

POLICY BRIEF ON ENERGY TRANSITION and decarbonization in an emerging economy like Nigeria:



Website - <http://www.isdfoundation.org.ng/>

Email- • info@isdfoundation.org.ng, isdf077@gmail.com

LinkedIn- **ISDFoundation ISDF**

Facebook-

Twitter- @instsustdevf.

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Table of Content:

- 1. Introduction**
- 2. Key Low carbon emission targets and decarbonization in Nigeria.**
- 3. Emerging Issues in the energy transition**
- 4. Climate justice and just transition:**
- 5. Power Sector**
- 6. ALTERNATIVE ENERGY.**
- 7. Oil and Gas Sector**
- 8. THE RUSSIAN UKRAINE WAR, RUSSIAN INTERVENTION AND OPPORTUNITY FOR OTHER COUNTRIES**
- 9. Recommendation:**
- 10. Conclusion.**

1.1 INTRODUCTION

The energy transition is the global energy sector's shift from fossil-based systems of energy production and consumption — including oil, natural gas and coal — to renewable energy sources like wind, solar and any other form of energy that reduces emission and mitigates climate change that will ensure the sustainability of the environment.

There is a shift in the global energy sector from fossil fuel energy production and consumption to renewable energy sources. This involves the changing from non-renewable energy sources (Fossil fuels like oil, natural gas, and coal) to renewable energy. This is made possible due to advancements and innovation toward sustainability. The energy transition seeks to make a permanent change to energy supply, demand, and prices that are not only sustainable but also beneficial to the environment and well-being of the population. In addition, the energy transition also aims to reduce energy-related greenhouse gas emissions through various forms of decarbonization in most sectors of the economy. The decarbonization effort is in the different sectors with an inappropriate contribution to global emission i.e. power, transport, agricultural, manufacturing, oil and gas, building and construction and other sectors that make up the global industrial sector that can also be adaptable and mitigate by innovation and creative approaches to sustainability.

Human activities are at the root of this catastrophe that is threatening to consume the earth. Specifically, since the Industrial Revolution, carbon dioxide and other greenhouse gas emissions have raised temperatures, even higher than those that have contributed to harsh and dilapidating health, environmental and harsh conditions. To be able to achieve a low carbon emission and ensure a sustainable world, we need to target those vital sectors of the economy and consciously decarbonize or reduce the exposure to emissions. Some of these vital sectors include power/electricity, transport, oil and gas, agricultural, manufacturing, building and construction and a host of others

For The country to meet up to the de-carbonization and reduce the carbon emission so that they can meet up with the carbon reduction targets and mitigate the impact of climate change by adapting to sustainable friendly environmental and climate strategies as envisaged by Kiyota and many other carbon cost agreements and climate change conferences, she must adopt a radical approach. To achieve this, the government of Nigeria must make a deliberate policy of reducing the emission through decarbonization, mitigation, adaptation or any other means of reducing the effect of climate change.

There are several emerging new issues in the energy debate globally and in Nigeria. As it relates to Nigeria and other energy-rich countries. The divestment in the Nigeria oil and gas industry and the global campaign about the reduction in Investment within the sector will affect the growth and development of the Nigeria oil and gas industry and also the economic well-being of the country. The global campaign on energy transition due to the climate crisis and discussion on the environmental impact will adversely affect Nigeria and her dependency on the sector as the major source of her foreign exchange and her economy. This will have a destabilizing effect on the country. Since the exploration of oil, Nigeria has witnessed some environmental pollution and hazards that are not only bad for the environment but have far-reaching consequences on livelihood and health of the host communities.

The energy transition debate and the idea of decarbonization will not only affect the oil and gas sector but will have a tangible effect on the transportation, power sector, Agriculture, manufacturing etc. All these sectors can thrive with decarbonization and still make a reasonable growth and contribution to the economy and well-being of Nigerians. For Nigeria to achieve the decarbonization effort it must adopt the following measures:

2.0 Key Low carbon emission targets and decarbonization in Nigeria.

For a low carbon emission in an economy like Nigeria, we need to concentrate our emission target among these sectors of the economy. The agriculture, fossil fuel sector, industries, transportation, electricity and a few others will greatly impact our carbon emission targets.

- a) **Agriculture:** Agriculture is a key economic sector in Nigeria in terms of employment and contribution to GDP. This is perhaps one of the most important parts of the economy considering its vital nature of it in terms of sustainability, employment and security. It currently contributes close to 40 percent of the national income and 70 per cent of the employment. The effective use of land, forestry, avoiding deforestation, and promotion of conservation of lands and other innovative Agricultural practices will help reduce carbon emissions and create an environmentally friendly atmosphere. It will also foster green economy.
- b) **Fossil fuel (coal, oil and hospital) addition** has contributed more than any other in this emission debate. Low carbon and decarbonization can be achieved in the oil and gas sector. Oil and gas sector reduction in gas flaring, better management of oil storage and facilities, and enhance energy efficiency in oil and gas facilities are some of the measures that we need to do to reduce climate emissions and ensure decarbonization.
- c) **The electricity sector** will also benefit from decarbonization. The level of energy poverty is on the high side and would need the combination of different energy sources to improve and ensure energy availability. Other ways to improve that include electricity efficiency, renewables, wind and hydropower as well as combine cycle in a gas power economy, solar and every other form of renewable.
- d) **Transport.** In the transportation sector, a lot can be done through decarbonization to make the environment friendly. This includes to Fuel efficiency and improved freight management. a modal shift of freight to rail and the use of alternative fuels as compared to natural gas.
- e) **Industry decarbonization:** This decarbonization apart from the involvement of other natural resources also involves industries and manufacturing concerns that contribute to global emissions. Some of these contribute to varying dimensions of carbon emission. While some are easily Coal mining, Metal ores, Quarrying and other mining, Cement, Food, beverages and tobacco, Textile, apparel and footwear, Wood and wood products, pulp, paper, and paper products, Chemical and pharmaceutical products, Non-metallic products, Plastic and rubber products, Electrical and electronics, Basic metal, iron and steel, Motor vehicles and assembly, Other manufacturing.

3.0 **Emerging issues in the energy transition**

3.1 **Climate justice and just transition:**

Within the global climate, the debate is on the idea of climate justice. Climate justice addresses the just division, fair sharing, and equitable distribution of the benefits and burdens of climate change and the responsibilities to deal with climate change. This is the social, economic, public health, and other adverse impacts on underprivileged populations who contributed not much to the current misfortune.

Just transition is intended to build economic and political power to shift from an extractive economy to a regenerative economy. This means approaching production and consumption cycles holistically and waste-free. The transition itself must be just and equitable; redressing past harms and creating a sustainable future that which everybody will thrive.

3.2 **Power Sector**

Nigeria and other emerging countries are facing energy security and Energy poverty. Energy poverty has been described as a major problem for sustainable development. Despite the huge fossil fuel reserve and alternative energy system West Africa and Nigeria have a small energy per capita usage compared to other parts of the world. The need for modern clean energy cannot not only be assessed by the grid but by a mixture of off-grid and other energy sources. The lack of energy is one of the impediments for small scale firms and other companies the voluntary need to achieve sustainable development goals. Although the power sector emission is low compared to the oil and gas sector but due to the energy poverty emission will rise as the country try to wrap up its energy usage except it concentrates on alternative energy. The country needs to support Grid and Off-Grid Renewable Energy technology. It also needs to promote demonstratable Projects. In addition, it needs to promote demand-side energy efficiency and energy efficiency for lightening, renewables, concentrated solar power

3.21 **ALTERNATIVE ENERGY**

Energy poverty in most third world countries can only be tackled with the right energy mix and a creative way. The increasing penetration of renewable energy into the energy supply mix, the onset of electrification and improvements in energy storage are all key drivers of the energy transition. Apart from aiding decarbonization, we must adopt this to upturn the high energy poverty. The regulation and commitment to decarbonization have been mixed, but the energy transition will continue to increase in importance as investors prioritize environmental, social and governance (ESG) factors. Generating power from renewables is a vital part of the energy transition. Another central factor for renewable energy and electrification (and the energy transition overall) is renewable energy storage.

4.0 Oil and Gas Sector

Nigeria is a major player in the oil and gas sector. The role oil and gas play as a major revenue earner and foreign exchange earner in Nigeria. With this Nigeria has witnessed the dangers of environmental pollution, gas flaring and other contributions to emissions. etc Nigeria has the seven largest gas reserves in the world with around 187 trillion cubic feet with around half of it being associated with gas and oil reserves of 37.2. The world is gradually mounting a sustained campaign to reduce the investment and use of fossil fuels, especially coal and oil and with an increasing agitation to use natural gas as a transition gas. As part of the measure to take advantage of the sector, we need to develop the efficiency for cluster-based collection of the gas flare sites, set up a sector cluster-wide inventory of emission sources, reduce gas flaring, better management of oil storage and enhance energy efficiency in oil and gas facilities.

5.0 THE RUSSIAN UKRAINE WAR, RUSSIAN INTERVENTION AND OPPORTUNITY FOR OTHER COUNTRIES

The Russian and Ukraine war has brought with them several fundamental shifts from the energy sector and energy transition to food security and the financial service sector. World architecture is about to get a major shift or on the threshold of altering the way and culture of energy usage.

The energy transition ambition on climate change by the European Union and the world at large following the war seems to be making the promises to curb emissions and limit the impact of climate change giving suffered a serious setback. The war has introduced a bottleneck in achieving the EU Climate transition and the projection of the numerous global climate change agreement on the decarbonization trajectory. The war had also resulted in an increasingly unstable global oil and gas market with near energy insecurity and crisis and catastrophe. EU is a major part of the energy market and will be looking for alternative ways of meeting up to its energy challenge.

6.0 Recommendation:

From the forging, we need to do a lot to embrace the emerging economic situation through the energy transition opportunity to diversify our economy and capitalize on the enormous opportunity from energy transition in terms of our involvement in the extractive sector, power sector, transportation sector and other industrial sectors through Industry decarbonization. We can achieve this with the decarbonization in the following sectors i.e. Coal mining, Metal ores, Quarrying and other mining, Cement, Food, beverages and tobacco, Textile, apparel and footwear, Wood and wood products, pulp, paper, and paper products, Chemical and pharmaceutical products, Non-metallic products, Plastic and rubber

products, Electrical and electronics, Basic metal, iron and steel, Motor vehicles and assembly, Other manufacturing sectors. These recommendations include;

- 1) The need to set up an effective legislative and policy framework to drive the decarbonization effort in the identified sectors.
- 2) A deliberate policy to fully implement the decarbonization drive in all the essential sectors of the economy with a timeline and monitoring and evaluation framework.
- 3) Nigeria needs to embrace some of the initiatives as they will help us improve the energy poverty, food security and growth and development and most of the other development challenges that can be achieved through decarbonizations.
- 4) A deliberate policy to mainstream the implementation of the decarbonization efforts in all sectors of the economy.
- 5) Nigeria needs to understand and take advantage of the carbon market and other definite financial initiatives global to help meet our climate emission targets.
- 6) The need to be innovative and creative in climate adaptation and mitigation that will help the country t meet the emission targets

7.0 **Conclusion.**

The climate change debate, energy transition debate, energy poverty debate, and decarbonization debate are all major and emerging issues in the global debate on environmental concern and sustainability. As we face increasing problem and narrative in the world, the country should be sensitive to the emerging issues as it affects them and will determine the sustainability of the world and its resources. The decarbonization effort in areas like agriculture, transportation, oil and gas, industrial sector and power sector. Apart from these sectors, there should be a deliberate effort to reduce the impact of climate change through mitigated and adaptive efforts to make sure we have a sustainable environment and maximize the growth and development of the country.

[1] <https://www.un.org/en/climatechange/damilola-ogunbiyi-ending-energy-poverty>

[2]

https://www.irena.org//media/Files/IRENA/Agency/Publication/2021/Jun/IRENA_World_Energy_Transitions_Outlook_2021.pdf

[Rafaello Cervigni et al\(2013\)Towards Climate Resilient Development in Nigeria, world Bank Publications.](#)

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