NIGERIA'S TOP 10 NET ZERO AND ECONOMIC DEVELOPMENT MEASURES

SOCIETY FOR PLANET & PROSPERITY

Transition Economies
GCA Capital Partners
Expansion Markets; Climate Reasoning

Climate Advisers Network Berlin

Project Aims

- **The aim of the project is to analyse decisions and action that if taken in the next 5 years would underpin a socio-economic transformation required to enable Nigeria to meet the government's 2060 net zero objective announced at 26th United Nations Climate Change Conference of the Parties (COP26) in Glasgow.**
- **The project also aims to present these steps and decisions in a format that is accessible to a wider public through communication materials that can stimulate and inform a wider public debate, involving civil society and policymakers.**

SUMMARY AND KEY POINTS

- The project has resulted in the identification of eleven (11) measures that if taken in the next five (5) years could put Nigeria on the path of achieving her net zero target while also having significant socio-economic transformation in the country.

- These measures were distilled from a long list of (thirty- five) measures identified in various key policy documents that reflect the priority sectors in Nigeria's Nationally Determined Contribution (NDC). Stakeholders assessed each measure against four criteria, which fairly represent the depth and breadth of the development challenges facing the country.

11

- The eleven measures cover the following sectors: power (3); agriculture and forestry (1), waste (2), oil and gas (1), industry and housing (2); transport (1) and water (1). They have major development benefits: Economic diversification, (youth) job creation and poverty reduction; Security, social safeguards and gender equality; Food security and public and environmental health; and,Sustainable and affordable power and transport.

- A rough calculation indicates that these measures could result in emission reduction of about 174.01 million metric tons of CO_2 equivalent by 2030. Similar to fossil emissions of Algeria or Iraq in 2021.

- Rough calculation of the costs of investment was also undertaken based on estimates for the 10-year NDC implementation time frame 2020-2030 in 2021 United States Dollar (USD). Most significantly the low investment need for the gas flaring goal at **USD 1.96 billion** only is in stark contrast with the investment needs of the electricity sector at **USD 122.71 billion.** Noting that this is an investment required almost regardless of climate mitigation needs.

- Taken together the package of 11 measures can signal an observable shift of the course of economic and social development in Nigeria. Several of the measures are best suited to private and blended types of investment, which is essential in the current circumstances. With the government under-funded and over-dependent on revenues from oil exports and a shortage of foreign exchange in the economy as a whole, combined with a high, rising rate of inflation, access to private and international finance is essential for taking climate action.

- Several measures have a large job creation potential and/or make affordable and clean energy available to Micro, Small, and Medium Enterprises ((M)SMEs), that make up 90% of the Nigerian workforce, which is essential to rekindling growth and diversification. Moreover, the package can also underpin a gradual shift towards a more circular economy.

Using a 6.63% discount rate and not taking a social cost of carbon into consideration.

FINAL PACKAGE IN SHORT

The analysis described above has resulted in the selection of the following final eleven measures

1. A strong focus in generating renewable electricity both on- and off grid (minimum of 30% of on-grid electricity from renewables).

2. Elimination of diesel and gasoline generators for electricity generation by 2030. Expand access to off-grid and under-the-grid clean electricity.

3. Plant 300 million trees [this decade] and promote agro-forestry, reforestation, and afforestation, including community-based forest management and recovery.

4. End (associated) gas flaring by 2030

5. Reduce wood cooking from the currently 72% of population to 20% of population by 2030 / introducing clean cooking into 30 million households.

6. Embark of the construction of 300,000 green homes in the next 12 months, and 1.5 million over the next 5 years.

7. A modal shift in transport by realizing a shift of passengers to Bus Rapid Transport (BRT); backed up by enforcement of emissions standards in vehicles.

8. End landfilling of untreated waste and transit into properly designed and managed landfills with state-of-the-art gas collection.

9. Increase the amount of irrigated land hectare (ha) using renewable energy for pumping from 24.35% to 100% (and an associated increased use of off grid power in communities)

10. Consistent economy-wide Energy Efficiency improvements (-50% from 2015 baseline). Examples are reducing electricity transmission losses and replacing 4 million incandescent bulbs with Tubular Fluorescent Lamps (TFLs) or Light emitting Diode (LEDs), equipment standards.

11. Landscape-scale restoration and recharging of the Lake Chad basin.

INTRODUCTION

Africa's largest economy remains at a high risk of unsustainable development with high youth unemployment, a failed or unjust transition, high inflation, stranding of carbon-intensive assets and mal-adaptation to climate impacts.

While there are many policies and measures in key government documents such as the Nationally Determined Contributions (NDC), Net Zero target, Energy Transition Plan (ETP), Long Term Strategy, Midterm Plan, the Economic Recovery Plan among others, many feel that action on these measures are not happening as quickly as they should. At the same time, while the measures in these documents may be technically sound there are some who feel that their benefits are not sufficiently well communicated to the broader national audience. But time is ticking and what is undisputed is that the measures that will be implemented over the coming 5 years, will make a decisive difference. A small but targeted package of measures implemented across the key economic sectors will be able to put Nigeria on a deep decarbonization pathway. Such measures will require investments from government and the private sector, with international climate finance leveraging those domestic investment and lowering investment costs and reducing risks. A failure to put Nigeria on the decarbonization path in the near term will possibly foreclose the opportunity for net zero emission by 2060 altogether.

Therefore, this project is conceived to inform and stimulate the Nigerian discourse on the actions to take before 2025 that can make a decisive difference in achieving the country's ambitious net-zero by 2060 commitment made in 2021 at 26th United Nations Climate Change Conference of the Parties (COP26).

The project outputs are intended to support Nigerian stakeholders including policy makers, businesses, civil society organizations, and international development partners and crucially the general public, in moving this important issue out of the confines of expert debate and furthering societal debate about climate choices, regardless of people's political perspective.

The specific aim is to map 10 key steps and decisions that if taken in the next 5 years will underpin a socio-economic transformation required to enable Nigeria to meet the government's 2060 net zero objective.

Method

The project team collated a catalogue of 35 measures across the seven economic sectors (see Chart 1 below). The catalogue of measures was derived from the following sources:

- The 2021 updated NDC,
- The Long-Term Vision for the Low Emission Development Strategy,
- The Medium-Term National Development Plan,
- The Appropriations bill,
- The Nigeria Economic Sustainability Plan,
- The Nigeria Climate Policy, the Energy Transition Plan, and
- The Ministry of Finance, Budget and National Planning-Climate Finance Strategy.

These documents cover the breadth of Nigeria's climate commitments across all sectors: agriculture, forestry and land use, industry and housing, oil and gas, power (electricity), transport, waste and water resources. Each measure is quantifiable and has a potentially significant climate-positive or should we say mitigation impact. The full list of the 35 measures collated is included as Annex I.

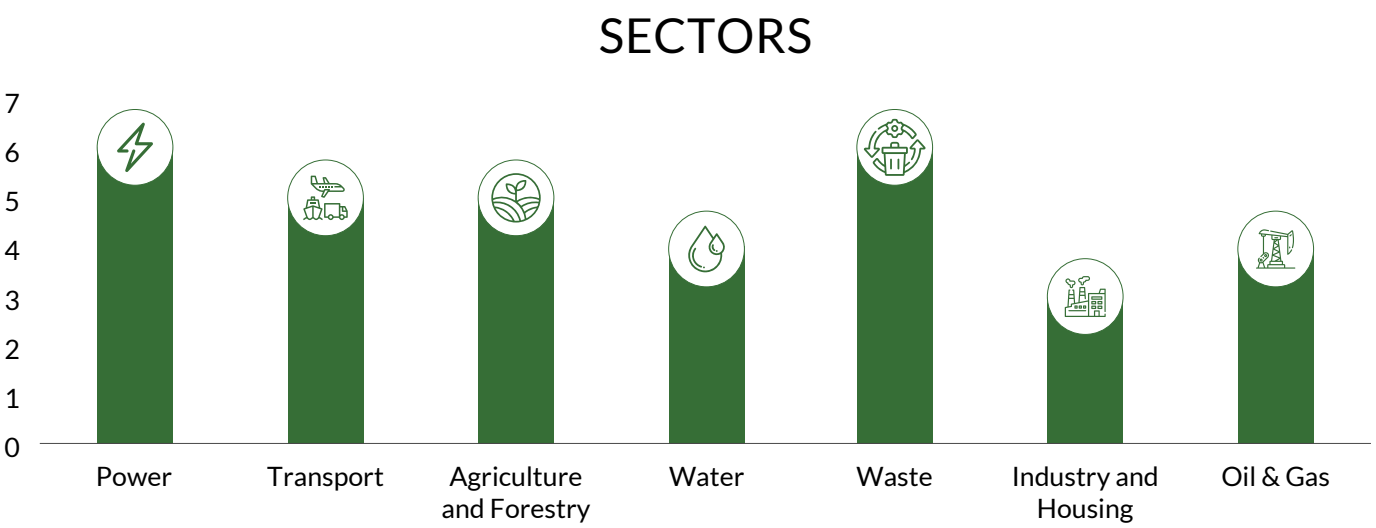


Figure 1: Sectoral Distribution of the 33 Measures

A stakeholder mapping was prepared, identifying 177 senior experts from government, the private sector and unions, civil society organisations, academia and think tanks, the media, and international development partners. A hybrid workshop was held in Abuja on 28 July 2022 with 56 people in attendance and 25 people participating virtually, making for a total number of 81 participants.

30 out of the 81 participants responded to the questionnaire at the workshop, a further 32 people submitted the questionnaire electronically, providing a tally of 62 responses in total. The stakeholders that participated in both the online and physical questionnaire to provide expert judgment on the ranking were constituted as shown below by Fig. 2 and Fig 3. below.

Waste	Water	AFOLU	Industry and Housing	Oil and Gas	Power	Transport	Males	Females
21%	15%	27%	8%	10%	11%	8%	80%	20%

Table 1: Constitution of experts that ranked the 35 measures

Stakeholders were presented with the context of the project and the full list of above-mentioned measures. They were invited to discuss and assess the benefits of successful implementation of each measure against four criteria, which are deemed to fairly represent the breadth of the development challenges facing the country:

1. Economic diversification, (youth) job creation and poverty reduction;
2. Security, social safeguards and gender equality;
3. Food security and public and environmental health; and,
4. Sustainable and affordable power and transport.

In the climate change policy community these benefits of implementation of such measures are commonly referred to as co-benefits or development synergies. The project team has opted to refer to development benefits, to put development at the heart of climate action. Some first order examples are cleaner air from reduced air pollution and less waste from reduced resource use. Some second order examples are improved security from reduced resource conflicts or the jobs created by better access for SMEs to affordable energy.

Why take a development-centric approach to climate change action?

Decision makers look at the full development picture. So, whereas they may acknowledge the need for climate change action, their aim is to deliver a cleaner, healthier, safer and more prosperous future. To many decision makers the development benefits of climate action are the principal benefits, the climate benefit is oft considered the co-benefit. Whichever way one looks at it: Taken together the four criteria reflect the core of the significant developmental challenges currently faced by Nigerian citizens and their government. Any government will be judged against its performance against them. The societal acceptance of a climate-aligned transition will similarly be judged against them.

The current administration has struggled to restore growth to the economy as the Covid pandemic recedes. This due in part to the federal government's dependence on volatile international oil markets, sluggish reforms intended to diversify the economy, and a spiral of rising debt, inflation and joblessness.

The measures prioritized by stakeholders not only make for a compelling climate case, with the potential to bend the emissions curve in a durable manner, they also make for a compelling development case that any incoming administration could embrace.

As said, a total of 62 participants returned results for the exercise, which is a large enough pool to enable simple statistical analysis, allowing the project team to drawing conclusions based on the mean, median and mode scores.[1] The scoring of co-benefits was done anonymously using a simple ordinal scale of -2 to +2.

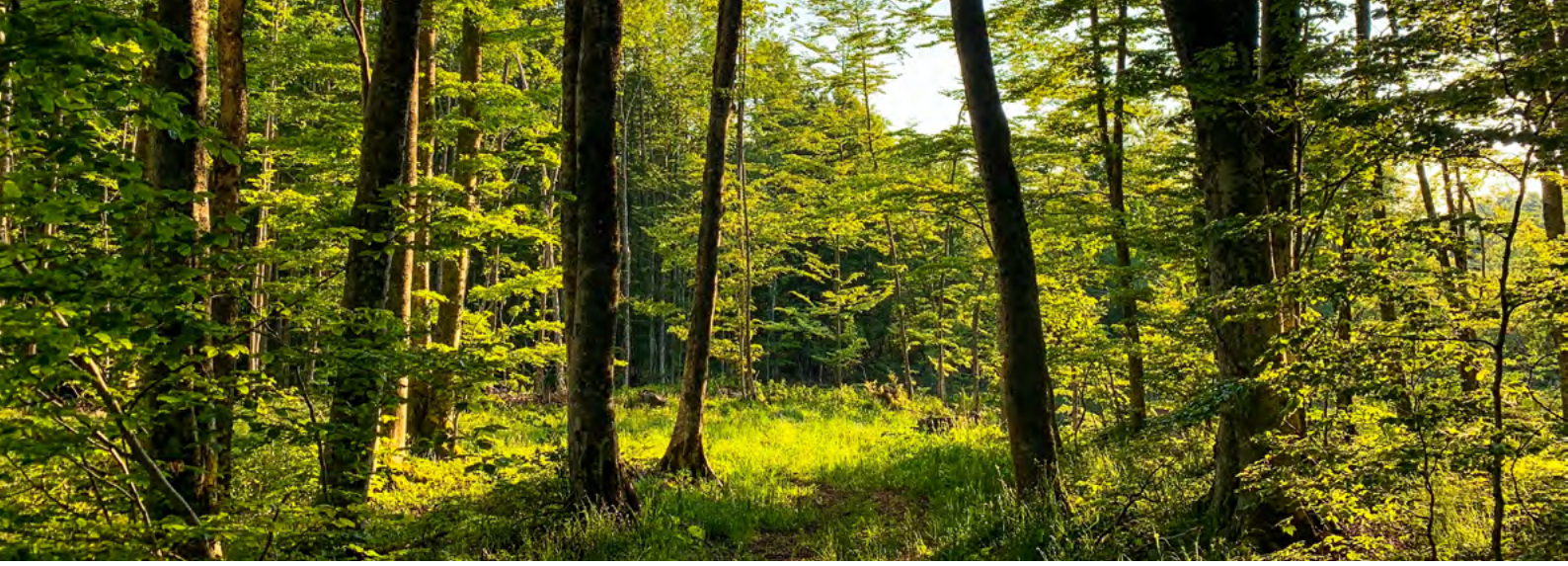
Table 2: Measurement scale used for ranking measure against sustainable development co-benefits.

Measures	
2	Very positive
1	Positive
0	Neutral
-1	Negative
-2	Very negative

"Climate change is a problem that cuts across all the sectors of the economy and so should the effort to tackle it. The analysis of the top 10 measures that can help Nigeria achieve its net zero target while pursuing sustainable development is very useful as it can help to guide policy priorities and action on this important task."

Dr Salisu N. Dahiru, *Director General, Nigeria's National Council on Climate Change (NCCC)*

1. The **mean** is the (average) number you get by dividing the sum of a set of values by the number of values in the set. In contrast, the **median** is the middle number in a set of values when those values are arranged from smallest to largest. The **mode** of a set of values is the most frequently repeated value in the set.



RESULTS

The analysis of the scoring of stakeholder input resulted in an initial list of eleven priority measures on the basis of the following considerations:

Measures 1-6 scored consistently scored in the Top 10 by mean, median and mode.

These are measures in the power, agriculture and forestry and waste sectors that are widely debated and generally supported by the Nigeria public already.

MEAN				
Waste	Power	Agriculture and Forestry	Industry and Housing	Oil and Gas
03	03	01	02	01

Table 3: Top 10 of the Measures by Mean

Measures 7-9 scored high by mean and median. These measures in the industry and housing and waste sectors are less well popularized, but have significant potential for near-term impact. It is importantly to note that when assessed by mode, the measures with the highest incidence are Power and Agriculture (which contribute to 60% and 25% of emissions respectively).[2]

MEDIAN				
Waste	Power	Agriculture and Forestry	Industry and Housing	Oil and Gas
03	03	01	02	01

Table 4: Top Ten Measures by Median

As the intention was for the package of measures to be comprehensive, the highest scoring measures for the transport and water resources sectors, not covered thus far, were then added to the list, bringing the total list to eleven priority measures.

MODE		
Waste	Power	Agriculture and Forestry
03	03	04

Table 5: Top 10 Measures by Mode

2. Nigeria NDC Update – 2021, page 3)

FINAL PACKAGE OF PRIORITIES

The project team carefully reviewed the expert assessment and prioritization of the 35 measures, the available evidence of mitigation potential and investment needs and exercised its expert judgement in order to prepare the final package of prioritized measures that if implemented jointly over the next 5 years would significantly positively impact the ability of Nigeria to embark on a low emission development pathway to a net-zero emission future.

The package was presented to focus groups of experts for discussion and final validation.

	Measure	Sources	Data and implementation opportunities
1	A strong focus in generating renewable electricity both on- and off grid (minimum of 30% of on-grid electricity from renewables).	NDC. ETP, Medium-term National Development Plan (MTNDP)	Off-grid / and under-the-grid renewables will significantly contribute to displacement of generators with large job creation and pollution benefits.
2	Elimination of diesel and gasoline generators for electricity generation by 2030. Expand access to off-grid and under-the-grid clean electricity.	NDC, ETP	Largest assessed financing need and implementation challenge. Realistically, Nigeria will phase out generators only once the country is fully electrified, i.e., estimated 2040. At the same time, currently, Nigerian Naira (NGN) 14 trillion is spent per year on self-generation. Massive savings can be realized here.
3	Plant 300 million trees [this decade] and promote agro-forestry, reforestation and afforestation, including community-based forest management and recovery.	NDC, United Nations General Assembly (UNGA), Nigerian Stock Exchange (NSE)	Increase female participation in agriculture (growing share of women in agriculture from 19.6% to 25%).
4	End (associated) gas flaring by 2030	NDC, ETP	Department of Petroleum Resources (DPR) believes that 60-65% reduction is technically feasible.

	Measure	Sources	Data and implementation opportunities
5	Reduce wood cooking from the currently 72% of population to 20% of population by 2030 / introducing clean cooking into 30 million households.	NDC, ETP, Long Term Vision (LTV)	This target requires an aggressive roll-out of gas cookers and affordable cylinders (incl. using biogas). The NDC target is clean cooking access for 60% of the population by 2030 (split between Liquified Petroleum Gas (LPG) and biogas).
6	Embark of the construction of 300,000 green homes in the next 12 months and 1.5 million over the next 5 years	MTNDP	The homes construction goal has not previously been explicitly tied to sustainability.
7	A modal shift in transport by realizing a shift of passengers to BRT; backed up by enforcement of emissions standards in vehicles.	NDC, ETP, LTV	Taking most polluting vehicles off the road is best achieved in steps starting with the supply side: banning imports of Euro 3 and 4 cars.
8	End landfilling of untreated waste and transit into properly designed and managed landfills with state-of-the-art gas collection	Nigeria Climate Policy, NDC	Revising or revamping waste management projects that have already been established by the federal government, in order to help meet the 10% emission reduction target.
9	Increase the amount of irrigated land (ha) using renewable energy for pumping from 24.35% to 100% (and an associated increase use of off grid power in communities)	MTNDP, LTV	Irrigation will boost crop production and enhance food security
10	Consistent economy-wide Energy Efficiency improvements (-50% from 2015 baseline) Examples are reducing electricity transmission losses and replacing 4 million incandescent bulbs with TFLs or LEDs, equipment standards.	MTNDP, LTV, NDC	Across all measures, the largest mitigation impact can be achieved through EE. For details see National Renewable Energy and Energy Efficiency Policy (NREEEP) and National Energy Efficiency Action Plan (NEEAP) (2016)
11	Landscape-scale restoration and recharging of the Lake Chad basin	UNGA	Resilience and adaptation measure, important for security in the country.

"Nigeria has demonstrated its commitment to tackle climate change and achieve sustainable development through several policy initiatives and the production of high-quality reports such as the revised Nationally Determined Contributions (NDCs) and the Long-term Vision (LTV). I welcome this analysis of the top 10 measures as it can help to support the excellent effort the government is making to drive action on climate change across all sectors of the economy."

Dr Mrs Iniobong Abiola-Awe, *Director, Department for Climate Change (DCC), Federal Ministry of Environment Nigeria*

Taken together the package can signal an observable shift of the course of economic and social development in Nigeria. Firstly, several of the measures are best-suited to private and blended types of investment, which is essential in the current circumstances. With the government under-funded and over-dependent on revenues from oil exports and a shortage of foreign exchange in the economy as a whole, combined with a high, rising rate of inflation. Secondly, several measures have a large job creation potential and/or make affordable and clean energy available to (M)SMEs, that make up 90% of the Nigerian workforce, which is essential to rekindling growth and diversification. Thirdly, the package can also underpin a gradual shift towards a more circular economy. Finally, adaptation to climate impacts and strengthening of resilience in the agriculture sector requires investment first and foremost in women, who are the mainstay of the rural economy.

"I am delighted that adaptation has been included in the top 10 measures that if taken in the next five (5) years could put Nigeria on the path of achieving her net zero target while also having significant socio-economic transformation in the country. It is important to always remind ourselves that effective response to climate change in Africa and indeed the world over must cover both mitigation and adaptation action."

Professor Anthony Nyong, *Director of Climate Change and Green Growth, African Development Bank*

MITIGATION POTENTIAL AND INVESTMENT REQUIREMENT

In seeking the expert assessment of the development benefits of the 33 measures, a decision was taken to exclude from direct consideration both the investment requirements of the measures and their Green House Gas (GHG) mitigation potential for two reasons. Firstly, it is the aim of this project to align as best as possible climate action with priorities of ordinary Nigerians. Whereas there is a good degree of awareness of climate change impacts and the problem of climate change more broadly, the issue is not at present ranking among the topics of greatest concern among the electorate.[3] Hence, we opted to present the panel of experts, all of whom with a high degree of climate awareness, with a development centric set of criteria. Secondly, the available data on both GHG mitigation potentials but especially investment requirements are not all of adequate quality. This then makes comparative analysis between measures more difficult. Still, final decision-making would consider such data, along with broader development considerations.

In retrospect, choosing this approach made the work of the project team more difficult, as the ex-post evaluation of mitigation potential and investment need of some of the prioritized measures proved difficult. This was due to several factors, foremost the fact that the prioritized measures derived from the above-mentioned government policy documents were all framed differently: Some lacked a baseline, others were rather general and found lacking specific outcomes, several had overlapping aims.

The GHG mitigation potential data and investment needs presented below are thus provided with a caveat.

"This is an excellent report which can help focus conversation about the key investment needed to achieve Nigeria's climate and sustainable development targets. The report shows the importance of focusing on efforts that can create value for money. It also shows the need for serious discussion about the amount and sources of finance needed to scale up climate investment in Nigeria."

Professor Kenneth Amaeshi, *Chair in Sustainable Finance, European University Institute, Florence, Italy*

Mitigation potential of the package

Ending gas flaring by 2030 is the most impactful climate mitigation measure from a climate change mitigation and reducing air pollution perspective. Industry observers consider this is unlikely to happen by 2030. According to the Department for Petroleum Resources a realistic 60% methane emissions reduction in the sector would reduce **39.05 Million metric tons of carbon dioxide equivalent (Mt CO2e),** even a unambitious 45% reduction yields 29.29 Mt CO2e. Independent studies estimate the total potential to be a whopping 106.3 Mt CO2e!

Economy-wide EE improvements (-50% from 2015 baseline) would yield **41 Mt CO2e.** All RE measures combined (as per NREEEP) realize 10.0 Mt CO2e reduction. A more realistic 2% efficiency improvement year on year would bring between 21.95 and 25.5 Mt CO2e (depending on the way these are calculated).

The biggest impact of RE in electricity would, therefore, not be direct reductions but clean energy access realized through off-grid / under-the-grid thus (ultimately) ending the use of small fossil-fueled generators (**38.87 Mt CO2e**). Reducing transmission losses only bring 0.6 Mt CO2e reduction.

Clean cooking mitigation estimates range from 5.72 Mt CO2e – 18.61 Mt CO2e with a mean of **10.55 Mt CO2e.**

All forestry and conservation measures combined are estimated to deliver **14.85 Mt CO2e** in mitigation. The agricultural measures (esp. in rice production!) and biomass burning yield and additional **15.61 Mt CO2e.** The waste management landfill measure yields **3.4 Mt CO2e** in reductions.

The biggest immediate impact in transport would come from enforcement of emissions standards in vehicles at least **14.08 Mt CO2e**, followed closely by a shift of passengers to BRT (12.14 Mt CO2e). A conversion of all public transit busses to gas (or indeed electric, we see this in LAC and Asia) by 2030 some 2.2 Mt CO2e. These emission reductions are below BAU.

Investment needs of the package (all estimates total 2020-2030 in 2021 USD)

All estimates are for the 10-year NDC implementation timeframe 2020-2030 in 2021 USD using a 6.63% discount rate and not taking a social cost of carbon into consideration. For the purpose of this exercise a detailed costing per measure is not possible. The following key findings are noteworthy:

Most significantly is the low investment need for the gas flaring goal at **1.96 billion** only in stark contract with the investment needs of the electricity sector at **122.71 billion.** Noting that this is an investment required almost regardless of climate mitigation needs. More detailed estimated prepared by the OVP point to a total investment need in that sector exceeding USD400 billion.

Energy efficiency costs were estimated to be **9.035 billion**, increasing EE ambition (the NDC ambition scenario embraced by the FGN!) requires an *additional* large investment of 11.29 billion.

The investment needs of the agriculture sector are estimate at **9.06 billion.** The cost estimates for the forestry sector were considered inadequate and are omitted.

There is a need for further consideration by the project team of financing sources and modalities of the package, in view of the dire economic circumstances of the country.

CONCLUSIONS

The analysis has yielded a total of 11 measures, the implementation of which will have massive socio-economic benefits while also putting Nigeria on the path of achieving her Net Zero by 2060 ambition. Taken together the package of 11 measures can signal an observable shift of the course of economic and social development in Nigeria. Firstly, several of the measures are best suited to private and blended types of investment, which is essential in the current circumstances. With the government under-funded and over-dependent on revenues from oil exports and a shortage of foreign exchange in the economy as a whole, combined with a high, rising rate of inflation. Secondly, several measures have a large job creation potential and/or make affordable and clean energy available to (M)SMEs, that make up 90% of the Nigerian workforce, which is essential to rekindling growth and diversification. Thirdly, the package can also underpin a gradual shift towards a more circular economy. Finally, adaptation to climate impacts and strengthening of resilience in the agriculture sector requires investment first and foremost in women, who are the mainstay of the rural economy.

"Nigeria has set an enviable record in Africa by making an ambitious climate change pledge including a net zero target by 2060. However, as this report shows, action is required now to put Nigeria on the path of achieving the net -zero target while also developing in a sustainable manner. By distilling the top ten measures from a long list of documents this report can help to drive implementation."

Dr Muyiwa Odele, *Team Lead, Environment and Energy, UNDP Nigeria*

ANNEX 1: FULL LIST OF MEASURES

ID	Measure	Target Name	Sector
1	48 % of population (26.8 million households) using Liquified Petroleum Gas (LPG) and 13 % (7.3 million households) using improved cookstoves by 2030	Zero gas flaring by 2030	Oil & Gas
2	Elimination of kerosene lighting by 2030	Zero gas flaring by 2030	Oil & Gas
3	Scale-up the use of natural gas rather than PMS and liquid fuels	Zero gas flaring by 2030	Oil & Gas
4	Supporting low-cost, technically feasible solutions to reduce methane emissions in oil and gas operations, including recovery and use of escaping gas.	60% reduction in fugitive methane emissions by 2030	Oil & Gas
5	Reduce grid transmission and distribution losses to 8% of final consumption of electricity in 2030, down from 15% in 2018.	2.5% per year reduction in energy intensity across all sectors	Power
6	Generate 30 % of on-grid electricity from renewables	12 Gigawatts (GW) additional large hydro, 3.5 GW small hydro, 6.5 GW Solar PV, 3.2 GW wind	Power
7	Reduce Transmission and Distribution (T&D) losses from 19% in 2015 to 8% in 2030	2.5% per year reduction in energy intensity across all sectors	Power
8	Expand the production and use of renewable energy, particularly solar and wind, both on-grid and off-grid	42 GW of centralized capacity, including 8 GW of utility-scale solar and 14 GW of gas-fired generation by 2030	Power
9	Elimination of diesel and gasoline generators for electricity generation by 2030	43 GW of centralized capacity, including 8 GW of utility-scale solar and 14 GW of gas-fired generation by 2030;	Power
10	Generate 30% of electricity from renewable sources	30% of electricity generation from renewables	Power
11	100,000 extra buses by 2030	Bus Rapid Transport (BRT) will account for 22.1 % of passenger-km by 2035	Transport
12	Develop a safe and secure rail transportation Network	Facilitate and promote gender-friendly and socially inclusive modal shift from road travels	Transport
13	Promote cycling and walking opportunities to help reduce CO2 emissions	Lower penetration rate of EV passenger cars in 2050 (60% vs 80% in Net Zero scenario)	Transport
14	25% of all buses converted to CNG by 2050.		Transport
15	Encourage the acquisition and use of zero-emission vehicles such as electric cars	All vehicles meet EURO III emission limits by 2023 and EURO IV by 2030	Transport
16	Promote appropriate financing mechanisms for climate-friendly and energy efficient investment projects	Develop a circular economy that achieves a recycling rate of at least 7.47%.	Industry and Housing

ID	Measure	Target Name	Sector
17	Need to incentivize industrial companies to change processes (financial and regulatory)	Phase-down of hydrofluorocarbons (HFCs) by cutting their production and consumption. The goal is to achieve a more than 80% reduction in HFC consumption by 2047, in accordance with Nigeria's obligations under the Kigali Amendment	Industry and Housing
18	The Mass Housing Strategy envisages the creation of 1.8 million jobs starting with the construction of 300,000 homes in the next 12 months	Improve access to affordable housing in Nigeria Housing Supply Rate 500,000* per year 1,000,000* per year	Industry and Housing
19	Scale up certification and labelling of low -carbon agricultural produce, meats or dairy products that are produced using farming practices that minimize inputs, such as chemical fertilizers and pesticides	Build a sustainable food production systems Total arable land under cultivation 34 million hectares 42 million hectares	Agriculture and Forestry
20	Improved natural forest management (128,528 ha of natural forests in the southern belt and southwest quadrant of the country)	Increased forest protection (46,219 ha of forest throughout the country)	Agriculture and Forestry
21	Reduced fuelwood harvest (Reduce the area of forestland used for fuelwood harvesting by 19,346 ha)	A 50 % reduction in fraction of crop residues burnt by 2030	Agriculture and Forestry
22	Promote agro-forestry, reforestation and afforestation, including community-based forest management and recovery	Increase female participation in agric. Share of women in Agriculture 19.6% 25%	Agriculture and Forestry
23	Reduce the area of forestland used for fuelwood harvesting by 17,329 ha		Agriculture and Forestry
24	Increase the country's network of forest reserves and conservation areas	Increased forest protection (46,219 ha of forest throughout the country)	Agriculture and Forestry
25	Reduce methane emissions form enteric fermentation by 30%		Agriculture and Forestry
26	Encourage and support adoption of environmentally friendly and gender responsive technologies to mitigate emissions from waste	Revising or revamping waste management projects that have already been established by the federal government, in order to help meet the 10% emission reduction target.	Waste
27	End landfilling of untreated waste and transit into properly designed and managed landfills with state-of-the-art gas collection	Revising or revamping waste management projects that have already been established by the federal government, in order to help meet the 10% emission reduction target.	Waste
28	Increasing waste-to-wealth schemes nationwide which creates jobs and reduces landfills, including through implementation of the Extended Producer Responsibility scheme.	Promote private, public participation in sustainable waste management	Waste

ID	Measure	Target Name	Sector
29	Creating new waste management Public-Private Partnerships (PPPs) to convert organic and agricultural waste into animal feed and available all year in Northern Nigeria where livestock rearing is common.	Support cities in the country to undertake ambitious climate change mitigation actions in the waste sector	Waste
30	50% methane recovered from land fills by 2030	50 % methane recovered from landfills by 2030; 50 % reduction in open burning of waste by 2030	Waste
31	50% reduction in open burning of waste by 2030.	50 % methane recovered from landfills by 2030; 50 % reduction in open burning of waste by 2030	Waste
32	Share of Nigerians with access to safe drinking water (%) from 71% to 90% (including replenishing of the lake chad)	Increase Share of Nigerians with Access to water supply services from 68% to 90%	Water
33	Deploy renewable energy for water and sanitation facilities and infrastructure	Increase Share of Nigerians with Access to water supply services from 68% to 90%	Water
34	Establish effective and sustainable Public Private Partnership for the provision of climate -smart water supply and sanitation facilities and infrastructure	Introduce reforms in the establishment, management, operation and maintenance of water supply and sanitation schemes and services	Water
35	A continuation of the Partnership Expansion for Water Sanitation and Hygiene (PEWASH) increase agricultural production and improve food security Increase in total hectare of irrigated land (Ha) from 24.35% to 100% (increase use of off grid power for irrigation)	Introduce reforms in the establishment, management, operation and maintenance of water supply and sanitation schemes and services	Water

"This is a very timely and useful report which provides a short and succinct list of what can be done to help the country achieve her twin objectives of climate action and sustainable development. I hope the report helps the country to graduate from policy and document production to actual implementation."

Professor Emmanuel Oladipo,*Nigerian Veteran Environmentalist and Professorial Fellow, Center for Climate Change and Development, Alex Ekwueme Federal Univety, Ndufu-Alike Nigeria*

ANNEX 2: INITIAL RANKING OF EXPERTS

	Measure	Source document	Climate action-aligned target	Sector
1	Expand the production and use of renewable energy, particularly solar and wind, both on-grid and off-grid.	Nigeria Climate Policy	42 GW of centralized capacity, including 8 GW of utility-scale solar and 14 GW of gas-fired generation by 2030.	Power
2	Elimination of diesel and gasoline generators for electricity generation by 2030.	NDC, Long-Term Vision-Low Emission Development	42 GW of centralized capacity, including 8 GW of utility-scale solar and 14 GW of gas-fired generation by 2030.	Power
3	Generate 30% of on-grid electricity from renewables	NDC	12 GW additional large hydro, 3.5 GW small hydro, 6.5 GW Solar PV, 3.2 GW wind	Power
4	Promote agro-forestry, reforestation and afforestation, including community-based forest management and recovery.	NDC, Nigeria Climate Policy, Medium-Term National Development Plan	Increase female participation in agriculture (growing share of women in agriculture from 19.6% to 25%)	Agriculture and Forestry
5	Creating new waste management PPPs to convert organic and agricultural waste into animal feed, available all year in Northern Nigeria where livestock rearing is common.	NDC, Nigeria Climate Policy	Support cities in the country to undertake ambitious climate change mitigation actions in the waste sector	Waste
6	Scale-up the use of natural gas rather than PMS and liquid fuels.	Long-Term Vision-Low Emission Development, Energy Transition Plan	Zero gas flaring by 2030	Oil and Gas
7	The Mass Housing Strategy envisages the creation of 1.8 million jobs starting with the construction of 300,000 homes in the next 12 months.	Economic Sustainability Plan, Medium-Term National Development Plan	n/a	Industry and Housing
8	Promote appropriate financing mechanisms for climate-friendly and energy efficient investment projects.	Nigeria Climate Policy, Energy Transition Plan	n/a	Industry and Housing
9	End landfilling of untreated waste and transit into properly designed and managed landfills with state-of-the-art gas collection	Nigeria Climate Policy	Revising or revamping waste management projects that have already been established by the federal government, in order to help meet the 10% emission reduction target.	Waste
10	Develop a safe and secure rail transportation network	Medium-Term National Development Plan	Facilitate and promote gender-friendly and socially inclusive modal shift from road travels	Transport
11	A continuation of the Partnership Expansion for Water Sanitation and Hygiene (PEWASH)	Medium-Term National Development Plan	Introduce reforms in the establishment, management, operation and maintenance of water supply and sanitation schemes and services	Water