The Journal of Sustainable Development Law and Policy

ISSN: 2467-8406 (Print) 2467-8392 (Online) Journal homepage: https://www.ajol.info/index.php/jsdlp

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To cite this article: Adebola Adeyemi (2024). Promoting Renewable Energy through a Decentralised Electricity Regulatory Framework – An Analysis of Nigeria's Electricity Act 2023. The Journal of Sustainable Development, Law and Policy. Vol. 15:3. 398-421. DOI:10.4314/jsdlp.v15i3.15

To link this article: DOI:10.4314/jsdlp.v15i3.15

Received: **25 July, 2024;**
Final Version Received: **16 September, 2024;**
Published **online:** 30 **September, 2024**

PROMOTING RENEWABLE ENERGY THROUGH A DECENTRALISED ELECTRICITY REGULATORY FRAMEWORK – AN ANALYSIS OF NIGERIA'S ELECTRICITY ACT 2023

Adebola Adeyemi, PhD[*]

ABSTRACT

In the ever-evolving landscape of energy production and consumption, Nigeria stands at a pivotal crossroad as it seeks to revolutionize its electricity sector by moving from the use of non-renewable energy sources to renewable sources while improving access, cost and resilience. To promote access to electricity, the paper evaluates the Electricity Act 2023, and discusses opportunities for developing an appropriate regulatory framework that will facilitate and promote the increased integration of renewable energy (RE) into Nigeria's energy mix. The paper employs qualitative research method by examining the former and the existing electricity law in Nigeria and explores the extent that the regulatory framework promotes the integration of RE into the energy mix. The paper investigates secondary sources by analysing the improvements to the RE framework introduced by the Electricity Act 2023 and builds on decentralization approaches that encourages the involvement of State and local entities in governance and decision-making processes. It discusses specific RE provisions in the Electricity Act 2023 such as the renewable generation obligation and ties it to the opportunities and challenges with respect to increased RE integration in Nigeria's energy mix. The paper concludes that decentralization could help in strengthening capacity building and technical competence at the state and local level and this is critical for promoting the integration of RE in Nigeria's energy mix thereby increasing the prospects for meeting Nigeria's climate commitments with the attendant benefits for the energy transition.

Keywords: Decentralisation, Electricity, Electricity Act 2023, Nigerian Electricity Supply Industry, Renewable Energy.

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1. INTRODUCTION

Nigeria's electricity generation mix is split between gas and hydro, with gas accounting for around 74.51% of on-grid electricity while hydro accounts for around 25.49%.[1] This generation mix is subject to disruption because of weather conditions as increased rainfall contributes to better performance of the hydro-electric installations. Also, the power sector contributes around 27% of Nigeria's overall emissions.[2] However, the electricity sector lacks the required resilience and stability though the sector has undergone various reforms aimed at tackling the epileptic power supply with regular national grid collapse. It is important to highlight here that a large percentage of Nigerians rely on self-generated electricity powering their homes and business with noisy and polluting generators.[3] Considering the increasing recognition of the science of climate change, the gains that could result from promoting reliance on cleaner energy sources amongst others, the Government introduced the Electricity Act 2023 ('the Act' or 'EA 2023').

The Act deals with everything electricity and aims to address the challenge of inadequate power generation, distribution, transmission, and improving renewable energy (RE) adoption within the Nigerian Electricity Supply Industry (NESI). The Act marks a significant departure from the traditional centralized regulatory framework, signalling a profound shift towards a decentralized approach whereby States within the Federation are empowered to generate, transmit, and distribute electricity thereby enhancing the efficiency, reliability, and sustainability of the nation's electrical grid.[4] The decentralised approach promoted in the paper is akin to a democratised regime whereby stakeholders such as States have a greater say in how the electricity regime is structured and operated. The shift to a decentralised framework is likely to have many beneficial effects especially with respect to increase integration of RE as the former regulatory regime was driven centrally by the statutory body responsible for electricity, Nigeria Electric

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1 NERC, 'Quarterly Report, Quarter 3, Electricity on Demand' (NERC 2023) 21 <https://nerc.gov.ng/wp-content/uploads/2024/02/NERCThirdQuarter2023Report.pdf> accessed 20 August 2024.

2 Hannah Ritchie, Max Roser and Pablo Rosabo, 'Our World in Data, Nigeria CO2 Country Profile' (2022) <https://ourworldindata.org/co2/country/nigeria> accessed 4 July 2024.

3 Norbet Edomah, Gogo Ndulue and Xavier Lemaire, 'A Review of Stakeholders and Interventions in Nigeria's Electricity Sector' (2021) 7 Heliyon e07956.

4 ibid.

Regulatory Commission (NERC), with authority to direct and influence the regulatory and contracting framework for electricity generation, transmission and distribution.

The paper focuses on the transformative implications and the likely impact of Nigeria's Electricity Act (EA) 2023, exploring its likelihood in reshaping and positively influencing the energy landscape, stimulating economic growth, and promoting a resilient electricity system for all Nigerians primarily driven by increasing the adoption of renewable energy. To do this, the paper explores the regime under the previous regulatory electricity framework, the Electric Power Sector Reform Act (EPSR) 2005 which is built on a centrally driven regulatory framework through a single federal regulator, the Nigerian Electricity Regulatory Commission (NERC). Second, it explores the decentralisation theory which sets out the mode and prospects for shifting from a centralised regulatory arrangement towards a more dispersed and distributed energy regulatory and policy framework enabling greater participation and involvement. Third, it explores the difference with respect to RE between the EPSR 2005 and the EA 2023 and discusses important RE provisions in the EA 2023 and the role that States will play in increasing adoption of RE. Fourth, relying on the conceptual framework the paper assesses the extent that the EA 2023 will promote the integration of RE in Nigeria's energy mix. Lastly, the paper concludes and suggests regulatory and policy improvements.

2. THE ELECTRICITY REGULATORY FRAMEWORK PRIOR TO THE EA 2023 – A REVIEW

Historically, electricity generation, transmission, and distribution in Nigeria were primarily governed by the EPSR 2005 alongside the Constitution of Nigeria (as amended).[5] While the EPSR 2005 marked a significant departure from the previous centralised control of the power sector by the government as it paved the way for the privatisation of Nigeria's electricity generation and distribution companies.[6] This shift from a predominantly state-controlled system to a more privatised one was intended to attract private sector investment, increase efficiency, and reduce government control over the

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5 Constitution of the Federal Republic of Nigeria (as amended) 1999.

6 Balkisu Saidu, 'Committing to Legal and Regulatory Reform: An Analysis of the Legal and Regulatory Framework of the Electricity Supply Industry in Nigeria' (2011) 29 Journal of Energy & Natural Resources Law 355, 356.

sector.[7] Interestingly, privatisation led to increased competition in the industry as multiple independent power producers (IPPs) were permitted to participate in electricity generation. This increased competition was expected to drive innovation and lead to a more reliable and cost-effective electricity supply industry.[8] Under the EPSR, the NERC was established as an independent regulatory body responsible for setting tariffs, ensuring fair competition, and overseeing the sector's operations.[9] This regulatory framework was crucial for maintaining transparency and accountability within the industry. It is important to state here that notwithstanding the privatisation efforts that was initiated prior to the passage of the EA 2023, the Nigerian electricity regulatory, contractual and pricing framework still had elements of a strong centralised system with federal bodies (NERC, Nigerian Bulk Electricity Trading Company (NBET), and Transmission Company of Nigeria (TCN) primarily directed and dominated to a large extent by the Federal Government.[10]

The 1999 Constitution (as amended) outlines the distribution of powers between the Federal Government and States in respect to electricity generation and transmission. Item 13, Part II of the Second Schedule of the Constitution specifies the areas in which the Federal Government has exclusive legislative authority.[11] It provides that the Federal Government through the legislature retains exclusive rights to making laws relating to electricity and the establishment of electric power stations, including any such station for the generation and transmission of electricity from one state to another, or to any part of the federation.[12] The provision also provides that it is strictly within the ambit of the Federal Government to authorise and regulate any person to operate any plant or facility meant for the generation

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7 Osaretin Aigbovo and Ebiton Ogboka, 'Electric Power Sector Reform Act 2005 and the Development of Renewable Energy in Nigeria' (2016) 7 Renewable Energy Law and Policy Review 20, 22.

8 Lawan Cheri and Ibrahim Alhaji, 'An Assessment of the Challenges and Prospects of Power Sector Reform in Nigeria from 2000 – 2013' (2013) 2 Review of Arts and Humanities 40, 45.

9 Section 31, Electric Power Sector Reform Act 2005.

10 Aigbovo and Ogboka (n 7); Bitrus Bulama and Nichi Suleiman, 'Examination of the Legal, Policy and Institutional Framework for the Promotion of Renewable Energy in Nigeria' (2023) 7 African Journal of International Energy and Environmental Law 14, 26.

11 Item 13, Part II Second Schedule, Constitution of the Federal Republic of Nigeria (as amended).

12 Ibid.

or transmission of electricity.[13] This position was succinctly interpreted by the Supreme Court when it held that the laws in question passed by the Lagos State Government are not ultra vires its law making powers as the said laws were within the residual matters for the State and not within the exclusive and concurrent legislative list.[14] This confirms that States are within their rights to legislate on matters that classed as residual matters.

Specifically, the Constitution extends a certain degree of these powers to the State by enabling the Houses of Assembly of different States to make laws for the State concerning establishment of electric power plants, generation, transmission, and distribution of electricity only to that State provided such does not extend to the national grid.[15] By virtue of these provisions, States are restricted only to areas that are not served by the national grid which adversely impacts development of the nation's power capacity given most areas covered by the national grid are underserved.

The provisions of Items 13 & 14 Part II of the Schedule can be streamlined into three components namely, generation, transmission, and distribution. Concerning electricity generation, the 1999 Constitution (as amended) grants the Federal Government exclusive legislative authority over the establishment of electric power stations.[16] This implies that the Federal Government has the power to regulate and oversee the licensing, construction, and operation of power generation plants, including those for electricity generation. This aligns with the creation of NERC under the EPSR 2005 to regulate electricity generation.[17] On transmission, while not explicitly set out in Item 14, transmission constitutes an integral part of the power sector and it is considered a concurrent matter under the Constitution. This means that both the Federal and State governments may act on it. However, the establishment of the TCN, a federal entity, centralises control over transmission thereby taking this out of the hands of the States and prioritising Federal control.[18] Lastly, on electricity distribution, the Constitution does not specifically

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13 Ibid.

14 AG Federation v AG Lagos State (2013) 16 NWLR (Pt 1380) 249; OSIEC & Anor v AC & Ors [2010] LPELR-2818 (SC); Olaleye-Ote & Anor v Babalola (2012) LPELR-9275(SC).

15 Item 14, Part II Second Schedule, Constitution of the Federal Republic of Nigeria (as amended).

16 Constitution of the Federal Republic of Nigeria (as amended), Item 14, Part II Second Schedule.

17 Section 33(1), EPSR Act.

18 Cheri and Alhaji (n 8); Bulama and Suleiman (n 10) 26.

mention whether this should fall within Federal or State competence. However, the EPSR and other related laws grant NERC authority over distribution, ensuring federal responsibility for this aspect of the power sector.[19] Notwithstanding, opportunities arises with the position under the EA 2023 whereby States are empowered to legislate over areas under the national grid with the potential to ease the load on the national grid, and further improve the stability of electricity as challenges of underserved and unserved areas may be better addressed.

Flowing from the evaluation of the preceding electricity regime in Nigeria, the Federal Government had exclusive legislative authority over electricity generation, including the establishment of power stations, while transmission and distribution are subject to federal regulation but may also involve concurrent powers with State governments.[20] Whereas the specific legislative framework and regulations, including the EPSR, provides a more detailed guidance which is titled towards centralisation with respect to the powers, organisational framework, and governance structures within the Nigerian power sector.

3. DECENTRALISATION – CONCEPTUAL ANALYSIS

Decentralisation can be described as the transfer of authority and responsibility from a central and higher authority to an authority that is lower on the power hierarchy.[21] This tends to promote effective management of areas beyond the central authority, ownership of decision making, and accountability between the Government, the governed and other stakeholders.[22] Decentralisation promotes an increased stake in energy system design and involvement by States allowing States to decide how best to formulate policies and promote contractual arrangements for their electricity

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19 Section 67, EPSR Act.

20 Oluwatoyin Somoye, 'Energy Crisis and Renewable Energy Potentials in Nigeria: A Review' (2023) 188 Renewable and Sustainable Energy Reviews 113794.

21 James Fesler, 'Approaches to the Understanding of Decentralisation' 27 Journal of Politics 536, 536.

22 Dennis Rondinelli, 'What Is Decentralization' in Jennie Litvack and Jessica Seddon (eds), Decentralization Briefing Notes (World Bank 1999) 2; Benjamin Nwabueze, Ideas and Facts in Constitution Making (Spectrum Books 1993).

markets.[23] According to Wolfe, decentralisation will likely lead to better energy outcomes and promote the management of energy poverty more appropriately.[24] Through decentralisation, States can participate in designing and formulating regulatory and contractual frameworks for managing the electricity system within their respective States.[25] Centralised energy systems are likely to suffer from multiple points of failure, vulnerabilities and inefficiency from supply chain unavailability, old and decaying infrastructure and a host of other challenges.[26] Further, the increasing clarity around the impact of fossil fuel powered electricity systems on the climate and the benefits of deploying smaller and greener electricity systems further demonstrates the need to move away centralised electricity systems.[27]

The paper adopts a definition of decentralisation that aligns with weakening central control over an issue such as electricity generation, transmission and distribution and the corresponding strengthening and direction of efforts towards meeting the electricity needs of the States as the State may be in a better position to determine its strengths, opportunities and challenges. Therefore, this shift in control from the Federal level to the State level constitutes an opportunity for a Government closer to the people to explore energy opportunities, consider the needs of the people and make the necessary alignment by providing optimum control and choice with respect

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[23] Dennis Rondinelli, 'Government Decentralization in Comparative Perspective: Theory and Practice in Developing Countries' (1981) 47 International Review of Administrative Sciences 133.

[24] Philip Wolfe, 'The Implications of an Increasingly Decentralised Energy System' (2008) 36 Energy Policy 4509.

[25] Adewale Abe, Bankole Adebanji and Emmanuel Fasina, 'Sustainable Energy Development in Nigeria: Issues, Challenges and Prospects' (2024) 2 European Journal of Theoretical and Applied Sciences 333 <https://doi.org/10.59324/ejtas.2024.2(3).27>; Tobi Andrew and Ayodeji Gafar, 'Decentralisation and Local Governance in Nigeria' (2023) 20 Journal of Administrative Science 311.

[26] Norbet Edomah, 'Who Triggers Change? Social Network Mapping, Stakeholder Analysis and Energy Systems Interventions in Nigeria's Electricity Sector' (2023) 37 International Journal of Sustainable Energy Planning and Management 5 <https://doi.org/10.54337/ijsepm.7246> accessed 14 July 2024.

[27] François Bouffard and Daniel Kirschen, 'Centralised and Distributed Electricity Systems' (2008) 36 Energy Policy 4505, 4506; Tobi Andrew and Ayodeji Gafar, 'Decentralisation and Local Governance in Nigeria' (2023) 20 Journal of Administrative Science 311.

to energy policy and access.[28] The paper applies decentralisation to energy systems and uses the term to refer to an arrangement whereby control, access and authority is detached from a central regulator and in the case of electricity a disengagement from a national grid, transmission and distribution system that is controlled by a central authority with input from States.

Promoting RE is important considering the time and temperature goals of the Paris Agreement,[29] Nigeria's climate commitments[30] and the inefficient national grid.[31] Therefore, there is a lot of benefits for promoting a decentralised electricity network especially as it relates to RE generation, distribution and transmission. Decentralisation fits with the RE framework which better aligns with the implementation of smaller and dispersed electricity systems which corresponds better with a decentralised electricity framework as RE systems are generally directed at serving towns and communities that may not be connected to the national grid.[32] This arrangement promotes SDG 7 which calls for access to affordable and sustainable energy.

From the above discussion, two aspects that are important from a decentralisation perspective relates to the political form and the energy form. With respect to political form, decentralisation involves moving control from a centralised political and regulatory body to multiple stakeholders with responsibility over smaller groups and geographical areas.[33] In terms of energy forms, a decentralised electricity system aligns with RE generation, distribution and transmission for a town, community or an area. Both aspects

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[28] Olanrewaju Ogunnubi, 'Decentralisation and Local Governance in Nigeria: Issues, Challenges and Prospects' (2022) 27 Commonwealth Journal of Local Governance 5, 8.

[29] UNFCCC, 'The Paris Agreement' (UNFCCC 2015) <https://unfccc.int/sites/defaul t/files/resource/parisagreement_publication.pdf> accessed 10 August 2024, Articles 2 and 4.

[30] FGN, 'Nigeria's Nationally Determined Contribution (NDC)' (Federal Government of Nigeria 2021) <https://climatechange.gov.ng/wp-content/uploads /2021/08/NDC_File-Amended-_11222.pdf,> accessed 26 July 2024.

[31] Vanguard, 'Incessant Electricity Grid Collapse' Vanguard <https://www.van guardngr.com/2024/04/incessant-electricity-grid-collapse/> accessed 25 August 2024; NERC (n 1) 4.

[32] Abe, Adebanji and Fasina (n 25) 336.

[33] Edward Rubin and Feeley Malcolm, 'Federalism and Interpretation' (2007) 38 Journal of Federalism 167; Emmanuel Amah, 'Nigerian Federal Constitution and the Practice of Federalism: An Appraisal' (2017) 8 Beijing Law Review.

impact on politics and administration of entities within a political system.[34] To be successful, this arrangement requires an effective regulatory, commercial, and technological framework to promote its delivery, scale and interface with the existing centralised governance arrangement.

While decentralisation has benefits, it is important to structure the arrangement in such a way that the local entities are not isolated so that they can continue to develop.[35] This is because decentralisation is unable to promote development by itself except local authorities leverage their autonomy in a collaborative way by continuing to maintain and renew links with the central authorities.[36]

The decentralisation of electricity regulatory frameworks in Nigeria promotes opportunities for independent power generation, greater use of RE sources as the different States have varying levels of RE abundance and access, business cases, and technical capacity.[37] This also creates a better alignment with SDG 7 as integration of renewable energy sources is likely to result in improving the energy mix if a decentralised energy approach is promoted. With more States having control over energy generation, they can better formulate policies that prioritise their RE abundance and meet the energy needs of the residents within their States with any excess contributed to the national grid. Increased decentralisation is likely to have more beneficial effect especially as those most likely to benefit from such efforts are not currently served by the national grid.[38] Therefore, the adoption of RE

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[34] Joy Ogaji and Stephen Ogaji, 'The Impact and Role of the Regulator on Electricity Market Growth and Sustainability in a Developing Economy: The Case of Nigeria' in Sola Adesola and Feargal Brennan (eds), Energy in Africa (Palgrave Macmillan 2019) 52.

[35] Norman Uphoff and Esman Milton, Local Organization- Intermediaries for Rural Development (Cornell University Press 1984); Lionel Cliffe, James Coleman and Martin Doornbos (eds), Government and Rural Development in East Africa (Martinus Nijhoff 1977).

[36] Andrew and Gafar (n 27) 320; Samuel Dike and Samuel Nwosu, 'Decentralization of Electricity Generation And Distribution in Nigeria: Revisiting the Legal and Policy Reforms' (2020) 4 African Journal of International Energy and Environmental Law 85.

[37] Temilade Sesan and others, 'Exploring the Connections between Mini-Grid Market Regulation and Energy Access Expansion: The Case of Nigeria' (2024) 184 Energy Policy 113891.

[38] Ngozi Ole, 'The Nigerian Electricity Regulatory Framework: Hotspots and Challenges for Off-Grid Renewable Electricity Development' (2020) 38 Journal of

sources at this level will close the energy gap and reduce emissions at the same time. This is because climate effects will be most pronounced for the most vulnerable people and these people will benefit more as using RE sources will reduce the level of carbon produced by the electricity sector.

4. NOTABLE CHANGES INTRODUCED BY THE ELECTRICITY ACT 2023 THAT MAY IMPACT ON RENEWABLE ENERGY (RE) ADOPTION

4.1 Improving Access to RE and the Position of States

With reports suggesting that out of over two hundred million (200,000,000) Nigerians, an estimated ninety-million (90,000,000) are not connected to the national grid, while several areas that are connected are grossly underserved due to inadequate energy supply and old infrastructure.[39] Within the same period, the country has an estimated installed generation capacity of about 8000 to 10,000 megawatts (MW) which only an average of 5000 – 6000 MW is readily available for onward transmission to consumers.[40] According to the National Bureau of Statistics, 6,432 (MW) of electricity was transmitted in Q3 of 2023.[41] To put it into context, South Africa with a population of over fifty seven million (57,000,000) has a generation capacity of about 51,300 MW with an estimated access rate of 86% and envisages an addition of 29,500 MW by 2030.[42] Ghana with a population of about thirty four million (34,000,000) maintains a generation capacity of an estimated 5000 MW of which 4,700 MW is readily available for onward transmission.[43] The conclusion to be drawn from this is that Nigeria has a gross deficit with respect to electricity generation capacity.

Energy & Natural Resources Law 367 <https://doi.org/10.1080/02646811.2020.1771845>.

39 NERC (n 1) 2.

40 Ibid.

41 National Bureau of Statistics, 'Electricity Report Q4 2023' (NBS 2023) <https://nigerianstat.gov.ng/elibrary/read/1241482> accessed 3 July 2024.

42 Department of Mineral Resources & Energy, Republic of South Africa, 'The South African Energy Sector Report 2022' (Department of Mineral Resources 2022) 7 <https://www.dmre.gov.za/Portals/0/Energy_Website/files/media/explained/2022-South-African-Energy-Sector-Report.pdf> accessed 29 July 2024.

43 Samuel Wunu, 'Ghana Energy Sector Overview - Power Africa in Ghana' (USAID 2019).

This entails the mandatory utilisation of embedded generation, hybridised generation, co-generation and generation from renewables such as wind, solar, biomass, and small hydro energies as a condition for granting generation licenses by States to generating companies.[44] With a goal to attain RE capacity of 5 gigawatts (GW) by 2025, Nigeria is taking steps to promote the adoption of renewable energy such as solar, wind, and biomass. At present, Nigeria's RE generation capacity stands at about 851 megawatts MW[45] with optimistic projections that the country could potentially generate around 122 GW from renewable energy all things being equal.[46]

With rural areas being inaccessible and limitations of the national grid, it has become critical to re-evaluate the electricity framework to ensure that rural areas are not left behind as Nigeria attempts to address the gaps in electricity availability and penetration.[47] The EA 2023 generates enormous interest amongst stakeholders who are expectant that the EA will revolutionise Nigeria's power sector as it aims to enhance RE power generation, transmission, and distribution capacity of various States, and also provides a comprehensive legal and institutional framework to govern everything related to electricity in the power sector, while striving to ensure the promotion of renewable energy within Nigeria's energy mix. Under the EA 2023, two changes to the existing energy generation arrangement is notable. The first is the decentralisation feature[48] with the EA 2023 authorising States to regulate the power sector within their territorial jurisdiction.[49] The implication of this is that States are now responsible for regulating the power sector within their jurisdiction including areas covered by the national grid, allowing them to grant licenses to companies for the operation of different electricity networks including mini-grids, independent electricity distribution networks

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[44] Jonah Kings, 'Evaluating the Landscape of Electricity Regulation in Nigeria: An In-Depth Analysis of the Electricity Act 2023 and Its Pivotal Reforms in the Power Sector' [2023] SSRN <https://ssrn.com/abstract=4613516> accessed 14 August 2024.

[45] IEA, 'Energy System of Nigeria – Energy Mix' (IEA 2024) <https://www.iea.org/countries/nigeria> accessed 15 June 2024.

[46] Ibid.

[47] World Alliance for Decentralised Energy and others, 'More for Less: How Decentralised Energy Can Deliver Cleaner, Cheaper and More Efficient Energy in Nigeria' (2009) 8 <https://www.iceednigeria.org/resources/july-2009wde.pdf> accessed 2 August 2024.

[48] Constitution of the Federal Republic of Nigeria (as amended), Item 14, Part II Second Schedule.

[49] Section 63, Electricity Act 2023.

(IEDN)/independent electricity distribution network operators (IEDNOs), and independent electricity transmission network operators (IETNOs). This has the potential of transforming the energy generation capacity of a State, thereby lessening energy poverty and improving energy access.

Notwithstanding, in the spirit of efficient resource utilisation and on the backdrop of rising climate change concerns, the EA 2023 seeks to promote a substantial boost to the energy generation capacity by introducing a shift in the regulatory framework that enables States to grant licenses for power generation so that power projects can be developed closer to the consumers with each State exploiting its resources as best as it can and by obligating the promotion of renewable energy sources into the energy mix which will translate into a boost in power generation.[50] In addition to the EA, it is expected that other regulations and policies for promoting RE including the Mini-grid Regulations, and the Renewable Energy Feed-in-Tariff Regulations will continue to be relied as may be appropriate to meet the regulatory objectives of the EA 2023.

4.2 Transitional Arrangements and RE Adoption – Analysing the Effect of Section 231 (Transitional Provision) of the Electricity Act 2023

Formerly, Nigeria operated an electricity market under the EPSR which was centrally controlled to a large extent through NERC, NBET and the TCN regulating the electricity market, trading and distribution, while states may only engage in areas not covered by the national grid.[51] Consequent to the EA 2023, states are now enabled to establish their electricity markets, resultantly reshaping the Nigerian electricity market landscape as more players are allowed to get involved in the electricity value chain.[52] Owing to this development, states are distinctly positioned to play an important role to bridge the energy supply deficit by exploring diverse energy sources including RE accessible in their jurisdictions to meet the energy demands in their states.

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50 Section 80 ibid.

51 Usman Zubairu and others, 'Transforming the Nigerian Power Sector for Sustainable Development' (2015) 87 Energy Policy 429, 430; João Pavanelli and others, 'An Institutional Framework for Energy Transitions: Lessons from the Nigerian Electricity Industry History' (2023) 97 Energy Research & Social Science 102994.

52 Sections 2(2); 63(1); and 230(2)-(9) Electricity Act.

However, with this regulatory independence also comes a potential of conflict between Federal and State laws with respect to electricity generation, transmission and distribution. For instance, in the United States the federal government through its Federal Energy Regulatory Commission (FERC) is responsible for co-ordinating energy regulation in the country and it issues general guidelines and establishes the minimum regulatory standards.[53] While the regulatory framework recognises the ability of States to adopt additional regulatory requirements based on their respective local demands.[54] Additionally, the U.S Constitution contains the supremacy clause which provides that in an event of conflict between federal and state laws, federal laws shall prevail.[55] Conversely, if we draw on the analysis in section 2 above on the distinction between items on the exclusive and concurrent list, the Nigerian Constitution does not set out a clear-cut distinction with respect to electricity. Rather, where a state legislates on an issue in the concurrent legislative list that contradicts federal law, such law is deemed valid and still applies irrespective of the conflict until a court of competent jurisdiction adjudicates on the matter.[56] Thus, the possibility of state laws prevailing over federal laws with respect to generation and transmission is a possibility especially as the Electricity Act 2023 has now provided a basis for State to play a greater role in electricity markets.

Notwithstanding, it is important to highlight here that even with the regulatory independence of States, NERC still retains its functions and duties as the federal regulator. The EA 2023 lays out the duties to be discharged by NERC including; establishing market rules, issue appropriate operating standards, issue consumer rights and obligations to a licensee regarding electricity services, and other appropriate rules aimed at ensuring the efficiency and maintaining the overall competitiveness of the NESI.[57] Further, NERC is entitled to issue generation, transmission, distribution, and trading licenses respectively to companies intending to participate in the market.[58] In the same vein, NERC is empowered to monitor, investigate, and sanction any

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53 The United States Federal Power Act (as amended) 2018, Paper 215; Federal Electricity Regulatory Commission, 'What Is FERC - Overview' (FERC) <https:// www.ferc.gov/what-ferc> accessed 2 July 2024.

54 Eti Herbert, 'Application of Electricity Federalism in Nigeria: Drawing Inspiration from America' (2021) 29 African Journal of International and Comparative Law 223.

55 The Constitution of the United States of America 1787, Paper VI Clause 2.

56 AG Federation v AG Lagos State (n 14).

57 Section 34, Electricity Act; Bulama and Suleiman (n 10) 24.

58 Sections 65, 66, 68 and 69, Electricity Act.

licensee and permit holders deemed to have failed in discharging their obligations, or in breach of any provisions of the EA 2023.[59] It is apparent by the provisions of the EA 2023 that despite the regulatory independence of states that have enacted electricity laws, NERC still remains the primary regulator of the NESI.

Notwithstanding, it must be noted that states do not automatically obtain this regulatory independence from NERC owing to the EA 2023. The EA 2023 is conceived in a way that states yet to enact their electricity laws and establish a state regulatory body will continue to operate under the regulatory framework of NERC.[60] However, once a state invokes Section 230(2) thereby enacting its electricity laws and establishing its regulatory body, and afterwards concluding the transition process provisioned in Section 230(3), NERC entirely ceases to have regulatory authority over the electricity market activities in that state. Although, Section 230(9) imposes an obligation on both NERC and the state regulator to maintain a harmonious and beneficial inter-institutional relationship for coordinating rules and minimising regulatory risks both within federal and state markets.[61] The EA 2023 did not position NERC as the superior institution over state regulatory bodies, neither did it expressly mandate states to adopt, model, or involve the Commission in developing their electricity laws[62]. Once transfer of regulatory powers occurs, the EA 2023 explicitly maintains that NERC jurisdiction over that state ceases.[63] Resultantly, generation, transmission, and distribution licenses shall thereafter be issued by the state regulator while the Commission continues renewal and issuance of licenses in other states yet to invoke Section 230(2).

4.3 Transition and Decentralisation

The EA 2023 provides that notwithstanding the repeal of the EPSR 2005, licenses, permissions, and all other actions executed under the EPSR so long it is not inconsistent with the EA 2023 shall be deemed valid and regarded to be carried out under the EA 2023.[64] The implication of this is that all licenses,

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59 Section 34 (f) – (i) ibid.

60 Section 230(8) ibid.

61 Section 230(9) ibid.

62 Olujobi, O.J., et al , Conversion of Organic Wastes to Electricity in Nigeria: Legal Perspective on The Challenges and Prospects, International Journal of Environmental Science and Technology,939–950, <https://doi.org/10.1007/s13762-020-03059-3>

63 Section 230(6) ibid.

64 Section 231, ibid.

certificates, permissions, tariffs, market rules, regulations, orders, directives, and other subsidiary legislations issued by NERC under the repealed Act will still be valid until their issued duration elapses, unless they are inconsistent with the new Act.[65] However, the provision of Section 231 raises concerns, and rightly so about the potential for uncertainty given Section 230(2) allows states, if such states want to, to enact a law, establish their electricity markets and, a state regulatory body for those markets. The concerns are mainly focused on the fact that generation, transmission, and especially distribution companies with existing licenses, permits, etc issued under the previous regime (still deemed valid) may exist parallel to the new licenses, permits, etc that will be issued by state regulators which may have varying governing procedures, requirements, and regulations. Further to the uncertainty around Section 231 is the potential that such companies operating within a certain state jurisdiction under the previous electricity regime may be impacted by new state regulations distinct from that of the old regime.

Nonetheless, it must be noted that the uncertainty in Section 231 and the implication of Section 230(2) concerning the transfer of regulatory authority from NERC to a State's regulatory agency, and its impact on companies operating within the state jurisdiction as mentioned above can be addressed by the provisions contained in Section 230. Section 230 created two parallel regimes, the first captured under Section 230(2) applicable to states that enact their electricity laws and establish a state regulatory commission,[66] while the other contained under Section 230(8) is applicable to those states that are yet to invoke Section 230(2) and enact state electricity laws and establish state electricity regulatory commission.[67]

For states that invoke Section 230(2) through enacting laws that establishes state electricity market and state regulatory commission, such state is mandated to send a formal notification to NERC requesting it cedes regulatory authority to the new state regulator.[68] Further, the Act provides that transition of regulatory authority from NERC to state's regulatory commission shall be completed not later than six (6) months from the date of formal notification from the state commission.[69] This transition period may be sufficient for affected companies to conform to the new rules. The Act

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65 Abe, Adebanji and Fasina (n 26).
66 Section 230(2), Electricity Act.
67 Section 230(8) ibid.
68 Section 230(2)(c), ibid.
69 Section 230(3), ibid.

further outlines the procedure distribution companies (DisCos) shall undergo during the transition period to curb regulatory uncertainties.[70] Section 230(4) stipulates that the Commission shall send a formal notification to the concerned DisCo in respect to the transfer of regulatory authority from NERC to the state regulatory body. Upon receiving such notification, the company has a statutory obligation to within two months incorporate a subsidiary DisCo ("the successor company") and transfer all assets, liabilities, employees, and other relevant contractual rights and obligations to the subsidiary.[71] The terms on which such transfer shall be made including; ensuring the transfer does not constitute a fraud on the creditors of the subsidiary, be executed via an agreement clearly stating the liabilities and obligations of the parties, and must not impose any liabilities of the successor company on the state government, nor should the state be a guarantor to such liabilities is contained in the Act.[72]

Conversely, where a state is yet to enact laws establishing state electricity market and state regulatory body, Section 230(8) provides that NERC shall retain its regulatory authority of electricity generation, transmission, and distribution over the state, until such state invokes it right under Section 230(2).[73] The foregoing evaluation of the implication of Section 231 on States and DisCos, taking into account Section 230 as a corresponding provision to Section 231 is to the effect that although Section 231 may stir up regulatory uncertainty to DisCos, it is nonetheless determined that when taken together with Section 230 (2) to (8), such uncertainty is cured as provision of Section 230(2) to (8) outlines the procedure that would be undergone by NERC, the state body, and DisCos during the transition period until full regulatory authority is transferred to the state body. However, where a state does not enact laws establishing state electricity market and its regulatory body, NERC continues to be the state's electricity regulator, therefore maintaining the status-quo.

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70 Section 230(4) & (5), ibid.
71 Section 230(4), ibid.
72 Section 230(5), ibid.
73 Section, 230(8) ibid.

4.4 Other Notable Changes Introduced by the Electricity Act 2023 that may impact on RE Integration in the Energy Mix

4.4.1 The Introduction of an ISO

An important change brought by the EA 2023 is the introduction of an Independent System Operator (ISO).[74] Under the EPSR 2005, the TCN functioned as both the transmission service provider and the market and system operator.[75] However, the EA shifts from this arrangement as it provides that the TCN will cease to be the market and system operator. Instead, the EA provides that a successor entity shall be incorporated (the successor company), as the ISO to take over all functions of market and system operations.[76] The ISO will be responsible for system operations including generation scheduling, commitment and dispatch; transmission scheduling and outage co-ordination; congestion management; transmission co-ordination; procurement and scheduling services; administration of the wholesale electricity market; and other incidental activities required for system operation efficiency.[77] In furtherance of this, the NERC has published an Order facilitating the transfer of market and system responsibilities from TCN to the ISO with the publication of the Order on the Establishment of the Independent System Operator.[78]

The introduction of the ISO model is projected to improve scheduling and congestion management of the transmission grid given these functions will no longer be combined with system planning and maintenance. With respect to operations, it is expected that the separation of transmission from market and systems operations, will enable the successor company focus on its main tasks including system operations, improved asset management, contract negotiation thereby improving its effectiveness. While in the area of governance, the expectation is that the ISO being incorporated under the Companies and Allied Matters Act 2004 will file returns at the Corporate

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74 Section 15, ibid.

75 Babatunde Olubayo and others, 'Electricity Sector Assessment in Nigeria: The Post-Liberation Era' (2022) 10 Cogent Engineering 1; Bulama and Suleiman (n 10) 26.

76 Section 15, Electricity Act.

77 Sections 15 and 67 ibid.

78 Order on the Establishment of the Independent System Operator for the Nigerian Electricity Supply Industry' (NERC 2024) NERC/2024/45 <https://nerc.gov.ng/wp-content/uploads/2024/05/Order-on-the-Establishment-of-the-Independent-System-Operator-for-NESI-1.pdf> accessed 4 August 2024.' as the new footnote.

Affairs Commission (CAC) thereby increasing accountability and transparency[79]. This will be beneficial in a decentralised framework, as respective State authorities can focus on managing electricity frameworks in silos and efficiently managing energy and contractual issues within their jurisdiction.[80] This will also be beneficial from a RE standpoint as smaller and independent power facilities can be regulated, deployed and managed more efficiently by entities within the respective States. Additionally, considering its independence along with its primary objective of promoting the interests of market stakeholders, it is projected that interests of diverse stakeholders would be best served. Further, the adoption of the ISO model will enhance TCN's efficiency as it would solely focus on transmission services.[81] This is important given the lamentable state of the Nigerian transmission grid. It is estimated that between 2015 to 2022, the transmission grid collapsed 68 times, while in 2022 the grid collapsed seven (7) times most notable of which was the 25th September 2022 grid collapse to which resulted in a nationwide blackout.[82] It is indisputable that lack of investment and modernisation is the greatest challenge posed to the Nigerian transmission sector. Hence, by separating and assigning market and system operations to an ISO, TCN can focus on enhancing efficiency of its transmission operations by adopting digital technologies that will also be beneficial for RE integration.

4.4.2 Obligations on GenCos and DisCos to promote RE

GenCos are encouraged to generate electricity relying on a RE sources with the NERC empowered to issue guidelines on RE requirements. In a similar vein, it is mandatory for DisCos to purchase a specified quantity of electricity from RE sources or pay some fees in case of default to NERC. Further, states are in a position to formulate laws, tax incentives and rebates to incentivise large-scale investments in the state electricity market through long term Feed -in Tariffs of between 10 – 15 years by NERC,[83] Public-Private Partnerships (PPP), concessions, and other innovative financing techniques to improve

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79 ibid

80 Koffi Nyarko, Jonthan Whale and Tania Urmee, 'Empowering Low-Income Communities with Sustainable Decentralized Renewable Energy-Based Mini-Grids' (2023) 16 Energies 7741 <https://doi.org/10.3390/en16237741> accessed 2 July 2024.

81 Olubayo and others (n 74).

82 Vanguard (n 31); NERC (n 1) 4.

83 Section 168(2), Electricity Act.

financing of the energy market.[84] For instance, with respect to arrangements for Feed-in Tariffs, NERC ought to consider the difference in pricing between electricity generated from non-renewable sources compared to RE generated electricity and to communicate modalities on an ongoing basis. Also, the Minister of Finance can rely on powers provided in the EA 2023[85] to promote tax incentives aimed at GenCos, DisCos, and other market participants to support RE adoption and ensure that there is sufficient coordination with States to replicate and deepen similar fiscal frameworks. The potential for this to scale is there, however, progress is slow as RE energy sources are not as commercially competitive as non-RE sources.[86]

4.4.3 Expansion of the role of the Rural Electrification Agency (REA)

The REA was established under the EPSR but its role and responsibilities have been expanded under the EA 2023. Importantly, the REA now has greater and clearer responsibilities to promote collaboration with State and local government agencies by ensuring the provision of rural, unserved and underserved electrification services and meeting the needs of rural communities amongst other related activities.[87] It encourages a framework for the development of a conducive environment to attract private investment in the development of RE sources in rural areas and sets out clear provisions with respect to the Rural Electrification Fund (REF) and its utilisation.[88]

Although the function of the REA is to be performed by a Governing Board[89] with the Minister for Power exercising oversight and supervisory powers. The statutory objectives of the REA especially as it relates to RE and rural development indicates that the REA will need to work with States and local governments to meet its statutory objectives. This suggests that the decentralisation objective and its success in improving RE sources and adoption will be deepened where agencies such as the REA is able to effectively and extensively coordinate its operations with the States and electricity authorities to be set up in such States. In other words, by recognising and promoting the decentralisation objective set out in the EA, the REA can play an important role for RE adoption in rural areas.

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84 Isah A, Dioha M, Debnath R, Abraham-Dakuma M, and Butu H, Financing renewable energy: policy insights from Brazil and Nigeria. Energy, Sustainability & Society **13**, 2 (2023). https://doi.org/10.1186/s13705-022-00379-9

85 Section 166, Electricity Act; Industrial Development (Income Tax Relief) Act 1970.

86 World Alliance for Decentralised Energy and others (n 47) 4.

87 Section 128, Electricity Act.

88 Section 128, ibid.

89 Section 130(2), ibid.

4.4.4 Challenges with promoting RE adoption using the EA 2023

Even as the EA 2023 has made commendable strides with respect to integrating RE into the energy generation mix in Nigeria, genuine concerns to its actual materialisation persists. For instance, it may be challenging for the Government to attract or provide its own side of the financing and the required funding in terms of investment support. This is because of numerous issues; firstly, RE entails significant initial capital injection with a long-term investment window within which returns can be recouped.[90] This means that without the right regulatory and fiscal policy supported by government incentives, sustained investments in RE will be unattractive to private investors[91]. In formulating the regulatory and fiscal environment, Government needs to ensure that it manages private sector incentive which is usually more geared towards profit maximisation.[92] Additionally, traditional players and vested interest comprising of fossil fuel and petroleum products interest groups keen on maintaining the status-quo cannot be disregarded as their interests is obviously to continue the existing inefficient system where customers have no alternative but to keep purchasing petrol and diesel to power carbon emitting generating sets.[93] This means that attention needs to be paid to the activities of such interest groups that may want to derail the implementation of the EA Act as it affects their business interests. Consequently, unless strong political will exists alongside transparent implementation framework, the success of the generation framework especially the proposed adoption of renewable energy being a major source of power generation under the EA 2023 remains to be seen.

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[90] IRENA, 'Renewable Power Generation Costs in 2022' (IRENA 2023) 25 <https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2023/Aug/IRENA_Renewable_power_generation_costs_in_2022.pdf> accessed 14 June 2024.

[91] Olujobi, Olusola Joshua et al, Legal Responses to Energy Security and Sustainability in Nigeria's Power Sector Amidst Fossil Fuel Disruptions and Low Carbon Energy Transition, (2023), Heliyon, Open Access, Elsevier BV, 9(7), e17912. Available at https://www.cell.com/heliyon/fulltext/S2405-8440(23)05120-4 (accessed

[92] Somoye (n 20).

[93] Adeniyi Fadekunayo and Isah Abdulrasheed, 'Unlocking Renewables Amid Rentierism: Market Constraints to Nigeria's Energy Transition,' (2023) 104 Energy Research & Social Science 103248; Zainab Usman, 'The Resource Curse and the Constraints on Reforming Nigeria's Oil Sector' in Carl Levan and Patrick Utaka (eds), The Oxford Handbook of Nigerian Politics (Oxford University Press 2018) 12.

In discussing the role of an ISO within a decentralised framework, it was pointed out that this would be beneficial. In the same breath, such arrangement could also be challenging if there is no plan to periodically review and assess the alignment of the decentralised framework and the role that the ISO is playing to promote it. For instance, decentralised electricity system has the potential of reducing the challenge of energy access in rural areas[94]. Much success can be recorded if local energy plans are integrated and aligned with national energy plans and climate commitments. The plan in the EA 2023 to formulate and implement an Integrated National Electricity Policy and Strategic Implementation Plan to guide the electricity sector over a five (5) year period is commendable.[95]

Further, while the EA 2023 promotes decentralisation, it is not clear to what extent this will be achieved and the viability of support that is available to states without the necessary technical competence. For instance, some states and local Governments do not have technical capacity and corresponding institutions to facilitate effective engagement. This gap can be addressed by a dedicated fund directed at assisting States and local governments develop the competence and technical capacity so that they can implement provisions of the EA 2023 and any applicable policy that may affect increased RE adoption. Also, other legal issues, for instance, around land ownership and use may require special attention to allow states maximise their RE intervention as land use and registration is dominated to a large extent by Federal and in some instances state laws which may impact on availability of land for RE projects.

5. CONCLUSION

The next few years will be a steep learning curve especially as it concerns the decentralised framework and its consequences for stakeholders within the electricity regime as they continue to get used to the new system. Importantly, the transitional provisions in the EA 2023 will aid stakeholders as they begin to move towards the new regime. In order to transition effectively towards a decentralised regime, States must be willing to design

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[94] Olujobi, O.J., et al , Carbon Emission, Solid Waste Management, and Electricity Generation: A Legal and Empirical Perspective for Renewable Energy in Nigeria, International Environmental Agreements: Politics, LAW and Economics, DOI 10.1007/s10784-021-09558. <https://link.springer.com/article/10.1007%2Fs10784-021-09558-z#citeas> accessed September 9, 2024.

[95] Section 4(1), Electricity Act.

regulatory frameworks that will maximise their individual commercial advantages in terms of renewable energy generation and align such with competitive funding options while taking account the requirements of their residents.

This paper has assessed the preceding electricity regime, the EPSR 2005 together with the provisions of the Constitution prior to the 2022 constitutional amendment particularly with respect to Federal and States powers concerning electricity generation, transmission, and distribution. Under the former electricity regime, the Federal government retained the exclusive rights of making laws and regulating electricity generation, transmission, and distribution in Nigeria. Whereas the states can only legislate on areas within their jurisdiction not covered by the national grid. The EPSR 2005 at the time it was enacted was meant to be an ambitious framework that would transform the power sector, but due to its lack of comprehensiveness and strategic implementation fell short of its expectation.

Resultantly, the enactment of the EA 2023 being a comprehensive legal and institutional framework for the post-privatisation phase of the power sector, in addition to making renewable energy central to Nigeria's power generation positioned it to be a game-changer to the energy industry. The EA 2023 revised and harmonised all laws regulating the energy industry in Nigeria into a single comprehensive framework. As discussed in the paper, the Act made monumental changes to the industry including; the enablement of states to establishment their electricity markets and a state regulatory body to regulate the state market. This change is widely embraced as states can now take charge of the electricity market within their jurisdiction, which depending on the political will and readiness of such state, the change has a potential to drastically improve access to power and overhaul the electricity landscape in Nigeria.

Relying on the discussion on decentralisation in section 2 above and looking through the lens of renewable energy approaches, the paper envisages decentralised energy frameworks will be more beneficial from a climate and efficiency perspective as decentralised energy systems are more likely to cater to the needs of those who might be excluded from the structured and existing centralised electricity infrastructure. Also, this approach better aligns with RE generation, distribution and transmission with States relying on their powers under the EA 2023 to fashion legal and contractual frameworks to derive maximum benefits for the customers within their geographical area while relying on RE sources which is more aligned for implementing small

scale electricity networks. Because decentralised energy is consumed more closely at the point of generation, this will lead to lower emissions and avoid the need to invest in large transmission and distribution networks.

Owing to these notable changes in addition to the harmonisation of electricity laws resulting to a comprehensive and institutional legal framework, the EA 2023 is an improvement compared to the EPSR 2005. However, the effectiveness of the transfer of regulatory authority from NERC to States will need to be undertaken in a manner whereby States are able to realise its potential. Further, whilst the EA 2023 has made commendable strides towards integrating renewable energy into Nigeria's energy mix, the fact that the law is silent on a specific quota of renewable energy that must be met by generating companies may limit its effectiveness. This undermines the objective of the EA 2023 to an extent as GenCos may integrate the minimum renewable energy in pursuit of profit. Also, the EA 2023 adopted the ISO model meant to separate the functions of a transmission service provider and the market and system operator both previously performed by a single entity. As a result, the TCN now with sole duty of transmission service provider while ISO serves as the market and system operator streamlines the functions of each entity, therefore expected to improve scheduling and congestion management of the transmission grid for efficient service delivery.

Additional research is required to evaluate the likely challenges that decentralisation could have especially for RE promotion considering the different access to RE sources in different states and considering the different political, cultural and governance challenges. Relatedly, it is important to also explore the legal and policy framework that will facilitate stakeholders working together so that the transitional provisions in the EA 2023 are implemented in a way that states without the technical capacity and competence can continue to benefit from the experience of NERC within a framework that will promote their independence and drive to increase RE adoption while taking account of the climate emergency.

Overall, the EA 2023 represents a critical shift in Nigeria's electricity framework and an opportunity to promote RE generation and adoption as it sets out a legal arrangement that decentralises the electricity framework and encourages the participation and contribution of more players which has the potential to promote the adoption of RE thereby laying a background for meeting Nigeria's electricity needs and climate commitments.