



CENTRE FOR CLIMATE
CHANGE & DEVELOPMENT

ALIGNING NIGERIA'S NATIONALLY CONTRIBUTIONS (NDCS) AND THE COVID-19 ECONOMIC STIMULUS

By

Chukwumerije Okereke and James C. Okeuhie

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**Promoting Critical Analysis of, and Public Engagement with
Nigeria's Nationally Determined Contributions (NDC) Revision and
Climate Action**

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Promoting Critical Analysis of, and Public Engagement with Nigeria’s NDC Revision and Climate Action Project

The Promoting Critical Analysis of, and Public Engagement with Nigeria’s NDC Revision and Climate Action Project is a project implemented by the Climate Change and Development Centre, Alex Ekwueme Federal University, Ndufu-Alike Ikwo, in partnership with the World Resources Institute (WRI) with funding from the IKEA Foundation. The project is geared towards providing independent critical analysis and input into the revision process of Nigeria’s Nationally Determined Contribution (NDC) which is due for submission in November 2020. The project is also intended to increase public awareness of, and stakeholders’ engagement in the revision and subsequent implementation of the revised NDC. It is also expected that the project will increase public awareness of climate change in Nigeria more broadly. The project aims to help widen the horizon of the discourse and strongly complement the government-led NDC revision process with the support of the NDC Partnership through the Climate Action Enhancement Package (CAEP), by injecting academic analysis and more public debate into the process.

Disclaimer

The report was written by independent experts who have not been nominated by their governments. Any views expressed in the paper do not necessarily reflect the views of CCCD-AEFUNAI or WRI.

Principal Investigator and Managing Editor : Prof. Chukwumerije Okereke (Director CCCD-AEFUNAI)

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1.0 Introduction

The last two decades have seen Nigeria experience mixed fortunes in its economic development. Between 2000 and 2014, Nigeria witnessed substantial macroeconomic growth with an average annual Gross Domestic Product (GDP) growth of about 8%.¹ Buoyed by this progress, the Nigerian government, in her mainstream economic plan, Vision 2020, established a target to make the nation among one of the top 20 economies in the world by 2020.² However, since the global oil shock in 2015, economic growth has been sluggish and following the COVID-19 lockdown in April 2020, Nigeria's economy contracted by 6.1%, making the country vulnerable to another round of recession after those it has already suffered in the recent past.

The COVID-19 pandemic has vastly exacerbated the economic challenges in Nigeria. A recession is now projected for 2021 and according to figures credited to the World Bank additional 11 million people will be pushed into extreme poverty if no action is taken.³ The Nationally Determined Contribution (NDC) submitted by Nigeria in 2015 indicates that Nigeria wishes to use its climate policies as part of wider measures to achieve low-carbon,

resilient, and equitable economic growth.⁴ However, the increase in poverty induced by the COVID-19 pandemic could suggest that Nigeria has become even more vulnerable to climate change as it will have less financial ability to invest in climate adaptation and climate-resilient infrastructure.⁵ Following the limited emphasis on mitigation and adaptation in the Nigeria Economic Sustainability Plan (NESP), there may also be a temptation to deprioritize climate mitigation ambitions in a bid to pursue rapid economic growth and pull millions out of poverty, but this would mean missing out on opportunities to overcome the current crisis and achieve longer-term gains. Indeed, national and global responses to COVID-19 could provide Nigeria with an opportunity to build back better by closely integrating climate action with COVID-19 recovery measures. This article explores how the new NDC that is being crafted by the government could be more closely connected with post-COVID-19 economic stimulus so that the two strands can reinforce one other and help put the country on the path to a just green transition.

2.0 Overview of Nigeria's NDC

Nigeria's first round of the NDC, like that of many other countries, was submitted in 2015 following the Paris Agreement, which symbolized a new era of global climate action. Nigeria pledged an unconditional contribution of 20% in emission reduction and a conditional contribution of 45% reduction by 2030 based on the 2010 baseline (see **figure 1** below).

There is therefore a concern that the actual efforts on the ground to drive green, climate-resilient sustainable

growth in Nigeria may be far less than is required to meet ambition.⁶ For example, the nations do not seem to be on track to end gas flaring, which contributes over 58 million tons of carbon dioxide to the atmosphere and a significant proportion of Nigeria's total greenhouse gas (GHG) emissions.⁷ Also while there have been some notable developments in the installation of renewable energy across some parts of the country, the prospect of achieving the target of having 30% of renewable energy in the national portfolio by 2030 seems dim.

1. <https://www.worldbank.org/en/country/nigeria/overview>.

2. https://nigerianstat.gov.ng/pdf/uploads/FIRST_NIP_REPORT_STRUCTURE.pdf.

3. <https://punchng.com/poor-nigerians-will-reach-100-million-by-2022-world-bank/>

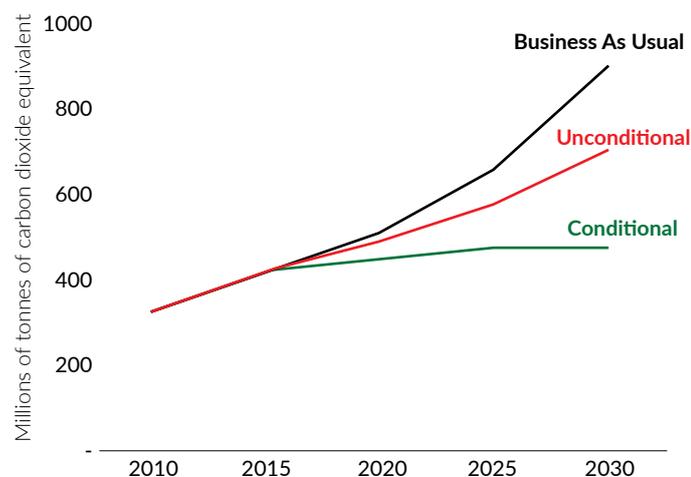
4. https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Nigeria%20First/Approved%20Nigeria%27s%20INDC_271115.pdf.

5. Okereke, C. (2020) "Nigeria should urgently draft a national green growth plan" <https://guardian.ng/property/environment/nigeria-should-urgently-draft-a-national-green-growth-plan/>.

6. Okereke, C., (2020) "COVID-19 Presents Opportunity to End Gas Flaring" <https://www.thisdaylive.com/index.php/2020/05/26/okereke-covid-19-presents-opportunity-to-end-gas-flaring/>.

7. Ibid

Figure 1: Illustration of contributions



Source: Nigeria's NDC 2015

2.1 Mitigation Contributions – Unconditional and Conditional

In Nigeria's NDC, the specific mitigation measures proposed were to a large extent developed and adopted from existing national policies, guided by criteria considered critical to the successful reduction of the emission of Greenhouse Gases (GHGs). Below are the key mitigation contributions given for meeting the NDC's targets.⁸

Table 1: Key mitigation contributions to meet NDC targets

Sectors and key activities	
A Energy	<ul style="list-style-type: none"> • Commitment to increase renewables, particularly decentralized energy generation • Deployment of multi-cycle power stations to reduce emissions from existing power plants • Scaling-up of power stations for increased and higher power output • Enforcement of energy efficiency • Scaling-up of use of natural gas to displace liquid fuels
B Oil and Gas	<ul style="list-style-type: none"> • Improved enforcement of gas flaring restrictions • Development of Gas-to-Power plants at gas flare sites (microgrid) • Blending 10% by volume of Fuel-Ethanol with gasoline (E10) and 20% by volume of biodiesel with petroleum diesel (B20) for transportation fuel
C Agriculture and land use	<ul style="list-style-type: none"> • Adoption of climate-smart agriculture • Cessation of widespread use of charcoal for household cooking and heating
D Industry	<ul style="list-style-type: none"> • Benchmarking against international best practice for industrial energy usage • Adoption of green technology in industries
E Transport	<ul style="list-style-type: none"> • Making a modal shift from air to high-speed rail • Moving freight to rail • Upgrading roads • Increasing urban transit • Introducing toll roads/ road pricing • Increasing use of CNG • Reforming petrol/ diesel subsidies

8. Nigeria's Nationally Determined Contributions. Federal Republic of Nigeria, 2015.

Table 2 below shows the amount of potential GHG reduction expected from the primary mitigation measures in Nigeria's NDC and the percentage each measure could contribute towards the NDC's targets. According to the NDC's sector plans, these five sectors (energy, oil and gas, agriculture and land use, industry, transport) cover more than 80% of the Nigerian economy and its associated emissions, thereby providing further clarification about how Nigeria anticipates meeting the contributions detailed in its NDC.

2.2 Adaptation-based Contributions

Nigeria is very vulnerable to climate change. The country is heavily impacted by drought and desertification in the North, flooding in the South, and deforestation in the South-West, South-East, and South-South geopolitical zones. The adaptation measures proposed in the NDC are drawn heavily from Nigeria's National Adaptation Strategy and Plan of Action for Climate Change Nigeria⁹ which viewed climate change adaptation as an integral component of sustainable development, reducing vulnerability and enhancing the resilience and adaptive capacity of all economic sectors and people. **Table 3** below shows a list of some of the key adaptation strategies outlined in the NDC.

Table 3: Adaptation strategies from Nigeria's NDC

STRATEGIES, POLICIES, PROGRAMMES, AND MEASURES FOR KEY SECTORS

A AGRICULTURE (CROPS AND LIVESTOCK)

- Adopt improved agricultural systems for both crops and livestock
- Implement strategies for improved resource management (for example, increase the use of irrigation systems that use low amounts of water)
- Focus on agricultural impacts in the savanna zones, particularly the Sahel (the areas likely to be most affected by the impacts of climate change).
- Improve agricultural systems for both crops and livestock

Table 2: NDC GHG mitigation measures

Sector	Million tons of GHG	Percentage
Economy-wide energy efficiency measures	179	38%
Efficient gas power stations	102	21%
Work towards ending gas flaring	64	13%
Climate-smart agriculture	74	16%
Reducing transmission losses	26	5%
Renewable energy	31	7%

The emission reduction potential of key mitigation measures (Adapted from Nigeria's NDC (FGN, 2015))

9. National Adaptation Strategy and Plan of Action on Climate Change for Nigeria (NASPA- CCN). csdevnet.org/wp-content/uploads/NATIONAL-ADAPTATION-STRATEGY-AND-PLAN-OF-ACTION.pdf

STRATEGIES, POLICIES, PROGRAMMES, AND MEASURES FOR KEY SECTORS

B ENERGY

- Increase protective margins in construction and placement of energy infrastructure
- Undertake risk assessment and risk-reduction measures to increase sector resilience
- Strengthen existing energy infrastructure, in part through early efforts to identify and implement all possible 'no regrets' actions
- Develop and diversify secure energy backup systems to ensure both civil society and security forces have access to emergency energy supply
- Expand sustainable energy sources and decentralize transmission to reduce the vulnerability of energy infrastructure to climate impacts

C FORESTS

- Strengthen implementation of the national Community-Based Forest Resources Management Programme
- Support review and implementation of the National Forest Policy
- Develop and maintain a frequent forest inventory system to facilitate monitoring of forest status and initiate a research program on a range of climate change-related topics, including long-term impacts of climatic shifts on closed forests
- Provide extension services to CSOs, communities, and the private sector to help establish and restore community and private natural forests, plantations, and nurseries
- Improve management of forest reserves and enforce low-impact logging practices

D TRANSPORTATION

- Include increased protective margins in construction and placement of transportation and communications infrastructure (i.e., higher standards and specifications)
- Undertake risk assessment and risk-reduction measures to increase the resilience of transportation and communication sectors
- Strengthen existing transportation and communications infrastructure, in part through early efforts to identify and implement all possible 'no regrets' actions
- Develop and diversify secure communication backup systems to ensure both civil society and security forces have access to emergency communication methods

E INDUSTRY

- Increase knowledge and awareness of climate change risks and opportunities
 - Undertake and implement risk assessments and risk-reduction measures
 - Incorporate climate change into ongoing business planning
 - Review and enforce land-use plans in industrial areas in light of climate change
 - Encourage relocation of high-risk industries, facilities, and markets
 - Promote and market opportunities emerging from climate change
 - Encourage informal savings and insurance schemes, and arrange for the availability of medium-term credit (especially for industries in crisis)
-

Source: Nigeria's NDC 2015

3.0 Towards a Green and Resilient Recovery

The concept of green recovery has a long history in academic discourse but became popular during the economic crisis of 2008 where it becomes identified as a roadmap as an alternative paradigm that offers a road map to economic development objectives in line with the principles of sustainability.¹⁰ In its latest incarnation or resurgence, the concept of green recovery is mostly concerned with integrating climate and environmental goals in the suite of regulatory and fiscal reforms to revive economic growth and following the COVID-19 pandemic. The objective of green recovery is therefore to highlight policies and solutions that tackle climate change while also responding to the need to reboot economies from the impact of the COVID-19 pandemic. By adopting green recovery policies, countries can pave the way for economic recovery and sustainable, lasting jobs based on environmentally sensitive business models.

Proponents of green recovery argue that the capacity to the opportunity to achieve global sustainable development rests on the pursuit of clever economic recovery plans that is capable of combating health pandemic and climate crises simultaneously through a short-term recovery effort. Green recovery enjoys broad support from political parties, governments, activists, and academia across the world although there is a lack of agreement over the specific plans to achieve the objective. However notable policies advocated have included reduction of coal, oil, and gas use, as well as the investment in clean transport, renewable energy, eco-friendly buildings, and sustainable corporate or financial practices. There is wide agreement that adhering to the concept of green growth would entail that any growth and recovery plan undertaken by countries should be directed towards addressing environmental and social concerns in society while also providing economic gains and benefits.¹¹

However, while the concept of green recovery has a wide intellectual appeal, there are concerns that issues ranging from financial implications, national economic concerns, continued support for fossil fuel among other factors appear to be hindering countries from sufficiently including climate actions in their stimulus packages.¹² In their bid to raise awareness on the concept of green recovery and the broad of policies and measures that can support the approach, the World Resources Institute (WRI) and the Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety (BMU) organized a series of Global Dialogues on the global responses to COVID-19 and how these could align with the objectives of the Paris Agreement and with Sustainable Development Goals (SDGs).¹³ The Dialogues arrived at five key recommendations for attaining a just green transition including the need for targeted and ramped up investment, the need to put people at the heart of a green and resilient recovery, and the need for international cooperation and solidarity to ensure coordination of efforts and support for developing countries.

The above recommendations are all relevant for Nigeria. In the context of widespread and increasing poverty, there is a need to ensure that recovery efforts do not target only macroeconomic growth and stability but also at providing jobs and improving the livelihood of millions that are teetering at the margins of poverty and economic hardship. There is a need to scale up investment in green infrastructures such as railways and renewable energy. Green recovery for Nigeria would entail the decarbonization of critical sectors of the economy that are carbon-intensive such as the oil and gas industry. For Nigeria, in many cases focusing on the sectors already identified in the NDC as entry points for green recovery efforts offer plenty of opportunities to align climate action with economic growth while minimizing duplication and complexities. Finally, there is no doubt given the scale of action that international assistance and solidarity will be required to achieve enduring success in any ambitious green recovery initiative.

10. Ehresman, T. G., & Okereke, C. (2015). Environmental justice and conceptions of the green economy. *International Environmental Agreements: Politics, Law and Economics*, 15(1), 13-27.

11. Jose A. O., "The transition to a Green Economy: Benefits, challenges, and risks from a sustainable development perspective" <https://plagiarism.repec.org/trica-papuc/trica-papuc2.pdf>.

12. Yamide D. and Joel J., (2020). Not Enough Climate Action in Stimulus Plans. World Resources Institute <https://www.wri.org/blog/2020/09/coronavirus-green-economic-recovery>

13. Manish B., and Norbert G. (2020). World Resources Institute <https://www.wri.org/blog/2020/09/5-pillars-green-and-resilient-recovery-covid-19>.

3.1 Green Recovery and the NDCs

Before the outset of COVID-19, the world was already grappling with a wide-range impact of climate change such as sea-level rise, droughts, and increased intensity and frequency of extreme weather events like heatwaves, flooding, and wildfires. The Paris Agreement negotiated under the United Nations Convention on Climate Change (UNFCCC) set an ambitious goal to keep the global temperature rise to well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius by the end of the century. Additionally, the agreement aims to increase the ability of countries to deal with the impacts of climate change, and at making finance flows consistent with low GHG emissions and climate-resilient pathways.

A key instrument for meeting the Paris goal are the Nationally Determined Contributions (NDCs) through which Parties to the Agreement intended to communicate their climate actions. The Paris Agreement provided that Parties will need to update their NDCs every five years ostensibly to make them more ambitious. In accordance, many countries are in the process of updating their NDCs before the outset of Covid.

Though COVID-19 recovery plans and the NDCs have differing goals with the former being concerned with revitalizing economies and the latter focusing on climate action, it is possible to envisage approaches that can enhance the complementarity of these two important national development plans. Aligning the NDC and the Covid-19 Recovery plans can increase their utility and effectiveness in facilitating climate action, building

resilience, and finding solutions on core economic and social objectives in sustainable sectors such as power, agriculture, and food, transport, and land use. The World Resource Institute¹⁴ have provided a detailed “building block”¹⁴ approach for conceptualizing how NDC and Covid-19 recovery effort could be aligned (**Figure 2** Below).

The Building blocks approach for coupling green recovery and the NDCs as proposed by the WRI comprises a set of parameters that includes outcomes, goals, measures, and their mid-term benefits, as well as measures with immediate stimulus benefit. The approach targets a 2050 outcome of net-zero emissions and a climate-resilient world, while also setting an earlier ambitious NDCs target sustainable development goals for 2030. Climate measures embedded in their approach include carbon pricing, fossil fuel subsidy reform; research and development will function as mid-term benefits. Immediate stimulus benefits are numerous and include support for wind and solar PV, grid modernization investments, walking and cycling infrastructure, electric vehicle charging infrastructure, building efficiency upgrades, adaption and resilience investments, public transit and railways, land and forest restoration, and agroforestry. The consideration for the above is a deliberate attempt to provide longer-term policy signal that will propel investments, especially in the COVID-19 pandemic. Adopting the measures mentioned above will ensure achieving the Paris Agreement, establish a resilient and strong economy that can withstand future health or environmental catastrophes, to actualize this, governments must understand the dynamics and thus identify potentials as well as the procedure to harnessing them to achieve complementary outcomes.

Figure 2: Building Block Approach for Aligning NDC Enhancement and COVID-19 Recovery

2050 OUTCOMES	NET-ZERO EMISSIONS AND CLIMATE-RESILIENT WORLD			
2030 GOALS	Ambitious NDC targets Sustainable Development Goals			
CLIMATE MEASURES WITH MID-TERM BENEFITS	Carbon pricing	Fossil fuel subsidy reform	R&D	
CLIMATE MEASURES WITH IMMEDIATE STIMULUS BENEFITS	Support for wind and solar PV	Grid modernization investments	Walking and cycling infrastructure	Electric vehicle charging infrastructure
	Building efficiency upgrades	Adaptation and resilience investments	Public transit and railways	Land & forest restoration and agroforestry

Source: World Resources Institute

14. David Waskow et al. (2020), NDC Enhancement and COVID-19 Recovery: Building Blocks for a Sustainable Future. September 23, 2020. NDC Enhancement and COVID-19 Recovery: Building Blocks for a Sustainable Future | World Resources Institute (wri.org)

4.0 Nigeria's Economic and Sustainability (Recovery) Plan

Like many other countries around the world, Nigeria is keen to revamp its economy after the COVID-19 lockdown.¹⁵ In June 2020, President Muhammadu Buhari released the Nigeria Economic Sustainability Plan (NESP) which is intended to provide a roadmap to stimulate the economy in response to the impact of the covid-19 pandemic.¹⁶

The NESP earmarks a stimulus spending package of N2.3 trillion (\$5.9 billion) to stabilize and keep economic contraction to minus 0.59%.¹⁷ The stimulus package leverages the nation's mainstream economic development strategy, the Economic Recovery and Growth Plan (ERGP) which was stipulated to run from 2017 to 2020 but is focused on a small number of selected sectors.¹⁸

The key objectives of the NESP include:

- Stimulating the economy by preventing business collapse and ensuring liquidity;
- Retaining or creating jobs using increased investment and labour-intensive methods in key areas like agriculture, housing, and facility maintenance;
- Undertaking growth-enhancing and job-creating infrastructural investments in roads, bridges, solar power, and communications technologies;
- Promoting manufacturing and local production at all levels and advocating the use of made-in-Nigeria goods and services, as a way to create job opportunities, achieve self-sufficiency in critical sectors of the economy, and curb unnecessary demand for foreign exchange which might put pressure on the exchange rate; and
- Extending protection to the very poor and other vulnerable groups – including women and persons living with disabilities – through pro-poor spending.

Key projects and actionable plans in the NESP document – which the government says are designed to sustain economic activity, boost production, create the maximum possible number of jobs, and avoid foreign exchange – include:

A - Agriculture

- Identifying between 20,000 and 100,000 hectares of land per State for agricultural use;
- Exploring financing options so that smallholder farmers can access interest-free credit with only a small administrative charge;
- Involving individual farmers and agricultural cooperatives to increase agricultural labour
- capacity nationally;
- Partnering with the private sector to implement strategies to increase yield per hectare including throughout-grower schemes and knowledge transfer protocols as well as greater access to energy for production and refrigeration.
- Guaranteeing markets and mitigating post-harvest losses for products through a combination of private sector off-takers, commodity exchanges, a government buy-back scheme, and strategic reserve purchases.
- Collaborating closely with state governments to implement Special Agro-Industrial Processing Zones.

B - Housing

- Targeting 100% local input for the construction of 400 homes in all Local Government Area;
- Standardizing the design of homes for cost management and industrializing of the construction process;
- Identifying and selecting delivery partners (made up of groups of professionals and artisanal builders) as primary delivery channels;
- Working with state governments to identify land for housing construction in all Local Government Areas;
- Creating a 'Homes Warehouse' to buy any completed homes from delivery partners, in the absence of ready off-takers;
- Mortgaging or selling homes to the public via the Homes Warehouse;
- Encouraging private-sector involvement and facilitating maturity of the mortgage market to cater to the needs of middle-class Nigerians, while the government addresses the needs of low-income earners and the poor.

16. <https://statehouse.gov.ng/wp-content/uploads/2020/07/FACTSHEET-NESP-Agro-July-23-2020.pdf>

17. Nairametrics Research team tracks (2020). Economy & Politics; Covid-19: Nigerian government explains how it will fund proposed N2.3 trillion stimulus. <https://nairametrics.com/2020/06/16/covid-19-nigerias-explains-how-it-will-fund-n2-3-trillion-stimulus/>

18. Business Highlight (2020). Failure of ERGP May Haunt Planned New Economic Development Plan – Expert. <https://www.google.com/amp/s/businesshighlights.com.ng/amp/failure-of-ergp-may-haunt-planned-new-economic-development-plan-expert/>

C – Solar Power

- Identifying locations for solar installations by working with state governments;
- Identifying prospective beneficiaries of solar power;
- Facilitating the participation of private-sector solar providers, including Small to Medium Enterprises (SMEs), in the deployment of solar power to 5 million households;
- Encouraging private-sector financing of off-grid solar energy projects with a minimum Tier 2(80W – 150W) system;
- Attracting investment from solar panel manufacturers into Nigeria, building on the work already done by the National Agency for Science and Engineering Infrastructure(NASENI) and others.

D - Gas

- Implementing National Gas Flare Commercialization Programme;
- Implementing National Gas Expansion Programme;
- Using Compressed Natural Gas (CNG) as vehicular (transportation) fuel;
- Implementing a detailed CNG penetration plan;
- Identifying in-country firms for CNG conversion kits and OEM companies;
- Providing incentives to reduce costs for conversion of vehicles and equipment that use other forms of energy;
- Introducing a roll-out programme for CNG utilization on identified interstate routes, including Abuja;
- Working with the Petroleum Technology Development Fund (PTDF) to develop local content and capacity-building initiatives for CNG conversion.
- Providing available gas resources along with existing pipeline infrastructure;
- Liaising with the Nigerian Export-Import Bank (NEXIM), the Bank of Industry Limited (BOI), and the Nigerian Content Development and Monitoring Board (NCDMB) to arrange finance for private-sector conversion garages and gas filling stations;
- Partnering with relevant stakeholders on the deployment of the pilot for modular CNG refilling stations, including conversion training and certification nationwide;
- Ensuring mass sensitization and public awareness across the country about the use of CNG, including safety measures.

E-Procurement

- Collaborating with private sector Micros, Small and Medium Enterprises (MSMEs) associations;
- Soliciting interest from MSMEs to participate in the procurement;
- Verifying and screening applications from bidding MSMEs;
- Providing registration support with the Corporate Affairs Commission (CAC) for unregistered MSMEs;
- Actively collaborating with the private sector to create a large number of well-paid jobs for Nigerian youths.

F - Road

- Mapping of roads that need repairs and interventions, including identifying vital economic installations to optimize economic activity and speed up transportation of people and goods;
- Providing finance to pay engineers, foremen, and labourers and to buy materials for road construction and repairs (granite, bitumen, cement, etc);
- Rehabilitating/constructing roads and bridges across the six geopolitical zones, including the provision of appropriate construction/engineering courses within Federal Tertiary Institutions;
- Engaging with communities and stakeholders especially on improving visibility, safety, and security on the roads.

G - Science &Technology and Research.

- Updating and implementing the 2012 Science, Technology, and Innovation Policy;
- Establishing Science and Technology Parks across the country;
- Rationalizing, revitalizing, and repositioning all Federal Research Institutes;
- Establishing programmes for utilization and commercialization of research outputs from Federal Research Institutes;
- Providing support for research on the reduction of post-harvest losses of agricultural produce.

5.0 Alignment, Tensions, and Gaps between the Stimulus and the NDC

To avoid exacerbating climate change and putting the economy and livelihoods at risk, it is important to reduce tension between the policies and measures in the Nationally Determined Contributions (NDCs) and those in the Nigerian Economic Sustainability Plan (NESP) or whatever national economic plan that will succeed the NESP. As matter of fact, it is vital that positive steps are taken to identify and strengthen areas of potential synergy between the NDC and such an economic plan. This is particularly important as Nigeria updates its NDC which will form the trust of the country's climate change action for at least the next five years. Aligning the new NDC with the NESP will help to increase the likelihood that the climate pledges made in the NDC will be implemented. Aligning the NDC and the NESP will also help to mainstream climate change into Nigeria's national development plan which should mean that any recovery effort is made more sustainable and resilient. The rest of the section explores the extent of alignment between Nigeria's NDC and the NESP pointing out the gaps, tensions, and areas where there are synergies.

5.1 Overarching Vision and Ownership

A look at Nigeria's NESP alongside its ERGP reveals important faultlines between these more economic development-focused national documents and the Nationally Determined Contributions developed in 2015 in the statement of the overarching vision and goals of the document. It is evident that the NESP which builds on the ERGP is focused on helping Nigeria achieve accelerated economic growth, including the specific target to become one of the top 20 world economies by 2020.¹⁹ Why there is nothing inherently wrong with this ambitious target, what is disturbing is that that the NESP does not once mention climate change or the Nationally Determined Contributions in the entire length of the document. Reducing GHG emissions is mentioned only once, in connection with the target to support the creation of one million jobs through the conversion of 30 million homes from dirty fuels (kerosene, charcoal, and diesel) to LPG. It is also noteworthy that the Ministry of Environment is not one of the 11 ministries listed as being responsible for drafting the

NESP. Furthermore, the Ministry of Environment was not mentioned as one of the ones consulted to make any input into the drafting of the document. The lack of mention of climate change in the NESP and the limited involvement of the Ministry of Environment in drafting the sustainability plan does not signal an appreciation of the importance of the need to integrate climate action and the NDC in the Covid-19 recovery plan. Going forward it would be good to see the Ministry of Environment play a more significant role in the drafting of national economic plans with serious attention given to how to make climate change a central part of the long-term economic development of the nation. Another option that has worked in other regions is to have a Prime Minister/Presidential Council on Climate Change that can help to promote inter-ministerial coordination and ensure that the subject receives the desired attention in national economic development plans.

5.2 The role of Oil in Development

The NESP retains the EGRP's key ambition to place Nigeria on the path to economic growth by leveraging its vast fossil fuel resources. The ERGP makes clear that a major focus of the government was to pursue energy sufficiency in power and petroleum products by "urgently" increasing oil production, refining, and sales. The NESP also makes clear that increased oil exploitation remains a major priority: the very first objective in the NESP says that the government is keen to "identify fiscal measures for enhancing distributable oil and gas revenue".²⁰

Given that Nigeria's economy is closely tied to oil and gas exports with profits from petroleum exports currently accounting for 86% of Nigeria's total export revenue, it is understandable that the NESP should look towards increased oil production to stimulate economic growth following the devastating impact of Covid-19. At the same time, in keeping with the ERGP, the NESP also sets out a commitment to increase local refining capacity to meet domestic demand and to become a net exporter of petroleum products. There is also a commitment to expand domestic gas production to meet the demand for power from manufacturers. It further commits to the exploration of coal and the construction of coal-powered plants in Nigeria.

19. The Nigerian Economic Recovery & Growth Plan – A Renewed Hope for Revival?" <https://www.templars-law.com/wp-content/uploads/2017/04/Nigerian-Economic-Recovery-Growth-Plan-A-Renewed-Hope-for-Revival-.pdf>

20. NESP, 2020. P.7
https://www.vivideconomics.com/wp-content/uploads/2021/01/201214-GSI-report_December-release.pdf
<https://www.energypolicytracker.org/>

However, while the push for more oil may seem like the logical step in the pursuit of a quick recovery and long term economic growth, it should also be noted that pouring more investment into more oil exploration seems to run contrary to Nigeria's commitments to pursue a low carbon path to economic development as stated in the Nationally Determined Contributions given that oil production and associated gas flaring constitutes some of the highest sources of GHG emission in the country. The original NDC recognised this tension and incorporated ending gas flaring as one of the key measures for meeting the NDC target but as indicated progress towards ending the gas flaring has not been as speedy as could have been hoped. Leaving aside the issue of carbon emissions from oil production, it is important for Nigeria to consider the future of oil in the context of wider global action on climate change and the transition to the green economy that is taking root around the world. The slump in oil price during the first round of the lockdown and the economic consequences that followed should have provided a preview of the fate that could befall oil-dependent economies in the event of stronger international climate targets and the consolidation of the ongoing global renewable energy revolution. While abandoning oil hastily may not be the solution, any effort to align the revised NDC and Nigeria's long term economic development plan must involve serious consideration of how to diversify Nigeria's economy away from the current supra-dependency on oil and promote the sectors that can help make Nigeria more climate resilience while creating green jobs and boosting sustainable economic growth.

5.3 Energy

Lack of modern energy access is a major constraint on Nigerian economic development. Currently, 76 million Nigerians, or 40.7% of the population, are not connected to the national power grid. For those who are connected, the power supply is a serious problem as approximately 90% of the total power demanded is not supplied. For several decades successive governments have been promising action to fix the problem of lack of energy access but the pace of expansion of electricity infrastructure in the country has remained slow.²¹ A key part of the energy goal in the NESP is the commitment to expand domestic gas production to meet the demand for power from manufacturers. The NESP also commits

to the exploration of coal and the construction of coal-powered plants in Nigeria. While the commitment to gas may be understandable, although there are still several concerns from the perspective of climate change policy, the commitment to pursue the construction of coal-fired power stations as part of the effort to meet the current energy demand seems very questionable. It is not clear to us that the models and projections undergirding the previous NDC countenanced with a burst of coal fire-powered stations in Nigeria in the coming decades. Hence the stated commitment to build coal-fire-powered stations represents a serious area of tension between the proposed climate target in the NDC and the NESP.

On the positive side, however, the NESP incorporates a commitment to support 250,000 jobs and impact up to 25 million beneficiaries through the installation of 5 million Solar Home systems and mini-grids as one of its core pillars. It is also stated that the provision of reliable electricity to health clinics will also be included as a priority area.²² It is hoped that the implementation of this project as part of the NESP will swiftly increase the stock of affordable energy by providing solar power to rural communities that have little or no access to the national grid.²³ Private-sector installers of solar systems will be supported to access low-cost financing from development finance institutions and the Central Bank of Nigeria(CBN)so that they can install solar systems at an affordable price.

The 5 million solar-home project definitely offers a key node for aligning the NDC and the NESP. As the NESP is revised to produce a long-term economic plan its is vital to building in this linkage by emphasizing distributive renewable energy much more strongly as a key plank in not just in addressing Nigeria's energy poverty but in stimulating sector-wide sustainable economic growth and technological innovation and green jobs. Some of the measures for achieving this would include massive investment in solar thermal, wind, small hydropower and bioenergy, and other renewable sources with proven and commercially viable conversion technologies in the market. The revised NDC could contribute to enhancing this link by helping to articulate the raft of measures and policies including on finance, capacity building, and institutional development that can help to stimulate the renewable energy industry in Nigeria alongside a friendly implementation process and adequate monitoring and evaluation plan.

21. <http://cseaafrica.org/challenges-and-interventions-needs-in-the-nigerian-electricity-supply-industry-nesi/>

22. <https://rea.gov.ng/fg-launches-solar-power-naija-5-million-solar-connection-programme-off-grid-communities/>

23. Tolu O., (2020) Staffordshire University "Nigeria's post-COVID-19 recovery plan has some merit. But it misses the mark". <https://theconversation.com/nigerias-post-covid-19-recovery-plan-has-some-merit-but-it-misses-the-mark-140974>

5.4 Transport Sector

Over the years, the authorities in Nigeria have had very little success in constructing and/or rehabilitating rural roads or the many trunk roads that connect rural roads to the cities. Yet a good rural road network is fundamental to rural economic development because, without roads, the provision of other infrastructures is extremely difficult, if not impossible.

The transport element of the NESP is strongly oriented to road transport and does not address other modal options. It sets out the intention to embark on road construction using locally available materials like limestone, cement, and granite, as Nigeria is financially constrained from importing bitumen for road construction. Although it is logical to improve the nation's road infrastructure, it is instructive that the NESP did not include mention of the climate and environmental implications of the necessary projected cement production, known to be energy-intensive and high in GHG emissions. It stands to reason that without thinking through and incorporating substantial emission

reduction technologies and measures, meeting the sort of road construction targets outlined in the NESP will result in a significant increase in the national long-term GHG emissions.

Nigeria needs a sustainable transport system to enable it cut down on GHG emissions. The aim should be to provide the teeming rural and urban residents with a climate-friendly mode of transport. Some of the key aspects of green transition in the transport sector would include: (i) making a modal shift from air to high-speed rail; (ii) moving freight to rail; (iii) upgrading roads; (iv) improving urban transit; (v) introducing toll roads/ road pricing; (vi) increasing use of Compressed Natural Gas (CNG); and (vii) reforming petrol/ diesel subsidies. Provision of basic and safe infrastructure for bicyclists and pedestrians with the possible segregation of road space for cyclists and pedestrians may also be required. The revised NDC should incorporate these as part of the measures to decarbonize the transport sector which the NESP or the next national economic plan would need to give serious attention to policies and measures for greening the transport sector.

Table 4: Gaps and Areas of Tension

Sector	NESP	NDC	Comments
Energy	<ul style="list-style-type: none"> Increasing in fossil fuel production 	<ul style="list-style-type: none"> Working towards ending gas flaring by 2030 Working towards Off-grid solar PV of 13GW (13,000MW) Improving electricity grid Increasing energy efficiency by 2% per year (30% by 2030) 	<ul style="list-style-type: none"> The NESP and NDC are contradictory on energy production. The former will increase GHG emissions while the latter is meant to reduce GHG emissions.
Agriculture	<ul style="list-style-type: none"> Identifying between 20,000 and 100,000 hectares of land per state for agricultural use 	<ul style="list-style-type: none"> Promoting climate-smart agriculture 	<ul style="list-style-type: none"> The NESP is focused on job creation through a massive agricultural program, without addressing the climate impact.
Transport	<ul style="list-style-type: none"> Establishing extensive public works and a road construction program to improve transportation infrastructure 	<ul style="list-style-type: none"> Making a modal shift from air to high-speed rail Moving freight to rail Improving urban transit systems Increasing use of CNG Reforming petrol/ diesel subsidies 	<ul style="list-style-type: none"> The NESP concentrates on improved road infrastructure which does not address transport issues holistically and makes no reference to GHG reduction strategies. Though improving infrastructure/ transportation, infrastructure can create opportunities to streamline mass transit systems. If this is the case and public transport becomes more reliable (or even cleaner) it can lead to reduced emissions.

Sector	NESP	NDC	Comments
Industry	<ul style="list-style-type: none"> Driving industrialization, focusing on SMEs 	<ul style="list-style-type: none"> Benchmarking against international best practice for industrial energy usage Adopting green technology in the industry 	<ul style="list-style-type: none"> The NESP focuses on achieving industrialization through support for SMEs, without reference to climate impacts and ways to reduce GHG emissions.

5.5 Agricultural Sector

As Nigeria's Third National Communications (TNC) makes clear, the food security challenge in Nigeria is significant, not only because of the tremendous pressure from a population estimated to be above 193 million and growing at an estimated rate of 3.2% annually but also because the agriculture sector can be significantly impacted by climate change. Depletion of water resources and unpredictable rainfall patterns are having a significant impact on production systems and leading to crop failures in some places.^{24,25} Currently, Nigeria is a major food importer. It is one of the world's largest importers of rice and a significant net importer of wheat, dairy products, and horticultural crops.²⁶ The NESP is focused on increasing agricultural production through the cultivation of between 20,000 and 100,000 hectares of new farmland in every state of the federation, with the laudable aim of creating jobs. However, the limiting factor here is the lack of consideration given to the climate implications associated with the vast change in land-use needed to achieve the undoubtedly desirable objective of food security.

One of the most important ways in which climate change is affecting development and livelihood in Nigeria is through its impact on agriculture. Agriculture is the key source of food in Nigeria and it employs over 70% of the country's labour force and contributes up to 40% of the national economy. The impact of climate change on agriculture poses a potent danger to food security, employment, and livelihood for millions in Nigeria. Agriculture contributes about ₦3.7 trillion to Nigeria's Gross Domestic Product. Nigeria's smallholder farmers contribute 80% of the country's total food demand, making it an essential stakeholder in the Nigerian economy.

The Federal Government of Nigeria (FGN) has proposed five million jobs in the agricultural sector to help in cushioning the effects of the COVID-19 pandemic. The plan spans the entire agricultural value chain, supporting both smallholder farmers and large-scale farmers. To facilitate this project, extensive road construction in rural settlements will be necessary. But there remains the question of environmental impact, including the impact on air quality, environmental degradation, and emissions.

The NESP can be brought closer to the NDC by ensuring that the updated NDC makes a strong case for climate-smart agriculture and aligns its focus with those areas identified in the NESP.²⁷ For its part, the NESP needs to ensure that climate-smart agriculture is a key part of the building back better plan. Specific recommendations should include: (i) promoting agro-ecology mechanization; (ii) boosting the storage capacity of agro-based products with renewable energy; and (iii) ramping up the refrigeration capacity of perishable agro-products.

Nigeria's Third National Communication looks to raise the currently low status of environmental security and to combat climate change, and the government has embedded the environmental dimensions of Sustainable Development Goals (SDGs) and climate change into the ERGP. Its objectives in doing so are to: (i) promote sustainable management of natural resources; (ii) address severe land degradation and desertification issues; and (iii) attract financing for sustainable agricultural development projects. These all constitute important steps towards a good linkage between the NDC and the national economic plan. The updated NDC can build on this by taking into account the challenges and opportunities inherent in the practice of climate-smart agriculture and sustainable forest and land use.

24. Shiru, M. S., Shahid, S., Shiru, S., Chung, E. S., Alias, N., Ahmed, K., ... & Sediqi, M. N. (2020). Challenges in water resources of Lagos mega city of Nigeria in the context of climate change. *Journal of Water and Climate Change*, 11(4), 1067-1083.

25. Okafor, G. C., & Ogbu, K. N. (2018). Assessment of the impact of climate change on the freshwater availability of Kaduna River basin, Nigeria. *Journal of Water and Land Development*.

26. Abbas, A. M., Agada, I. G., & Kolade, O. (2018). Impacts of rice importation on Nigeria's economy. *Journal of Scientific Agriculture*, 2(1), 71-75.

27. See the Smart Agriculture in the Nigeria's NDC Discussion Paper.

5.6 Construction of 300 000 Homes across the Country

In the period 2010-2015, the construction sector recorded a strong average annual growth rate of 11.4% according to the ERGP. The sector also accounted for 3.9 percent of GDP in 2015 and employed nearly one million formal workers. After a disappointing growth rate in 2016, construction was projected to grow at an average of 5.39% in 2017-2020 on the back of private and public investment. While construction is adding to economic growth, it is worth noting that cement production is one of the highest sources of direct and indirect GHG emissions.²⁸ Construction also contributes to GHG emissions through the combustion of fossil fuels.²⁹ Energy use in buildings is an additional major source of GHG emissions, particularly given that Nigeria has made very limited advances in elaborating codes or laws to promote green building.

5.7 Housing Sector

The Nigerian housing question is in fact a crisis, manifesting itself both quantitatively and qualitatively. Lack of comfort and rudimentary infrastructure, congestion, unhygienic conditions, high densities, and absence of organization make for ghastly experiences shared by the vast majority of the urban population. This has resulted not only in the rapid emergence of different kinds of slums and of squatters, but also in the proliferation of these kinds of settlements in the metropolitan suburbs. Meeting Nigeria's housing needs will entail massive infrastructural development and also the provision of social amenities.

The NESP has developed a mass housing strategy and it is envisaged that this will also create 1.8 million jobs, beginning with the construction of 300,000 homes in the next 12 months. The strategy sets out a two-track approach. The first track aims to ease bottlenecks in the delivery of social housing while the second will deliver affordable homes through direct government interventions in house construction. As part of the second track, the Federal Mortgage Bank of Nigeria and the Public Building and Housing Development Programme will support the creation of construction and associated jobs. This will

involve building 10,840 low, medium, and high-income units across the six geopolitical zones of South East, South West, South-South, North East, North West, and North Central.

The proposed housing scheme will create opportunities and jobs for the construction industry and its supply chain. Embarking on such massive construction will, of course, lead to GHG emissions during the life-cycle of the construction process. The mitigation option here will require the federal government to adopt green building technology, and doing this will reduce GHG emissions. The updated NDC should therefore incorporate the development and implementation of green building codes in Nigeria. This will complement other national efforts towards meeting GHG reduction targets in the sector.

5.8 Industrialization

According to Nigeria's TNC, before rebasing, Nigeria's manufacturing sector comprised three key activities: oil refining; cement; and other manufacturing. After rebasing, the 'Other Manufacturing' category was broken down into 11 different activities. There are therefore currently 13 main activities in Nigeria's manufacturing sector. In 2016, manufacturing activities contributed N8,903 billion (8.8%) to the national GDP. The three most important manufacturing activities (in decreasing order) are food, beverage, and tobacco; textile, apparel, and footwear; and cement. Together, these accounted for 76.1% of GDP from the manufacturing sector.

The NESP did not emphasize manufacturing. It talked only about the promotion of local products such as shoes, steel, ceramics, plastics, furniture, and building materials. It did encourage further investment in the local manufacture of generic medicines to reduce the importation of expensive drugs. However, it did not identify low-carbon pathways for achieving these goals. Moreover, just like cement, steel production is very carbon-intensive. Again, unless there is a concerted programme to depress emissions, ramping up steel production to meet the economic development of the country will result in huge jumps in carbon emission to the extent that will make it difficult for Nigeria to meet its long-term climate change targets.

28. Shen, W., Liu, Y., Yan, B., Wang, J., He, P., Zhou, C., ... & Ding, Q. (2017). Cement industry of China: driving force, environment impact and sustainable development. *Renewable and Sustainable Energy Reviews*, 75, 618-628.

29. Akan, M. Ö. A., Dhavale, D. G., & Sarkis, J. (2017). Greenhouse gas emissions in the construction industry: An analysis and evaluation of a concrete supply chain. *Journal of Cleaner Production*, 167, 1195-1207.

6.0 CONCLUSION AND RECOMMENDATION

Given the uncertainty of the projected economic impact of the global COVID-19 pandemic, it is clear that the speed, quality, and sustainability of Nigeria's economic recovery will be determined by the swift response of its government. Nigeria's NESP must be designed and implemented in such a way that it will leap-frog the nation into a decarbonized economy and society.³⁰ Such an approach will also help the country to meet its NDC contribution. The revised NDC will now need to cover water and waste and will have to be crafted in ways that link well with the country's post-COVID-19 recovery plan. The emphasis should be on actions that not only help address climate change but also move to stimulate economic growth, create jobs, and tackle the country's inequalities.

Examining the potential for alignment of the NDC and the NESP, along with the barriers to alignment, makes clear that it is imperative to integrate relevant strategies into national development policies and programmes. This will ensure green growth and development. Achieving this requires a strategic alignment of the NESP roadmap with Nigeria's NDC that is currently under review, gearing Nigeria towards building a low-carbon and just energy transition into its post-COVID-19 NDC submission.

Several options exist for aligning the NDC with the NESP and vice versa. A perusal of the NESP indicates possible areas that could be climatized to reduce GHG emissions, thereby aligning NESP strategies to the NDC. The energy sector of the NESP is currently only partially aligned

with that of the NDC. A stronger alignment will need to involve a look at options that address both energy demand and energy supply. This can be achieved through the implementation of at least three significant policies. Firstly, reliable gas-powered generation, using associated gas currently flared, can replace small generators and provide a transition to even cleaner fuel. Secondly, rural electrification can be driven by cost-efficient renewable solutions. Thirdly, energy efficiency can be greatly improved to reduce overall energy demand and, in so doing, serve more people, faster. The social outcomes from the agricultural sector as indicated in the NESP are a step in the right direction. The ambitions laid down in the Agricultural Transformation Agenda (ATA) cannot, however, be met without climate-smart agriculture (CSA). Government must therefore explore concrete ways to green the ATA while the revised NDC would need to give a prominent place to climate-smart agriculture much more than is the case in the current NDC.³¹ The transport focus of the NESP is skewed towards road infrastructural upliftment. This should be extended to other transport modes as indicated in the NDC. The updated NDC could also focus on this to reduce GHG emissions. The cross-sectoral alignment of the NESP sectoral action plan and post COVID-19 economic sustainability plan shows some alignment with the NDC sectoral action plan. Critical NDC sectors in alignment with the NESP that can aid recovery include energy, agriculture, infrastructure, and industry.

30. Lilian C. P., (2020). Nigeria Development Update: Rebuilding After COVID-19. <https://www.worldbank.org/en/country/nigeria/publication/nigeria-development-update-rebuilding-after-covid19>

31. See Onyeneke Robert and Emekwe Chukwuemeka (2021). Options for promoting climate-smart agriculture in the new NDC in Nigeria. Centre for Climate and Development, Alex Ekwueme Federal University, Ndufu-Alike, Nigeria Discussion Paper.

About the Authors

Prof Chukwumerije Okereke

Prof Chukwumerije Okereke is the Director, Center for Climate Change and Development AEFUNAI; Visiting Professor in Environment and Development University of Reading UK, and Senior Visiting Fellow, Oxford University Center of the Environment, UK.

E: Chukwumerije.okereke@funai.edu.ng

James C. Okeuhie

James C. Okeuhie is a Sustainability Expert with several years of experience consulting for government and private entities.