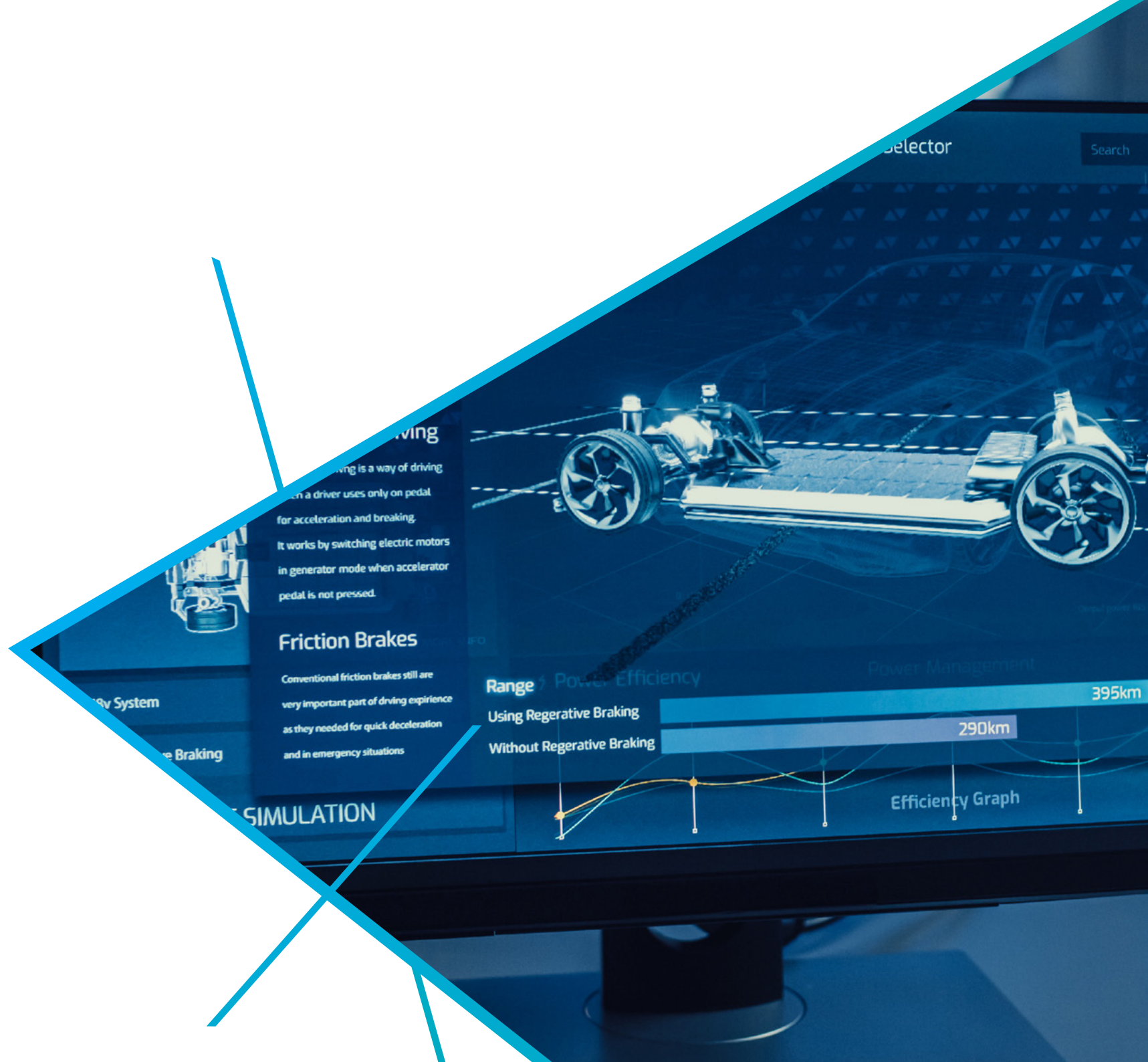


E-MOBILITY IN AFRICA

Critical for Africa's
industrialisation





Globally the world of mobility is rapidly evolving, largely pushed by the need to decarbonise the world economy by 2050. For mobility, technological developments are enabling the movement from traditional internal combustion engines towards electric vehicles (EV) and other alternative propulsion motors. Although electric vehicles still account for a marginal share of global vehicle sales, governments of some of the biggest automotive markets have declared their intention and taken steps to embrace electric vehicles in order to decarbonise and curb emissions.

The need to decarbonise the global economy through low-carbon means such as renewable energy, green hydrogen and batteries is heightened by environmental regulations, linked to climate change mitigation and air quality improvement. In this publication, we broadly highlight the policy developments around e-mobility in several African jurisdictions.

With the industrial and economic policies of African states being geared toward ensuring value addition of minerals and natural resources on the continent (or in particular countries), producers and traders need to be incentivised to establish product value chains within particular regions on the continent. The African Continental Free Trade Area (AfCFTA) creates such incentives but will require governments in each regional economic community to work together to achieve a collective benefit for all. There are several sectors that could be developed into leading industries and in which states could establish new manufacturing nodes for global trade, supported by Africa's access to the input minerals (such as cobalt, platinum group metals, manganese) required for the automotive industry and related sectors. Countries such as the Democratic Republic of Congo, South Africa, Zimbabwe and Zambia have access to significant reserves of the strategic minerals required for the production of lithium-ion batteries, hydrogen fuel cells and other related components.

As part of the e-mobility revolution, African governments must put policy and regulatory measures in place (i.e. local content requirements) for Africa to play a meaningful role in value chains in the e-mobility sector. As such, investment in value chains in the automotive industry on the continent must be encouraged to ensure that Africa continues to play an important part in this sector in the future. South Africa, one of the largest producers of automobiles in Africa, published a green paper on 18 May 2021 titled Auto Green Paper: On the Advancement of New Vehicles in South Africa which emphasised the need for a gradual conversion of the industry from internal combustion engine vehicles to electric (battery powered) vehicles.

The importance of the conversion to electric vehicle production for South Africa is to ensure the sustainability of its automobile manufacturing sector, which is largely dependent on exports to Europe. The changed regulatory environment in Europe towards electric vehicles has made investments in electric vehicle production in Africa imperative. There are several critical elements required to achieve the conversion to electric vehicle production, including the establishment of factories and assembly facilities for

the manufacturing of batteries and fuel cells. The AfCFTA could make the production of batteries cost effective in Africa through access to minerals, processing and related services, and preferences on tariffs, trade facilitation measures and the elimination of technical barriers. For manufacturers this creates a platform for establishing regional value chains.

The development of automotive subsectors in Southern Africa will create immense opportunities for other regions on the continent, such as Ethiopia, Kenya, Ghana, Egypt and Nigeria, to also convert their automobile industries to electric vehicle production at a lower cost and allows for the development of other regional value chains. By focusing on developing strong industries that produce components or assemble entire production units on the continent, and where several countries tap into their competitive advantages and participate in the production process, a "Made in Africa" final product will be good for economic integration, development and enhancing people's well-being on the continent. The AfCFTA provides the platform for investors to take advantage of the potential on the continent and establish and expand opportunities in existing and future industries.

Below, we discuss the e-mobility policies and strategies of the following key African jurisdictions in the automotive sectors:



Rwanda



South Africa



Morocco



Kenya



Ghana



Egypt



Electric vehicle policies in Rwanda

Rwanda's e-mobility programme plans for the phased adoption of electric buses, passenger vehicles (cars) and motorcycles from 2020 onward, resulting in displaced conventional vehicle sales, transport fuel imports and associated greenhouse gas (GHG) emissions.

Rwanda's former Director General for Transport, Alfred Byiringiro stated that Rwanda's Government approved a new set of incentives that will help meet Rwanda's objective to demonstrate the power and potential of sustainable transport to create jobs, grow the economy and improve health outcomes for all.

He also mentioned that Rwanda's updated nationally determined contribution (NDC) outlines the importance of electric vehicles and the enforcement of vehicle emission standards as key mitigation measures on the path to reduce GHG emissions. The incentives are expected to serve Rwanda's long-term goal to be a carbon-neutral nation, as articulated in its Vision 2050.

Rwanda is actively encouraging investment in the e-mobility sector. The Rwandan Development Board outlined some of the initiatives to encourage investment of this kind, including a preferential corporate income tax rate of 15% for investors operating in e-mobility.



Speaking at the E-Mobility Technology Showcase in Kigali, Janvier Twagirimana, Transport External Link and Donor Co-ordinator at the Ministry of Infrastructure, gave a summary of these incentives in his presentation on "Status of e-mobility in Rwanda". The incentives are:

Fiscal Incentives:



Electricity tariffs for charging stations to be capped at the industrial tariff. This means that charge point operators will be billed at close to USD 10 cents/kWh instead of around 20 cents/kWh.



Electric vehicles will also benefit from reduced tariffs during off-peak periods.



Electric vehicles, spare parts, batteries, and charging station equipment will all be exempted from import and excise duties. All of these would also be treated as zero-rated value-added tax (VAT) products and will also be exempt from withholding tax.

Non-Fiscal Incentives:



Rent free land for charging stations on land owned by the Government.



Provisions for EV charging stations in the building code and city planning rules.



Green license plates to allow preferential parking for EVs and free entry into any future congestion zones.



Access to dedicated bus lanes.



Preference given to electric vehicles for government-hired vehicles.



Regulation of the importation of used vehicles by imposing an age limit.



Establishment of restricted zones to which only green vehicles have access.



Enforcement of existing emission standards to discourage the purchasing of polluting vehicles.

There are already several firms in the EV space in Rwanda and the new incentives should give them a major boost. Some of the firms that were exhibiting at the E-Mobility Technology Showcase in Kigali include Guraride, Volkswagen, Victoria Motors, Rwanda Electric Motorcycles, and Ampersand. Ampersand has just secured a \$3,5 million investment from the Ecosystem Integrity Fund. The deal is the largest ever e-mobility investment by a venture capital fund in Sub-Saharan Africa and marks a turning point in global electric transport.



Electric vehicle policies in South Africa

In South Africa the National Climate Change Response White Paper, Carbon Tax Act 15 of 2019 and Climate Change Bill are three key legislative instruments that outline South Africa's response to climate change. The National Climate Change Response White Paper serves as a foundation for the Climate Change Bill, which underpins the regulatory landscape for managing emissions. In the transport sector, the Green Transport Strategy of South Africa provides direction on what the transport sector must do during the period from 2018 to 2050 to make a significant impact in reducing GHG emissions in order to address the large contribution of transport to national GHG emissions.

The Green Transport Strategy is a critical national strategy document that Government has developed which aims to minimise the adverse impact of transport on the environment, while addressing current and future transport demands. The Green Strategy is underpinned by sustainable development principles. The strategy promotes green mobility to ensure that the transport sector supports the achievement of green economic growth targets and the protection of the environment. The strategy recognises that the main difficulty in achieving this is, amongst others, access to sufficient funding for the transport sector's just transition.





To achieve the goal of a just transition with the sustainable development objective, there will be a need to:



Develop regulatory instruments (particularly for vehicle emissions)



Restructure taxes and provide incentives to reduce costs where possible



Prioritise infrastructure development



Educate and stimulate awareness to accelerate behavioural change

The Green Transport Strategy (with existing policy documents and draft policy documents) provides the private sector with direction based on Government's vision for private sector participation into large-scale green transport infrastructure, such as the proposed GRRNI extension.

On 21 May 2021, South Africa released a green paper regarding the advancement of new energy vehicles. The purpose of the paper is to establish a clear policy foundation that will enable the country to co-ordinate a long-term strategy that will position South Africa at the forefront of advanced vehicle and vehicle component manufacturing, complemented by a consumption leg, and increase its competitiveness in the global race to transition from the internal combustion engine era into electro-mobility solutions and technologies.



The green paper sets out the key principles and challenges that must be addressed by a policy, such as:



Delicately balancing support for completely knocked down (CKD) vehicles produced locally, versus completely built-up (CBU) vehicles imported from abroad, to ensure that the country makes a carefully managed and systematic transition to the localisation of new energy vehicles (NEVs) and eliminates any risk of simply becoming an import market for NEVs.



Developing a technology agnostic framework in a period of rapid innovation, to keep the country's options open.



Creating a structured approach to the localisation of NEV components.



Structuring the NEV support to take cognizance of the "step-change" reductions in battery and other NEV costs that will materialise over time and consider how to create a realistic projection of the likely timeframes towards Internal Combustion Engine (ICE) and battery electric vehicle (BEV) cost parity over the next 8 to 15 years.



Ensuring that the foundations are established to provide the best outcome for securing future exports to Europe while also achieving the rule of origin requirements.

In addition to the above, the green paper sets out the following additional considerations:

- First, the current charging infrastructure in the domestic market should be expanded to incentivise motorists to switch to EVs. The private sector should play a key role in enabling such development, on commercial terms. Government has provided a common standards platform through the work of the South African Bureau of Standards.
- Second, in the domestic market, the full value of carbon-reduction can only be achieved in tandem with a shift in the country's energy-mix. An increased proportion of renewable energy in the national grid will ensure that the electricity used to charge vehicles does not negate the positive effects on the environment of the electric vehicle technologies.
- Third, while the principle of a technology agnostic framework has been set out, it is recognised that innovation may provide market-driven advantages to particular technologies, which may require a revised policy approach. In addition, technological development may change the price-gap between EVs and internal combustion engines, which will impact whether, and the extent to which, support-measures will be required.
- Fourth, it is widely accepted that, subject to technology developments that can reduce costs, the use of fuel-cell technologies based on platinum group metals catalysers (green hydrogen technologies) can play to the country's strengths and provide potentially significant demand for its raw materials. Special attention will need to be paid to this and efforts by the private sector to pilot such technologies will be encouraged. As the green hydrogen technologies mature, they are expected to become the technology of choice in South Africa and across the world.
- Finally, the value proposition for the country needs to be clearly established in the form of additional jobs, stimulation of local industrial capabilities and expansion of production for new markets. Where changes are required to existing production technologies, appropriate "just transition" arrangements will need to be put in place.



The green paper proposes using tax reforms and promoting local manufacturing as incentives for EV production.

The green also paper sets out the following EV and NEV industrialisation options for consideration:

Lower or zero-rated duty for identified unique EV components

- Under standard Automotive Production and Development Programme (APDP) conditions, components imported under Chapter 98 for CKD assembly attract a 20% duty.
- Lower or zero duties on EV components will reduce the original equipment manufacturer's (OEM) customs account owed to the South African Revenue Service. Careful analysis will be undertaken on the commercial case for such duty reductions.

Deem the value of imported EV component content as local for purposes of Volume Assembly Localisation Allowance (VALA) only

- EV generated VALA credits cannot be traded and should be used exclusively for the purpose of offsetting a manufacturing OEM's customs account.

- If valuations for this "deemed" content are needed, then these should be independently verified and audited to ensure that global market related values are being used.
- Production incentive generated production rebate certificates to remain calculated on local value addition and no deeming of local content to apply.

Sunset clause proposals

- The application of lower or zero duties and VALA deemed local content to be for a short-term period, i.e. for a limited number of years only. Consideration should be given as to the appropriate period.
- During this period there needs to be a dedicated localisation development plan that is implemented for the EV components. Policy choices will need to be made on the exact timing synchronisation.
- Upon conclusion of the sunset clause timing, and assuming the EV component has been localised, a possible form of continuing to support the EV component production in South Africa could be an upward adjusted production incentive factor for EV components in the same way as the previous APDP "vulnerable sector" policy worked. Industry proposes an appropriate factor to be determined greater than the current 50%.

Ringfenced NEV support ecosystem proposals

- An alternative to the independent application of the points above would be to implement a combination of elevated VALA and production incentives for EVs with the necessary local content as described.
- However, all credits generated should be used exclusively for offsetting duties on imported EVs for sale in South Africa, or EV unique components used in CKD assembly.
- Should any "surplus" credits be generated, they can be traded with independent importers of EVs only, to support the demand related to market development of the NEV ecosystem in the country, as required to justify local manufacturing.

Strengthen value chain investment proposition

- While the first and third options above look to support OEM incentive positions, they do bring the risk of introducing "cheap" assembly credits into the duty pool system that is at the heart of APDP and reducing the demand for South African local content. The architecture of APDP is framed on the offsetting of this duty pool by OEM value addition and component localisation and stimulating economic activity and job creation.

- Alternatively, if duty credits are seen as a necessary mechanism, it would be important to support value chain investments by re-introducing the concept of productive asset allowances, where OEMs previously earned duty credits for the value of investments made into production, and this should include those by suppliers into the list of unique EV components.
- When viewed together with the technology annual information statement, this would still result in the OEM incentive position recovery, not by subsidising imported content, but rather incentivising local supplier production in the list of unique EV components.
- In June 2020, the research organisation Trade & Industrial Policy Strategies (TIPS), prepared a research report for the Department of Trade, Industry and Competition and the National Association of Automobile Manufacturers of South Africa titled "Harnessing electric vehicles for industrial development in South Africa".



The report states that supporting the passenger EV offering in South Africa would hinge on implementing one or more of three key strategies aimed at reducing the upfront price differential of EVs compared to ICE equivalent:



Reducing the VAT and/or *ad valorem* excise duties on EVs (through a lower rate or by discounting the battery/fuel cell);



Changing the customs duties to deliver a "level playing field" for EVs originating from the European Union; and



Facilitating access to a preferential interest rate for EV finance.

The report also states that:

"In light of the nascent nature of the sector, a trial-and-error approach, leveraging pilots as well as phased mechanisms, would be most sensible in the short term. It is also recommended that public policy does not actively discriminate between technologies. BEVs, hybrids and FCEVs [fuel cell electric vehicles] all have a role to play in the transition to e-mobility."



The potential use and application of existing tax incentives to benefit local EV manufacturers

While the green paper proposes tax reform as one of the ways to promote local EV manufacture, there are already existing tax provisions that appear to provide an incentive that EV manufacturers could potentially benefit from.

In advancing its efforts towards promoting economic growth and industrial development, the South African government, via the Department of Trade and Industry, has established various special economic zones (SEZs) within designated areas in South Africa. Importantly there are a number of specific tax incentives including income tax, value-added tax (VAT), customs & excise and employees' tax incentives that a "qualifying company" in a SEZ (as defined), could potentially benefit from.

One of the most beneficial tax incentives is that companies carrying on business within certain SEZs are subject to an annual income tax rate of 15% which is a significant benefit compared to the ordinary corporate income tax rate of 27%. In addition, qualifying companies can claim a special capital allowance of 10% per year on the costs of any new or unused

building or improvement to such building. These incentives are provided for in sections 12R and 12S of the Income Tax Act 58 of 1962 (ITA). One should appreciate that only companies operating in a SEZ approved by the Minister of Finance for purposes of section 12R can benefit from these income tax incentives. Currently, only some of South Africa's SEZs are approved for purposes of section 12R.

Importantly, however, there are various requirements for an entity to commence business in a SEZ and benefit from the favourable tax incentives. Section 12R of the ITA sets out the various requirements, qualifications and exclusions. The definition of "qualifying company" in section 12R(1) is particularly instructive and requires that the company must be a tax resident in South Africa and conducts an approved trade in the SEZ. Furthermore, not less than 90% of the income of that company must be derived from the trade carried on in the SEZ itself.

Paragraph (e) of the definition of "qualifying company" furthermore requires that the trade carried on by the company must be either:

- Carried on before 1 January 2013 in a location that is subsequently approved as a SEZ in terms of section 12R(3) of the ITA; or

- Commenced on or after 1 January 2013 in a location that is approved or subsequently approved as a SEZ in terms of section 12R(3) of the ITA and that trade was not previously carried on by that company (or a connected person in relation to that company) in South Africa; or
- Commenced on or after 1 January 2013 in a location that is approved or subsequently approved as a SEZ in terms of section 12R(3) of the ITA and that trade, either:
 - Comprises the production of goods not previously produced by that company or any connected person in relation to that company in South Africa; or
 - Utilises the use of new technology in that company's production processes; or
 - Represents an increase in the production capacity of that company in South Africa.

Motor vehicle manufacturers (and their suppliers) should consider the section 12R SEZ tax regime and its applicability to the production of electric vehicles in South Africa given that such production of electric vehicles is either non-existent or negligible currently. The commercial impact of these incentives is very favourable, and it could be used as a key tool to adapt to the growing global shift towards net-zero motor vehicles.

The Tshwane Automotive Special Economic Zone (TASEZ) is located in South Africa's capital city. Although it is not currently an approved SEZ for purposes of section 12R, there is a possibility that it could be approved for this purpose in future. Therefore, it could certainly be considered a launching pad for manufacturers to commence producing electric vehicles within the precinct. At the very least, manufacturers operating in TASEZ can automatically benefit from the preferential VAT provisions applicable to companies operating in SEZs, with the section 12R income tax incentive also becoming available to them if the Minister of Finance approves TASEZ for purposes of section 12R. The sunset date for the section 12R incentive was also recently extended to 31 December 2030.



In addition to the incentive for manufacturers operating in SEZs, there is also an environmental levy on locally manufactured vehicles that cause CO₂ emissions. In terms of Schedule 1 Part 3D of South Africa's Customs and Excise Act 91 of 1964 (C&E Act), an environmental levy is payable on certain locally manufactured motor vehicles which are manufactured in a special *ad valorem* manufacturing warehouse. Specifically, the environmental levy is imposed on vehicles, which use thereof results in CO₂ emissions above a stipulated threshold. Broadly speaking the levy is imposed on the following two categories of vehicles:

- Vehicles described as "Other, double-cab, of a vehicle mass not exceeding 2,000 kg or a G.V.M. not exceeding 3,500 kg, or of a mass not exceeding 1,600 kg or a G.V.M. not exceeding 3,500 kg per chassis fitted". As of 1 April 2022, the environmental levy imposed on these vehicles is R176.00 per g/km CO₂ emissions exceeding 175g/km. In other words, the environmental levy is only payable if the vehicle's CO₂ emissions exceed 175g/km; and

- All vehicles falling under the general description "Other", which are subject to an environmental levy of R132.00 per g/km CO₂ emissions exceeding 95g/km. In other words, the environmental levy is only payable if the vehicle's CO₂ emissions exceed 95g/km.

Considering that the United Kingdom (UK) and European Union (EU), two of South Africa's (and Africa's) largest trading partners (particularly for motor vehicles), have also announced measures curbing the use and sale of CO₂ emitting vehicles within their markets, exports to those markets will be significantly impacted unless the local market starts to embrace the move towards "net-zero" electric vehicles. Local vehicle manufacturers can increase their competitiveness in these foreign markets by shifting focus to EV manufacturing operations and consider structuring these operations to benefit from the SEZ tax incentives (including potentially the income tax incentives). Local manufacture of EVs will also not be subject to the environmental levy on motor vehicles causing CO₂ emissions.

Existing and proposed tax provisions that may incentivise the purchase of EVs by consumers

South Africa's carbon tax legislation and fuel levy dispensation only applies to vehicles that use petrol and diesel, through the imposition of the carbon fuel levy. As of 6 April 2022, the levy is 9c/l for petrol and 10c/l and is payable in addition to the general fuel levy and the road accident fund levy. South African road users driving EVs would not suffer the effect of this levy being passed on to them when they purchase petrol or diesel.

In addition, a new "driving tax" has also been proposed. The South African National Department of Transport recently published the White Paper on National Transport Policy which, amongst others, proposed further investigations of additional and innovative funding strategies for traffic management functions. It was announced that a traffic-management levy to vehicle licence fees and fuel sales would be investigated. Interestingly, this potential new proposed levy may not impact electric vehicles especially if it is introduced with reference to fuel sales which could further encourage the uptake of electric vehicles in South Africa.



Electric vehicle policies in Ghana

The Minister for Energy, Dr Matthew Opoku Prempeh, announced that Ghana's Ministry of Energy is working closely with the Ministry of Finance to remove import duties for fully electric vehicles to accelerate the adoption of electric vehicles. The Ghanaian Government sees the adoption of EVs as one of the major avenues to substantially reduce GHG emissions. It is therefore working hard to promote green and sustainable transport and driving increased penetration of renewables in the long term.

The Ministry of Transport has tasked the Energy Commission (Commission) and the Public Utilities Regulatory Commission (PURC), among others,

to develop its e-mobility policy. While the Energy Commission works on the technical regulations, the PURC will deal with tariffs and related matters. When completed, the e-mobility policy is expected to guide Ghana in its quest to have a sustainable and environmentally friendly transport system by deploying and scaling up electric vehicles in the country. This was made known by the Minister of Transport, Kwaku Ofori Asiamah, in an address on 10 May 2022 at the opening ceremony of the Chartered Institute of Logistics and Transport's 2022 Africa Forum. Once the policy is complete and approved it will outline the phased rollout plan for

the country which will deal with mass deployment of electric vehicles and the migration from fuel to electricity as a source of transport.

Both the Minister and Deputy Minister of Transport also confirmed that the ministry was preparing the way for the introduction of electric buses, powered by batteries, which is a first ever in terms of public transportation.

The Government of Ghana has also asked the Climate Technology Centre and Network to assist in drafting a national policy on e-mobility. The country aims to increase urban resiliency and create new green business opportunities.



The “Drive Electric” initiative

Ghana’s Energy Commission, in collaboration with the Ministry of Energy, is embarking on a “Drive Electric” initiative to promote alternative and productive use of electricity beyond Ghana’s business-as-usual case of industrial, commercial and residential uses, to power vehicles on Ghana’s roads and enable Ghana to meet its climate targets.

The main objective of the Drive Electric Campaign is to:



Introduce and promote the use of electric vehicles as alternative means of mobility in Ghana.



Create demand beyond the business-as-usual levels and enable the productive and sustainable utilisation of excess capacity and drive electricity demand and utilisation.

Ghana’s NDC intends to reduce GHG emissions by 15% from the projected business-as-usual level of 73.95MtCO₂e5 by 2030.

Despite the lack of any formal policies, the transition towards e-mobility in Ghana is and continues to be a reality. The private sector has been tackling the issue of charging stations in Ghana and has started preparing the groundwork for electric vehicles. The private sector’s pro-activeness in partnership with the Government means that Ghana will be prepared for new policies that will assist in the transition to e-mobility.



Electric vehicle policies in Egypt

The Government of Egypt being a front runner in the e-mobility space in the region has led to the European Bank for Reconstruction and Development (EBRD) confirming its willingness and commitment to assisting the Ministry of Transport and the Ministry of Electricity and Renewable energy in reviewing existing policies and developing an e-mobility strategy with a focus on prioritisation of funding support and policy interventions. The EBRD has confirmed its investigation into the potential market for the acquisition of EVs for public fleets and car sharing

systems, taxis, and vans, in order to accelerate the introduction of electric vehicles. Furthermore, the EBRD intends to develop a short- to medium-term action plan to pilot the roll-out of EVs.

Aside from direct impact policy, there are a number of steps which have been taken to ensure an effective transition to e-mobility. These are discussed below.

The Government, through different ministries, has enacted several policies and concluded deals aimed at establishing a market for electric

cars in Egypt. Some of these policies and steps include business sector agreements, vehicle licensing, customs waivers and tariff incentives.

The Ministry of Business Sector has signed an agreement with major Chinese car companies to produce 25,000 electric cars annually within the El Nasr Automotive Manufacturing Company. The Ministry of Business Sector has furthermore developed an incentive package for electric cars and has co-ordinated with the Ministries of Electricity and Local Development to establish fast charging stations.





Vehicle licensing

Attempts have been made to establish standards and procedures for licensing and registration of EVs of various vehicle types with the result being that the Government has granted owners of electric cars permanent licenses.

Customs

The Government of Egypt continues to signal a determination to increase dependency on EVs in Egypt and create an environment that will enable local manufacturing and the roll out of a framework for EV licencing and operation. Currently, the framework includes custom breaks for importing EV's and their local components as well as setting a competitive tariff for electric charging.

In March 2018, the Minister of Trade and Industry issued a decree exempting used EVs from custom duties. Egyptian regulations do not permit the import of used cars. An exemption was made for EVs to encourage their use and enhance future market opportunities.

On 17 September 2020, the President issued a decree designed to encourage the local assembly of EVs which expanded the list of eligible importers to include companies involved in the manufacture and assembly of EVs.

The decree:

- cut the total value of local content needed to qualify for customs breaks on components imported for locally assembled cars to 10%;
- rolled out discounts which applied to imported components used in setting up EV charging stations and inputs brought into outfit cars with dual-fuel, electric, or natural gas engines;
- included specific exemptions on imported local components and equipment used in the manufacturing of EVs; and
- imposed custom duties of 30% on EVs carrying 10 persons or more in order to enhance local EV assembly.

These duties don't apply to free trade countries.

Electric charging tariff

The Egyptian Electricity Utility and Consumer Protection Regulatory Agency will set, each year, the prices for charging EVs. They will be mandated with the issuing of licences for charging stations and will issue one-year licences to interested operators as part of an early transitional period. When these temporary licences expire, the operator will be eligible for five-year licences that will renew automatically upon expiry.

Only licensed operators and investors will be allowed to run charging stations, provided they sign long-term contracts with electricity companies. Those contracts shall specify the price at which the operators can purchase electricity from distributors, as well as set the profit margins when stations sell to customers. Operators looking to sign contracts will also need to indicate the number and specifications of charging stations and docks they're looking to supply.

Additional incentives being considered include:



Subsidies for the first 100,000 locally produced EVs.



Public sector companies will be required to replace 5% of their fleet with EVs on a yearly basis.



A specific programme to provide financing for electric taxi purchases.



A separate financing programme for purchases of personal EVs.

Some of the challenges faced thus far include:

- The pricing of EVs remains a challenge until purchase price parity is reached.
- There is an abundance of natural gas in Egypt, and existing experience in rolling out compressed natural gas (CNG) vehicles. This means that the move toward CNG is seen by public authorities as the more immediate viable alternative to diesel fuel, but considering the increase in demand, the CNG alternative will not have a significant impact, and diesel standards remains the most effective solution.



Electric vehicle policies in Kenya

In Kenya, as of March 2023, over 50 startups have entered the e-mobility space. A majority of these startups fall within the space of two- and three-wheel vehicle supplies. Currently, Kenya is estimated to have 350 electric vehicles (EVs), out of 3,5 million registered vehicles. Of these, the Energy and Petroleum Regulatory Authority (EPRA) estimates that 2,2 million EVs are still on the road. EV leasing, battery swapping and charging stations are the leading services being offered. Other services such as mini-grid or micro-grid systems for charging infrastructure, EV manufacturing/assembly and EV technology battery recycling are yet to gain traction.

At present, Kenya lacks harmonised legislation to govern the e-mobility sector. Relevant legislation impacting EVs includes the Traffic Act, National Transport and Safety Authority (NTSA) Act, Energy Act, Transport Licensing Act and the NTSA (Operation of Public Service Vehicles) Regulations. However, these all require amendments to specifically address EVs. For instance, the registration of EVs by the NTSA is taking longer than internal combustion engines (ICEs) due to the lack of clarity on the registration process for new models of EVs within the registry.

According to an e-mobility study conducted in January 2021, there is a need for cohesion between

government institutions involved in effecting different aspects of e-mobility. This includes establishing an e-mobility inter-government agency team consisting of relevant public sector institutions (the Kenya Bureau of Standards (KEBS), Kenya Revenue Authority, NTSA, State Department of Transport, Ministry of Energy and Ministry of Environment) and the private sector. If the Government successfully implements an e-mobility inter-government agency, it will be the central point of co-ordination for e-mobility information to the public, strategy and policy development and this will aid in ingraining EVs as part of the Kenyan transportation ecosystem.





Electric Vehicle Policies in Kenya

Positively, as recently as 30 January 2023, National Treasury invited the public to comment on the Draft Green Fiscal Incentives Policy Framework (GFIPF), which introduces various green fiscal policy actions. Among suite of measures proposed under the GFIPF are incentives for the import, manufacture, and assembly of electric and hybrid motor vehicles, electric motorcycles, and their spare parts. Other proposals include the operationalisation of a feebate system, which entails a combination of fees and rebates in which a 'fee' is levied on inefficient vehicles and a 'rebate' is rewarded to efficient vehicles. Since EVs do not emit greenhouse gases (GHG), the e-mobility sector will benefit from this arrangement as consumers switch to EVs due to the underlying monetary benefits. Ultimately, the Government intends to shift to procurement of EVs over the medium term for both the public and private sectors.

Other existing legislative, regulatory and policy initiatives by the Kenyan Government include:

- The reduction of excise duty for 100% battery powered electric motor vehicles from 20% to 10% which was achieved through an amendment to the First Schedule to the Excise Duty Act through the Finance Act of 2019.
- In 2021, the KEBS published a list of e-mobility standards for lithium-ion batteries, lithium-ion battery systems combined with lead-acid battery or electric double layer capacitors, various categories of electric mopeds and motorcycles, hybrid electric vehicles, and electrically propelled road vehicles. Standards for a broader range of batteries, vehicle charging infrastructure and battery swapping are crucial to ensure acceptable levels of safety and quality. With clear performance, safety, energy measurement and verification standards, charging infrastructure can be regulated.
- The National Climate Change Action Plan 2018–2022 outlined measures to incorporate EV technical standards, incentives, pilot projects and public procurement to stimulate the sector. In addition, the updated Integrated National Transport Policy (2020) recognises the role of Government to undertake further research and develop standards for safe deployment of electric two- or three-wheelers with a focus on safety, charging system equipment and infrastructure support.
- The 2023 Budget Policy Statement captures the Government's commitment to roll out EV charging infrastructure in all urban areas and along the highways and to create incentives for the adoption of electric mass transit systems in all cities and towns. The Government will further leverage financial support that will be provided to the boda-boda sector, through the Hustler Fund, to develop the EV and motorcycle assembly industry. The manner in which these commitments will be implemented is yet to be specified.
- The National Energy Efficiency and Conservation Strategy 2020 envisions the country meeting a target of 5% of Kenya's vehicle stock being EVs by 2025 and having owners of commercial buildings ensuring that at least 5% of parking spaces in their facilities are dedicated to charging EVs. Commercial and residential land will play a crucial role in the growth of charging and battery swap stations. E-mobility companies recognise the importance of creating partnerships with property stakeholders. The Ministry of Lands, Housing and Urban Development is a potentially useful partner to create policies that would accommodate EV charging infrastructure.
- The GFIPF outlines the Government's proposal to promote green technology in agricultural production by use of electric trucks and tractors in the 2022/2024 financial year timeframe.



Incentives relating to EVs

While electric batteries and components are cost-effective in the long run, they tend to have a high purchase cost. At present, there is a lack of direct incentives, which raises the barriers to entry for e-mobility companies. Accordingly, the Government has put in place various incentives to encourage assembly of EVs in Kenya.

Currently, there is no tax relief or reduced value-added tax (VAT) and import duty for fully built EVs. However, a lower 10% excise duty on fully powered EVs is a benefit that should be exploited by importers of four-wheel EVs. Importers of EVs can also obtain an assembler's license and register a bonded warehouse to eliminate upfront VAT payment and reduce import duty. The assembler's license allows authorised assemblers to enjoy import duty remission when assembling motor vehicles or trailers in bonded warehouse facilities. On the other hand, the registered bonded

warehouse facility allows an importer to pay the VAT and import duty costs at the point of purchase, hence better managing cashflow for the assembler, who does not need to account for VAT and import duty at the point of purchasing the completely knocked down kits (CKDs).

The 2023 Budget Policy Statement sets out the Government's intention to provide financial and tax incentives for public service vehicles to convert to EVs. In the Finance Bill 2023, the Government intends to continue with the reduced corporation income tax rate of 15% for local motor vehicle assemblers for a period of five years. The reduced corporation tax rate can be extended for a further five years if the assembler meets a local content equivalent of 50% of the ex-factory value of the motor vehicle. The Finance Bill 2023 defines "*local content*" to mean parts designed and manufactured in Kenya by an original equipment manufacturer operating

in Kenya. In addition, the Finance Bill 2023 proposes to lower custom duties on all goods imported to the country for home use, by lowering the import declaration fee from 3,5% to 2,5% and the railway development levy from 2% to 1,5%, although this proposal is not specific to EVs. At the date of this guide, these proposed changes are yet to take effect.

While not specific to EVs, authorised assemblers of motorcycles can import unassembled motorcycles under duty remission provided that they comply with the conditions stipulated under the Tax Procedures (unassembled motorcycles) Regulations, 2020 which include sourcing certain parts from the local market. The Tax Procedures (unassembled motorcycles) Regulations 2020 define a "*duty remission scheme*" as an incentive granted to manufacturers in the East African Community region who import inputs and raw materials for

manufacturing activities. The duty remission scheme enables assemblers of motorcycles to import CKDs at a reduced import duty rate.

As to energy tariffs, the EPRA recently approved a special tariff under the e-mobility category for charging of EVs, in a move to support e-mobility. The special tariff chargeable at KES 16 per kilowatt-hour (kWh) for consumption of between 200 and 15,000 kWh, will be available until 2026, to incentivise investment in the e-mobility sector.

Recently, the KEBS has announced its plans to verify and list all imported products and their manufacturers to widen and tighten product scrutiny before shipment into the country and to ensure that such imported products and their manufacturers meet the mandatory safety and quality requirements (pre-export verification of conformity) prior to importation.



Potential for green hydrogen in Kenya

Kenya has over 92% renewable energy sources. Over 90% of electricity used in Kenya is generated from renewable energy sources like hydropower, geothermal, solar and wind energy. According to the Long-Term Low Emission Development Strategy (LTS) for Kenya, a long-term strategy development anticipates the emergence of hydrogen as a tool for decarbonising Kenya. As per the LTS, Kenya is predicted to reach net-zero emissions if the power grid is wholly decarbonised and energy consumption is transitioned away from fossil fuels and steered towards the adoption of green energy sources such as hydrogen fuel. Additionally, the LTS has set out targets for the migration from fossil fuel to electric and hydrogen powered vehicles at approximately 30% by 2050.

In order to achieve a full transition to clean energy by 2030, Kenya endorsed the Glasgow Breakthrough on Power and Green hydrogen in the energy sector. The Government is considering green hydrogen as an alternative energy source both for individual use and economic activity. According to the Ministry of Energy, Kenya aims to pursue green hydrogen as the energy carrier for selected transport (mobility) options. The Baseline Study on Power-to-X/Green Hydrogen report, published in February 2022, recognised the existence of abundant renewable energy sources in Kenya that can be used to produce green hydrogen. Its potential use in Kenya will include usage in electronics, semiconductors, batteries and mobility of trucks, buses and utility vehicles because of large energy volume need and limitations as to battery storage.

The key takeaways from the study are that:

- Several drivers and constraints to the creation of a green hydrogen economy exist. Notwithstanding this, Kenya aspires to be a key player in Africa's hydrogen economy by producing green hydrogen from off-peak renewable energy, which may be utilised to aid Kenya in meeting its decarbonisation objectives. Although solar and wind energy are intermittent in the country, Kenya's geothermal energy is baseload and provides more power than is required during non-peak hours.
- Due to Kenya's geographic location, the duality of local and regional markets for green hydrogen provides notable short- to long-term possibilities.

However, it is difficult to ascertain if Kenya is poised to compete on the world stage alongside prospective green hydrogen hubs. Despite this uncertainty, a significant accelerator for the aforementioned lies in the creation of a robust domestic market.

As a key action to contribute to reduced GHG emissions, Kenya partnered with the European Investment Bank in March 2023, where it received a grant of €1,8 million for onward lending to investors of green hydrogen in Kenya.

To sum it up, save for a harmonized e-mobility policy and legislative framework, the Kenyan Government is on the right track towards creating an enabling environment for investments into the EV sector and achieving a low emission society by 2050.



Electric vehicle policies in Morocco

Morocco is the undisputed leader in vehicle manufacturing in North Africa.

Morocco is the first North African country to produce EV's through the German automotive company Opel, giving it a first mover advantage with massive potential to expand into Africa and export into Europe.

The Moroccan Government has not implemented any policy or strategic plan regarding EV's and their production or use.

Policies and legislative changes would be needed in order to facilitate and regulate the production and use of EV's in Morocco and allow the space and mechanisms for the growth of this sector.

Following projections in Madrid, Paris, and Berlin, Morocco intends to supply substantial quantities of solar energy and green hydrogen to Europe in years to come, paving the way for climate neutrality.

Morocco has solidified its position as Africa's climate and energy policy leader.

Morocco, which hosted COP22 in Marrakesh in 2016, is currently undertaking lofty CO2 reduction goals and continues to be a key player in international climate discussions.

Morocco successfully accomplished an installed capacity of more than 40% renewables in 2020, a ratio that is predicted to rise to 52% by 2030.

The Noor solar thermal power plant in Ouarzazate, which is the world's largest solar complex, is a notable illustration of the country's roaring renewable energy success.

Morocco is ranked among the top countries in Germanwatch's 2021 Climate Change Performance Index.

Morocco's energy blueprint presently includes a new overarching goal: being the global market producer in green hydrogen generation.

Owing to the increasing demand for the new zero-emissions fuel, a foregone conclusion is that hydrogen production is a certain future sector.





Electric Vehicle Policies in Morocco



Together with the operational and economic viability of these far-reaching aims, it raises the issue of how this export-oriented strategy will affect Morocco's energy transition and its people.

Morocco offers excellent weather conditions, features significant investments in renewable energy, and is conveniently located near Europe. Morocco intends to take advantage of this by generating hydrogen from solar energy for prospective exporting.

So far, demand has fuelled this goal, which has been presented to Morocco from the outside – notably by Germany and other European Union member states seeking admission to the new *"oil of the future"*. By way of illustration, in the Germany-Morocco Hydrogen Agreement, which was signed in Berlin in June 2020, the Federal Republic has committed to aiding Morocco in the construction of a hydrogen production facility and the generation of green hydrogen. To date, a total of €300 million has been committed to this project, which would enable Germany to obtain green hydrogen from Morocco for years to come.

Morocco is an attractive market for industrial vehicle electrification since energy costs remain reasonable at \$0,116/kWh, compared to burgeoning fuel rates of over \$4,00/gal.

Morocco has pledged to meeting the United Nations' target of using 80% renewable energy by 2050.

Greenland Technologies has signed a new distribution deal with Moroccan distributors to boost its industrial electric vehicle product range. This arrangement has a market value of \$5 million to \$8,4 million.

The minimum potential market value would grow to \$8,4 million if the distribution partner to the agreement maintained the minimum purchase criterion established in the second year of the agreement.

Morocco is Africa's fifth biggest country, according to the International Monetary Fund, with a GDP of \$126 billion in 2020.

Elive Maroc S.A.R.L. A.U., Greenland Technologies' distribution partner, will have exclusive rights to market and distribute Greenland's industrial electric cars in Morocco under the terms of the agreement.

Greenland Technologies' GEF-Series Lithium Electric Forklifts, GEL-Series Lithium Electric Front Loaders, and GEX-Series Lithium Electric Excavators will all be part of the implementation.

On the fiscal front, the emergence of this new mode of transportation aims to create a new industrial sector that includes the production of rechargeable batteries, electric vehicles, and hybrids; the installation of charging infrastructure in the private and public sectors; and the recycling of vehicles and batteries, as well as the question of the latter's second life.

However, other areas, such as vehicle battery life, charging stations, standards, and regulatory framework, still need to be addressed.

Morocco is initiating plans in numerous sectors to promote the attainment of its objectives, driven by its commitment to adopting energy reforms and significant orientations essential for environmental preservation and sustainable development.

Despite considerable progress, Morocco is still in the early stages of introducing electric cars, and documentation of their deployment and development is lacking.



African Green Hydrogen alliances

Hydrogen is increasingly recognised as a missing link of the energy transformation jigsaw for decarbonising harder-to-abate industries as nations across the world coalesce behind net-zero ambitions. Substantial uncertainties remain regarding the likely evolution of hydrogen.

With the rising impetus to develop a worldwide hydrogen market, a better understanding of its larger ramifications, including geopolitical implications, is required.

On 18 May 2022, South Africa, Namibia, and four other African countries officially unveiled the Africa Green Hydrogen Alliance, with the goal of making the continent a pioneer towards the implementation of innovative hydrogen, spurring the shift away from fossil fuels towards the novel green technologies which make provision for clean, affordable energy.

Kenya, South Africa, Namibia, Egypt, Morocco, and Mauritania have formed a coalition to enhance collaboration towards developing a sustainable enabling environment for green hydrogen development.

The coalition's key mandates comprises public and regulatory policy formulation, capacity building, finance, and certification requirements to mobilise green hydrogen production for local and international consumption

In response to the potential offered by lower-cost renewables, rapidly growing electrolyser technology, and hints in certain key markets that green hydrogen consumption may arise at scale this decade, the alliance is now encouraging more African nations to participate in this initiative.

With support from the United Nations Climate Change High-Level Champions, the Green Hydrogen Organisation, the African Development Bank, and the United Nations Economic

Commission for Africa, the countries formally launched the Africa Green Hydrogen Alliance at the first-ever Green Hydrogen Global Assembly in Barcelona, Spain.

Considering the vast solar and wind energy resources and wide swaths of non-arable acreage on the continent, a multitude of African countries are said to be poised to develop green hydrogen initiatives.

The alliance does underscore, however, that producing green hydrogen on a mass level and lowering the costs of production will necessitate joint efforts between ministries, corporations, financiers, regional development banks, civil society, technical and academic specialists, amongst others.

Effective governance coupled with transparency will be critical for ensuring that the green hydrogen industry eliminates deficiencies which have plagued various branches of Africa's extractive economy.

The alliance's six founding countries plan to use it as a pedagogical tool for working collaboratively on workflows, establishing symbiotic links between green hydrogen developments, disseminating acquired knowledge, research and development, as well as engaging with the private sector, development banks, and non-governmental organisations.



Conclusion

With concerns surrounding climate emissions gaining traction, the adoption of and transition to e-mobility appears to no longer be an idea but a reality. As noted, governments around the world are actively taking steps to embrace e-mobility in response to climate emissions. Africa's place within the e-mobility space is yet to be determined, but countries such as the ones discussed above are taking steps that appear to signal a real intention to join the rest of world in the transition. Notwithstanding the steps that have already been taken, African countries should be focusing on specific actions which will accelerate and ease the transition to e-mobility.





Conclusion

Some of these actions include:



Implementation of a cross-sectoral policy approach

This was a recommendation raised in a recent panel discussion organised by the International Finance Corporation on how communities and stakeholders can accelerate the development of sustainable electric mobility.



Co-ordination

The transition to e-mobility requires co-ordination between the relevant sectors including energy, transport, urban planning, and development. If e-mobility is to succeed, these sectors will need to find a meeting point where they can maximise the climate benefits of e-mobility and ensure that the process towards becoming an electrically mobile nation is as efficient and effective as possible.



Scale

African countries must find innovative ways to harness economies of scale in order to lower costs. Considering and implementing tariff concessions and other associated benefits, for example, could play a crucial role in helping to develop the electric vehicle automotive and transport industry on the continent.

Finally, African governments must actively encourage the adoption of e-mobility through programmes that draw people to make EV purchases or invest in the industry. Examples of programmes that can be explored include tax credits, direct subsidies, import incentives, provision of public EV charging infrastructure, and road tax exemptions – all of which will speed up adoption and fast-track transition.

The renewable energy industry is one that is gaining traction around the world. This sudden interest and resulting investment in the industry means that Africa can not only be part of the change but can also benefit directly from the results. Focusing on e-mobility as a form of renewable energy is therefore important for Africa and should be taken seriously in the coming years.

OUR TEAM

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



Jackwell Feris

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



Jerome Brink

Director:
Tax & Exchange Control
T +27 (0)11 562 1484
E jerome.brink@cdhlegal.com



Njeri Wagacha

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



Clarice Wambua

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



Margo-Ann Werner

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



Louis Botha

Consultant:
Tax & Exchange Control
T +27 (0)11 562 1408
E louis.botha@cdhlegal.com



Anton Ackermann

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

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Our BBBEE verification is one of several components of our transformation strategy and we continue to seek ways of improving it in a meaningful manner.

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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

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

NAIROBI

Merchant Square, 3rd 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

STELLENBOSCH

14 Louw Street, Stellenbosch Central, Stellenbosch, 7600.

T +27 (0)21 481 6400 E cdh Stellenbosch@cdhlegal.com

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