduction Act; and across Africa, the EU's Global Gateway initiative continues to position hydrogen as a pillar of its partnership agenda — though Namibia's MoU under the programme has yet to be renewed.

A promise under review

The hydrogen economy

stands at a crossroads from Windhoek to Washington, Sydney to Stuttgart. The last 12 months have shown that ambition alone cannot power electrolyzers — financing, infrastructure and market demand must converge.

Still, green hydrogen remains one of the most compelling bets for deep decarbonisation, with each setback reshaping a more pragmatic and resilient global strategy.

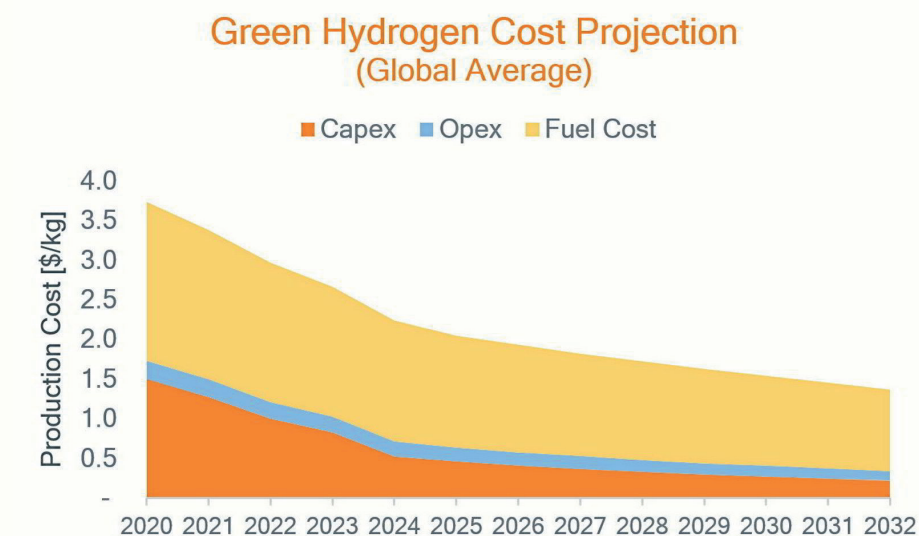
The dream endures — but it is learning, fast, that the road to a hydrogen future runs not just on sunshine and wind, but on patience, policy and proof of concept.

Rising green hydrogen costs killing projects

The past year has marked a turning point for the global green hydrogen sector, as escalating costs, weak demand, and uncertain policy frameworks have forced many flagship projects into delay or outright cancellation. Once heralded as the cornerstone of the global energy transition, the industry is now learning that producing and moving hydrogen at scale remains far more expensive than initially imagined.

According to the International Energy Agency's Global Hydrogen Review 2025, electricity accounts for between 50 and 60 per cent of the total cost of producing hydrogen from electrolysis.

When renewable power prices surge, project



economics collapse.

The IEA estimates the levelised cost of green hydrogen (LCOH) has risen between 25 and 40 per cent since 2022, driven by inflation, supply chain shortages, and higher interest rates.

BloombergNEF places global production costs at US\$3.7 to US\$11.7 per kilogram, depending on renewable power prices, electrolyser efficiency and financing conditions.

Transporting hydrogen adds another layer of cost and complexity.

The IEA notes that pipelines remain the cheapest option for short to medium distances—typically under 2,500 kilometres—but most export projects depend on shipping hydrogen as ammonia or a liquid organic carrier.

Converting hydrogen into ammonia and then back again

can add as much as US\$1.9 to US\$2.5 per kilogram to delivered costs, according to IEA estimates.

Port handling and storage can push that even higher, making long-distance exports uncompetitive without subsidies.

Several high-profile projects have already buckled under these pressures. In Australia, the A\$50 billion Australian Renewable Energy Hub (AREH) lost BP as a partner in mid-2025 after cost estimates soared and offtake agreements failed to materialise.

The A\$15 billion Desert Bloom Hydrogen project in the Northern Territory has been shelved indefinitely, while the Whyalla state hydrogen power project was

cancelled after auditors revealed that more than A\$285 million had been spent without achieving construction.

Reuters reported that Trafigura's A\$750 million Port Pirie electrolyser was also abandoned earlier this year, part of a "global retreat" from overly ambitious green hydrogen projects.

Namibia has felt similar tremors.

In September 2025, German energy utility RWE withdrew from its non-binding offtake agreement with Hyphen Hydrogen Energy, citing slower-than-expected European demand for hydrogen and ammonia.

The company had initially planned to buy 300,000 tonnes of green ammonia per year from Hyphen's US\$10 billion

Once heralded as the cornerstone of the global energy transition, the industry is now learning that scale comes at a steep cost.



project.

According to RWE's statement, the decision came after a "review of relevant projects" as the European hydrogen derivatives market developed more slowly than forecast.

Policy uncertainty has compounded financial strain

In Europe, the EU Hydrogen Bank's inaugural auction 2024 drew strong bids, but half

the shortlisted developers have since postponed final investment decisions because of cost inflation and certification delays.

In the United States, the Department of Energy is reassessing funding for several of the seven regional hydrogen hubs announced under its US\$7 billion clean hydrogen programme.

European technology supplier thyssenkrupp Nucera withdrew from multiple US projects in August 2025, citing “a changed legislative and financing environment.”

Community and regulatory resistance have also emerged as new cost factors.

In Namibia, traditional leaders protested the Hyphen project’s location inside Tsau Khaeb National Park, claiming it overlapped

ancestral Nama lands. Although RWE denied a link between these complaints and its withdrawal, the controversy illustrated how environmental and social opposition can complicate permitting and delay investment.

Similar tensions have appeared in Kenya and Morocco, where community consent and water scarcity are becoming decisive for investors.

Underlying these problems is a fundamental economic reality. Green hydrogen’s dependence on cheap renewable electricity makes it vulnerable to market swings.

When power prices rise, hydrogen becomes uncompetitive against fossil-based alternatives. BloombergNEF estimates that electricity alone can

Electricity accounts for between 50 and 60 per cent of the total cost of producing hydrogen from electrolyzers



account for as much as 70 per cent of hydrogen production costs.

Industrial buyers in steel, fertiliser and transport remain unwilling to commit to long-term purchase contracts when the green premium doubles or triples the cost of grey hydrogen.

Financing institutions have responded by tightening lending standards. The IEA says higher interest rates and policy uncertainty have

forced banks to demand stronger guarantees before releasing funds. In effect, developers are trapped between reluctant buyers and cautious lenders.

There are, however, isolated bright spots. In Germany, developers behind the Lubmin floating ammonia terminal claim they could deliver hydrogen between US\$3 and US\$3.50 per kilogram by 2027, assuming lower renewable prices and efficient conversion. Japan and South Korea continue to subsidise import terminals and ammonia co-firing in thermal power plants, while the United States retains some of the world's most generous hydrogen tax credits—up to US\$3 per kilogram under the Inflation Reduction Act.

Still, the sector's fundamentals remain strained. For current inputs, production costs of around US\$4 to US\$7 per kilogram must be combined with an additional US\$2 per kilogram for conversion and shipping.

Delivered hydrogen could cost US\$6 to US\$9 per kilogram in Europe or Asia, far above grey hydrogen's average of about US\$1.50 per kilogram.

Most export-oriented projects will stay in limbo without new policy incentives, such as guaranteed price floors or carbon border adjustments.

The IEA's 2025 data show that more than a thousand low-carbon hydrogen projects have been announced globally, but fewer than 15 per cent have reached

RWE's withdrawal from Namibia's Hyphen project sent fresh tremors through Africa's hydrogen ambitions

financing or construction.

The gap between aspiration and reality remains wide. Hydrogen will still play a role in decarbonising heavy industry and transport, but for now, the green hydrogen revolution is confronting its most expensive truth: clean molecules cannot travel the world without cheap power, clear laws, and political will to absorb the cost.



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