

# Namibia's Leap2Green strategy

By **JAMES MNYUPE**

ECONOMIC ADVISOR TO THE PRESIDENT OF NAMIBIA



**JAMES MNYUPE** is a graduate of the University of Namibia (accounting), Rhode University and the Harvard Kennedy School. He began his career with PwC later moving into asset management with Alan Grey Namibia. He was the Founding Chair of the Namibia Savings and Investment Association, was appointed to the High-Level Panel on the Namibian Economy in 2019 by President Hage Geingob and holds the CA, CFA and CFP designations. He was appointed the President of Namibia's Economic Advisor in September 2020.

Namibia is resolutely committed to the Paris Climate Agreement, and to taking practical action to reduce local and global emissions while championing a climate resilient economy. To achieve this outcome, the deployment of green hydrogen in hard to abate, energy intensive sectors is critical. Leveraging its natural endowments and buttressing same with targeted policy interventions, political stability and peace, Namibia is strategically poised to meet an anticipated surge in global demand for green hydrogen in, while simultaneously planning to meet its socio-economic goals of shared prosperity.

The production of Green Hydrogen and its derivatives underscores Namibia's ambition for sustainable economic diversification as articulated in its Vision 2030. Namibia's government recognises the fact that true long-term wealth is not purely dependent on a country's natural resources, but rather by the nation's ability to add value to those resources in a manner that improves not only the lives of its citizens but the world by extension. Economic diversification and economic complexity are thus key tenets that the Namibian government are pursuing with great vigour. In its quest to evolve its economy, the Namibian government is progressively investing its efforts to develop a sustainable, manufacturing led or secondary sector. In doing so, Namibia has concluded that championing a Green Industrialisation Agenda is critical to achieving this strategic objective.

Namibia recognises that one of the mega trends of this generation is a broad acceptance that combating climate change is an existential necessity for all humanity. There is a concerted effort to target the decarbonisation of the global economy and in particular those industries that are considered difficult to abate. Most sectors of the economy can be effectively decarbonised by electrifying them, think for example of short-term transportation. An electric scooter when powered by a battery does not substantially alter the value proposition for the user nor the economy but can meaningfully reduce its emissions profile. However, to electrify a 210,000 dead weight ton dry bulk cargo, sea going vessel is not only difficult and costly, but the battery would be so large that it would take up a lot of the space reserved for the cargo thereby limiting the economic utility of such a cargo ship. So how does one

decarbonise, shipping, long-distance aviation, steel making and complex chemical industries?

These sectors currently all use carbon-based solutions, whether be they fuels as in the case of heavy fuel oil for ships, aviation fuel, coking coal in the case of steel making or indeed natural gas in the case of fertiliser manufacturing. Finding alternatives to all these carbon-based drivers of industry is key. Here green hydrogen comes in particularly handy. Making green hydrogen entails electrolysis powered by renewable energy which effectively splits the hydrogen molecule from the oxygen molecule in desalinated water. Namibia benefits from world class renewable energy resources and has thus decided to pursue cost effective production of green hydrogen, which by itself is not the easiest or cheapest molecule to transport over very long distances. Therein lies the opportunity to foster the successful incubation of a Namibian Green Industrialisation Agenda. Instead of just being content with manufacturing green hydrogen and trading that product, Namibia is looking to champion subsequent value addition processes that when applied to this molecule can result in new complex products. Namibia is working closely with local and global private sector players to build green ammonia industrial facilities which add nitrogen captured from the air to the green hydrogen to produce a compound that is a key ingredient to the fertiliser industry and could be a potential new fuel for shipping and electricity generation. This additional process is a classic example of an attempt to add value to a nation's basic output in responding to global demand for a specific product or service, thereby justifying the viable deployment of economic capital.

However, green ammonia is but one of the new products that Namibia is championing. Iron ore is a commodity whose molecular structure contains iron and oxygen. To transform the ore and make it useful for steel making, the oxygen needs to be separated from the iron ore before being further processed. Currently the steel making industry uses coking coal (which is substantially just carbon) to bind with the oxygen molecule. The result is the release of carbon monoxide and carbon dioxide which are of course major contributors to climate change. Alternative processes are looking to combine the oxygen in iron ore with hydrogen, the

by product is essentially water vapour as the hydrogen and oxygen bind. Given its ambition to pursue cost effective green hydrogen production at scale, Namibia is attracting new industries such as these and is beginning to put in place appropriate policies and public goods to cost effectively cluster these industries next to one another, effectively beginning to alter the structure of its economy and increasing its economic complexity. Using this novel approach, a company called HyIron is exploring the possibility of producing an annual output of 15,000 tonnes of Direct Reduced Iron in Namibia by late 2024. The facility named Oshivela, will be one of the biggest primary production sites of green iron worldwide. Already at this stage, the project is expected to avoid 27,000 tonnes of CO<sub>2</sub> emissions per year, equivalent to 50% of the CO<sub>2</sub> emissions of Namibia's Power industry. This is the essence of the Namibian Green Industrialisation Agenda.


In partnership with its development partners, Namibia launched a Green Hydrogen Programme under the Ministry of Mines and Energy that is to assist the Ministry with its responsibility of coordinating efforts to realise the goals of the country's Hydrogen and Derivatives Strategy which was launched in 2022. This is the effective execution of the directives outlined in the Harambee Prosperity Plan II which outlined Namibia's plans to explore Green Hydrogen and Ammonia as strategic industries.

Over the past 12 months, post the articulation of HPPII's economic ambition, various green hydrogen projects have emerged in the 3 hydrogen valleys envisioned in Namibia's Green Hydrogen Strategy. Hyphen, the largest of these projects concluded a Feasibility Implementation Agreement with the Government of the Republic of Namibia in May 2023 and is currently pursuing its feasibility study. The first phase of this project alone, which is expected to enter production in 2026, will see the deployment of 2 gigawatts of renewable electricity generation capacity to produce over a million tonnes of green ammonia. A potential by product of this project could be more than 4 terawatt hours of electricity that will have to be curtailed due to the project's inability to consume it all. Part of the feasibility study is examining the viability of capturing some of this excess electricity and feeding it into the local and regional grids. This excess electricity will further entrench the viability of energy intensive green industries setting up within Namibia's borders.

Capturing the benefits of a green hydrogen economy will require unprecedented national and international coordination and collaboration. It is crucial to link Namibia's Green Industrialisation Agenda to a comprehensive sustainable financing strategy to support the commercialisation and growth of the industry – including streamlining access to

development finance, accelerating project development and mitigating key investor risks. A new Namibian blended financing platform – “SDG Namibia One” – housed within Namibia's Environment Investment Fund has been established to accelerate the development of Namibia's green economy by reducing transaction costs of accessing and deploying public, private and fit for purpose capital.

Further to this, Namibia has launched a Youth for Green Hydrogen Scholarship which seeks to enhance the technical skillset in the country in partnership with the German government. At the core of this burgeoning portfolio of new industries is the need to develop new skills to further entrench Namibia's competitive edge. Building dedicated capacity within government and strategically orchestrating the formulation of progressive policy and regulation, while managing dynamic project pipeline should result in an unprecedented creation of new jobs and investment for Namibia.

Namibia is fondly referred to as the land of the brave by its citizens and when one zooms out and looks at the scale and complexity of this undertaking, one begins to realise why such a name may be befitting for the citizens of this tiny nation with vast lands and a plethora of economic opportunities. The Namibian Green Industrialisation Agenda attempts to chart a developmental course that is comfortable with skipping carbon based industrial ecosystem and establishing cleaner industries that are future proof and eco friendly, leaving behind a more hospitable planet for all our children. Resultantly, the #LeapToGreen motto is quietly gaining momentum in the hallways of schools, chambers of parliament and boardrooms of pioneering companies in Namibia. The land of the brave is about to scribe a new thrilling chapter in its young history, but don't just read about it, grab a shovel and your cheque book and join these young Namibians as they build a nation that is hell-bent on calling earth home. 

**Namibia recognises that one of the mega trends of this generation is a broad acceptance that combating climate change is an existential necessity for all humanity**

Green hydrogen is the road to the future



Photo: Charles Moore