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STUDENT ESSAY

Energizing Health: Electricity Access and the Right to Health in Nigeria

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Abstract

In this essay, I explore the link between energy access, especially electricity, and human rights, particularly the right to health in Nigeria. Despite its plentiful natural resources, including vast reserves of oil, gas, and sustainable bioenergy sources, Nigeria faces an energy crisis that constrains health care delivery, particularly in rural areas where health facilities lack reliable access to electricity. I analyze Nigeria's recently enacted Electricity Act, assessing its potential to address systemic energy challenges that hinder the realization of the right to health. I balance a doctrinal reading of the act with a rights-based analysis of its capacity to enhance equitable access to energy, recognizing electricity access as a social determinant of health. I further highlight the importance of policy and legal measures to alleviate Nigeria's energy crisis and improve health care access for millions disproportionately affected by the lack of clean and reliable energy. Crucially, the analysis also examines the governance and implementation gaps, such as regulatory coordination, that might prevent the act from ensuring energy is a tool to help fulfill the right to health.

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Introduction

The challenges of energy poverty, energy insecurity, and limited electricity availability pose significant concerns for the enjoyment of fundamental rights and freedoms. Of particular importance is the impact of energy access on the right to health, especially its entitlements. Increasingly, researchers and policymakers are recognizing these links and directing greater attention to the broader implications of energy access for human rights.[1] One crucial issue examined in this paper is the extent to which access to energy shapes the realization of the right to health in Nigeria, with a specific focus on the entitlements that flow from the right to health.

The right to health, which guarantees entitlement to the highest attainable standard of physical and mental well-being, is a principle firmly enshrined in multiple international and regional human rights instruments.[2] Despite its strong normative foundation, the right to health was long regarded as controversial, owing to debates surrounding its precise scope and content, as well as its categorization within the broader framework of human rights.[3] Although contemporary legal scholarship increasingly underscores the indivisibility and interdependence of human rights (civil and political rights and socioeconomic and cultural rights), the practical reality in Nigeria demonstrates a significant gap, with socioeconomic rights such as the right to health remaining weakly protected and poorly enforced in comparison to civil and political rights.[4] In this context, the right to health requires states to take deliberate and proactive measures to secure access to health care services and to address the underlying social determinants of health, ensuring that they are available, accessible, acceptable, and of adequate quality (AAAQ).[5]

A key illustration of this gap is seen in the domain of energy access. Energy poverty must be understood as encompassing more than economic hardship, low energy efficiency, and the absence of infrastructure necessary for accessing energy.[6] It leads to other deprivations such as reliance on polluting fuels. In Nigeria, energy poverty is characterized not only by affordability challenges but also by the absence of physical access to energy systems altogether. Energy poverty therefore undermines essential aspects of human development, including health.[7]

The broad scope of the right to health extends beyond medical care to the social and infrastructure conditions essential for well-being. Reliable electricity is not merely a developmental goal, but it is necessary to fulfill health entitlements because it powers medical equipment, preserves medicines, supports safe childbirth, and enables disease surveillance.[8] Its role also extends to ensuring clean water and sanitation, regulating indoor temperatures in extreme heat or cold, enabling safe food preparation, and sustaining livelihoods.[9] Where electricity is absent or unreliable, health and wider socioeconomic rights are undermined, transforming energy poverty from a developmental challenge into a breach of human rights obligations.[10]

Adjacent to this problem is the issue of energy insecurity, which refers to the inability of individuals and households to have their basic energy needs met reliably.[11] Energy insecurity reflects a broad spectrum of vulnerability, capturing economic limitations as well as the physical, behavioral, and infrastructural dimensions of inadequate energy supply.[12] But prevailing policy responses in Nigeria tend to focus narrowly on economic factors, such as subsidies or electricity costs relief, while neglecting the long-term health and socioeconomic impacts of unreliable or insufficient energy access.[13]

Short-term policy responses, although politically convenient, fail to address the structural causes of energy deprivation in Nigeria, such as inadequate infrastructure, outdated transmission grids, and entrenched governance challenges.[14] Consequently, households remain trapped in cycles of energy poverty and insecurity, with limited prospects for sustainable improvement.

It is against this backdrop that Nigeria's recent enactment of the Electricity Act 2023 represents a significant policy shift.[15] The act seeks to restructure the electricity sector by promoting decentralized generation, incentivizing investment in renewable energy, and granting state governments greater regulatory authority over electricity supply.[16]

I situate the Electricity Act within the broader

discourse on the right to health and energy access in Nigeria. In the paper, I first examine the extent to which the act provides a framework for addressing structural deficits in energy provision, before analyzing its implications for the fulfillment of health entitlements under international and domestic human rights law. In doing so, I evaluate whether the act can serve as a tool of economic development and as a juridical mechanism for progressively realizing the right to health through improved energy access.

The interplay between the right to health and energy access

The right to health is connected to broader struggles for social justice, which aim to address structural inequalities and improve conditions of life for all, particularly vulnerable and marginalized populations.[17] The WHO *Ottawa Charter for Health Promotion* states that health is a resource for everyday life, not merely the objective of living, pushing back against an older, narrow view of health as the end goal of human life, now recognizing health as a social and personal resource that supports living as an instrumental good, rather than the final purpose of human existence.[18]

In Nigeria, the right to health is situated within a layered constellation of legal and policy instruments. The 1999 Constitution, while limiting the right to health to the non-justiciable provisions of Chapter II, nonetheless directs the state to safeguard "the health, safety and welfare of all persons in employment" and to ensure the provision of "adequate medical and health facilities for all persons."[19]

Although Nigerian courts have consistently held that the provisions in Chapter II are aspirational, this position was firmly established in the case of *Archbishop Okogie & Ors v. Attorney-General of Lagos State (1981)*, where the Court of Appeal held that the rights under Chapter II of the Constitution are non-justiciable due to the contents of section 6(6)(c), which prevents the courts from enforcing the rights in Chapter II.[20] However, this does not absolve the government of responsibility for these rights. Rather, it means that although the state is expected to pursue the policy objectives set out in Chapter II, including those relating to health, education, and housing, individuals cannot compel their judicial enforcement. However, the Nigerian Supreme Court has clarified in *Attorney-General of Ondo State v. Attorney-General of the Federation* that the Nigerian National Assembly may enact legislation to give concrete and enforceable effect to these otherwise aspirational objectives.[21] Such legislation includes the National Health Act 2014, which obliges federal and state governments to address the social determinants of health and to guarantee Nigerians a basic minimum package of health services.[22] I contend here that the Electricity Act 2023 should also be read in the same manner. By mandating universal, sustainable energy access, it addresses an essential determinant of health and thus serves as a legislative means for achieving the constitutional objectives outlined in Chapter II of the Constitution.[23] In practice, however, chronic underfunding and poor regulatory enforcement have meant that access to health services remains uneven, and the right to health is more aspirational than tangible for many Nigerians.[24]

Understanding that the right to health encompasses state obligations to promote public health through service provision and the creation of enabling conditions underscores the need for intergovernmental collaboration across federal, state, and local levels. This responsibility extends beyond traditional health care interventions to include access to the infrastructure essential for realizing health rights, most notably electricity.[25] Reliable access to electricity is foundational for running health facilities, powering diagnostic tools, preserving vaccines, ensuring safe childbirth, and enabling emergency care.[26]

However, despite its importance, energy access is often underrepresented in mainstream health policy debates, with insufficient attention paid to the positive role of clean, stable, and affordable electricity in realizing health rights. Thus, this energy-health nexus requires greater integration in policy and legal discourse in Nigeria, where the lack of reliable electricity continues to obstruct access to the most basic health services. Recognizing

electricity access as a core social determinant of health is essential to fully implementing the right to health in practice in Nigeria. In this sense, government accountability is not confined to health service delivery but extends to ensuring equitable access to the essential determinants of health, including electricity.

The centrality of electricity access to health rights in Nigeria

The significant policy shift in electricity regulation in Nigeria, evidenced by the Electricity Act (2023), is laudable because energy poverty and energy insecurity are not unique to Nigeria but reflect a persistent challenge across many low- and middle-income countries where access to adequate, affordable, and reliable energy services remains elusive. Sub-Saharan Africa, for instance, accounts for approximately 80% of the global population without access to electricity.[27] Alarmingly, nearly 60% of health care facilities across the region lack reliable access to electricity, severely limiting access to essential medical technologies and life-saving interventions. Nigeria illustrates this crisis. Over 90 million people (more than 40% of its population) mainly in rural areas, lack access to the national electricity grid. Even those who are connected face limited and unreliable electricity supply, with a few electricity companies controlling distribution. This leaves consumers with limited options, unable to otherwise obtain adequate, affordable, reliable, safe, or environmentally sustainable energy services. These structural energy shortages severely hinder the provision and access to health services, leading to poor health outcomes.[28]

Despite being one of Africa's largest economies, Nigeria's national electricity grid is one of the least reliable on the continent, with electricity demand consistently outstripping supply. Recent data from the Nigerian Independent System Operator (the agency responsible for managing the national electricity grid) show that the daily peak demand for electricity in Nigeria is about 20 gigawatts (GW), compared to the installed electricity generation capacity of 13 GW, yet the highest electricity generation output ever recorded is just 5.8 GW.[29] The demand for electricity refers to the total electricity needed to meet the need of households, industries, and public services across the country, including health facilities.

The persistent shortfall has serious consequences for the health sector, where unreliable power disrupts cold-chain vaccine storage, emergency care, and infection control measures in primary health care centers (PHCs).[30] As a result, many facilities are forced to rely on costly, polluting backup generators to bridge the electricity gap, further straining already stretched health budgets. Only 43% of Nigeria's PHCs are connected to the national grid, and of these, 57% receive an average of just five hours of electricity per day.[31] This chronic shortfall forces many facilities to limit services, making it impossible to provide consistent 24-hour care. The consequences are most acute during nighttime emergencies, when health care workers have to rely on low-quality lighting such as paraffin lamps or use fuel-powered generators, which emit toxic fumes and further compromise both health and safety.[32]

The public health consequences of these energy constraints are dire. Nigeria records one of the highest maternal and neonatal mortality rates in the world, and poor electricity access in PHCs has contributed significantly to this outcome.[33] Many premature and newborn infants require life-sustaining equipment like incubators, which require a stable electricity supply. Nigeria's overall neonatal mortality rate is currently estimated at about 37 per 1,000 live births, with nearly half of these deaths occurring within the first two days of life, when newborns are most vulnerable and require intensive monitoring, warmth, and emergency interventions.[34] Many of neonatal deaths occur in facilities with an inadequate power supply, which undermines the effectiveness of critical neonatal care.

Electricity access also underpins broader health infrastructure by enabling diagnostic tools, oxygen and dialysis machines, vaccine storage, and drug manufacturing and distribution. Without electricity, even basic laboratory services and

equipment sterilization are not possible.[35]

Beyond clinical settings, electricity also shapes broader public health outcomes through its impact on the social determinants of health. Households without access to electricity often rely on charcoal and firewood for cooking, which contributes to indoor air pollution and respiratory illnesses.[36] In contrast, access to clean energy promotes safer food preparation and storage and it supports health education through improved access to media and communication technologies. Electricity access also improves home sanitation, environmental hygiene, and physical safety, especially for women and children.[37]

The interdependence between health and energy access has been recognized by international agencies. The United Nations' Sustainable Energy for All (SE4All) initiative, along with Sustainable Development Goals (SDGs) 3 and 7, affirm the importance of clean, affordable, and reliable energy access for ensuring health and well-being.[38] SDG 3 commits to ensuring healthy lives and promoting well-being for all, while SDG 7 calls for universal access to modern energy services by 2030. The synergy between these goals reinforces the urgency of treating electricity access not just as an infrastructure target, but as a critical enabler of the right to health.[39]

In this context, Nigeria's response to its energy crisis must transcend temporary palliatives and embrace a transformative energy policy. Addressing health-related energy gaps demands a shift away from dependence on fossil fuels and toward sustainable, low-carbon alternatives.[40] This shift is feasible in Nigeria given its vast untapped renewable energy potential with solar, wind, and bioenergy resources. Recognizing this, the Nigerian government has passed the Electricity Act 2023, a landmark statute that seeks to modernize the energy sector through decentralization, deregulation, and an emphasis on renewable generation. The act, alongside supporting policies, holds the promise of improving electricity access across the country, especially in rural and peri-urban areas where the energy-health nexus is most acute.

The Electricity Act creates pathways to health equity

Recent shifts in the global energy landscape have created new opportunities for Nigeria to address chronic electricity deficits by adopting sustainable, low-carbon energy solutions. Fossil fuels still supply over 80% of domestic energy needs, but Nigeria has begun transitioning toward a more diversified energy mix.[41]

The Electricity Act of 2023 repeals previous electricity laws and consolidates their provisions into a single, comprehensive framework for electricity regulation in Nigeria.[42] Central to the act is a commitment to promoting universal electricity access, improving sector efficiency, and increasing investment, especially in decentralized and renewable energy systems. It designates the Nigerian Electricity Regulatory Commission (NERC) as the regulatory authority, granting it the power to oversee licensing, generation, distribution, and tariff setting.[43] Importantly, the statute's goal to ensure "affordable, reliable and sustainable" energy may open the door for rights-based lawsuits if widespread power outages prevent access to essential health services.[44]

The introduction of the act closely followed the constitutional amendment of 17 March 2023, which revised section 14(b), part II of the second schedule to the 1999 Constitution, thereby granting State Houses of Assembly explicit authority to legislate on electricity matters within their jurisdictions.[45] This devolution of power enables state governments and local actors to establish mini-grids and embed renewable systems tailored to rural and peri-urban communities historically excluded from national grid coverage.[46] For health systems, this opens the door to electrifying PHCs, maternity wards, and cold-chain vaccine stores, facilities whose operations are contingent on a reliable energy supply.[47]

Beyond enhancing subnational regulatory autonomy, the act also embeds a renewable energy quota system, mandating that electricity producers integrate a minimum percentage of renewable energy into their output.[48] Eligible technologies under this provision include solar, wind, small hydro, biomass, hybrid systems, and cogeneration.[49] This

quota-based approach not only fosters environmental sustainability but also aligns with Nigeria's obligation under article 12 of the International Covenant on Economic, Social and Cultural Rights (ICESCR) to ensure the availability and accessibility of the determinants of health, including energy.[50]

To incentivize private sector participation, the act streamlines the licensing process for renewable energy service providers, particularly those seeking to operate off-grid or mini-grid solutions in underserved regions.[51] It also introduces feed-in tariff mechanisms, guaranteeing stable pricing for renewable electricity fed into the grid.[52] These provisions are especially relevant for health infrastructure, as off-grid solar installations, for example, can provide uninterrupted power to run incubators, refrigeration for vaccines, oxygen concentrators, and other critical medical equipment in remote health facilities. Complementary tax incentives in the act encourage both capital investment and domestic energy generation within the renewables sector, offering an integrated policy strategy for boosting energy reliability and health resilience.

Collectively, these statutory reforms reveal a paradigm shift in Nigeria's energy governance, addressing the drivers of energy poverty such as centralized control, low generation capacity, and limited investment. If fully implemented, the act could significantly reduce electricity deficits that currently compromise Nigeria's health system, thereby operationalizing the state's positive obligation under both international and domestic legal frameworks to secure the underlying determinants of the right to health. By enabling decentralized, affordable, and sustainable electricity, the act not only promotes energy justice but also affirms the indivisibility of socioeconomic rights.

However, while the Electricity Act offers a promising legal foundation, its ambitious goals face implementation challenges.

Shortcomings of the Electricity Act 2023

The Electricity Act 2023 marks a significant step toward decentralized, renewable, and inclusive electricity supply in Nigeria and is commendable as a comprehensive tool to address the country's energy challenges. However, there are structural, regulatory, and financial gaps that could limit its transformative potential and weaken its alignment with the national renewable energy policy.

A primary limitation is the absence of an operational roadmap. The act and the federal government's Energy Transition Plan have ambitious targets, such as deploying 6.5 GW of off-grid renewables and expanding the central grid capacity to 42 GW by 2030, through a mix of gas, solar photovoltaic, and biomass sources. But the federal government has not issued a detailed implementation schedule, a funding model, nor outlined accountability mechanisms.[53] By neglecting to provide such details, the government undermines its own statutory commitments and weakens accountability for results. From a human rights perspective, states are obligated to adopt deliberate, concrete, and targeted measures to progressively realize health-related entitlements.[54] The lack of a clear roadmap risks rendering these plans aspirational only, jeopardizing potential improvements in energy access essential for sustaining health care systems and fulfilling human rights obligations.

A second major weakness is the lack of coordination between federal and state regulators. The act allows both the federal regulator (NERC) and individual state governments in Nigeria to oversee and develop their own electricity markets, issue licenses for generation, transmission, and distribution projects within their borders, as long as they have established their own state laws on electricity. This excludes captive generation, which is electricity produced by a person, company, or community solely for their own use, not for sale to the public or feeding into the national grid.[55] This provision in the act reflects a framework for implementing the recent constitutional amendment that decentralizes electricity generation, enabling states to improve access, competition, and efficiency by moving power generation closer to the point of use. However, because there is no system to coordinate these two levels of regulation, their powers often overlap, leading to confusion. For example, if a state-licensed mini-grid operator later connects to

the national grid for backup power or to share excess electricity, it immediately falls under NERC's authority and needs an additional federal license to carry out either activity.[56] This creates inconsistent regulations, which pose a major obstacle for private investors and discourage private capital from entering the market.

One possible resolution would be for each state to develop an autonomous electricity framework, complete with independent generation and grid systems, thereby minimizing reliance on the national infrastructure. However, the capital-intensive nature of such projects makes them unrealistic for many states. A more practical solution would be the creation of joint licensing protocols between NERC and state regulatory authorities, with clearly defined boundaries of oversight.[57] Nonetheless, unless a constitutional or legislative fix is introduced, even this shared approach may still result in overregulation and continued investor hesitation.

Another critical concern is the decrepit state of Nigeria's national grid, which frequently undermines service delivery even in areas nominally connected to power infrastructure. Between 2017 and 2023, the grid collapsed over 45 times.[58] In the first quarter of 2024 alone, six total blackouts were recorded, with causes ranging from infrastructure sabotage and vandalism to inadequate gas supply for thermal plants. This is especially paradoxical in a country with an abundance of natural gas.[59] Despite the abundance, electricity generation operates at only 30% of the national electricity grid's installed capacity (11,000 MW), largely due to a chronic failure to make gas available to power plants.[60]

Since the return to democratic governance in 1999, the federal government has spent over N11 trillion (approximately US$6.7 billion) on the electricity sector.[61] Yet it continues to generate a grossly inadequate amount of electricity for its population, exceeding 200 million individuals.[62] This failure is not due to insufficient investment, but to the government's ineffective expenditure, chronic mismanagement, and entrenched corruption, which have diverted public, private, and donor resources away from critical infrastructure.[63] By misallocating resources in this way, the Nigerian government breaches its obligation under article 2(1) of the ICESCR to employ the maximum of its available resources for the progressive realisation of socioeconomic rights, including the right to health.[64] Corruption and mismanagement, therefore, operate not merely as governance failures but as systemic violations that deprive people of reliable electricity, thereby undermining both constitutional guarantees and international human rights obligations.

Unless the government addresses structural and operational gaps, the Electricity Act 2023 will fail to meet its human rights obligations and remain an unrealized reform. The act's ability to advance the right to health depends not only on its legal provisions but also on effective implementation, regulatory accountability, and sustainable financing.

Conclusion

I have argued that access to electricity is not merely a developmental issue, but a fundamental entitlement intrinsically linked to the right to health. A rights-based approach, therefore, requires that energy policy is framed around core human rights principles such as participation, accountability, nondiscrimination, and transparency, so that individuals are treated not as passive recipients of services but as rights-holders with enforceable claims. In line with CESCR General Comment 14, the Nigerian state bears tripartite obligations to respect the right to health by preventing arbitrary or discriminatory electricity disconnections, to protect it by regulating private providers and ensuring equitable electricity distribution, and to fulfill it by progressively expanding reliable access to electricity, particularly for health facilities and vulnerable populations. Energy insecurity must therefore be recognized as a structural barrier to health and subject to judicial and regulatory scrutiny.

To meet these obligations, a multi-sectoral rights-based approach is required to integrate energy policy with public health, education, and social protection strategies. This approach must embed clear mechanisms of accountability and review to

ensure that electricity provision supports essential services, reduces inequalities, and advances the progressive realization of health in Nigeria. The Electricity Act 2023 provides an important foundation for such reforms, with its emphasis on decentralization, renewable energy mandates, and expanded regulatory powers. Its success depends on effective implementation.

Key priorities include resolving regulatory duplication, modernizing electricity grid infrastructure, stabilizing subsidies, and promoting pro-poor electrification strategies such as subsidized connection costs and lifeline tariffs. Complementary measures, such as deploying solar mini-grids and microgrids in underserved areas, expanding pay-as-you-go solar home systems, supporting energy-efficient appliances, and enabling productive-use programs, can further reduce the energy burden while advancing economic empowerment. Public–private partnerships and community-led management of renewable energy infrastructure are also vital to ensuring sustainability and local community-led electrification solutions that improve social determinants in line with efforts to reduce extreme poverty and uphold human rights.[65]

Ultimately, overcoming energy poverty and insecurity requires a unified rights-based framework that places the right to health at its core. The AAAQ framework should guide implementation measures, ensuring that electricity provision is not only technically and financially viable but also equitable, health-enhancing, and accountable. By embedding these standards into the design and execution of the Electricity Act, Nigeria can transform it from an aspirational reform into a vehicle for delivering affordable, sustainable, and equitable energy access that directly advances the right to health.

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