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CONSERVATION FOUNDATION
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23rd CHIEF S.L. EDU
MEMORIAL LECTURE
LECTURE NOTE

THEME: GREENING AFRICA'S ECONOMIES: CAN CLIMATE POSITIVE GROWTH DELIVER PROSPERITY?

SPEAKER:

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Brief Tribute to Chief S. L. Edu

I am deeply grateful to the Nigeria Conservation Foundation for inviting me to deliver the 23rd Chief S.L. Edu Memorial Lecture. However, an even greater honour for me is the privilege of commemorating by this lecture, Chief Shafi Lawal Edu, an undisputed global icon of environmental conservation. Chief Edu was one of those rare individuals with the remarkable ability not just to foresee the future with clarity but to act decisively in the present with that future in mind.

How else can we explain the fact that as far back as 1962, he understood that protecting and sustainably using the environment was essential to preserving the earth for future generations? And that recognising the importance of this cause, he joined the World Wide Fund for Nature (WWF) — the world's largest independent environmental organisation — just a year after its establishment in 1961, and became a member of its most exclusive category, Club 1001: A Nature Trust.

Chief Edu also believed that Nigeria should play a central role in the global environmental movement and that after years of a struggle to register a conservation organisation in Nigeria, he finally got approval to establish the Nigeria Conservation Foundation in 1980, and registered it in 1982, thus laying the foundation for Nigeria's leadership in environmental protection.

Today, it is clear that climate change is the most serious global challenge we face and if we are to save our planet, we must build on the pioneering work of prescient visionaries like Chief S.L. Edu.

His legacy reminds us that the decisions we make now will determine the future of our planet.

May his memory always be a blessing.

I will be speaking on the topic:

Greening Africa's Economies:
Can Climate Positive Growth
Deliver Prosperity?

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Introduction

Greening Africa's Economies: Can Climate Positive Growth Deliver Prosperity?

Africa's climate change experience is a paradox.

We are the least emitters of dangerous gases yet we are the worst affected by its devastating effects. Despite our relatively negligible emissions, our continent is warming faster than the continents of the global north whose past and current emissions are largely responsible for the climate crisis.

Indeed practically everywhere in Africa the catastrophic consequences are rife... Africa has the highest incidence of drought and the second highest incidence of flooding. The Horn of Africa has been facing its worst drought in 40 years, with five consecutive failed rainy seasons since 2020, with prolonged droughts in Kenya and Somalia. West Africa has been experiencing intense flooding especially Nigeria, Niger and Ghana. In 2022 Nigeria experienced its worst flooding, killing over 600 people and displacing 1.3 million; in Southern Africa, cyclones and tropical storms are rife, Cyclone Freddy wreaked havoc in Mozambique, Malawi and Madagascar, and in North Africa, heat waves and water scarcity in Morocco, Tunisia and Algeria. A recent study also shows that sea-level rise is expected to impact major African coastal cities, including Dar es Salaam, Lagos, Cotonou and Porto-Novo, and Cairo and Alexandria.

The climate crisis is not Africa's only existential challenge, the other is extreme poverty. This includes: unemployment, food insecurity, severe infrastructure deficits and of particular importance, energy poverty, which essentially means lack of access to energy, especially electricity and clean cooking fuels is crucial in this context because it further deepens poverty by inhibiting any real growth or job opportunities.

Empirical evidence demonstrates that availability of energy is directly related to income, and development both at the individual and societal level. And the energy poverty issue in Africa is huge. Over 600 million Africans have no access to electricity and 150 million have irregular access.

Africa's 1.3 billion people are serviced by an installed capacity of 244 Gigawatts which is less than the 248 Gigawatt available for Germany's population of 83 million. Over 950 million people have no access to clean cooking fuels. And Climate change will push an additional nearly 40 million people in subsaharan Africa into chronic hunger by 2050.

Now... everyone or nearly everyone agrees that the emission of green house gas from the use of fossil fuels is the primary cause of global warming and that we must stop the use of fossil fuels if we are to attain net zero by 2050. But we also know that thus far, the progress the world is making is far too slow to meet our net zero targets. But perhaps more importantly, it has become evident that if African countries were to develop along the same carbon intensive pathway of developed economies, that is, burning fossil fuels for industry and transport then it will be impossible for the world to attain net zero, because Africa will then be adding 9.4 gigatonnes of Co2e annually until 2050, and become leading emitters globally, accounting for 75% of global emissions by 2050. So if Africa develops the way the global North developed, the world is doomed.

So we can be either the nemesis of the world or the solution to the climate crisis, depending on how we choose to develop. So to achieve its net zero ambitions, the world needs Africa to take a carbon negative path to development, or put simply, the world needs Africa to develop without increasing carbon emissions.

Indeed Africa can kill two birds with one stone. We can help the world meet its net zero targets by developing on a Green pathway or what is described as Climate Positive Growth. This will create jobs, and wealth and deal with extreme poverty. Why does a climate positive growth paradigm for development make sense? It is because we have climate competitiveness: that our economies will do better than most if we go green, this is especially so as the world increasingly pays for climate solutions – through consumer preferences, a price on carbon, or rules that force a shift to lower-emission solutions – for example, Europe's CBAMs impose a tax on carbon embedded in products imported into the EU, and the places in the world that can provide 'green' solutions most cost-competitively have a massive economic opportunity. Thanks to Africa's abundance of high-quality untapped renewable energy potential, our young and entrepreneurial workforce, and our relevant natural assets and resources, we have the key ingredients to be a major climate action powerhouse.

Indeed, being late starters to industrialisation and our low carbon footprint can actually be an advantage, enabling us to develop greenfield clean energy manufacturing, saving us the cost of abandoned legacy carbon intensive manufacturing projects, and by pursuing an industrialisation pathway using renewable energy, of which we have 60% of the world's potential, we can develop the first green industrial civilisation. We can green global manufacturing and supply chains, we can protect our carbon sinks and remove carbon from the air. We can achieve economic growth without growing emissions, or even keeping emissions constant. This way we can realise inclusive economic growth, job creation, and livelihood improvement by being part of the climate solution.

Indeed, it has been well argued that Africa probably has the best potential in terms of green and blue assets to become the first truly green industrial civilisation and thus enable the world achieve its net zero objectives. Africa is a global powerhouse of natural and renewable resources, and this positions the continent at the heart of the green transition.

Some facts from well established published resources show that Africa holds one-sixth of the world's remaining forests, absorbing possibly 1.5 billion tons of carbon dioxide annually. The Congo Basin rainforest is the planet's largest tropical carbon sink — absorbing more carbon than the Amazon and Southeast Asia combined.


Congo Basin Rainforest

Three of Africa's large marine ecosystems are among the world's top four in productivity. For Carbon Capture Potential, regions such as the Rift Valley, Zululand Basin, Rovuma Basin and Ethiopia's Blue Nile, offer prime locations for carbon capture technologies. Perhaps one should mention as an aside that carbon sinks in developed economies have been completely depleted over time; the US has lost over 30% of its forest reserves since 1630. Also Africa is rich in the minerals which are essential for low-carbon technologies: these include, cobalt, graphite, and manganese (used in battery storage), as well as Platinum Group Metals which are key for green hydrogen production, bauxite and chromite which are important components in the manufacture of solar panels, and phosphate rock which is vital for making batteries and fertilisers.

As of 2022, Morocco held two-thirds of the world's phosphate rock reserves. The Democratic Republic of Congo (DRC) produces over two-thirds of global cobalt. South Africa is home to 90% of the world's platinum group metals. Guinea holds the world's largest bauxite reserves. Mali has 840,000 tons of lithium reserves. Niger is the second-largest exporter of uranium ore. Gabon is the second-largest producer of manganese. Zambia is the world's top exporter of
unrefined copper! Mozambique is the second-largest producer of graphite. Zimbabwe is the third-largest exporter of chromium ore.

For Renewable Energy Potential, Africa has 40% of the world's solar resources. Kenya is probably the world leader in geothermal power capacity under construction (Olkaria plant).

Olkaria plant

Ethiopia is making good progress with the Hawassa Eco industrial park. Wind power could increase electricity generation 30-fold in Chad, Mauritania, Niger and Mali with full deployment. The Grand Inga Dam in the DRC could generate 40,000 MW of electricity — twice the capacity of China's Three Gorges Dam, currently the world's largest.

The economic case for renewable technologies for manufacturing is getting stronger by the day. Last year's IEA publication showed that already, the total cost per kWh of grid scale solar, including storage, is lower than that of gas peaking technology – even without valuing fossil fuel price volatility and without putting a price on emissions.

In addition, Africa's renewable energy is not only abundant but also has very low seasonality, or intermittency which makes it possible to reliably provide renewable baseload, to power continuous industrial production.

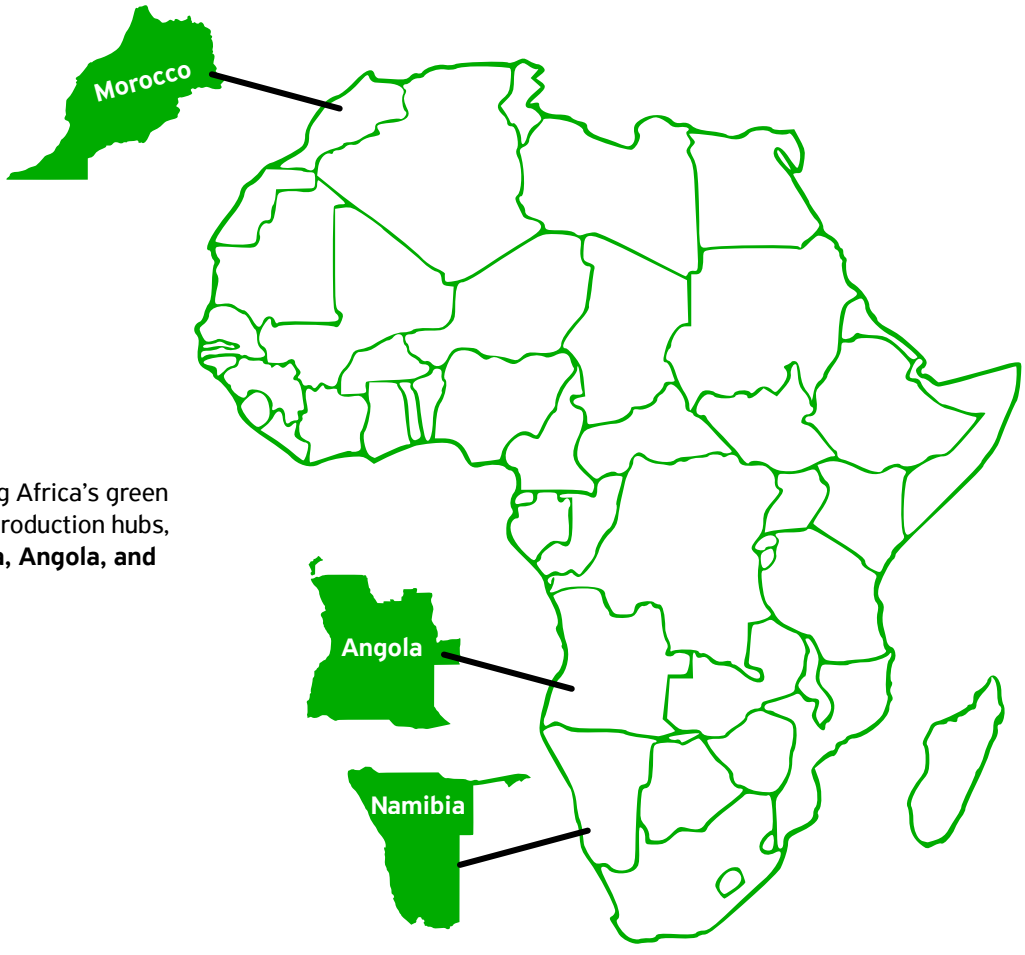
Africa's Green Hydrogen Production Hubs

The production and use of low-carbon fuels such as hydrogen and Ammonia in manufacturing, as well as the export of the same is another great opportunity for African countries, and in the past five years we have seen many green hydrogen projects in Africa reaching Final investment decision (FID). Namibia has received over $500m in investments in Green Hydrogen. Its substantial investments in solar energy and other renewables, and the clean energy required for hydrogen production have made it attractive for this type of investment.

Angola is set to become the first exporter of green ammonia to Germany this year 2025, the full capacity of its green hydrogen plant is planned for 280,000 tons annually. Other countries such as Egypt, Kenya, Morocco and Mauritania have green hydrogen production goals. So clearly with its vast green assets, Africa has the potential to lead the world's first truly sustainable industrial revolution.

Let's take a closer look at what climate positive growth in manufacturing would look like. For the first time in history, we have the technology to significantly reduce carbon emissions from industrial production on a large scale. Also, for the first time, building and running climate-friendly industries is becoming as affordable — or even more affordable — than traditional methods.

We must adopt these innovations and expand them quickly. When deciding where to set up production, we need to consider three factors: Access to key resources like renewable energy, land, and labor, Availability of raw materials, and Proximity to markets that will buy the products.



Highlighting Africa's green hydrogen production hubs, i.e **Namibia, Angola, and Morocco**

The global industrial landscape of the future will not necessarily be in the same locations as today. Markets are changing, and so are the resources needed for sustainable production. Africa has a huge opportunity to become a major industrial player. A good starting point is processing its own raw materials. Let's take two examples: turning iron ore into steel, and bauxite into aluminium. By 2050, nearly 40% of new city dwellers worldwide will be in African cities, driving a massive need for construction materials like steel. Yet, Africa currently produces less than 1% of the world's steel, even though it exports over 77 million tonnes of iron ore every year, mostly to Asia and Europe. At the same time, Africa imports nearly 6 million tonnes of steel from these regions.

If Africa processed iron ore into steel locally, near the mines, it could eliminate two-thirds of transport-related emissions — over 5 million tonnes of CO2 per year. Additionally, new green steel plants in Africa could use renewable energy to produce hydrogen as fuel, cutting emissions from steel production by 95%. Combining local processing and reduced transportation, Africa could lower emissions by over 110 million tonnes of CO2 annually, generate $20 billion in additional revenue, and create around 24,000 direct jobs plus 215,000 more in related industries. The 44 GW of new renewable energy needed for this transition would also attract investment in clean energy. Beyond economic growth, this would help reduce Africa's trade deficits, stabilise local currencies, and create new supply chain opportunities for Europe. This is not just a theoretical idea — Sweden has already produced fully green steel, and companies in industries like car manufacturing are committing to using green steel. While green steel still faces technical challenges, aluminium production is an even clearer opportunity because it runs entirely on electricity. Processing Africa's 83 million tonnes of exported bauxite into aluminium locally, using renewable energy, could cut global emissions by 335 million tonnes of CO2 each year—nearly 1% of total global emissions. This shift could generate $37 billion in revenue, create over 60,000 direct jobs and 280,000 jobs in related industries, and provide a strong demand for 20 GW of renewable energy. By embracing these changes, Africa can lead the way in sustainable industrial production while boosting its economy and reducing its environmental impact.

Agriculture

The other **massive green opportunity is in agriculture.** Africa holds over 65% of the world's remaining uncultivated arable land, offering immense potential for building food systems and guaranteeing food security. However, industrial agriculture contributes to almost one-third of global emissions, and some research (Tongwane and Miletus in 2018) shows that Africa's Green house gas emissions, mainly stemming from agricultural activities, are among the fastest growing emissions globally, so there is a need to adopt climate-friendly and sustainable farming methods or climate-resilient agriculture.

One promising climate resilient approach is ecosystem-based adaptation (EbA), which uses natural methods to reduce the impacts of climate change. This includes growing drought-resistant crops, improving water storage systems, and using diverse crop rotation practices. And there are already some examples of the successful use of ecosystem-based adaptation.

In Zambia, 61% of farmers who used ecosystem-based methods like natural resource conservation and organic farming reported higher yields. Some crops saw yield increases of up to 60%, and the percentage of farmers selling surplus crops rose from 25.9% to 69%. In Burkina Faso, farmers use zaï pits (small holes filled with organic matter) to enrich the soil and improve groundwater storage. This technique has rehabilitated 200,000 to 300,000 hectares of degraded land, producing an additional 80,000 to 120,000 tonnes of cereal. Other climate-resilient farming practices include Watershed protection, improving water flow and storage to reach areas in need. Integrated pest management using natural methods like agroforestry, intercropping, and crop rotation to enhance soil nutrients and boost yields. Forestry conservation: Preserving forests and using forest resources sustainably. Natural fertilisers: Using manure and compost instead of chemicals.

Pollinators: Supporting bees and other natural pollinators can increase fruit yields by 5%. These solutions are also affordable; a project in Zambia cost just $207 per person, while similar programs in Uganda and Mozambique cost $14 and $120 per person, respectively.

Key practices for Sustainable Agriculture include

- **Regenerative Agriculture:** By reducing monocropping (growing only one type of crop repeatedly), limiting chemical runoff and hormone use, using less water.
- **Water Harvesting and Irrigation:** Only 5% of farmland in Africa is irrigated, showing significant room for improvement. And
- **Diversified Cropping Systems:** Rotating and growing different crops to maintain soil health and increase productivity. By investing in these methods, African farmers can increase their yields while minimising environmental damage, ultimately proving that Africa has the potential to feed itself despite climate challenges.

For Africa to pursue a climate positive growth path, there are a few important things that African countries need to do.

One, we need to speak with one voice. This is key to getting our agenda recognised and incorporated into emerging global rules and instruments.

Two, we need to put our house in order, and deal with the obvious governance issues of transparency and accountability, especially in public procurements, protection of democratic processes and the rule of law, and security, not just because of risk perception issues but to give our people a fair chance to live well and prosper.

Three, focus our economic growth and development plans on these green opportunities, structure our internal policies and regulation in ways that support climate positive trade and industry.

Four, actively work on harmonising trade, environmental, and industrial policies across the continent so as to ensure a level playing field.

Five, we need stronger and deeper African capital markets and African financial institutions are going to be key to our investment attractiveness. And that requires work in individual countries, in collaboration between countries, and in collective institutions.

Six, we need to develop critical infrastructure, especially climate-resilient infrastructure to support industry and trade.

Conclusion

What global cooperation is needed for Climate Positive Growth in Trade and Industry?

To make climate-friendly industrial growth a reality, we need the right investments and funding. However, Africa faces higher borrowing costs due to real and perceived risks, which cancel out its natural advantages in climate-friendly industries. The Climate Action Platform – Africa (CAP-A) found that just a 20% higher cost of capital over the past decade resulted in a missed opportunity of 27 terawatt-hours (TWh) of renewable energy—about 20% of Africa's total electricity use. In reality, the cost of borrowing in Africa can be five times higher than in other regions, meaning even more projects never get off the ground. To fix this, we need a mix of solutions, all of which must be implemented:

One, developed countries must fulfill past promises, including the Paris Agreement commitments. The Loss and Damage Fund agreed upon at COP27 should be activated. The commitment to provide $100 billion per year in climate finance for developing countries must finally be met.

Two, there must be a Reform the Global Financial System. The Bridgetown Initiative and Capital Adequacy Framework propose ways to strengthen Multilateral Development Banks (MDBs) so they can lend more to emerging economies. Technical solutions like recycling Special Drawing Rights (SDRs), blended financing, and risk mitigation strategies can help reduce borrowing costs.

Three, Reducing the Debt Burden on African Nations. Many African countries spend too much on debt repayments, leaving little room for climate investment. Leaders like Kenya's President William Ruto, Akin Adesina (AfDB President), and Moussa Faki (AU Commission President) have called for a 10-year pause on interest payments for African foreign debt to allow for climate investments. The Debt Relief for a Green and Inclusive Recovery (DRGR) Project, supported by 41 former African finance ministers and central bank governors, proposes debt reductions that restore financial stability while allowing countries to invest in sustainable development.

Four, finding new sources of Climate Finance. New funding mechanisms such as carbon pricing, climate levies, and taxation can generate additional investment capital.

Five, Revaluing Africa's Natural Wealth. Africa's economy is undervalued because it does not account for its vast ecosystems, including forests and wetlands which have absorbed huge amounts of carbon dioxide.

There is the argument that Africa's natural capital should be formally recognised and monetised. Indeed it is only fair that countries that commit to preserving critical ecosystems for the benefit of the world should be compensated fairly for their role in climate action. This would allow African countries to access more funding for green development.

A climate positive growth paradigm for development offers a new beginning for African economies. One in which we are in the driver's seat, one where our comparative advantage is obvious and feasible.

we keep it
clean
because its in our
nature

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