

New study confirms 1.2 trillion Africa's extraordinary green hydrogen potential

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- European Investment Bank, International Solar Alliance and the African Union unveil study into Africa's green hydrogen potential, with the support of the Government of Mauritania, HyDeal and UCLG Africa
- Analysis highlights benefits of harnessing solar power to create green hydrogen in four African hubs: Mauritania, Morocco, southern Africa and Egypt
- Green hydrogen is economically viable at EUR 2/kg and can accelerate low-carbon economic growth across continent and reduce emissions by 40%
- Africa can secure access to clean and sustainable energy on the continent and become a global energy player through green hydrogen exports

Harnessing Africa's solar energy to produce 50 million tons of green hydrogen a year by 2035 can help secure global energy supply, create jobs, decarbonize heavy industry, enhance global competitiveness and transform access to clean water and sustainable energy. The analysis has been commissioned by the European Investment Bank, the International Solar Alliance and the African Union, with the support of the Government of Mauritania, HyDeal and UCLG Africa,

The 'Africa's Extraordinary Green Hydrogen Potential' report represents the first detailed research of the feasible development of green hydrogen across the continent. The new study combines

analysis of investment opportunities focusing on three hubs: Mauritania - Morocco, southern Africa and Egypt with a roadmap of technical, economic, environmental and financial solutions to unlock commercial development.

“Africa” has the best solar energy in the world and transforming solar power into green hydrogen can strengthen energy security, cut emissions and pollution and decarbonise industry and transport. The European Investment Bank is working with partners across Africa and around the world to harness its renewable energy potential to produce low-cost green hydrogen at scale. The Africa’s Extraordinary Green Hydrogen Potential report shows concrete opportunities to transform access to green energy and clean water across the continent and beyond.” said Abdessalam Ould Mohamed Salah, Minister of Energy of the Republic of Mauritania,

“Africa has the best renewable energy in the world and scaling up production of green hydrogen can transform access to low-cost electricity and clean water. Unlocking Africa’s green hydrogen potential will require close cooperation between public, private and financial partners. The new “Africa’s Extraordinary Green Hydrogen Potential” study outlines what can be achieved and what needs to be done. The European Investment Bank is pleased to work with African and international partners to enable large scale green hydrogen to become a reality.” said Ambroise Fayolle, Vice President of the European Investment Bank.

“Solar photovoltaic technology has provided us with the cheapest electricity. It will cost below \$1 per kg in several African countries by 2030, much lower than the current mass assumption of \$2 and a stark contrast to the \$60-70 paid for an oil barrel. Thanks to this low-cost electricity and decreasing electrolyser costs, the next step is providing access to a clean fuel, cheaper than all the current fossil fuels. It will enable us to decarbonise the power sector and most hard-to-abate sectors - fertilisers, steel manufacturing, and refineries.” said Dr Ajay Mathur, Director General, International Solar Alliance.

“As the global energy and climate crises unfold, mass-scale competitive green hydrogen is ready to provide energy security, affordability and decarbonization. Integrated hydrogen hubs bringing together upstream, midstream and downstream players on the basis of long-term off-take contracts are building powerful business models. Pioneering African countries such as Mauritania are showing the way, proving that Africa can help the world with green hydrogen – ensuring for itself a future of industrial development, fast and clean growth for all” says Thierry Lepercq, President of HyDeal.

The study was previewed at the Mauritania Pavilion at COP 27 in Sharm el Sheikh by Abdessalam Ould Mohamed Salah, Minister of Energy of the Republic of Mauritania, Ambroise Fayolle, Vice President of the European Investment Bank, Dr Ajay Mathur, Director General, International Solar Alliance, Jean-Pierre Elong Mbassi, Secretary General of UCLG Africa and Hakima el Haitia former Minister of Environment of Morocco and Thierry Lepercq, President of HyDeal. Government leaders, ministers, international finance, business partners and civil society from across Africa attended the unveiling event.

The report was formally handed over to partners on December 20th.

Scaling up green hydrogen production to transform access to low-cost energy

The comprehensive analysis carried out in recent weeks by international consultancy CVA suggests that large scale green hydrogen investment can accelerate decarbonisation by enabling large scale African energy users, such as fertilizer and steel producers, to use green hydrogen. The research is enhanced by CVA’s unique strategic partnership with energy partners across Africa, Europe and around the world.

The study highlights that solar powered green hydrogen is economically viable and can be produced at less than EUR 2 per kilogramme, cheaper than traditional fossil fuel energy, and cater both for local energy demand and allow green hydrogen to be exported to global markets. This is equivalent to energy costs of

USD 60 a barrel.

Roadmap for green hydrogen commercialisation across Africa

The research suggests three requirements to enable 50 million tons of green hydrogen to be produced in Africa by 2035:

- National planning, regulation and incentive schemes need to mobilise private sector investment.
- Pilot projects need to show successful green hydrogen generation, storage, distribution and use at both demonstration and commercial scale.
- Market-based partnerships are needed to enable mass-scale domestic and international off-take and demand for green hydrogen, and increase cooperation to design, finance, build and operate green hydrogen production, storage and distribution infrastructure.

EUR 1-trillion green hydrogen investment can deliver the equivalent of more than one third of Africa's current energy consumption, boost GDP, improve clean water supply and empower communities.

The new study outlines how production and transmission of green hydrogen can lead to a EUR 1-trillion investment yielding 7 exajoules of energy (versus a consumption in Africa of 19.9 exajoules in 2021) and a correlative massive increase in GDP, creating hundreds of thousands of permanent and skilled jobs across Africa.

Large scale green hydrogen investment will transform supply of clean water in areas regularly impacted by drought and chronic water shortages and will help empower communities.

Decarbonising Africa's heavy industry

The new analysis estimates that green hydrogen investment could reduce carbon emissions in Africa by 40%, replacing 500 million tons of CO₂ a year.

Enabling Africa to be a global green hydrogen powerhouse

According to the study large scale green hydrogen generation will enable Africa to supply 25 million tons of green hydrogen to global energy markets, equivalent to 15% of current gas used in the European Union.

The new analysis will be followed by in-depth research of local green hydrogen investment potential, regulatory requirements and changing demand in the coming months.

[See the briefing document](#)

Background information

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The International Solar Alliance (ISA) is an alliance of 121 signatory countries based in Gurugram (India) dedicated to fostering the development of solar energy with a specific focus on the developing world, to help address energy security and climate change.

HyDeal is the initiator of HyDeal España, a joint venture between solar development, gas transmission, steel and fertilizer companies, building Europe's largest integrated green hydrogen hub. It is based on market-based off-take contracts of 6.6 million tons of hydrogen over 20 years in Northern Spain, with production starting in 2025. HyDeal is also collaborating with the Government of Mauritania on the development of mass-scale green hydrogen infrastructures.

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