

RESEARCH ARTICLE

Coal Before Oil: Nigeria's Energy Template

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VOLUME: Vol.06 Issue09 2026

PAGE: 08-20

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Abstract

Nigeria's energy paradox is usually told as a story about oil: a country that sits on some of the world's richest hydrocarbon reserves yet cannot keep the lights on for most of its own people. The story conventionally opens in 1956, at the Oloibiri well. This article argues that the opening scene is misplaced. Four decades earlier, coal discovered at Enugu in 1909 and mined commercially from 1915 had already produced the template that the oil economy would later occupy: a railway built to move fuel rather than people, an electricity grid wired to enclaves rather than to the population, a legal order that vested the subsoil in the state rather than in those who lived above it, and a labour regime that met resistance with coercion. Drawing on labour historiography, statutory analysis, and environmental and energy scholarship, the article traces this template from its colonial origins through its survival into the petroleum age, arguing that Nigeria's twin crises of energy poverty and environmental injustice are not two problems but one arrangement, fixed before the first barrel of oil was ever pumped.

KEY WORDS

Coal; colonialism; Enugu; Nigeria; energy transition; mineral law; environmental justice; Niger Delta.

INTRODUCTION

Ask most accounts of Nigeria's energy system where the story begins, and they will point to a swampy stretch of the Niger Delta in 1956, where Shell-BP struck oil in commercial quantity at Oloibiri (Ebohon, 2013; Orubebe, 2023). Everything that follows in the standard narrative flows from that well: the rise of a rentier state, the concentration of wealth in a handful of hands, the pollution of the Delta, and the paradox that gives this article its starting puzzle. Nigeria holds enormous energy wealth and yet cannot supply it to its own citizens. Only 54.4 percent of Nigerians had access to electricity as of 2017 (Nwozor et al., 2020); roughly 93 million people go without power altogether, the largest access deficit in the world after India, inside a Sub-Saharan region where more than 600 million people are unelectrified (Diemuodeke et al., 2018).

Installed generating capacity sits at around 8,000 megawatts, of which only 3,800 to 4,000 megawatts is ever operational (Ohimain, 2014), and the average Nigerian firm loses more than fifteen hours of power a week (Eyvaz et al., 2019).

The trouble with beginning the story at Oloibiri is that it is not, in fact, where the story begins. Nigeria had already been producing and selling a fuel to the world for four decades before Shell's drill bit found oil. Coal was discovered at Enugu in 1909 and mined commercially from 1915, making it the country's oldest commercial fuel (Edomah, 2017). Around that commodity grew every element that the oil economy would later be blamed for inventing: a legal doctrine that vested subsoil wealth in the colonial and then the national state rather than in the people living above it; a railway conceived to move

fuel to the coast rather than people to markets; an electricity grid wired to serve extraction rather than the population; and a labour system that met organised resistance with force. None of this was accidental. The spread of coal knowledge and its use in Nigeria were direct consequences of European conquest and the colonial administration that followed it (Ani & Ani, 2017), and the railway that carried that coal, built largely between 1898 and 1930, was conceived explicitly to consolidate British control over newly acquired territory and to open the country to trade with the metropole (Okoye et al., 2017).

This article treats coal, not oil, as the true founding chapter of Nigeria's energy history, and it asks what changes when the chapter is read that way. The method is a qualitative, historical-institutional synthesis: it draws together published historiography of the Enugu colliery, the statutory record of mineral law from the 1908 Mineral Proclamation through the 1999 Constitution, and the environmental and production data compiled by energy and earth-science researchers, cross-referencing figures wherever independent sources disagree and flagging the discrepancy rather than silently resolving it. What emerges is not a story of two separate fuels and two separate eras, but of a single template, cast in coal, into which the oil economy was later poured. Energy security and environmental justice, this article will argue, are not two agendas competing for attention in Nigerian policy; they are two symptoms of one arrangement that has never been renegotiated.

The argument proceeds thematically rather than fuel by fuel. It begins with the colonial discovery and design of the coal economy, then follows the infrastructure, the law, and the labour regime that grew up around it, before turning to the transition to oil and asking what, precisely, changed when the fuel did. It closes by tracing the environmental and social debts that both eras left unpaid, and by asking what a foundation cast a century ago means for any transition Nigeria attempts today.

Part of the reason the standard account starts where it does is a genuine gap in the literature rather than a simple oversight. Scholarship on Nigeria's energy transitions has tended to periodise the twentieth century into pre-industrial, industrial, and late-industrial phases defined by the technology in use — steam giving way to dynamo and internal combustion (Edomah, 2018) — a framework that is useful for tracking machinery but says comparatively little about who

owned the resource being burned, who worked to extract it, or who was excluded from its benefits. Meanwhile, the historiography of the Enugu colliery itself has largely stayed within labour history and regional studies, valuable in its own right but rarely placed in conversation with the legal and infrastructural scholarship on the oil economy that followed it. The result is two literatures that describe the same underlying arrangement from different centuries without ever quite comparing notes. This article's contribution is to read them together.

Discovery and Colonial Design

The colonial presence at Enugu predates the coal by six years. British forces subdued the area in 1903, and it was not local enterprise but an imperial mineral survey that found what would become the colony's first fuel export. The mines engineer Albert Kitson identified coal deposits at the Udi Ridge in 1909 while prospecting for something else entirely: silver (Adebesin & Amosun, 2022). The discovery was a by-product of a wider colonial project, the mineral survey of Southern Nigeria, one of several such surveys commissioned across the Protectorates to catalogue what the territory held before any detailed geological mapping had been done (Chukwuma, 2018). Coal, in other words, was not found because Nigerians or their government went looking for an energy source; it was found because an occupying power was taking inventory of a conquered territory's assets.

Commercial extraction followed quickly once the deposit was confirmed. Mining began in 1915 with a drift mine at Ogbete (Nwaobi, 2005), on land that had come under colonial control only after the conquest of Ngwo in 1908 (Ani & Ani, 2017). The Udi mine did not last; it was superseded by the Iva Valley mine in 1917 (Eneh, 2024), a name that would become inseparable from a much darker episode three decades later. Around the pits, a colonial town took shape with the same speed as the mining operation itself. A Government Reserved Area was laid out in 1916, Enugu was granted township status in 1917, and migrant labourers built camps on the Udi Hills and in Iva Valley to house a workforce drawn from well beyond the immediate area (Eneh, 2024). This was urban planning organised around a mine shaft, not around a community.

The output figures tell their own story about the ambitions attached to the find. In its first full year of production, the Ogbete mine yielded 24,511 metric tons of coal, and from 1916 onward that coal was already being shipped to Europe through the port at Port Harcourt (Adebesin & Amosun, 2022;

Eneh, 2024) — an export orientation established before the colliery was even two years old. The underlying reserve was, and remains, substantial: Nigeria has yet to convert an estimated 2.8 billion metric tons of coal spread across seventeen fields into any lasting economic benefit, and a separate survey counts more than twenty-two coal fields distributed across thirteen states (Adebesin & Amosun, 2022; Alexander, 2012). Coal wealth was significant enough to make Enugu the capital of the Eastern Region — sources disagree on whether that status dates to 1938 or to the post-independence period, a discrepancy this article records rather than resolves — and the mining workforce grew accordingly, from around 6,000 men in 1948 to 8,000 a decade later (Adebesin & Amosun, 2022; Eneh, 2024).

The timing of all this is worth pausing on. Coal's first export consignment left Nigerian shores in 1914, the same year Lugard's administration formally amalgamated the Northern and Southern Protectorates into a single colonial entity (Adebesin & Amosun, 2022; Eneh, 2024). Nigeria, in other words, did not exist as a unified political and administrative unit before it existed as a fuel exporter; the two projects were assembled almost in parallel, by the same colonial machinery, in the same handful of years. That coincidence is a useful corrective to any account that treats Nigeria's energy economy as something layered on top of an already-formed nation-state. The state and the extractive economy were built together, and it would be more accurate to say that the coal economy was one of the instruments through which Nigeria, as an administrative unit, was first made legible and governable to its colonisers.

What this founding sequence establishes, before a single mile of railway had been laid or a single statute drafted, is a pattern that the rest of this article will trace through infrastructure, law, and labour in turn: discovery by an occupying power, extraction organised around export rather than domestic use, and a built environment — the camps, the township, the port connection — designed to serve the mine rather than to be served by it. Coal did not simply happen to Nigeria before oil did. It was, from its very first survey report, a colonial project.

Infrastructure Built to Extract

If the discovery of coal was colonial in origin, the infrastructure built around it was colonial in purpose. The railway network that would eventually crisscross Nigeria was constructed largely between 1898 and 1930, and its stated aims were never ambiguous: to consolidate British power in newly

acquired territory and to open the country to trade with England (Bouraima & Qiu, 2020). Later scholarship on the network's economic function is blunter still, describing it as, in essence, "a tool for resource extraction" (Bouraima & Qiu, 2020; Okoro et al., 2025) rather than a piece of public infrastructure built to connect people to one another. Coal and the railway were mutually dependent from the outset: locomotives ran on coal, so the more the network expanded, the more the colliery's output mattered, and the more the colliery depended on a single transport corridor to reach the coast (Adebesin & Amosun, 2022). Between 1925 and 1930 alone, the movement of coal along this corridor drove a measurable increase in trade and commercial activity (Edomah, 2018), and from 1916 onward coal moved out of the country through Port Harcourt along the Eastern line built to carry it there (Eneh, 2024).

Electricity followed the same extractive logic, and the record of its build-out is unusually granular. The Lagos Marina Station, operating from 1896 to 1920, grew from 30 kilowatts to 420 kilowatts on imported diesel. The coal-fired Iddo Station, commissioned in Lagos in 1923, expanded from 3.6 to 13.75 megawatts, supplying lighting and the workshops of the Nigerian Railway. NESCO's Plateau Electricity Supply, running from 1922 to 1945, grew from 2 to 12 megawatts with an installed capacity of 18.4 megawatts, and its purpose was to power the tin mines at Jos. Enugu's own diesel supply, dating from 1922 to 1953, expanded from three 350-kilowatt plants to 3,000 kilowatts; the Nigerian Railway's plant at Port Harcourt grew from 2,250 to 8,530 kilowatts; and a plant serving the Northern Province at Kaduna reached 8.28 megawatts (Edomah, 2021). A station built specifically at Oji River in Enugu State supplied ten megawatts to coal mines fifty kilometres away (Oluleye & Koginam, 2019). Every one of these installations shares a common feature: none of them was built to light a home. Their declared customers were lighting for European settlements, the workshops of the Nigerian Railway Corporation, the Plateau tin mines, government offices, churches, and barracks (Edomah, 2021).

Even the choice of fuel reflected colonial convenience rather than domestic resource logic. Imported diesel remained the dominant power-station fuel throughout the interwar period even after Enugu coal had become available; more diesel plants were installed through 1940 than coal-fired ones, and ageing steam technology persisted mainly because the Second World War cut off the supply of maintenance spares needed

to modernise it (Edomah, 2021). The institutional apparatus that managed all of this was as centralised as the technology was extractive. The Nigerian Government Electricity Undertaking, established explicitly to expand electricity provision by at least 200 percent in service of industrialisation, gave way in turn to the Electricity Corporation of Nigeria, the Niger Dams Authority, and finally the National Electric Power Authority, which by the 1970s held exclusive control over generation, transmission, distribution, and sales in a single top-down monopoly (Monyei et al., 2017; Ugwoke et al., 2019). By 1970, more than 2,000 industries had clustered around Nigerian industrial estates to take advantage of this infrastructure (Edomah, 2021) — a measure of how effectively the system served industrial and extractive users, and how little it was designed with the ordinary household in mind.

It is worth stressing how little of this pattern was determined by geography or by any genuine scarcity of alternatives. Nigeria has never lacked domestic energy options; what it has lacked, across more than a century, is infrastructure conceived with the domestic population as its intended beneficiary. Contemporary assessments of the country's renewable and hybrid energy potential routinely find that mapping generation capacity onto actual population need, rather than onto enclave demand, could dramatically improve both efficiency and reach (Diemuodeke et al., 2018) — which is another way of saying that the problem with Nigeria's grid was never a shortage of resources or of technical possibility. It was a design choice, made repeatedly by the institutions that built the network, about whom that network was for.

Read together, the railway and the grid describe an infrastructure built to move value in one direction only: coal and, later, electricity flowed toward enclaves — the mine, the port, the settlement, the industrial estate — while the population beyond those enclaves was, at best, an afterthought. This is the second layer of the template that oil would later inherit almost unaltered.

Law as Architecture

Infrastructure alone could not have secured coal for the colonial project; it needed a legal foundation that removed any doubt about who owned what lay beneath the ground. That foundation was laid with striking speed and has never really been dismantled. The mineral legislation passed in the first two decades of colonial rule vested the entire property in, and control of, the minerals, mineral oils, rivers, streams, and watercourses of Nigeria in the Crown (Omoweh, 2011). The

Mineral Act of 1908, revised in 1912 and recast in 1914, vested sole ownership of land and everything within it in the colonial state, held in trust for the Crown; native landowners retained a right to compensation for land taken, but no claim whatsoever to what lay beneath it (Raji et al., 2013). The Mineral Oil Ordinance of 1914 extended the same logic to petroleum before a single barrel of Nigerian oil had been found, restricting leases and licences to British subjects and British-registered companies (Amamkpa., 2024) — a piece of anticipatory legislation that reveals how thoroughly the colonial state understood subsoil wealth as its own before it had even confirmed what that wealth contained.

It is worth being precise about what the phrase "in trust for the Crown" actually accomplished as a legal technique, because its effect was more radical than the words suggest. Under the customary tenure systems that governed land across most of what became Nigeria, control of land — and of what it produced — typically rested with communities and lineages, mediated by chiefs and elders rather than by any single sovereign owner in the European sense. The 1908 and 1914 Acts did not simply add a layer of colonial regulation on top of that system; they substituted an entirely different theory of ownership beneath it, one in which the surface could remain notionally in local hands while the subsoil was reassigned, by statute, to a distant sovereign who had never set foot on the land in question. Compensation for what was taken flowed to landholders; the resource itself did not. This is the single move on which the rest of the legal architecture depends, and it is why the same statutory logic could later be extended so easily from coal to petroleum, and from a colonial Crown to a national government: once the principle that the state owns the subsoil regardless of who owns the surface had been established, extending it to a new resource required no new theory of property at all, only a new schedule of licences.

What is most striking about this architecture is not that it existed under colonial rule, which would hardly be surprising, but that independence did nothing to dismantle it. The same principle of sovereign appropriation survived, largely unchanged, as the Mineral Act of 1963, then the Petroleum Act of 1969 — which restricted community access to communal land while granting multinational investors essentially unrestricted rights to explore it — and then the Land Use Act of 1978 (Amamkpa., 2024). Section 44 of the 1999 Constitution completes this line without altering its logic at all, vesting ownership and control of all minerals, mineral

oils, and natural gas in the Federal Government (Okonkwo, 2017). Ninety-one years separate the Mineral Act of 1908 from the constitutional provision now in force, and across every intervening statute, only one variable changed: the identity of the sovereign collecting the rent. The colonial Crown gave way to the Federal Government of Nigeria, but the underlying claim — that whoever sits above the resource has no legal claim to what lies beneath it — was never renegotiated.

The human consequences of this legal architecture were immediate and concrete, not theoretical. At Ngwo, the establishment of the colliery required dispossessing local people of the farmland their economy depended on, land taken under exactly the compensation-only regime the 1908 Act had established (Ani & Odife, 2020). When the industry later collapsed, more than 8,000 miners who had spent their working lives in it lost their jobs without compensation of any kind (Ani & Odife, 2020) — a second dispossession, enabled by the same legal order that had permitted the first. Law, in this reading, is not a neutral backdrop against which Nigeria's energy history happened; it is one of the load-bearing structures of that history, and it was fully built before oil was even a colonial afterthought.

Labour, Coercion, and Resistance

The people who actually extracted the coal have left the most detailed historical record of any group in this story, thanks largely to Carolyn Brown's sustained archival work on the Enugu Government Colliery. The workforce she documents was never a single, coherent labour force but a deliberately mixed one: forced and voluntary unskilled labourers, prisoners, contract workers, and voluntary clerks and artisans, drawn from a range of different ethno-linguistic groups rather than recruited locally (Brown, 2015). That mixture was not incidental. Colonial labour policy at Enugu was shaped directly by the British state's own bruising experience with militant mining communities at home, and it was designed, quite deliberately, to prevent anything resembling the class-conscious mining villages of the British coalfields from taking root in Africa. Colonial administrators went so far as to attempt a kind of social engineering aimed at reconstructing the African family itself around the demands of the mine (Brown, 2005). Employment grew steadily across this period, from roughly 6,000 miners in 1948 to 8,000 a decade later (Adebesin & Amosun, 2022), even as the workforce organised against the very conditions the colonial administration had tried to design around.

That organising took the form of strikes against exploitative supervisors and protest strategies that increasingly challenged the rural identities miners had carried with them into the colliery (Brown, 2015), and it culminated in the single most consequential episode in the colliery's history. On 18 November 1949, police opened fire on miners engaged in a sit-in strike at Iva Valley, killing twenty-two and injuring fifty; further fatalities followed in demonstrations that spread to Calabar, Aba, Onitsha, Port Harcourt, and Enugu itself, though one alternative account puts the death toll at twenty-one (Brown, 1988, 2000). The political fallout reached well beyond the colliery gates. The shooting opened the Labour government in Britain to sustained attack over the pace and character of political change in Nigeria, and the wave of unrest that followed united radical nationalists, the urban working class, the unemployed, and disaffected traders — precisely the broad-based coalition that imperial labour reform had been designed to prevent from ever forming (Brown, 2000). For Nigeria's fractious nationalist movement, the tragedy did something no amount of political organising had managed on its own: it produced, if only temporarily, a shared cause around which rival factions could unite (Brown, 2000).

It is worth noting how directly the colonial administration's fear of labour militancy was imported, rather than locally generated. Britain's own coalfields had spent the preceding half-century producing exactly the kind of organised, class-conscious mining communities that colonial administrators most wanted to avoid replicating overseas: villages built entirely around a single industry, with dense social ties among miners that translated readily into collective bargaining power and, when bargaining failed, into sustained strike action. Colonial labour policy at Enugu reads, in this light, less like an original response to local conditions and more like an attempt to pre-empt a script the British state already knew by heart from home, using every tool available — ethnic mixing in recruitment, deliberate interference with family structures, and close administrative surveillance of the workforce — to keep the Enugu miners from ever developing the same collective identity. The 1949 shooting is, from this angle, less a story about a policy that failed than about a policy that had, for three decades, worked rather well, until it did not.

The Iva Valley shooting matters to this article for a reason that goes beyond its place in Nigerian nationalist history. It establishes, a full decade before independence and four decades before the Delta's oil-era conflicts, the template of

state response to resistance against the extractive order: organise labour to prevent collective consciousness, and when that fails, meet strikes with force rather than negotiation. That template, this article will argue in the sections that follow, did not stay buried with the coal industry that produced it.

The Quiet Transition

It would be convenient for the argument of this article if coal had simply been abandoned the moment oil arrived, a clean break between two eras. The record shows something less tidy and, in a sense, more damning: coal's decline began well before oil ever entered the picture, and its replacement, when it came, changed the fuel without touching the structure built around it. Coal's share of electricity generation had already started falling by 1944 to 1948, as consumers switched to cheaper diesel, and by the 1980s its role in Nigerian nation-building had effectively been abandoned (Edomah, 2021). Production had peaked earlier still, hitting an all-time high of 790,030 metric tons before entering a steady decline, with most sources dating the peak year to 1958/59 (Adebesin & Amosun, 2022; Nwaobi, 2005) — which is to say, coal was already in decline in the very years oil exports were beginning.

What finished the job was the loss of coal's two largest customers. The railway, coal's original and most loyal client, switched to diesel once hydrocarbons had been discovered in commercial quantity in the late 1950s, and the Electric Company of Nigeria converted its own generation from coal to diesel around the same time. With both major clients gone, the government saw little reason to invest further in coal, especially once the discovery of crude oil at Oloibiri promised far greater export revenue for a nation about to become independent (Adebesin & Amosun, 2022). The Nigerian Coal Corporation limped on for decades afterward, kept alive mainly by its national monopoly rather than by demand, and a series of failed mechanisation attempts in the 1970s and 1980s only accelerated the decline (Adebesin & Amosun, 2022); across the full production record from 1916 to 1998, the industry describes just two regimes, a long growth phase from 1916 to 1959 and an equally long decline from 1972 to 1998 (Oguejiofor, 2009). Individual mines tell the same story at smaller scale: the Okpara mine fell from a 1934 peak of 3,040 tons to just 1,016 tons in 1990 before its eventual closure, one of five now-defunct mines in the Enugu area (Omotehinse & Ako, 2018; Utom et al., 2013), and the Enugu coal mine site ceased production entirely in 2002 (Amosu, 2021). The Corporation's collapse was administrative as much

as economic: successive military governments appointed managers without relevant experience, a 1999 privatisation attempt failed outright, government support was withdrawn, and the Corporation shut down that same year, with a partial 2013 asset sale to Enugu State doing little more than offsetting old debts (Adebesin & Amosun, 2022). Today the Corporation's twenty-one coal blocks sit largely idle across the country; the only mine still producing anything of significance, at Okaba, recorded a mere 2,712 tonnes in 2001 under a production-sharing arrangement (Diji, 2013). Neither the Minerals and Mines Act of 2006 nor the subsequent licensing of independent power producers has revived the sector — proposed coal plants at Enugu, Kogi, and Benue, meant to supply a combined 3,800 megawatts toward a 40-gigawatt national target, remain projections rather than projects (Adebesin & Amosun, 2022), and an ambitious 2014 plan to source 30 percent of national electricity from coal, backed by nearly ten billion dollars in intended private investment, was already running far behind schedule the year it was announced (Ohimain, 2014).

Petroleum's ascent, by contrast, was rapid and largely uncontested. Shell D'Arcy struck oil in commercial quantity at Oloibiri in 1956, and exports began just two years later (Sakib, 2021). Daily production climbed from 500,000 barrels in 1965 to a million by 1970 and two million by 1975 (Kwaghe et al., 2015). Nigeria joined OPEC in 1971 as its eleventh member; within a year the oil price had jumped from a range of 45 to 65 cents per barrel to \$3.22, and oil's share of national exports rose from 2.7 percent in 1960 to 73.7 percent by 1971 (Kwaghe et al., 2015) — the fuel had gone, in barely a decade, from a marginal export to the entire skeleton of the national economy. Nigeria today generates most of its electricity from gas-fired thermal plants, which now account for 64.6 percent of the total (Ohimain, 2014), and every coal-fired plant built between the 1920s and the 1950s has since been retired (Edomah, 2018).

It is tempting to read this sequence as a genuine energy transition, one fuel giving way cleanly to a more productive successor. The more accurate reading is narrower and less flattering: what changed between the coal era and the oil era was the fuel itself, not the extractive architecture built to carry it. The railway abandoned coal for diesel; the grid abandoned diesel for gas; the ownership regime never abandoned anything at all. A transition of fuels is not the same thing as a transition of structure, and Nigeria has, so far, only ever

managed the former.

Unpaid Debts

Every era of extraction in this account has left an environmental bill behind, and neither bill has ever really been paid. The coal era's version of the debt is quieter but no less real: mining at Enugu caused groundwater pollution and depletion, soil contamination, landscape degradation, and the displacement of the people who once lived on that land (Amosu, 2021). Decades after the mines closed, the Enugu coalfield remains affected by acid mine drainage from abandoned underground workings and surface spoils, actively contaminating the area's water supply (Utom et al., 2013); discharges flow directly into the Ekulu River, the largest river running through the coal city, carrying arsenic, cadmium, chromium, iron, manganese, nickel, and lead into the water and sediment that communities still depend on (Awalla, 2013; Eneh, 2024). Assessments of two derelict mine sites recorded pH values between 3.4 and 5.9 — weakly to strongly acidic, and textbook acid mine drainage — with moderate to high sulphate concentrations and iron, zinc, lead, and copper as the most abundant contaminating metals (Akpan et al., 2021). Across the Onyeama, Ribadu, and Okpara mine sites alike, heavy metal concentrations exceed potable limits, following a consistent trend of iron above aluminium above manganese, and the resulting drainage corrodes borehole infrastructure, kills off vegetation, and measurably reduces local biodiversity (Sikakwe, 2017).

The oil era's version of this same debt is louder, better documented, and vastly larger in scale, but it is recognisably the same debt. Between 1976 and 1996 alone, the Niger Delta recorded 4,835 oil spill incidents totalling at least 2,446,322 barrels — some 102.7 million US gallons — of which an estimated 77 percent was lost directly to the environment (Enyoghasim et al., 2019); a separate account for the same period puts the figures at over 6,000 spills and roughly 2 million barrels (Osugwu & Olaifa, 2018). The federal government's own records go further still, documenting more than 7,000 spills between 1970 and 2000 across 2,000 officially recognised major spillage sites and more than 600 oilfields threaded with pipelines running close to inhabited villages (Jernelöv, 2010). A 2006 multi-agency report estimated that 1.5 million tons of oil had spilled across the Delta over the preceding fifty years, and the 1978 GOCON spill at Escravos, which released some 300,000 barrels, remains among the largest single incidents ever recorded in Nigeria's

coastal zone (Ewim et al., 2023; Jernelöv, 2010). Between 1976 and 2018, the Department of Petroleum Resources logged 17,301 spills totalling 2,854,193.05 barrels (Olaifa et al., 2022).

Gas flaring compounds all of this. Nigeria burns off roughly 24 billion cubic metres of associated gas every year, and more than 70 percent of the country's oilfields still flare routinely (Ismail & Umukoro, 2012); one estimate puts daily flaring at 2.5 billion cubic feet, representing roughly \$2.5 billion in lost revenue annually and releasing an estimated 45.8 billion kilowatts of heat directly into the Delta's atmosphere (Ismail & Umukoro, 2012). By some measures Nigeria flares close to half of all its associated gas — around 850 billion cubic feet a year — making it the second-largest gas flarer in the world, responsible for roughly 11 percent of global flared volume (Ubani & Onyejekwe, 2013). This has been technically illegal since 1984, when the Associated Gas Re-injection Act of 1979 set that date as the deadline for ending routine flaring, yet the practice continues because the same legislation permits ministerial exemptions that companies have learned to treat as an ordinary cost of doing business rather than a genuine constraint (Ezeozue, 2019). A further estimate puts annual flaring at 17.2 billion cubic metres, roughly 16 percent of the world's total associated gas, with 76 percent of Nigeria's flared gas burned off purely for lack of capture infrastructure, compared with just 8 percent in Alberta, Canada, a jurisdiction with comparable production volumes and rather different regulatory follow-through (Luke et al., 2015). Across 2005 to 2014, annual flaring ranged between 289.60 and 812.33 billion standard cubic feet, contributing an estimated 35 million tons of carbon dioxide and 12 million tons of methane to Nigeria's environment (Uzoekwe, 2019).

Behind every one of these figures are people whose livelihoods depend on the land and water now being contaminated. Pollution threatens fishing and farming, the traditional occupations of communities across the Delta, who also live with the constant light, noise, and polluted air produced by nearby flares (Ismail & Umukoro, 2012). Fishing communities describe the consequence in the plainest possible terms: when fish cannot find food, they eat oil, and they die (Enuoh et al., 2016). The fiscal side of this debt is just as stark as the environmental one — only 13 percent of the revenue generated from onshore and near-shore oil resources is returned to the states that host that production, and the federal government's characteristic intervention in oil-

producing communities has been to resolve conflicts on the industry's behalf rather than on the community's (Omeje, 2006). The coal era's equivalent debt was never paid in cash at all: Ngwo's farmland was simply taken, and more than 8,000 miners lost their livelihoods without a naira of compensation when the industry that had employed their working lives collapsed around them (Ani & Odife, 2020). A century separates these two debts, but the underlying fiscal structure has not moved an inch: value leaves the community, and the cost of extracting it stays behind.

Discussion

Pull these five threads together — discovery, infrastructure, law, labour, and the transition itself — and a single structural claim emerges: Nigeria's energy system was founded on extraction for export, and the institutions that carried out that extraction were not invented by the oil industry. They were inherited from the coal economy, largely intact. The continuity is clearest in law, where the language barely needed updating across ninety-one years. From the 1914 Mineral Act, vesting land and its contents in the colonial state in trust for the Crown, to section 44 of the 1999 Constitution, vesting all minerals in the Federal Government, the underlying principle never changed — only the name of the beneficiary did (Okonkwo, 2017; Raji et al., 2013). The Land Use Act of 1978 extended the same logic into land law generally, and the Petroleum Act of 1969 guaranteed multinational capital the unrestricted access that British companies had enjoyed under the 1914 Ordinance (Amamkpa., 2024). Scholars of Nigeria's political economy have described the resulting postcolonial state as extraverted: technologically dependent on foreign oil corporations and structurally organised around exporting primary energy rather than converting that energy into domestic development (Ebohon, 2013). That description fits the coal-era state just as precisely as it fits the oil-era one, because it is, in the end, a description of the same state.

The pattern repeats in politics as well as in law. Colonial labour policy tried, deliberately, to prevent the formation of militant mining communities, and when the Iva Valley miners struck anyway in 1949, the state answered with gunfire (Brown, 2000, 2005). The petroleum era ran the same script on a far larger stage: an industry that pollutes the land and water its host communities depend on, a federal government that captures the overwhelming share of the resulting revenue, and a Delta population that has, in the words of one assessment, no way to see any direct benefit from oil revenue

while bearing the full weight of its pollution (Enyoghasim et al., 2019). Seen against this longer arc, the militancy that tore through the Delta between 2000 and 2020 looks less like an aberration than like the latest chapter of a grievance cycle that began with an earlier commodity — one in which the state's coercive response has repeatedly reproduced the very resistance it was meant to suppress (Obi & Rustad, 2011).

Nor was the resulting system ever designed with the Nigerian public in mind, in either era. Colonial electricity served lighting, railway workshops, tin mines, and government buildings (Edomah, 2021); imported diesel stayed dominant even once local coal was available, purely as a matter of colonial convenience (Edomah, 2021). NEPA inherited that same administered, top-down character wholesale, holding exclusive control over the entire electricity market from generation through to final distribution (Monyei et al., 2017). The present condition of the grid is the visible residue of that inheritance: the world's largest access deficit after India; roughly 93 million people with no electricity at all; only 54.4 percent of the population connected in any form; and, within that figure, just 41 percent of a rural population that makes up 51 percent of the country connected, against 86 percent of urban residents (Ugwoke et al., 2019). Rural electricity availability sits at 16.1 percent, with close to 59 percent of rural dwellings entirely without power (Ugwoke et al., 2019); more than 72 percent of the country still depends on firewood for cooking, and the average firm loses upward of fifteen hours of power in a typical week (Eyvaz et al., 2019; Monyei et al., 2017). A country that exported coal to feed a railway it no longer maintains, and now exports gas to fuel power plants it cannot run reliably, does not have an energy crisis so much as it has a design flaw — and that flaw dates from the coal era, not the oil one.

The environmental ledger tells the same story from a different angle. The acid mine drainage still leaching out of the Enugu coalfield is, functionally, the coal-era counterpart to the gas flares still burning over the Delta's oilfields (Ismail & Umukoro, 2012; Utom et al., 2013); in neither case has the affected community been made whole. More than 8,000 miners lost their livelihoods with no compensation whatsoever (Ani & Odife, 2020), just as Delta communities have repeatedly lost their capacity to sustain themselves through fishing and farming once local waters were fouled by spills (Osugwu & Olaifa, 2018). The 13 percent derivation currently paid to oil-producing states is a fairly precise measure of how far

Nigeria's federal structure still is from recognising the cost that producing communities actually bear (Omeje, 2006). The comparison cuts in both directions: the Delta's spills are larger in volume and far better documented than anything the Enugu colliery ever produced, but the coalfield's groundwater contamination is chronic, ongoing, and entirely unremediated more than two decades after the mines closed — a quiet debt sitting alongside the Delta's much louder one (Akpan et al., 2021; Olaifa et al., 2022).

There is, finally, a lesson here about what a transition actually requires, one with obvious relevance to Nigeria's current and future energy choices. The shift from coal to oil in the late 1950s was never a modernisation of the underlying energy system; it was the substitution of one export commodity for another, executed so smoothly that the railway simply switched to diesel while the colliery that had once fed it was left to collapse, and the electricity system moved from imported diesel to domestic gas without ever acquiring anything resembling a genuine domestic social purpose (Adebesin & Amosun, 2022; Ohimain, 2014). A transition, this history suggests, can change the fuel completely while leaving the underlying structure completely untouched. That has direct implications for the transition Nigeria is now attempting, or being asked to attempt, toward gas expansion and renewables: unless it confronts the foundational question of who owns the resource and who bears the cost of extracting it, that transition risks reproducing, in a new fuel, the same structure it claims to be moving beyond (Nwozor et al., 2020).

Conclusion

The foundations of Nigeria's energy system were laid well before the country had an oil industry to speak of. Coal, discovered at Enugu in 1909 and mined commercially from 1915, was carried out on railways built between 1898 and 1930, burned in power stations from 1923 onward, extracted by a labour force kept under deliberate and, when necessary, violent control, and owned throughout under a legal regime that vested the resource in the Crown rather than in the people living above it (Adebesin & Amosun, 2022; Bouraima & Qiu, 2020; Edomah, 2021; Nwaobi, 2005; Raji et al., 2013). That foundation has proved remarkably difficult to dislodge. The principle of sovereign appropriation moved, essentially unedited, from the Mineral Act of 1914 through the Petroleum Act of 1969 and the Land Use Act of 1978 to the 1999 Constitution (Amamkpa., 2024; Okonkwo, 2017; Raji et al., 2013); the export orientation of the economy moved from coal

shipments out of Port Harcourt to the oil trade that dominates the country today (Eneh, 2024); and the administered, enclave-serving character of electricity provision moved from colonial power stations straight into NEPA's monopoly (Edomah, 2021; Monyei et al., 2017).

None of this is simply history for its own sake. It changes how the present ought to be diagnosed. If Nigeria's energy poverty and environmental injustice are read as problems that began with oil in 1956, the natural response is to look for oil-specific fixes: better spill response, more equitable revenue-sharing formulas within the existing petroleum framework, cleaner extraction technology. If, instead, they are read as the latest expression of an arrangement that has been in continuous operation since 1909, the diagnosis changes, and so does the treatment. The question stops being how to manage the oil sector better and becomes why the underlying architecture of ownership, infrastructure, and labour control has never actually been renegotiated, across a century and two entirely different commodities.

This has practical implications for how any future energy policy in Nigeria ought to be evaluated, whatever fuel or technology it centres on. A programme that expands generation capacity without asking who controls the resource behind it, or that builds new transmission lines without asking which populations those lines are actually designed to reach, will most likely reproduce the coal-era template rather than break from it, however clean the underlying fuel source happens to be. The test this history suggests is a simple one: does a given reform touch ownership, infrastructure orientation, and the terms on which host communities bear cost, or does it simply substitute a new commodity into a structure built in 1908 and never seriously revisited since. Genuine transition, on this reading, is not a matter of fuel chemistry at all. It is a matter of finally renegotiating a settlement that has now outlasted two entirely different energy sources without ever being renegotiated once. Energy security and environmental justice are not two separate items on Nigeria's policy agenda, competing for the same limited attention. They are two symptoms of the same unaddressed condition, and understanding that condition requires looking past Oloibiri to the Udi Ridge, more than four decades earlier, where the pattern first took shape. The coal era was not a prologue to the oil economy. It was the first act of a play that, more than a century later, is still running.

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