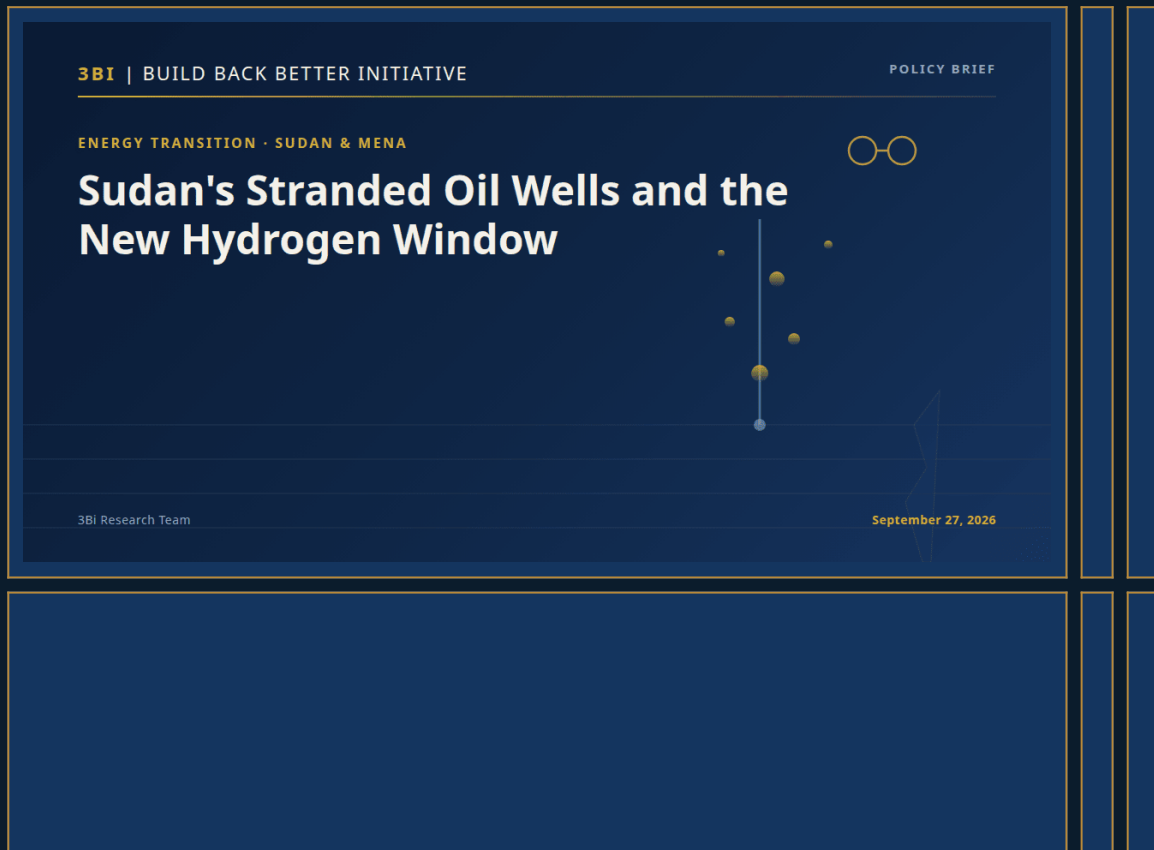




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Khartoum Should Request a Hydrogen Feasibility Screening of Sudan's Stranded Oil Wells Before the Window Closes

Research Team

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A newly validated \$0.56/kg hydrogen technology targets depleted oil wells. Four Arab states are already positioned to use it — Sudan should ask to be assessed too.

3Bi Research Team | Policy Brief | September 27, 2026

The Ask

Sudan's Ministry of Energy and Petroleum, working with the Arab Fund for Economic and Social Development and Sudan's donor coordination group, should formally request that Wood and Eclipse Energy screen Sudan's shuttered West Kordofan oil reservoirs against the technical criteria behind their newly validated low-carbon hydrogen process. The ask costs nothing beyond a written expression of interest — but the two companies are already moving from validation into commercial deployment, and Sudan is not currently part of that conversation.

Why Now

On September 22, 2026, the UK engineering firm Wood confirmed that Eclipse Energy's RenovaStrata H2 technology — which uses microbes injected into depleted oil reservoirs to convert residual hydrocarbons into hydrogen — can deliver a levelized cost of \$0.56 per kilogram, with a carbon footprint roughly 99% lower than hydrogen made by burning natural gas directly (Wood/Eclipse Energy joint announcement, September 22, 2026). Eclipse Energy's chief executive, Prabhdeep Singh Sekhon, called the result confirmation that the science is ready for commercial rollout; Wood's David Cole framed it as a way to turn abandonment liabilities into an opportunity.

Five days later, on September 27, 2026, the Arabic-language energy platform attaq.net used the announcement to name four Arab oil producers — Saudi Arabia, the UAE, Algeria and Egypt — as best positioned to exploit the technology, based on which countries already have declared hydrogen strategies or live pilot projects. Sudan was not on that list, not because its geology is unsuitable — nobody has assessed it — but because Sudan currently has no hydrogen strategy for anyone to notice.

That is the decision window this brief is about. Wood and Eclipse Energy are moving from a validated concept toward choosing where to deploy it commercially. Countries that show up now, with a stated interest and an accessible set of depleted wells, are the ones that get evaluated first. Countries that do not ask do not get considered — not out of any judgment about their assets, but simply because nobody proposed them. Once the companies commit their near-term technical and commercial capacity to an initial cohort of countries, Sudan would likely wait years for a second opportunity to have its stranded wells assessed against a live, funded technology.



The Evidence

First, Sudan has exactly the kind of asset this technology was built for, sitting idle. Sudan's oil output has collapsed from roughly 120,000 barrels a day in 2018 to about 35,000 barrels a day now (Sudan Tribune, citing sector data, November 2025). Production at Block 6 in West Kordofan — one of Sudan's two principal onshore oil basins — has been halted since October 2023. China's state oil company, CNPC, formally filed for early termination of its Sudanese production-sharing agreements on November 19, 2025, citing force majeure after more than two years of shutdown and physical deterioration of field infrastructure; the company had already cut its Sudanese workforce by 60% and stood down contractors before that filing. The refineries that once processed this crude, in Khartoum and El Obeid, are shuttered. In plain terms: Sudan already has mature, depleted, non-producing reservoirs with existing wellbores — precisely the starting condition RenovaStrata H2 is designed to work with, rather than a greenfield drilling project competing for capital against new oil and gas exploration.

Second, the economics do not require Sudan to fund frontier research — only to ask to be tested. Wood's assessment was not a laboratory hypothesis; it modeled real engineering configurations, capital and operating costs, and carbon-management strategies, and it came in below Eclipse Energy's own \$0.70/kg target (Wood/Eclipse Energy announcement, September 22, 2026; Hydrogen Insight, September 22, 2026). Neither company has published the specific reservoir criteria — temperature, pressure, residual hydrocarbon volume — that determine which wells qualify, and 3Bi is not asserting that Sudan's wells will pass such a screening. What the public record does show is that the companies are actively looking for reservoirs to apply the technology to next, and that a request costs a government nothing but the administrative step of making it. The four countries attaqa.net named are candidates by virtue of having asked, in effect, through declared national hydrogen strategies — not because Eclipse Energy or Wood have ruled anyone else out.

Third, this fits a pattern this research team has tracked for two months: capital and technology cohorts in the region's energy transition keep forming without Sudan, not because Sudan is assessed and rejected, but because Sudan is not in the room when the cohort is chosen. 3Bi's daily monitoring has recorded the same absence in Gulf-backed green hydrogen financing, African solar manufacturing investment, and regional battery-storage aggregation deals over the preceding weeks (see 3Bi Publications archive, August–September 2026). A stranded-asset hydrogen technology is a comparatively low-cost, low-controversy case to test whether that pattern can be broken with nothing more than a formal request.

Addressing the Counter-Case

The strongest objection is that Sudan's active crisis makes this a distraction: a government and donor community managing acute humanitarian and economic emergencies should not spend



attention on a speculative hydrogen pilot. This is a fair concern, and 3Bi is not recommending a funding commitment, a feasibility study budget, or a delegation. The specific ask here is a single administrative letter of interest from the Ministry of Energy and Petroleum, coordinated with the Arab Fund for Economic and Social Development or another regional development finance institution willing to underwrite a future screening if one proceeds. That step requires days of staff time, not new financing, and it preserves Sudan's option to participate later without committing scarce capacity now. The risk of doing nothing is not a wasted study — it is a closed door: once Wood and Eclipse Energy allocate their near-term deployment capacity elsewhere, re-opening the conversation becomes markedly harder regardless of how compelling Sudan's case later appears.

A second objection is that Sudan's oil-sector institutions are themselves degraded, given the halted production and CNPC's exit, and may lack the capacity to represent Sudan's interests credibly to a commercial partner. This is real, but it argues for routing the request through the Arab Fund for Economic and Social Development or Sudan's donor coordination group as co-signatory or intermediary, not for abandoning the request. Precedent exists for donor-facilitated approaches to technical partners on Sudan's behalf during the current period of reduced state capacity.

What 3Bi Recommends, Specifically

First, within the next four weeks, Sudan's Ministry of Energy and Petroleum should draft a short letter of interest to Wood and Eclipse Energy — coordinated with, and ideally co-signed by, the Arab Fund for Economic and Social Development — requesting that Sudan's West Kordofan (Block 6) and comparable shut-in reservoirs be included in the next round of reservoir screening for RenovaStrata H2 deployment.

Second, Sudan's donor coordination group should identify, in parallel, which existing climate or energy-transition financing window — including instruments already active in the region, such as Islamic Development Bank or Arab Fund energy-transition facilities — could underwrite an eventual third-party technical assessment, so that a positive response from Wood and Eclipse Energy does not stall for lack of a funding pathway.

Third, 3Bi will track this specific request through its regular monitoring of the Arabic- and English-language energy press and will publish a follow-up situation report the moment either company responds publicly, or the moment Sudan is added to or confirmed absent from any published deployment shortlist — whichever comes first.



Sourcing & Contact

Primary sources: Wood and Eclipse Energy joint announcement, September 22, 2026 (GlobeNewswire; also reported by Hydrogen Insight and Fuel Cells Works, September 22, 2026); attaq.net, "4 Arab countries that could benefit from hydrogen production in old oil wells," September 27, 2026; Sudan Tribune, "China's exit from Sudan oil fields deepens crisis for war-ravaged economy," reporting CNPC's November 19, 2025 filing. For methodology questions or to propose a correction, contact 3Bi's Research Team via 3bisudan.org.

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