



# HYDROGEN INSIGHTS

Part 3



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# What are the factors african states must take into account when developing the right policy and regulatory framework for a clean hydrogen economy?

BY JACKWELL FERIS

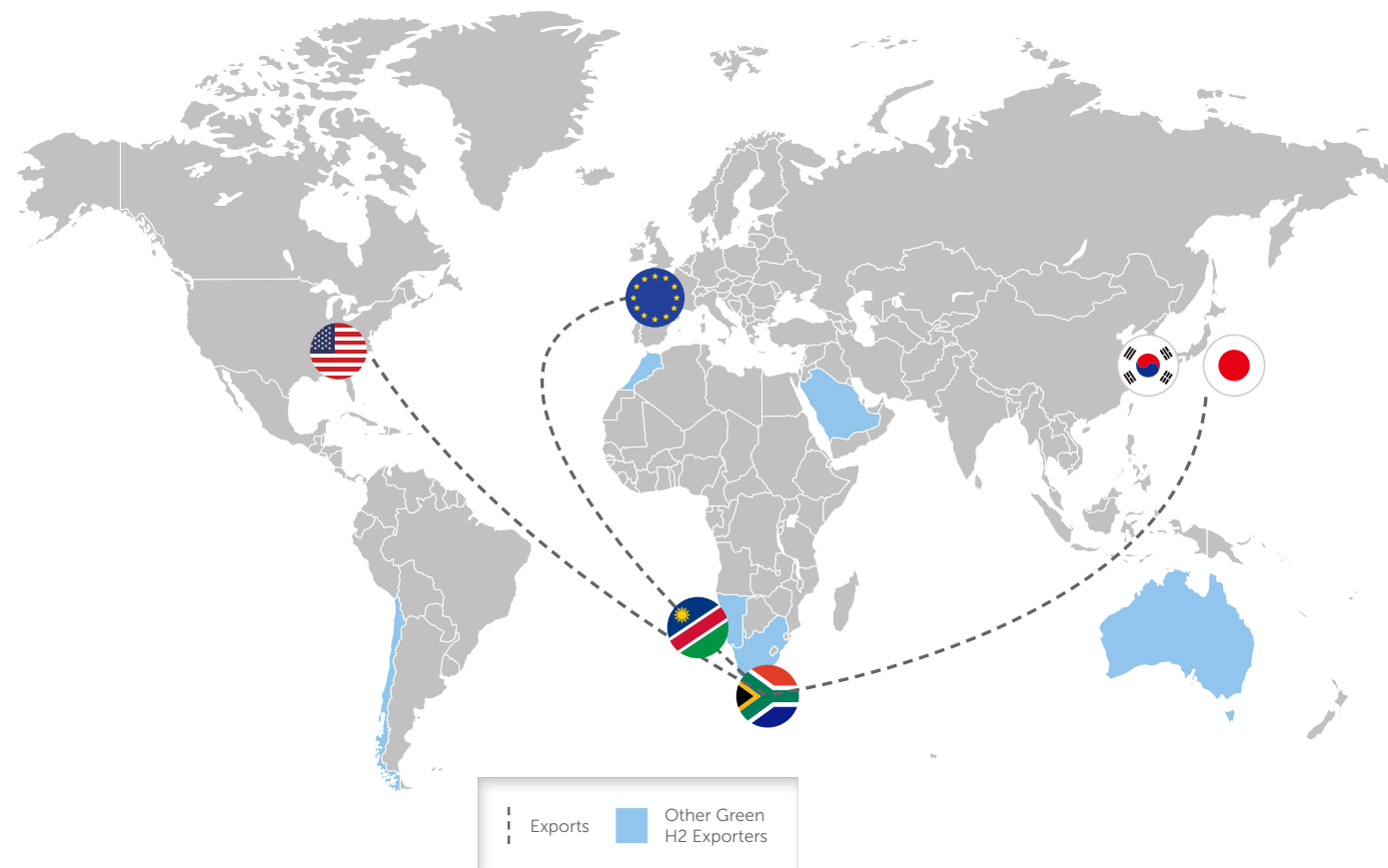
What does it mean to have the right policy and regulatory framework for investors to invest in a country to unlock its hydrogen economy? The policy imperatives that have been broadly identified are that a country's policies must include directives, mandates and robust carbon pricing, and they must provide targeted support and de-risking for the significant initial investments required for large-scale infrastructure for the production of hydrogen.

What countries in Africa must also fundamentally understand is that there will be a need for a mind shift in the development of policies that incentivise investment in hydrogen projects. One of the biggest differences is that the production and supply of clean hydrogen is a conversion (manufacturing) process, not an extractive business like oil and gas, and as such has the potential to be produced competitively in many places around the globe. This limits the possibilities of capturing economic rents akin to those generated by fossil fuels. Further, as the costs of green hydrogen fall over time, new and diverse participants will enter the market, making hydrogen even more competitive. So, as a starting point, African states will have to be cognisant of this distinction and appreciate the long-term risk associated with hydrogen.

Another important consideration for Africa governments planning to make hydrogen an economic catalyst is the grouping within which each country may fall. The Hydrogen Council has classified three country groups in the global hydrogen economy. These are:

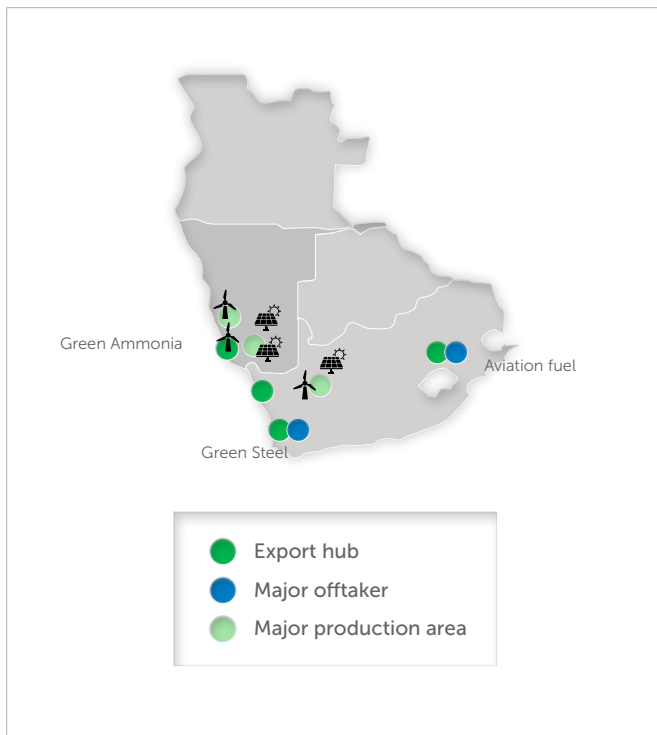
- **Self-sufficient countries:** These are countries that aim to produce and consume hydrogen within their respective jurisdictions. These states would need to create the entire value chain from upstream supply, midstream transmission and storage, distribution, and downstream demand.
- **Exporters:** These countries would need to focus on the development of export infrastructure and ensure that project locations are optimised to create export hubs in a manner that contributes to the development of the local (and regional) hydrogen economy.
- **Importers:** These countries would need to focus on developing import infrastructure, working with exporters to ensure they get access to affordable clean hydrogen, and developing downstream applications to ensure they have control over where hydrogen is used.

## Southern Africa is geographically well positioned to be a major green exporter



Source: Sasol

A few countries in North Africa, notably Morocco, and in Southern Africa, notably Namibia and South Africa, would need to follow and adopt policy approaches as exporters of green hydrogen. For South Africa this would need to be a fine balance between local industry demands and the export market, but ultimately, it should aim to be a net exporter of cost-competitive green hydrogen. Southern African can develop both as an export hub and supply green hydrogen to the heavy industries situated in South Africa.



While only a few countries in Africa have the potential to become competitive hydrogen exporters, several others may develop into net importers of hydrogen (i.e. producing green hydrogen locally and importing additional green hydrogen to meet domestic demand).

In order to plan for the various scenarios and created a harmonised approach to the development of the hydrogen economy in Africa, it is essential to have a hydrogen roadmap for Africa that will ensure economic and infrastructure integration. For African countries that are part of the AfCFTA, developing national industrial policies in isolation without regard for regional and continental integration of industries will negate the benefits of the AfCFTA for deeper economic growth. As such, uniform regional policies will need to be developed that address how the barriers to a hydrogen economy will be dealt with on a regional level. As South Africa and Namibia are both considered markets that have significant prospects of becoming export hubs of green hydrogen, deeper co-operation between these two countries is important. Regional co-operation in the development of sound legal principles, the nature and type of incentives, infrastructure, and industry standards and certification should inform regional policies and filter into domestic laws. This is imperative for continental economic integration and for private sector parties to be in a position to take full advantage of the benefits under the AfCFTA's the protocols on goods and services. Regional value chains supported by robust and integrated regional policies that nurture

emerging industries are imperative for Africa to realise the economic growth required to achieve Agenda 2063. As one of its action items under "Hydrogen Export" the HSRM does emphasise that regional co-operation/partnership on green hydrogen must be expanded. It is encouraging to see that the HSRM recognises the value of regional co-operation, as the economic potential for a regional and continental approach to the hydrogen economy will have a profound impact on the economic development of the continent.

Having said that, what is the right policy and regulatory framework to attract investors and unlock a country's hydrogen economy? The Hydrogen Council has identified six pillars for efficient policy design for clean hydrogen:

- **Make use of local strengths and benefit from cross-border co-operation:** Leveraging local strengths is an important starting point in policy design and should be complemented by cross-border co-operation and trade to unlock efficiency gains. In cases like Namibia and South Africa, which can be anchors for regional and continental development, it is imperative that uniform policy and regulatory frameworks be developed.

- **Create certainty through targets and commitment:** To drive down costs and attract investment, governments can help create certainty by developing legislation that reduces policy risks and market uncertainty. In establishing robust policies there must be learnings from other sectors to avoid future disputes with investors.
- **Provide hydrogen-specific support across the value chain:** To catalyse and grow new markets, hydrogen-specific support is required in production, midstream infrastructure, and end-use sectors like industry and transport.
- **Support robust carbon pricing:** Robust regional carbon pricing mechanisms should be built up from existing schemes, and work together with hydrogen-specific support, to drive efficient and effective uptake in the longer term, while mitigating carbon leakage.
- **Adopt harmonised certification schemes:** International standards and robust certification systems play a crucial role in the development of the hydrogen economy, enabling cross-border trade in hydrogen.
- **Factor in societal value and values:** Societal value and values can be factored into policy decisions. Well-designed hydrogen policies can make a positive contribution to several UN Sustainability Development Goals. As such, ESG standards are imperative. We consider this in more detail under the South African segment.

In framing and developing national policies and the necessary regulatory framework to attract investments, it will be important to put in place the six pillars identified by the Hydrogen Council. However, in doing so, it is also important for governments to be cognisant of the legal consequences that

certain commitments or guarantees could have as a result of future economic, social or political changes in their countries. As such, the investment agreement concluded with investors must be carefully negotiated to mitigate against unforeseen risk. The investment frameworks of the country should also take into account existing (and future) investment commitments under bilateral or multilateral agreements that deal with issues such as:

- who qualifies to be an investor;
- what constitute an investment;
- expropriation, in particular the extent of the guarantees be provided (i.e. does it extent to indirect expropriation);
- whether fair and equitable treatment guarantees should be provided and, if so, the extent thereof (having regard to states' differing positions on fair and equitable treatment guarantees as provided for under the Draft Pan African Investment Code, which is understood to serve as a guide for the negotiation of the AfCFTA Investment Protocol);
- the extent of the most favoured nation guarantee to be provided, including issues around national treatment and full protection and security;
- investor obligations in relation the issues such ESG; and
- the legal recourse the state will provide in the event of a dispute, in particular access to investor state dispute settlement mechanisms in the form of consent to arbitration under the auspices of the International Centre for the Settlement of Investment Disputes

There are sound lessons to be learnt from the investor-state disputes in the extractive and energy sectors. If incorporated and properly balanced, these learnings would mitigate against the risk associated with large-scale capital investments. To attract capital investment for large-scale hydrogen infrastructure projects will require states to compromise as they are competing with other states, but this should not be a reason to not incorporate sound legal principles that, amongst other things, guarantee regulatory freedom for the state and balance the rights and obligations of the investor and state.

There is thus a delicate balance required in the policies, regulatory framework, investment guarantees and commitment a state provides to attract investments in hydrogen projects. In doing that, states must be cognisant that green hydrogen production and supply will become more competitive and be less lucrative than hydrocarbon (coal, oil and gas) production and supply in future, as it can be produced in any part of the world. For Africa, hydrogen could be a game changer if approached regionally, as it has the potential to materially impact Africa's industrialisation, allowing for investment in heavy industries such as the automotive industry, steelmaking, ammonia production and other complimentary downstream industries at net zero. With hydrogen, Africa could industrialise at net zero without compromising the climate and achieving sustainable development, thereby contributing to the realisation of Agenda 2063.

# Acronyms

AfCFTA	African Continental Free Trade Area
CfD	Contract for Difference
COP26	The 26 <sup>th</sup> UN Climate Change Conference of the Parties
EA	Environmental Authorisation
EIA	Environmental Impact Assessment
EPRA	Energy and Petroleum Regulatory Authority
ESG	Environmental, Social and Governance
EU	European Union
GDP	Gross Domestic Product
GHG	Greenhouse Gas
HSRM	Hydrogen Society Roadmap for South Africa
IRENA	International Renewable Energy Agency
MENWA	National Environmental Management: Waste Act 59 of 2008
NDC	Nationally Determined Contribution
NEMA	National Environmental Management Act 107 of 1998
NEMAQA	National Environmental Management Act: Air Quality Act 39 of 2004
NWA	National Water Act 36 of 1998
PtX	Power to X
SEMA	Specific Environmental Management Acts
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
VAT	Value-added Tax
WUL	Water Use Licence

## OUR TEAM

For more information about our Industrials, Manufacturing & Trade sector and services in South Africa and Kenya, please contact:



### Jackwell Feris

Sector Head  
Director  
Industrials, Manufacturing & Trade  
T +27 (0)11 562 1825  
E jackwell.feris@cdhlegal.com



### Mashudu Mphafudi

Director  
Finance & Banking  
T +27 (0)11 562 1093  
E mashudu.mphafudi@cdhlegal.com



### Njeri Wagacha

Partner | Kenya  
T +254 731 086 649  
+254 204 409 918  
+254 710 560 114  
E njeri.wagacha@cdhlegal.com



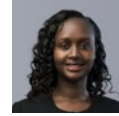
### Tessa Brewis

Director  
Corporate & Commercial  
T +27 (0)21 481 6324  
E tessa.brewis@cdhlegal.com



### Megan Rodgers

Sector Head  
Director  
Oil & Gas  
T +27 (0)21 481 6429  
E megan.rodgers@cdhlegal.com



### Clarice Wambua

Partner | Kenya  
T +254 731 086 649  
+254 204 409 918  
+254 710 560 114  
E clarice.wambua@cdhlegal.com



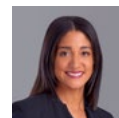
### Muhammad Gattoo

Practice Head  
Director  
Real Estate  
T +27 (0)11 562 1174  
E muhammad.gattoo@cdhlegal.com



### Roxanna Valayathum

Director  
Corporate & Commercial  
T +27 (0)11 562 1122  
E roxanna.valayathum@cdhlegal.com



### Margo-Ann Werner

Director  
Environmental Law  
T +27 (0)11 562 1560  
E margo-ann.werner@cdhlegal.com



### Nonhla Mchunu

Director  
Corporate & Commercial  
T +27 (0)11 562 1228  
E nonhla.mchunu@cdhlegal.com



### Andrew van Niekerk

Sector Head  
Director  
Power & Energy  
T +27 (0)21 481 6491  
E andrew.vanniekerk@cdhlegal.com



### Anton Ackermann

Associate  
Corporate & Commercial  
T +27 (0)11 562 1895  
E anton.ackermann@cdhlegal.com



### Phetole Modika

Director  
Finance & Banking  
T +27 (0)11 562 1625  
E phetole.modika@cdhlegal.com



### Laura Wilson

Associate  
Corporate & Commercial  
T +27 (0)11 562 1563  
E laura.wilson@cdhlegal.com

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**JOHANNESBURG**

1 Protea Place, Sandton, Johannesburg, 2196. Private Bag X40, Benmore, 2010, South Africa.

Dx 154 Randburg and Dx 42 Johannesburg.

T +27 (0)11 562 1000 F +27 (0)11 562 1111 E [jhb@cdhlegal.com](mailto:jhb@cdhlegal.com)

**CAPE TOWN**

11 Buitengracht Street, Cape Town, 8001. PO Box 695, Cape Town, 8000, South Africa. Dx 5 Cape Town.

T +27 (0)21 481 6300 F +27 (0)21 481 6388 E [ctn@cdhlegal.com](mailto:ctn@cdhlegal.com)

**NAIROBI**

Merchant Square, 3<sup>rd</sup> floor, Block D, Riverside Drive, Nairobi, Kenya. P.O. Box 22602-00505, Nairobi, Kenya.

T +254 731 086 649 | +254 204 409 918 | +254 710 560 114

E [cdhkenya@cdhlegal.com](mailto:cdhkenya@cdhlegal.com)

**STELLENBOSCH**

14 Louw Street, Stellenbosch Central, Stellenbosch, 7600.

T +27 (0)21 481 6400 E [cdhstellenbosch@cdhlegal.com](mailto:cdhstellenbosch@cdhlegal.com)

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