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Investing in Southern Africa's critical minerals vital to energy transition, and more top energy stories

di Roberto Bocca

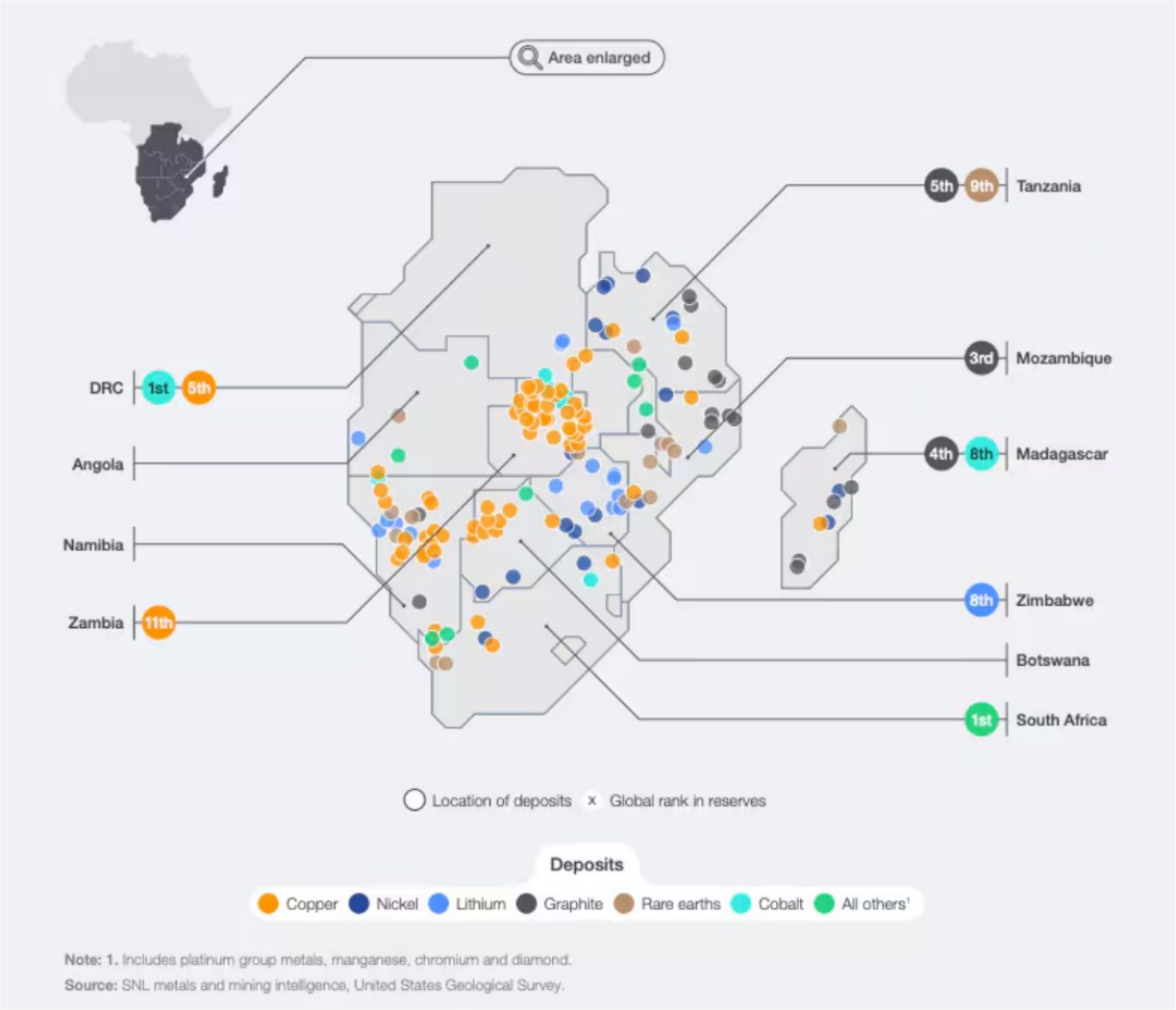
1. Investing in Southern Africa's critical minerals vital to energy transition

Investing in Southern Africa's critical minerals is key to advancing the energy transition, a World Economic Forum report says.

Demand for critical minerals – essential to low-carbon technologies including electric vehicles, energy storage systems and photovoltaic cells – will quadruple by 2040, putting pressure on supply chains vulnerable to disruption.

Southern Africa holds nearly 30% of the world's reserves of critical minerals, including cobalt, copper, graphite, lithium, manganese and platinum-group metals, yet attracts less than 10% of global exploration financing, according to the white paper, *Securing Minerals for the Energy Transition: Finance for Southern Africa*.

Closing this gap between potential and investment flows will require systemic gaps to be addressed, including policy uncertainty, infrastructure deficits, limited access to reliable energy, and lagging innovation, the report says.



Critical mineral deposits in the Southern Africa Region. Image: World Economic Forum

2. Responsible clean energy a 'strategic advantage': case studies

Responsible deployment of clean energy isn't just a sustainable practice, it's a strategic advantage, according to the Forum's *Responsible Renewables Infrastructure* initiative.

The initiative has released a series of case studies from across the globe of projects that integrate environmental and social priorities into their design and delivery. These include projects pioneering 24/7 clean energy in India, accelerating renewable energy deployment in Germany and building wave-resistant floating offshore photovoltaic platforms in China.

Several key lessons have emerged from the case studies:

1. Community participation strengthens success

Whether through ownership models, benefit- sharing funds or co-development partnerships, projects that embed local participation early are more likely to succeed – and more likely to avoid opposition or delay.

2. Environmental integration reduces risk

Proactive biodiversity protection, species monitoring and nature-based solutions not only reduce regulatory risk, they also improve investor confidence and long-term asset resilience.

3. Multi-use land and ocean strategies unlock co-benefits

From agrivoltaics to reusing industrial sites, dual- and multi-use models lower costs, reduce land conflict and create new income streams – supporting food security, circularity and rural regeneration.

These case studies were launched at CEM16 last week by the Forum, in collaboration with the Clean Energy Ministerial.

As the world moves to triple renewable capacity by 2030, expansion can be balanced with environmental stewardship and social inclusion to create lasting value for communities, ecosystems and economies, they conclude.

3. News in brief: More energy stories from around the world

Global investment for new renewable energy development reached a record $386 billion in the first half of 2025, according to figures from BloombergNEF, with small-scale solar and offshore wind spurring the growth.

Poland will boost wind capacity despite a presidential veto on legislation to ease rules on onshore wind farm construction. "We will radically increase onshore wind capacity because this is the cheapest source of electricity," the country's Prime Minister, Donald Tusk, said.

Nigeria's state oil firm NNPC says pipeline theft has been nearly eliminated, with oil pipeline receipts now approaching 100% compared to just 30% three years ago. With improved security and accelerated approval for new projects, Nigeria's oil production could surpass 2.5 million barrels per day next year, the national oil regulator said.

Developers looking to build large data centres in the UK are exploring linking them to main gas pipelines in the country. As AI-driven power demands rise, five big projects

in the South of England have made formal enquiries to gas supplier National Gas, the *Financial Times* reports.

US mining waste could meet most of the country's critical mineral needs, according to new research from Colorado School of Mines published in *Science*. Waste from the US's 54 active mining operations is likely to be rich in many of the critical minerals needed by the country's industrial sector, the study said.

Iraq's electricity production has reached 28,000 megawatts, up from 19,000 MW in 2022, according to the country's electricity minister. Electricity shortages, which worsen in the hot summer months, are a frequent issue in the country.

Sweden is advancing nuclear energy expansion with state-owned power company Vattenfall selecting GE Vernova and Rolls-Royce to build small modular reactors. The project will mark Sweden's first nuclear construction in decades as the country's power demand is predicted to rise 150% by 2045.

China's solar exports to Africa have jumped 60% to 15 GW in the past year, with 20 African countries setting new import records. Nigeria overtook Egypt as the second-largest importer with 1.7 GW, while Algeria's ranked third.

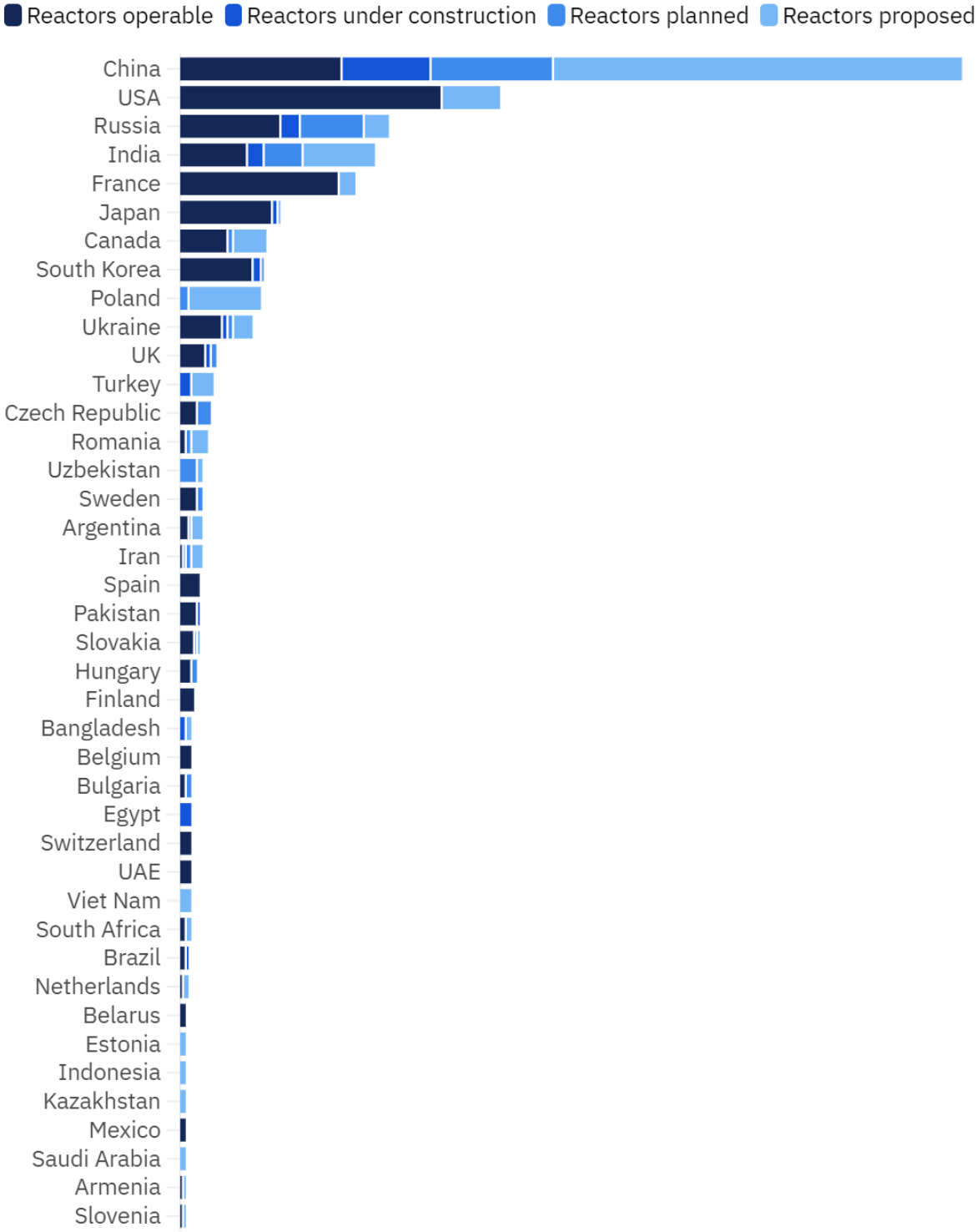
4. More on energy from Forum Stories

As AI power consumption rapidly increases, electricity infrastructure is struggling to keep pace. To keep up with demand, more capacity must be squeezed from existing systems. Data centre cooling, flexible scheduling and harnessing the planning potential of AI are all part of the solution – and all already available.

As countries look at creating reliable supplies of secure, affordable and sustainable energy, nuclear power is in the spotlight – this chart shows where nuclear reactors are operable, under construction, planned and proposed around the globe.

Where the world nuclear revival is happening

Number of reactors proposed, planned and being built across the globe, July 2025



Source: World Nuclear Association

Pakistan is undergoing an energy revolution as increasing numbers of households and businesses adopt solar-plus-battery systems to meet their own energy needs – but making this transition more inclusive calls for financing mechanisms that lower costs for underserved users and support grid upgrades for all. How the nation is approaching this shift holds lessons for energy transitions in other emerging economies.