



How green energy can provide real opportunity for development in Africa

With clean energy technology set to play a significant role in delivering on ambitious global climate targets, John Félicité, Director, Ocorian Mauritius, explains how African nations are perfectly positioned to help those goals be achieved.

As technology becomes increasingly ubiquitous and the world moves into what has been described as the fourth industrial revolution (4IR), it is perhaps easy to forget that many of the materials that help build and run cutting-edge technological equipment are derived from traditional mining processes.

Certain metals – including copper, nickel, cobalt and lithium – are critical to technological advancement, and are being used widely in the products that we use every day.

Batteries are a prime example – and are found in everything from mobile phones to tablets, smartwatches and laptops. They are also essential for electric vehicles – and Tesla, for instance, has gone to great lengths to secure nickel from Indonesia, the world’s largest nickel producer.

With countries around the world committing to fight the global climate crisis, as was seen at COP26 in 2021, clean energy will have a crucial role to play. As clean technology requires ‘green metals’, nations rich in natural resources – many of whom are developing or emerging – will play a fundamental part in achieving ambitious climate targets.

For Africa, this provides a massive opportunity not only to assist with the climate fight, but to boost economies across the continent. But exactly what might this involve?

[Crosshead [Managing an environmental balancing act](#)

It’s worth starting by looking at what Africa has to offer when it comes to the metals that will drive clean technologies. The Democratic Republic of Congo, for example, provides approximately [70%](#) of cobalt to the world and retains half of its reserves. South Africa is a key supplier of copper and lithium, while Madagascar, Zimbabwe and Botswana are all rich in nickel, and Zimbabwe and Namibia are known for their lithium supplies.



As countries across the world attempt to transition from fossil fuel to green energy, the value of these four energy transition metals is expected to rival that of oil over the next 20 years. According to an IMF report, under a net-zero emissions scenario, booming demand for these metals alone would boost their production value six-fold to \$12.9trn over two decades.

“The four metals could affect the economy via inflation, trade and output, and provide significant windfalls to commodity producers,” explained the IMF in its report.

There is also a hope that growth in prices will support the rebound of smaller economies from the impact of Covid faster than expected. The IMF has suggested that a steady 10% rise in prices of the metals could translate into an additional 0.75% pace of economic growth for countries exporting these metals compared to those importing.

On the surface, this all looks remarkably promising, but Africa will face a very fine balancing act if it is to capitalise on the growth in green technology. To begin with, an excessive price surge may actually delay the transition to global clean energy as the input costs will make it impossible for the products to be deployed at sensible prices to the mass market.

Specifically, cobalt, lithium and nickel prices could rise several hundred percent from 2020 levels and peak around 2030.

Given that Africa is one of the continent’s most at risk of the effects of climate change, it would be remiss not to consider the environmental impact of the mining itself and any subsequent manufacturing that takes place. Land-based mining, for instance, can cause deforestation, relocation of local communities, creation of mountains of often toxic waste, and pollution of freshwater ecosystems.

Africa currently contributes 3% to global manufacturing greenhouse gases (GHGs) and just 2% to global manufacturing value add (MVA). This can be seen as a future advantage because half of the continent’s 2050 GHG emitting industries have yet to be built. Yet this needs to be delivered with consideration for the bigger environmental picture.



As Dr Arkebe Oqubay, Senior Minister and Special Adviser to the Prime Minister of Ethiopia, recently stated in a McKinsey report: “Economic development that destroys the environment is no longer a viable option. As latecomer to industrialisation, African countries have the opportunity to develop environmentally sound manufacturing sectors by leapfrogging historic greenhouse emitting technologies and adopting green industrial policies.”

[Crosshead] Beyond resources: building for the future

The reality is that simply being resource rich is not enough for Africa – it’s nations need to take a much broader global view beyond exporting green metals. This will include manufacturing products in-country using those resources, as well as importing goods to do the same.

Analysis from McKinsey indicates eight green business opportunities that could offer high impact by 2030. These include:

- Manufacturing parts for wind turbines
- Assembling off-grid solar systems for local markets
- Assembling micro grids for local markets
- Assembling electric vehicles for personal and commercial uses, with the potential to manufacture locally as well
- Manufacturing plant-based protein
- Production of bioethanol as a low-carbon fuel alternative for transportation and cooking
- Manufacturing cross-laminated timber as an alternative to cement
- Assembling electric motorbikes with the future potential to manufacture.

However, [the African Development Bank](#) (AfDB) has predicted a \$70bn per annum financing gap for African infrastructure, although some have questioned that figure and put it closer to \$100bn. The balancing act of creating jobs, raising finance and ensuring the profitability of new industries while being as green as possible will be challenging.

One African nation in particular isn’t holding back in its desire to embrace green energy to not only reduce carbon emissions but to create jobs and challenge the norm. Unsurprisingly, it is Kenya. Already



a leader in the use of mobile technology it has embraced the use of electrical vehicles to disrupt the taxi industry. Through solar-powered charging-hub installations, the capital city of Nairobi is experiencing the rise of cleaner transportation.

The new entrants in this sector are also seeking to combine environmentally friendly ideas with economically friendly ideas to attract customers and secure market share. While very disruptive, it will go a long way to ensuring this method of travel becomes the norm.

This is a trend that should see the use of green taxis spreading across the continent. Hopefully it will also see the trend in increased manufacture of electrical vehicles in Africa as well. Where the business model is well managed, it will provide greater certainty to drivers in terms of income and greater margins to the companies owning the vehicles.

While there are clear obstacles to developing the green energy sector in Africa, there are real opportunities for those countries that make significant structural change, and for businesses both inside and outside the continent who are brave enough to take measured risk.

At Ocorian, we specialise in assisting the C-suite in making decisions that will add real value to their businesses. Our global footprint also means that we understand the interconnected nature of doing business around the world. The climate crisis may be opening important doors in Africa – we can help those organisations that want to step through them.