

# Africa: Dreams of Green Hydrogen

Wednesday 3 January 2024, by [GABOR Daniela](#), [SYLLA Ndongo Samba](#) (Date first published: 4 January 2023).

**In place of public-private partnerships, we should revive the Pan-African ambitions of the green developmental state.**

Few remember Cheikh Anta Diop—the renowned Senegalese historian and Pan-African political leader—as an early prophet of climate change. Yet we should. Writing in 1985, as the world debated an oil glut that was pushing prices to historic lows, Diop envisioned a green Pan-African future. “Powered by hydrogen,” he wrote, “a supersonic plane would only dump tons of water into the atmosphere, whereas one powered by kerosene pollutes in three minutes what the Fontainebleau forest takes a day to absorb.” Imagine, Diop invited his audience, “a university and an African government putting in place, in five years, a small solar plant, somewhere close to the sea, that would produce renewable energy to split seawater into hydrogen and oxygen, and then experiment with liquifying, storage, transport, and other pilot projects.” Green hydrogen, he believed, could build on Africa’s abundant renewable resources.

Private investors in African green hydrogen projects threaten yet another (green) commodity trap for countries in the Global South.

Diop hoped that developmental states intent on industrialization would coordinate and ultimately unite politically to create the continent’s green hydrogen revolution. Refusing (neo)colonial tropes of “catching up” Africa, the historian versed in chemistry and physics urged African governments to nurture the local capabilities that would pioneer world-leading green hydrogen technologies and build green industries. He described a future where the continent shared these technologies with the rest of the world, one that broke with centuries of colonial—and then neocolonial—extraction. Diop wanted Africa to export green hydrogen technology rather than hydrogen commodities vulnerable to price volatility and neocolonial extractivism.

Nearly forty years after this first proposal, the technological aspect of Diop’s vision suddenly appears imminent. Take Namibia’s Hyphen project, a \$10 billion green hydrogen megaproject announced in 2021 with a 2026 launch date. A pipeline will deliver desalinated seawater to warehouses where electrolyzers will use renewable energy to split the water into oxygen and hydrogen. Another pipeline will deliver the hydrogen into a chemical plant where it will be transformed into green ammonia—cheaper to transport long-distance than green hydrogen—then liquified and pumped into ships for export. Hyphen will build new wind and solar energy plants to power the ecosystem and direct the 10-15 percent energy surplus, typical in hydrogen projects, to the national grid.

Hyphen is not the only such project in the Global South, though it is among the largest. At the first Green Hydrogen Global Assembly in May 2022, Kenya, South Africa, Namibia, Egypt, Morocco, and Mauritania announced the African Green Hydrogen Alliance, with bold visions of Hydrogen Valleys developed in cooperation, to match India’s and China’s ambitions as green hydrogen powerhouses.

Geopolitical forces have powered the global race for green hydrogen. Take Europe’s decision to put

green hydrogen at the core of its RePowerEU plans to delink from Russian fossil fuels. Europe bets that in a net-zero world, wind and solar will power most activities. Those sectors that cannot be decarbonized with electricity would instead use hydrogen, with an estimated demand of up to 500 million tons per year for cement or steel decarbonization; re-electrification (to stabilize fluctuations in the supply of renewable energies); and easily tradable hydrogen derivatives, such as ammonia, methanol for aviation, and raw iron ore.

By 2050 the EU expects almost a quarter of global energy demand to be met by green hydrogen. RePowerEU aims to locally produce half of Europe's demand—an estimated 20 million tons annually by 2030—and import the other half through green hydrogen partnerships. In response to Europe's decarbonization plans, Big Oil is also embracing green hydrogen. British Petroleum recently announced a \$36 billion Asian Renewable Energy project that could produce 1.6 million tons of green hydrogen. TotalEnergies and India's Adani Group plan a similar joint project. Germany is also pouring massive resources into creating a global market for green hydrogen, including a \$1 billion H2Global project that promotes hydrogen partnerships, particularly on the African continent (already made with [South Africa](#), [Morocco](#), [Niger](#), [Angola](#) and Namibia).

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Diop's technological vision is underway, but he also dreamt of a Pan-African developmental state. Unfortunately, that vision has been impossible for decades.

As Dani Rodrik put it, the Washington Consensus pressed global economic integration as a substitute for development strategy in the Global South, claiming that the heavy hand of the state obstructs private investment. But that model is giving way to the idea that national governments should play an active role in mobilizing private capital, particularly that of investors in the Global North, toward green projects. Green hydrogen promises to fuel a new green developmental age, just as African countries face the most uncertain times they have since the 1980s.

Geopolitical forces have powered the global race for green hydrogen.

Today, like forty years ago, there are significant political obstacles to overcome. Behind the rhetoric of partnership, there is a real danger that the green hydrogen rules written by powerful investors and countries will amount to yet another (green) commodity trap for countries in the Global South. Realizing Diop's vision of a just ecological world will require radical institutional change. In particular, it will require shifting the relationship between global finance, central banks, and fiscal authorities, and a state-led development project beyond "green industrialization by invitation."

Diop's attempts to upend the idea of a "technologically inferior Global South" are remarkable in that they occurred against the backdrop of a debt crisis engulfing African countries. By 1985 UNCTAD [estimated](#) that the fifteen most indebted countries were spending four of every ten dollars gained in export revenue to service their external debt.

Now Global South countries face similar external debt pressures, exacerbated first by the COVID-19 pandemic and then by the Russian invasion of Ukraine. Inflationary pressures for the "5 F's"—fuel, food, fertilizer, freight, and finance—have left roughly two-thirds of low-income countries at risk of debt distress, with the specter of food crises and riots threatening their sociopolitical stability. As the U.S. Federal Reserve increases interest rates to fight domestic inflationary pressures and thus tightens international borrowing conditions, many countries in the Global South lack the foreign exchange reserves that would buffer the double hit from higher borrowing costs and more expensive imports.

In the 1980s the debt crisis across the Global South was managed according to the precepts of the Washington Consensus trinity: stabilization (fiscal and monetary austerity targeting low inflation), liberalization (external trade, finance, product market, and labor relations), and privatization (of public enterprises). It undermined state capacity to design and oversee structural transformation by portraying state interventions as distortions of optimal market allocations. Today that trinity has morphed into the [Wall Street Consensus](#), a growing agreement in global policy circles that sustainable development can only be achieved if international development agencies and national governments partner with private capital looking for investments with the right risk-return profile.

John Kerry, the U.S. special presidential envoy for climate, articulated the new consensus at the 2021 United National Climate Change Conference (COP26) when he declared that countries have to “blend the finance, de-risk the investment, and create the capacity to have bankable deals. That’s doable for water, it’s doable for electricity, it’s doable for transportation.” In the Global South, the Wall Street Consensus also informs “just transition strategies,” centering the needs of working and marginalized people in development projects. South Africa, for example, relies heavily on coal and thus will incur significant social costs when decarbonizing. According to the [South African Presidential Climate Commission for a Just Transition](#), it is crucial to de-risk private investments and change the financial ecosystem in order to protect the vulnerable—especially in South Africa, where the starting point is the injustice of colonialism, apartheid, and low growth.

The new appetite for the visible hand of the state promises to expand developmental space for low- and middle-income countries. But developmental interventions also have a distinct new meaning, centered on fostering partnerships with private capital via de-risking. The hand of the state moves risks from private to public balance sheets to improve the attractiveness of green projects for private investors—typically institutional capital such as pension funds, insurance companies, or private equity funds with trillions of dollars under management. Green hydrogen is a perfect candidate for such de-risking partnerships.

Partnerships are necessary, the argument goes, because the economic pressures associated with green hydrogen remove it from direct reach of most governments in the Global South. Green hydrogen is a highly industrial commodity. It is capital-intensive because it is scarce in pure form. Moreover, it has been cheaper to produce it from fossil sources than green ones, although skyrocketing fossil fuel prices are changing that. A green hydrogen project involves building renewable energy plants and the technologies to store and transport it, as well as additional processing for derivatives. Under such constraints, de-risking partnerships seems to offer win-win opportunities for Global North investors, their governments, and African countries. Investors gain opportunities with appropriate risk-return profiles, while Global North governments gain access to green energy from Africa. In turn, African countries would gain external financing for green energy infrastructure and the development of green manufacturing capacities at costs lower than public investment. Such projects also typically engage philanthropic capital and official development aid (including multilateral banks) to support the de-risking effort.

State-driven development now focuses on private partnerships for the sake of de-risking.

This explains why Namibia’s Hyphen project is still far from Diop’s vision of a continentally coordinated, state-led green hydrogen revolution. In the Hyphen project, Namibia will be a consumer of imported green hydrogen and a generator of financial yield for the investors in the green bonds it plans to issue, but it will have no direct control of this new strategic sector. The German renewable company ENERTRAG and a private equity company, Nicholas Holdings, back Hyphen. The Namibian government will assume a de-risking role, using public resources to take an equity stake in the project. It plans to issue green bonds to fund its equity share, up to 24 percent of the overall project. That final share will probably be lower, since even a 5 percent public stake in

Hyphen would double Namibia's foreign bond debt.

Some argue that countries financially and technologically dependent on the Global North cannot afford green hydrogen megaprojects and that partnerships with foreign investors offer an opportunity to leverage the global race for green hydrogen to their advantage. Indeed, the Namibian government expects that bringing hydrogen to Namibia will mobilize a large complex of green industries. To realize that vision, last spring it announced the SDG Namibia One, a new multi-partner financing platform, as the "key to developing Namibia's green hydrogen economy by streamlining access to public, private, and philanthropic capital, linking finance to policy decision." If Hyphen will establish Namibia as a relevant hydrogen player in the 2020s, SDG Namibia One [will](#) "de-risk scale up in the 2030s."

In other words, SDG Namibia One will be the institutional [vehicle](#) for the de-risking state. It reflects the logic of the Wall Street Consensus: the state, once dismissed as an obstacle to the optimal hand of the market, returns as a midwife for private investment flows to "risky" economic places. It's designed so that even if the state cannot undertake green public investments (because of debt burdens or commitment to austerity ideology, for example), it can deploy fiscal, monetary, and regulatory interventions to improve returns on green projects enough to make these projects attractive to private investors.

Regulatory de-risking invites the state to align regulations with the preferences of private investors. For example, Hyphen is working closely with the Namibian government to design the hydrogen regulatory framework. This may involve, as in other countries, dismantling vertically integrated, state-owned energy monopoly utilities to guarantee demand for private producers of renewable energy. It may be supplemented by monetary de-risking, where the central bank guarantees the market liquidity of government or private green bonds to retain their attractiveness for institutional investors; and currency de-risking, interventions to protect foreign investors from local currency fluctuations. Equally important in low-income countries with shallow capital markets is fiscal de-risking, which is typically executed through public-private partnerships (PPPs).

These partnerships form long-term contractual arrangements through which the private sector commits to financing and managing strategic "assets"—hospitals, highways, water and sewage infrastructure, schools, prisons, airports, renewable energy plants, and hydrogen infrastructure and industries (such as synthetic fuel). For instance, SDG Namibia One plans to rely on public-private partnerships for the "de-risking scale-up" of the green hydrogen strategy. To quote environmental consultant SYSTEMIQ, commissioned to put together the business case for green hydrogen in Namibia, PPPs "do not require much government funding and expertise" to mobilize private capital for strategic hydrogen projects. Rather, the state agrees to compensate the private partner against a series of risks negotiated through the public-private partnership contract.

The range of risks that the state agrees to take often depends both on the state's legal capacity to negotiate complex contracts and on its eagerness to attract private investors. Of course, these risks do materialize and can turn into what French MPs aptly describe as "budgetary timebombs." They might explode, for instance, when the green hydrogen partnership fails to generate sufficient demand for its products; when political risks, such as higher minimum wages, threaten cash flows; or when exchange rate fluctuations jeopardize expected return rates. The logic of de-risking demands that the state must then compensate investors, as many countries in Africa have [painfully](#) discovered over the past decade.

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It is yet to be seen whether industrial policy and developmentalism can be refashioned through de-

risking partnerships—in other words, whether a hydrogen project built on the Wall Street Consensus can serve the kind of developmentalist state that Diop imagined.

Writing about post-independence African developmental states, Thandika Mkandawire noted that the developmental state should be distinguished from other state projects through an ideology-structure nexus. The developmentalist ideology requires the state to establish a social consensus for its developmental project, a “developmental bloc,” which includes domestic capitalists who can pursue industrial upgrading with state support and discipline. As Alice Amsden and many others have shown in the case of East Asia, a successful developmentalist project requires the state to design a carrot-and-stick strategy that minimizes rent seeking while picking winners in strategic sectors that can (eventually) compete in foreign markets.

Partnerships based on de-risking surrender structural transformation to private and mostly foreign capital.

While the ideological inclination of the Namibian state is clearly developmentalist, the de-risking bloc imagined by Namibia SDG One mostly involves foreign investors and concessional lenders. This is an “industrialization by invitation” approach, to quote Mkandawire, all too familiar to postindependence African states that have raced to the bottom to attract foreign capital. This approach puts the state in a weak position to discipline foreign investors who benefit from state interventions; to negotiate public-private partnership terms; and to promote national champions who could compete with them. Industrial partnerships based on de-risking ultimately surrender the pace and agency of structural transformation to private and mostly foreign capital.

Equally important, de-risking partnerships also downplay Mkandawire’s analysis of the structural component of the developmental state, which requires the state to build the institutional and technocratic capacity for supporting long-term economic transformation, “unencumbered by claims of myopic private interests.” As the consultants to the Namibian state recognize, the de-risking partnerships to develop a billion-dollar hydrogen industry are predicated on the assumption that the government does not need the expertise of highly capable industrial technocrats. Rather, the de-risking state concentrates macro-institutional power in inflation-targeting, independent central banks.

Industrial policy and developmentalism might be refashioned to operate in parallel with the de-risking state. One possible avenue for the green developmental state would be to confine de-risking to a narrow set of projects targeted at generating green commodity revenues and to codify in public-private contracts obligations for private parties to share not only risks, but also the profits of buoyant demand for green hydrogen commodity exports. In a nutshell, commodity de-risking appended onto local—that is, state-led—green industrialization.

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A green developmental state must abandon industrialization-by-invitation de-risking. In its place, it should experiment with new forms of green public ownership in hydrogen infrastructure, as well as with carrot-and-stick support for local green industrial winners. It should also revisit the history of successful industrial policy that subsidized credit via state-owned banks, guaranteed demand via public procurement, and promoted exports via subsidies and competitive exchange rates. To finance this it first must ringfence some of its share of green hydrogen revenues for the technological imports necessary to kickstart local green manufacturing capacity.

Germany, for instance, promised \$30 million of funding for green hydrogen pilot projects, such as a hydrogen dual-fuel locomotive pilot. But it can and should be more ambitious than that; it could

support Namibia in setting up a state-owned hydrogen dual-fuel locomotive company. There are useful precedents, such as Uganda's Kiira Motors, a state-owned company that has opened Africa's first electric bus factory with technological assistance from China. Uganda plans for Kiira Motors to both support local public green mobility, and to supply electric vehicles across the continent.

The success of such efforts ultimately hinges on rejecting the Wall Street Consensus—the insistence that the race to green industrialization is possible without a change in the macro-financial regime. The macro institutions of the state need reordering to create a closer relationship between fiscal authorities, industrial authorities, and the central bank, one that allows ministries of industries to pursue green planning, which requires significant financing and technical capacity. This institutional realignment will allow the developmental state to aim for strategic control over the green hydrogen economy.

Without this strategic embedding of de-risking partnerships, the green hydrogen revolution threatens to trap Global South countries into the patterns of unequal ecological exchange that have historically characterized carbon capitalism. Carbon capitalism at the core always insisted that the periphery specializes—first by colonial force and, later, by free-trade imperialism—in the [production and exports](#) of industrial commodities. Among the world's first global industrial commodities, [sugar](#), for example, was an early pioneer of unequal ecological exchange: financiers were the real beneficiaries, while the competitive pressures of the global sugar market led plantation owners into a savage exploitation of enslaved people and environmental destruction in a drive to reduce costs. Since then, unequal ecological exchange has reconfigured the social, political, and economic organization of peripheral territories to suit the ecological requirements of core countries.

Moving toward a “Green Bandung Woods” means building a democratic global economic and monetary order.

To end this unequal ecological exchange, African countries must wield more control in the green hydrogen chain, which includes controlling the key raw materials critical for a global energy transition. They must negotiate partnerships that will allow them to provide universal access to electricity, to get out of dependence on primary and low-wage-based products, and to achieve green industrialization through technological leapfrogging and more favorable domestic demand conditions. For this to occur, the domestic efforts guided by green developmentalism with a de-risking arm must be accompanied by a new economic and financial order we call “Green Bandung Woods,” rather than the oft-repeated call for a “new” Bretton Woods.

In 1944 the United Nations Monetary and Financial Conference was held at Bretton Woods, New Hampshire, and laid the groundwork for the U.S.-centered economic and monetary order that emerged in the aftermath of World War II. The conference did not reflect the economic and political concerns of most countries in Africa and Asia, most still under colonial rule.

Just over a decade later, the 1955 Asian-African conference of Bandung gave voice to the nations that the mainly Euro-American conference of Bretton Woods had excluded. The representatives of twenty-nine countries gathered in Indonesia to [discuss](#) the “problems of dependent peoples and colonialism and the evils arising from the subjection of peoples to alien subjugation and exploitation.” They called for an end to racial segregation, discrimination, and colonialism. While vowing to work for world peace and cooperation, they encouraged economic and cultural cooperation among countries of the Global South, emphasizing the need for African and Asian nations to “diversify their export trade by processing their raw material” and to work toward a “unified approach” to stabilize prices and demand for primary products. Later the spirit of Bandung was carried on through the 1962 Non-Aligned Movement, which sought autonomy in exiting the East-West conflict, and the 1970s movement for a [New International Economic Order](#). In the same

vein, the 1974 [Cocoyoc Declaration](#) in Mexico sounded yet another vibrant call to create a more egalitarian world system that respects the environment. It continues to ring true today:

*The trebling of the price of food, fertilizers and manufactures in the wake of world inflation has most severely hit the world's poorest peoples. . . . We recognize the threats to both the "inner limits" of basic human needs and the 'outer limits' of the planet's physical resources. But we also believe that a new sense of respect for fundamental human rights and for the preservation of our planet is growing up behind the angry divisions and confrontations of our day.*

Moving toward a "Green Bandung Woods" means building a democratic global economic and monetary order, not one based on the plutocratic principle of one dollar, one vote. Such an order must work to reduce economic inequalities between countries and between those bearing the brunt of climate change and climate injustice.

Such a framework would also promote global peace and the ending of the arms race, if only to condense the large ecological footprint of the military-industrial complex. It would implement net transfers of resources from Global North countries to Global South ones to put an end to unequal ecological exchange. Then, the hydrogen promise foreseen by Cheikh Anta Diop would start to benefit a united Africa and the rest of the world.

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Boston review

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