REPORT SERIES | CLEAN HYDROGEN PROJECTS IN THE GLOBAL SOUTH

Clean hydrogen as a catalyst for development

Re-defining Africa's role in a changing geopolitical context

Report launch event

December 2025

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Agenda

1. The geopolitics of clean hydrogen: Africa's strategic crossroads
2. The pivotal role of clean hydrogen in Africa's future
3. Global actors in clean hydrogen
4. Recommendations

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The geopolitics of clean hydrogen

The geopolitics of clean hydrogen: Africa's strategic crossroads
Navigating the investment gap in a polarized global energy market (I)

Geopolitical forces

The Shifting Dynamics:

The energy transition has evolved from a technological shift into a geopolitical competition driven by protectionism and security.

Global dynamics

- **Geopolitical rivalry:** Global cooperation is straining under mounting international tensions.
- **Energy security:** Energy access is being politicized; security increasingly trumps pure economics
- **Economic protectionism:** Nations are prioritizing "Strategic Autonomy" and resilience in view of rising import tariffs and heightened supply chain risks

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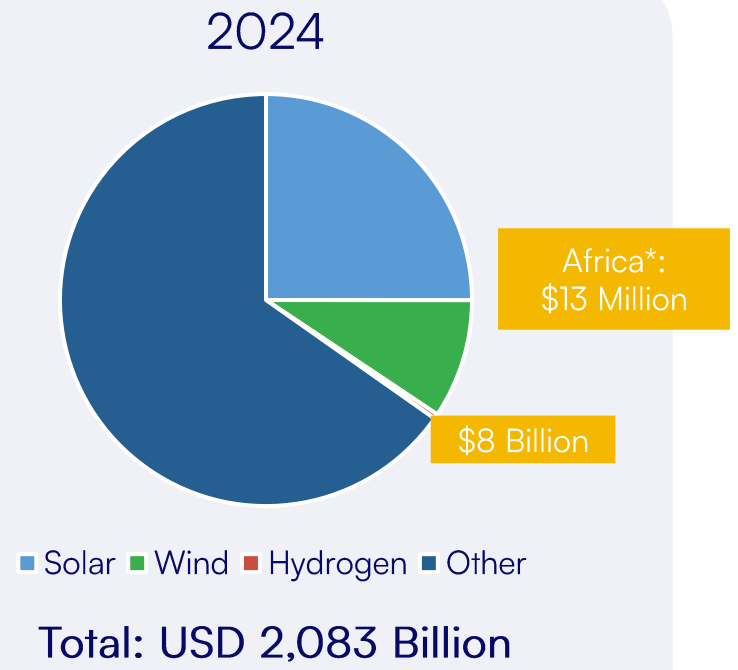
The geopolitics of clean hydrogen: Africa's strategic crossroads
Navigating the investment gap in a polarized global energy market (II)

Investment paradox

The Disconnect: Africa holds world-class solar and wind resources and proximity to key markets, yet capital is not flowing.

The Data:

- **Investment:** USD **8 billion** globally
  - Only **USD 13 million** in Africa.
- **Project Pipeline: 1,400+** projects globally
  - Only **25** announced in Africa.
- **Execution Reality:** As of 2025, only **5** African projects have reached FID



To close the investment gap, Africa cannot just rely on 'good sun and wind.' It must understand the geopolitical forces to unlock the partnerships and capital required for bankability

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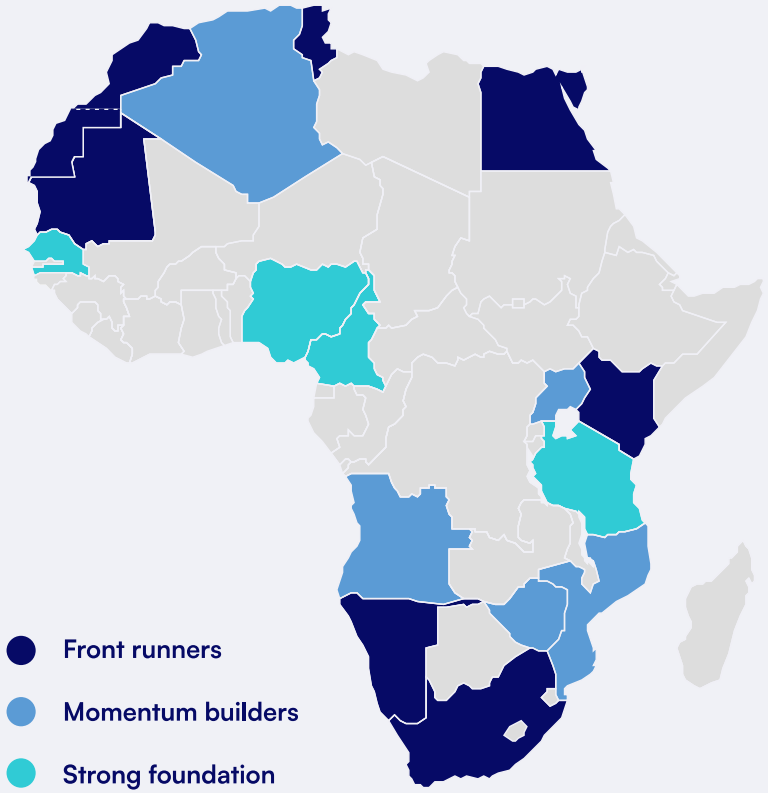
The pivotal role of clean hydrogen in Africa's future

Africa is not a monolith: Three tiers of hydrogen readiness

Clustering 15 high-potential nations using H2Global's 5-dimensional framework



High rating

Medium rating

Low rating

	H_2O & RE potential	Green hydrogen commitment	Domestic anchor demand	Country risk	Export infrastructure
Front runners	★ ✓	★	★	★ ✓ ✗	★ ✗
Momentum builders	★ ✓	✓	★	★ ✓ ✗	★ ✗
Strong foundation	✓	✗	★	★ ✓	★ ✗

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Maximizing value: A balanced dual strategy
Combining Africa's export ambitions with domestic industrialization (I)

Domestic anchor demand

- **Goal:** Increase project bankability and build economic resilience.
- **Driver:** Local industries (fertilizer, steel/mining) provide a stable "base load" demand, reducing reliance on volatile international markets, spur green industrialization and support job creation.

Crude steel

Steel imports are a significant burden for Africa. Hydrogen based DRI/HBI* paves the way for long-term transition to green steel.

Mining

Renewable hydrogen can provide 24/7 energy supply for remote operations and provides long term solution to power conveyor belts and FCEV mining vehicles.

Fertilizer production

Africa is heavily reliant on fertilizer imports. Renewable ammonia can be used to scale up regional fertilizer production improving food security.

*DRI: Direct reduced iron; HBI: Hot briquetted iron

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Maximizing value: A balanced dual strategy
Combining Africa's export ambitions with domestic industrialization (II)

Export development

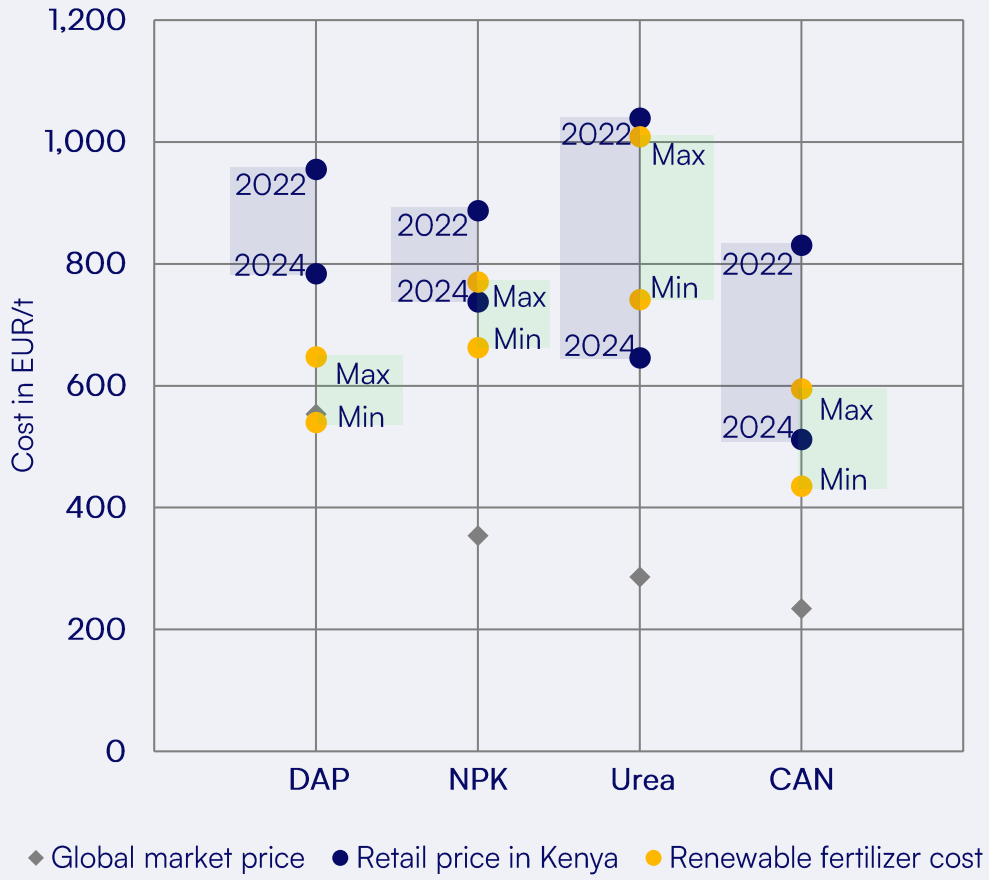
- Drivers:
  - **Foreign Exchange (Forex):** Exports provide the hard currency essential for economic stability and debt repayment in capital-poor regions.
  - **Investability:** Long-term export offtake agreements are the primary tool to attract large-scale Foreign Direct Investment (FDI) for infrastructure.
  - **Scale:** Export markets allow projects to scale beyond what local economies can currently absorb, lowering unit costs for everyone

The Bottom Line: Exports attract the capital; domestic use builds the economy.

Case study: Renewable fertilizer production in Kenya

Opportunities

- Local value creation and economic development.
- Increased independence from global fertilizer markets.
- Industrial decarbonization across key sectors, including fertilizer production, mining operations, and steel manufacturing.
- Enhanced energy infrastructure and improved access to energy.



Kenya's hydrogen strategy

2023 — 2027

- Domestic market development
- Renewable fertilizer production target: 100,000 tons per year

2028 — 2032

- Domestic market growth
- Renewable fertilizer production target: >300,000 tons per year

2032 and beyond

- Domestic and export market growth

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Tapping into Africa's potential: Three strategic enablers*

Development finance institutions

Providing financial support, technical assistance and de-risking investments

Regional cooperation

Demonstrating political leadership, enhancing collective bargaining power with international partners, mobilizing key partnerships

State-owned enterprises

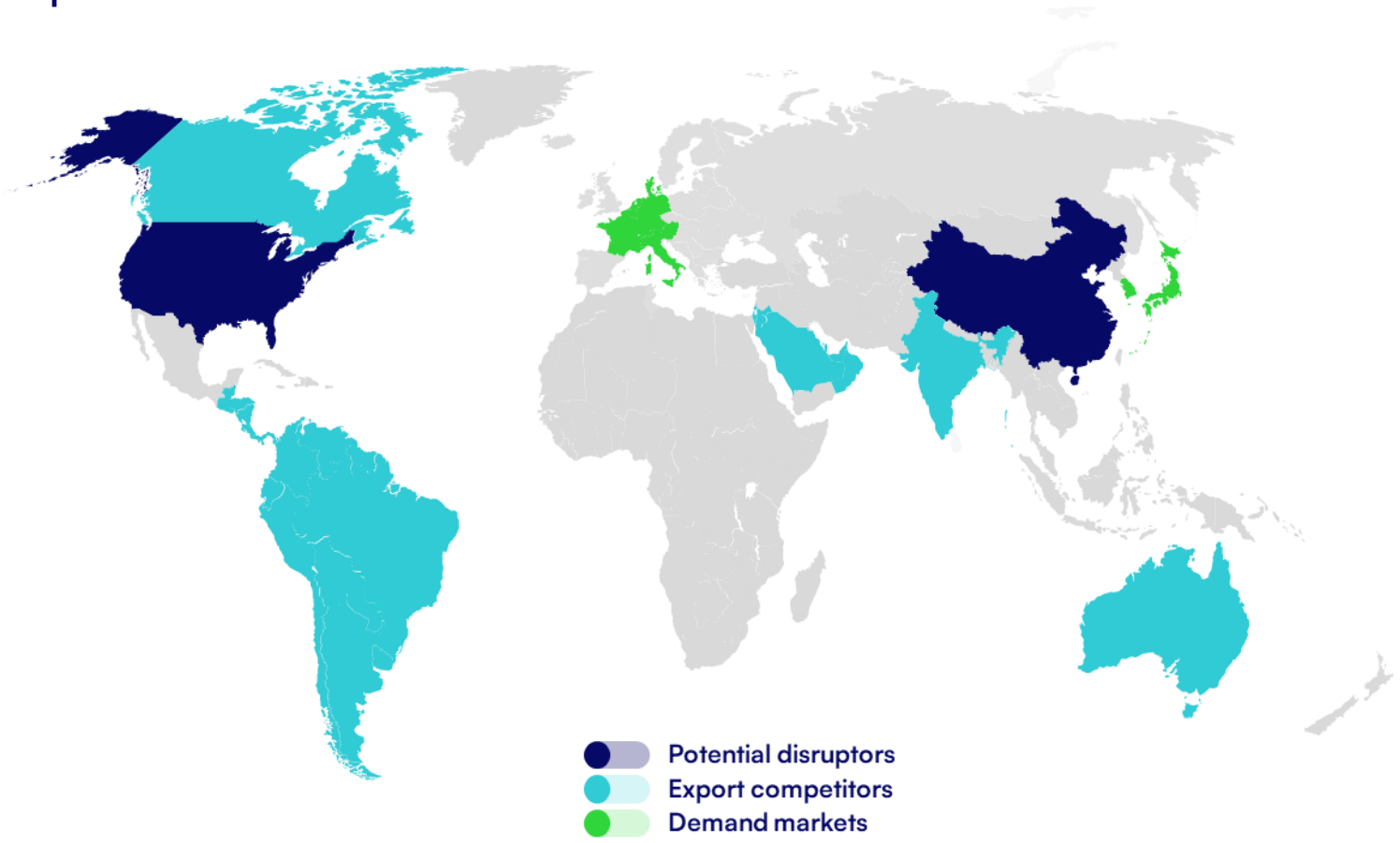
Leveraging proximity to governments and existing infrastructure to de-risk investments

*The institutions displayed are not an exhaustive list, but examples of some key players in each stakeholder group

Global actors in clean hydrogen

Global players in Africa's clean hydrogen landscape
different regions target production, export and imports

Demand and competition as of 2025



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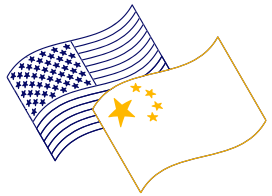
Global clean hydrogen actors through an African lens



Potential disruptors

- **U.S.**: Pullout from clean hydrogen, focus on non-renewable sources of energy could leave a void on the emerging global clean hydrogen market that African countries could fill.
- **China**: Global leader in the ramp-up of clean hydrogen and the production of low-cost electrolyzers, currently with limited export ambitions. African countries could deepen existing relations to attract investment and utilize available low-cost electrolyzer technology. However, China may also emerge as a potential competitor in Asian demand markets.

Export competitors

- **Latin America** and **India** are emerging as strong export competitors, directly challenging Africa's clean hydrogen ambitions, with LAC mobilizing early investment and India positioning itself with low-price renewable ammonia.
- **Canada** and **Australia**, despite being resource giants with significant public funding, are currently facing project cancellations, creating a temporary opening for Africa.
- **The Middle East** presents a complex dynamic, acting as a fierce competitor while simultaneously serving as a key investment partner for Africa.

Demand markets

- **EU, Japan,** and **South Korea** remain core global hydrogen importers.
- These regions seek to diversify their energy supplies, increasing Africa’s strategic relevance.
- Existing policies, partnerships and financial support instruments can accelerate project development in Africa.
- African countries should deepen these partnerships to capitalize on their clean energy resources.

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Recommendations

Recommendations

1. **Leverage the evolving geopolitical landscape**
   Africa should capitalize on the shifting strategies of global players to attract investment and build a competitive clean hydrogen sector.

a) **Fill U.S. funding gap:** Engage investors displaced by the U.S. hydrogen hub cancellations.

b) **Tap China's tech leadership:** Use low-cost electrolyzers and pursue tech transfer while managing future competition.

c) **Attract Middle Eastern capital:** Position Africa as a complementary investment destination and build regional hydrogen markets.

d) **Align with major demand markets:** Deepen cooperation with the EU, Japan, and South Korea; meet standards (RFNBO, CBAM) and leverage mechanisms like H2Global auctions.

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Recommendations

Strengthen intra-African cooperation: Harmonize regulations, coordinate infrastructure, and build regional value chains through platforms like AGHA and SADC to reduce costs and enhance Africa's collective market power.

Prioritize knowledge exchange with emerging exporters: Engage in South—South cooperation with regions like Latin America and India, using DFI initiatives such as the World Bank's H4D to learn from global best practices and improve competitiveness.

Use concessional finance effectively: Direct concessional funds to early project preparation and apply blended finance and CfD mechanisms to de-risk investments and crowd in private capital.

Leverage domestic anchor demand: Develop local hydrogen use in fertilizers, green steel (DRI/HBI), and mining to support industrialization and reduce reliance on export markets.

Invest in local skills: Map required competencies, update training systems, draw from existing energy-sector experience, and ensure women's early inclusion to build a capable and equitable workforce.

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Q&A

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