

THE ENERGY
REGULATION
AND MARKETS
REVIEW

TENTH EDITION

Editor
David L. Schwartz

THE LAWREVIEWS

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AND MARKETS
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PREFACE

In our tenth year of writing and publishing *The Energy Regulation and Markets Review*, the most pressing global concerns have again revolved around the covid-19 pandemic, which has slowed infrastructure development globally. Accordingly, many of our contributing authors have emphasised concerns associated with the effects of the crisis on energy demand and consumption, and delays in the development of infrastructure. Beyond this crisis, we have seen many other significant geopolitical changes that have added uncertainties to global energy policies. For example, oil prices have hit record lows (hitting negative values in April of 2020), which has slowed exploration and production efforts, and has threatened economic stability for countries that depend upon oil revenues. The United Kingdom is transitioning out of the European Union (a process known as Brexit), creating uncertainties regarding the future of the UK's energy policies and its coordination and cooperation with the European Union, including with respect to commitments to reduce greenhouse gases (GHGs). Following the end of the Trump administration's 'America First' trade policies, the Biden administration is seeking to reassure US allies and historical trading partners and re-commit to the 2015 Paris Agreement. The 2011 Fukushima nuclear incident continues to affect energy policy in many countries. Finally, there are continued efforts to liberalise the energy sector globally.

I CLIMATE CHANGE DEVELOPMENTS

We continue to see significant carbon reduction efforts globally, including increased use of renewable resources, and measures to improve energy efficiency and reduce demand.

In the United States, contrasting with the Trump administration's support for fossil fuels, the Biden administration has committed to being a leader in the fight against climate change. While coal and other aged fossil fuel plants continue to retire at an unprecedented rate (due primarily to the economics of those facilities), the Texas winter storm in February 2021 raised some questions about whether renewable resources alone will be sufficient for long-term reliability. Many states have pushed for the procurement of thousands of megawatts of renewable resources, including from new offshore wind development projects on the east coast and, in May 2021, the US Bureau of Ocean Energy Management granted its first approval for the Vineyard Wind offshore project. The Federal Energy Regulatory Commission has continued to struggle with whether and how to impose regulatory restrictions on the ability of state-subsidised renewable energy projects to clear in the regional capacity markets through a minimum offer price rule to mitigate buyer market power.

Despite Brexit, the United Kingdom's renewable energy targets have already exceeded those of the European Union. France is seeking to double its wind and solar capacity and President Macron has announced a goal to close the remaining coal plants by 2022. Italy had

previously targeted a 28 per cent reliance on renewable energy by 2030 but is now working to reach the 32 per cent target adopted by the European Union. Belgium has continued its significant offshore wind procurement efforts, and is seeking to reduce subsidies in future procurements. While Germany has had difficulty meeting its previous emissions reductions goals, it has now set a target of 2038 for the phase-out of coal power plants, and remains focused on the continued development of renewable generation, energy efficiency and conservation, as well as energy storage technologies. In Portugal, carbon emissions dropped by 7 per cent, perhaps in part due to the covid-19 pandemic. Poland has been struggling to meet the European Union renewable energy targets but has plans to develop offshore wind generation.

Japan has continued its efforts to develop solar and wind resources, including opening new sea areas for offshore wind. But the shutdown of most of its nuclear generation has resulted in a significant reliance upon natural gas, including liquefied natural gas, and reductions in renewable energy prices have caused a slowdown in new solar and wind development. Japan has long utilised a feed-in tariff mechanism to encourage renewable development, and in 2022 will implement a feed-in premium to further encourage renewable investment. China continues to have ambitious renewable energy goals, aiming for an emissions peak by 2030, carbon neutrality by 2060 and a goal of 15 per cent of generation supplied by non-fossil fuel generation. Taiwan is seeking 20GW of solar PV installed capacity by 2025, and is looking to develop 5.5GW of offshore wind capacity.

There remains significant debate in Australia regarding the role of gas and coal in the energy landscape, which has led to a patchwork of national and state policies that points to continued uncertainty regarding Australia's commitment to carbon reduction. Malaysia continues its efforts to encourage greater entry into the renewable energy market and has approved 349 new renewable projects over the last decade.

The United Arab Emirates aims to reduce its carbon footprint by 70 per cent by relying on 50 per cent renewable energy by 2050, and Abu Dhabi is seeking to reduce electricity consumption by 22 per cent by 2030. In Brazil, hydroelectric resources constitute more than half of its installed generation capacity, and efforts continue to increase wind and solar generation as the cost of renewable generation has decreased.

II INFRASTRUCTURE DEVELOPMENT

The covid-19 pandemic has slowed infrastructure development for many countries, particularly those in which a reliable energy supply remains the primary concern, regardless of fuel source. As less than half of Myanmar is connected to the grid, there are continued efforts to electrify remote parts of the country (55 per cent by 2021 and 100 per cent by 2030). Lebanon has been relying upon floating generation barges to increase electricity supply, but now faces the risk of having some of these barges leave Lebanese shores due to the government's failure to make payments to the barge owners.

III NUCLEAR POWER GENERATION

Nine years after the Fukushima disaster, Japan has stopped operations at all but seven of its 36 nuclear power stations, and 11 nuclear power stations are in the process of being reviewed for restart under Japan's stringent new safety standards. Germany continues efforts to phase out all nuclear generation by 2022, and Belgium's nuclear plants have often been offline

for maintenance for technical issues in the past few years. France had previously sought to eliminate nuclear generation by 2025 but has extended that date. South Korea has continued its efforts to phase out nuclear power (replacing nuclear plants with new renewable facilities over time). South Africa's nuclear ambitions appear to be on hold at least until 2030.

However, the phasing out of nuclear energy is not universal. The United Arab Emirates' new 5,600MW Barakh nuclear power station is almost complete and one of its units is already operational. When all units are online, Barakh will supply 25 per cent of the emirates' electrical needs. Poland still intends to explore the development of nuclear power in the future, with a target date for the first unit in 2033. In the United States, even though the early retirement of certain nuclear plants has been driven by cost and power market considerations (rather than safety concerns), some states have passed legislation to subsidise nuclear energy to allow owners to continue to operate through zero emissions credit programmes, including Illinois, New York, New Jersey and Ohio.

IV LIBERALISATION OF THE ENERGY SECTOR

We have seen significant energy sector regulatory reforms in many countries. The European Union has sought to continue efforts to centralise the regulation of the EU energy sector. France has taken significant steps towards further liberalisation of its energy sector. Japan has fully liberalised its electricity and gas sectors and is encouraging market entry. Australia has opened access to transmission through regulatory reforms to encourage entry into the generation market and is undertaking significant energy market reforms to send more accurate price signals to market participants. Brazil continues its efforts to implement net metering regulations. China has reduced subsidies for renewable energy, price transmission and distribution rates based upon a cost-plus regulatory methodology, and has implemented a market-priced mechanism for pricing coal-based generation. The United Kingdom has implemented a competitive tender process for the development of offshore transmission. In the United States, while states have continued to subsidise nuclear and renewable generation, the Federal Energy Regulatory Commission has permitted certain regional markets to implement minimum offer price rules to combat buyer-side mitigation in an effort to maintain competitive capacity markets.

I would like to thank all the authors for their thoughtful consideration of the myriad interesting, yet challenging, issues that they have identified in their chapters in this tenth edition of *The Energy Regulation and Markets Review*.

David L Schwartz

Latham & Watkins LLP

Washington, DC

May 2021

NIGERIA

*'Gbite Adeniji and Jumoke Fajemirokun'*¹

I OVERVIEW

The Nigerian energy sector largely comprises the petroleum sector where fuels are produced for energy production and the electricity industry. Other energy supply sources to the national grid include hydropower and other renewable sources. Several off-grid projects have been developed in recent times and these tend to rely on either natural gas or solar power.

The electricity industry is highly dependent on natural gas, which accounts for over 80 per cent of the electricity supplied to the national grid. It is expected that natural gas will continue to be relevant in Nigeria's energy mix for many years to come, given the country's proven gas reserves of over 203tcf and the commitment of the federal government of Nigeria, as articulated in the National Gas Policy, to leverage Nigeria's huge gas portfolio to drive industrial development.

Nigeria's installed generating capacity at approximately 12,000MW is far below its energy demand requirements. As such, a significant proportion of consumers rely on petroleum products such as premium motor spirits and diesel for alternative electricity supply. This chapter will focus mainly on the natural gas and electricity industries.

Market players in the electricity industry comprise 18 successor companies that were unbundled from the state-owned vertically integrated utility pursuant to the Electric Power Sector Reform Act 2005 (EPSRA). These include six generating companies (gencos), 11 distribution companies (discos) – all of which have now been privatised – and one transmission company (which remains a state-owned entity), on-grid and off-grid independent power producers, distributors and mini grid operators.

Market players in the gas industry are the gas producers comprising the international oil companies and Nigerian independents that operate under various contractual arrangements (e.g., joint ventures and production sharing contracts (PSC)) with the Nigerian National Petroleum Corporation (NNPC), which is a national oil company or on a sole risk basis; gas marketers and transporters. Prominent among the latter is the Nigeria Gas Company (NGC), a subsidiary of the NNPC that owns and operates the main gas transmission pipelines in the country and its marketing affiliate, the Nigerian Gas Marketing Company (NGMC); gas distribution companies, most of which operate under a franchise arrangement with the NGC; and various downstream gas utilisation companies, which include power generation companies and independent power producers (IPPs).

The gas and electricity markets are regulated at the national level by separate regulators.

1 *'Gbite Adeniji and Jumoke Fajemirokun* are partners at ENR Advisory.

II REGULATION

i The regulators

The electricity industry is regulated by the Nigerian Electricity Regulatory Commission (NERC). The NERC is an independent regulatory body established under EPSRA, which is the principal source of law and regulation for the electricity industry. NERC issues regulations and orders giving effect to EPSRA and is empowered to grant licences for the generation, transmission, system operation, distribution and trading of electricity, and to promote competition and private-sector participation while ensuring standards of quality in the electricity industry. The Nigerian Electricity Management Services Agency established under the Nigerian Electricity Management Services Agency Act 2015 conducts technical inspections, testing and certification of electrical installations, electrical meters and instruments to ensure compliance with technical standards and regulations.

The Energy Commission of Nigeria (ECN) established by the Energy Commission of Nigeria Act 1979 (as amended) is responsible for policy formulation and implementation and the strategic planning and coordination of national policies on energy. The Minister of Power is empowered under EPSRA to trigger the different phases outlined in EPSRA for the development of a competitive electricity market and to issue policy directives to the NERC on matters concerning electricity. The EPSRA also establishes the Rural Electrification Agency to promote rural electrification programmes through public and private-sector participation.

The Minister of Petroleum Resources is charged with formulating and implementing policies for the petroleum sector and supervising the government agencies directly involved in managing the petroleum sector. The Minister is empowered by the Petroleum Act 1969 to grant licences and leases for upstream and downstream petroleum operations, to supervise petroleum operations and to issue regulations to govern operations in the industry, among other powers. The Department of Petroleum Resources (DPR), which is the technical department of the Ministry of Petroleum Resources, supports the Minister in the exercise of his or her regulatory powers. The DPR supervises and monitors the oil and gas industry operations and ensures compliance with relevant laws, regulations and guidelines. Its responsibilities include processing applications for leases, licences and permits, collection of royalties, rents and other statutory fees and maintaining records on petroleum industry operations and the National Data Repository. The DPR also issues regulatory guidelines for licences, permits and operations across the oil and gas value chain. The Department of Gas Resources within the DPR has specific responsibilities for the regulation of the gas sector.

The principal sources of law and regulation for the gas industry include the following:

- a The Petroleum Act 1969, which is the overarching legislation that governs petroleum operations together with several implementing regulations that include:
 - the Mineral Oils (Safety) Regulations 1962, which prescribes safety measures for exploration and production operations;
 - the Petroleum Regulations 1967, which regulate the transportation and storage of petroleum, including importation, shipping, unshipping, landing and discharge of petroleum;
 - the Petroleum (Drilling and Production) Regulations 1969, which regulate applications for leases and licences, exploration and drilling, field development, and payment of fees, rent and royalties;
 - the Petroleum Refining Regulations 1974, which regulate the construction, operation and maintenance of refineries (which includes gas-processing facilities); and

- the National Domestic Gas Supply and Pricing Regulations 2008, which imposes a domestic gas supply obligation on gas producers in order to meet the demand requirements of the domestic gas market and establishes a pricing framework for gas supply to the domestic market.
- b* The Deep Offshore and Inland Basin Production Sharing Contract Act 1993 (as amended), which provides for fiscal terms and incentives for companies operating under production-sharing contracts with the NNPC in deep offshore (i.e., at water depths exceeding 200m²) and inland basin blocks.
- c* The Associated Gas Re-Injection Act 1979 (AGRA), which regulates gas flaring. Pursuant to AGRA and the Petroleum Act, the Flare Gas (Prevention of Waste and Pollution) Regulations were issued in 2018 to provide a framework for third parties to access flare gas on a competitive basis as a flare reduction strategy. These regulations also impose more stringent duties on operators as regards gas flaring and venting, and increase the fees payable for routine flaring and the penalties for violations.
- d* The Oil Pipelines Act 1956 and the Oil and Gas Pipeline Regulations 1995, which regulate the construction, operation and maintenance of oil and gas pipelines.

The key regulators for the gas industry are:

- a* the Petroleum Products Pricing Regulatory Authority established pursuant to the Petroleum Products Pricing Regulatory Authority Act 2003, which regulates the pricing, supply and distribution of petroleum products;
- b* the Nigerian Content Development and Monitoring Board established pursuant to the Nigerian Oil and Gas Industry Content Development Act 2010 whose primary function is to ensure the continuous growth of local content in all arrangements, projects, operations, activities and transactions in the oil and gas industry; and
- c* the National Oil Spill Detection and Response Agency established pursuant to the National Oil Spill Detection and Response Agency Act 2006 with responsibility for oil spill detection and response activities.

Environmental regulators relevant to both the gas and electricity industry are the Federal Ministry of Environment, which implements the framework for the conduct of environmental impact assessments of gas and electricity projects further to the Environmental Impact Assessment Act 1992; and the National Environmental Standards and Regulations Enforcement Agency, established pursuant to National Environmental Standards and Regulations Enforcement Agency (Establishment) Act 2007, which is empowered to enforce environmental laws, policies, standards and guidelines, as well as international treaties to which Nigeria is a signatory. The DPR also enforces environmental regulation and standards in connection with oil and gas operations.

ii Regulated activities

Upstream operations

The exploration and production of crude oil and natural gas may only be conducted under an appropriate licence or lease issued by the Minister of Petroleum Resources pursuant to the Petroleum Act. These include an oil exploration licence (OEL), which confers a non-exclusive right to prospect for petroleum; an oil prospecting licence (OPL), which grants the holder an exclusive right to explore and prospect for petroleum; and an oil mining lease (OML), which grants the holder an exclusive right to search for, win, work, carry away and dispose of

petroleum. The Petroleum Act empowers the President of the Federal Republic of Nigeria to designate an area within an OML as a marginal field and to approve or (if the marginal field has been left unattended for an unreasonable period of time, not less than 10 years) allow the farm-out of such marginal field to a third party to engage in exploration and production activities (marginal field licence).

Licences or leases (or any interest therein) are typically granted pursuant to competitive bidding rounds conducted by the DPR. Awardees are required to pay signature bonuses and commit to a defined work programme and minimum work obligations. The DPR also issues permits for various aspects of upstream operations such as drilling of wells, well completion tests, well workovers and re-entry and abandonment, as well as the construction and operation of upstream production facilities.

Midstream and downstream petroleum operations

The construction and operation of refineries, gas-processing plants, pipelines, storage facilities and terminals are also activities that require licences or regulatory approvals. A refinery licence issued by the Minister pursuant to the Petroleum Act is required to construct and operate a petroleum refinery (including a gas-processing plant) and an oil pipeline licence issued by the Minister pursuant to the Oil Pipelines Act is required to construct and operate oil and gas pipelines. Licences are also required to transport petroleum in bulk, to import liquified petroleum gas, to offtake liquified petroleum gas in bulk and for premises where petroleum is stored in bulk.

The permitting process for the construction and operation of midstream and downstream facilities typically has three stages:

- a* issuance of a licence to establish following the DPR's satisfactory review of the conceptual design for the project;
- b* issuance of an approval to construct following the DPR's satisfactory review of the detailed design for the facility; and
- c* issuance of a licence to operate, following the mechanical completion of the facility and satisfactory pre-commissioning inspection by the DPR.

Service provision in the petroleum industry

An oil and gas industry service permit issued by the DPR is required to render services in the oil and gas industry such as works and maintenance services, equipment supply, fabrication works, drilling, dredging, pipeline laying, consulting services and logistics.

Electricity

An appropriate licence issued by the NERC is required to construct, own and operate an undertaking or engage in the business of electricity generation (excluding captive generation), electricity transmission, system operation, electricity distribution or trading in electricity. Undertakings for generating electricity not exceeding 1MW in aggregate at a site or for distributing electricity with capacity not exceeding 100kW in aggregate are exempt from the licensing requirement. NERC permits are, however, required for captive generation exceeding 1MW and for the operation of mini grids that have a generation capacity of below 1MW and a distribution capacity of over 100kW.

Customers wishing to purchase electricity directly from a generation licensee or trading licensee (without contracting with a distribution licensee) must apply to the NERC for

eligibility status. The NERC also issues permits to providers of metering services to discos. Such services include meter financing, procurement, supply, installation, maintenance and replacement.

iii Ownership and market access restrictions

Licences and leases for activities in the petroleum and electricity industry may only be granted to companies incorporated in Nigeria. Other than with respect to marginal fields, where participation by foreign investors is limited to 49 per cent, such companies may be 100 per cent foreign-owned. The Petroleum Act, however, provides that the Minister may revoke an OPL or OML if the holder becomes controlled directly or indirectly by a citizen, or subject of, or a company incorporated in, a country whose laws do not permit Nigerian citizens or Nigerian companies to hold and operate petroleum concessions on conditions that are reasonably comparable to conditions upon which such concessions are granted to subjects of such countries.

With respect to service provision, local content laws and regulations require regulated entities to give first consideration to qualified Nigerian companies in the award of contracts for the supply of goods, works and the provision of services. The Nigerian Oil and Gas Industry Content Development Act 2010, which applies to the petroleum sector, goes further and defines a Nigerian company as one in which 51 per cent of the shares are held by Nigerians.

The EPSRA imposes restrictions on aggregate holdings by licensees in the electricity industry. An applicant for a licence who owns more than 10 per cent or such other percentage as the NERC may specify (the approval threshold) of shares in another applicant or licensee must disclose such interest to the NERC. The NERC may then require such applicant to divest itself of such holdings within a specified period. Similar disclosure obligations apply to licensees who acquire shares above the approval threshold in a licence applicant or licensee. Licensees are also prohibited from acquiring or affiliating with the licence or undertaking of another licensee or person who is in the business of electricity generation, transmission, distribution, system operation and trading without securing the consent of the NERC.

iv Transfers of control and assignments

The consent of the Minister must be obtained prior to the transfer of an OPL or OML or any right, power or interest therein. An application for consent is made to the Minister, through DPR, together with payment of a prescribed fee, which may include a premium. The Minister must be satisfied that the proposed assignee is of good reputation and possesses sufficient technical knowledge, experience and financial resources and is otherwise acceptable to the government. Mergers and acquisitions that result in an indirect transfer of upstream petroleum interests in Nigeria will also trigger a ministerial consent requirement. In addition, for assets held under a joint venture arrangement or production-sharing contract with the NNPC, the NNPC's consent must also be obtained for any assignment of interest.

Likewise, for the electricity industry, the NERC's prior consent is required for a licensee to assign or cede a licence or transfer an undertaking or any part of it by way of sale, mortgage, lease, exchange or otherwise to another; or acquire or affiliate with the licence or undertaking of another licensee.

Notification to, and approval of, the Federal Competition and Consumer Protection Commission is required prior to the implementation any merger that involves entities with a combined turnover that exceeds 1 billion nairas or a target entity whose turnover exceeds 500 million nairas.

III TRANSMISSION/TRANSPORTATION AND DISTRIBUTION SERVICES

i Vertical integration and unbundling

Following the unbundling of the vertically integrated state power utility pursuant to the EPSRA, players involved in transmission and distribution services are disaggregated. The Transmission Company of Nigeria (TCN) owns and manages the national grid and is the only entity licensed to provide transmission services. Distribution services are provided by the discos and entities that hold independent electricity distribution licences.

In relation to the natural gas industry, the NGC owns and operates the major gas transmission pipelines and has maintained a practice of granting distribution franchises to private parties under arrangements that require such parties to develop or maintain a distribution network on the NGC's behalf and sell gas sourced from the NGC to end users within the distribution zone.

ii Transmission, transportation and distribution access

Open access and retail access

An open access regime applies to the NGC's gas transportation network. The Nigerian Gas Transportation Network Code issued by the DPR in August 2020 serves as the primary governance and contractual framework for access to this pipeline network. Only licensed shippers may book capacity at entry and exit points of the pipeline network and there is no restriction on retail access. With respect to other pipeline networks, the Oil Pipelines Act permits third parties to apply to the Minister for third-party access and the Minister may grant the application if he or she is satisfied (following consultations with the applicant and the pipeline owner) that the pipeline can convey the substance and quantity the applicant wishes to convey without negatively impacting the safe and efficient operation of the pipeline or the owner's own use. The terms and conditions of access will be negotiated by the parties or imposed by the Minister if the parties fail to agree.

With respect to electricity transmission and distribution networks, distribution licensees are mandated to provide non-discriminatory open access to embedded generation licensees (i.e., operators of generating units that are directly connected to and evacuated through a distribution system) or any other licensee provided it has available capacity and in accordance with agreed terms. Also, the Eligible Customer Regulation 2017 (ECR) provides for mandatory access for 'eligible customers' or their suppliers to the transmission and distribution network for the purpose of delivery of electricity pursuant to a contract for use of the network entered into with the licensee of the network. Eligible customers are a special class of customers licensed to purchase electricity directly from generation and trading companies. These customers tend to be industrial and residential estates that buy such power for their own use. The ECR has introduced some level of retail competition into Nigeria's electricity industry.

Exclusivity

The NERC may allow a licensed activity to be exclusive for all or part of the period of the licence for a specific purpose, for a geographical area or a combination of both. The NERC has clarified that discos do not have exclusivity over the distribution area conferred with their licence and to this end, and in a bid to expand access to electricity, introduced the Independent Electricity Distribution Network (IEDN) Regulations 2012. The IEDN Regulations provide a framework for the development of independent distribution networks in areas that are unserved or underserved by a disco. It allows the NERC to grant a licensee the exclusive right to construct, own, operate and maintain a distribution system in a designated geographical area within the area of operation of a disco.

The regulatory framework for the gas industry does not provide for the granting of exclusivity rights with respect to the provision of gas transportation and distribution services. However, historically, the NGC has assumed such rights and has granted exclusive franchises to private-sector participants to develop and operate distribution networks on its behalf under build-operate-transfer arrangements.

iii Rates

The EPSRA requires the NERC to establish tariff methodologies for distribution and transmission services, which allows a licensee operating efficiently to recover its full costs and a reasonable return, incentivises improvements in service provision, avoids undue discrimination between consumers and phases out or substantially reduces cross-subsidies. Pursuant to this, the NERC has established the Multi-Year Tariff Order (MYTO), which provides a 15-year tariff path for generation, transmission and distribution of electricity in Nigeria. Minor reviews of MYTO are to be undertaken yearly to take into account changes in limited parameters such as inflation and foreign exchange rates and gas prices; while major reviews are to be undertaken every five years.

With respect to natural gas, the transportation charge is often negotiated. The Minister of Petroleum Resources may intervene pursuant to the Oil Pipelines Act if the parties are unable to reach an agreement.

iv Security and technology restrictions

Technology transfer is regulated by the National Office for Technology Acquisition and Promotion (NOTAP) established under the NOTAP Act 1979 (as amended). The Act mandates NOTAP to register contracts or agreements for the transfer of technology into Nigeria in connection with various purposes such as use of trademarks, patented inventions, plans and diagrams, supply of detailed engineering, the supply of machinery and plant, technical assistance, etc. Registration with the NOTAP is a condition to accessing foreign exchange from the foreign exchange market regulated by the Central Bank of Nigeria to make payments on such contracts.

IV ENERGY MARKETS

i Development of energy markets

The electricity industry is a regulated electricity market, which in the last decade has been unbundled and privatised from a previously state-owned and operated monopoly. The EPSRA established the Nigerian Bulk Electricity Trading Plc (the Bulk Trader), an electricity-trading

company, to purchase power from gencos and on-sell to discos. It is essentially a monopsony aggregator of power produced within the industry, albeit for an interim period until the electricity industry is fully competitive. Electricity purchased by the Bulk Trader is dispatched in accordance with an economic merit order system that is implemented by the TCN in its capacity as system operator.

Wholesale gas supply is undertaken either directly by gas producers or by gas marketing companies. Natural gas is also traded by a growing segment of virtual gas pipeline companies that are trading gas through compressed natural gas and mini-LNG systems to underserved markets in Nigeria.

A domestic gas supply obligation (DGSO) is imposed on gas producers pursuant to the National Gas Supply and Pricing Regulations 2008 (NGSPR). The Gas Aggregation Company Nigeria Limited (GACN) acts as an intermediary between upstream producers and wholesale gas offtakers, and ensures that upstream gas producers comply with annual DGSOs issued by the DPR to ensure adequate domestic supply of gas to strategic sectors, such as the power, strategic industrial and other commercial sectors. A penalty of US\$3.50/MMBtu is payable by a gas producer that fails to meet its DGSO allocation. Also, any gas export project proposed by a gas producer will not be permitted until it meets its DGSO. Gas volumes outside a producer's DGSO can be sold at market-based 'willing seller/willing buyer' price.

ii Energy market rules and regulation

The EPSRA provides for the establishment of market rules by the system operator that are designed to establish and govern an efficient, competitive, transparent and reliable market for the sale and purchase of wholesale electricity and ancillary services in Nigeria and for the licensing of market operators. The market rules for the operation of the electricity market that are currently in force govern the operations of the electricity market in the transitional and medium stages of the development of competitive markets. These rules provide the framework for an efficient and competitive market. They set out the responsibilities of each participant, the operation and pricing system of the balancing market and ensure a transparent and efficient settlement system, among other objectives.

iii Contracts for sale of energy

Market participants involved in the sale and purchase of on-grid power must conduct their transactions through the Bulk Trader, which purchases power from the generation companies using standardised power purchase agreements. The Bulk Purchaser on-sells power to discos through vesting contracts where it allocates a portion of the aggregated electricity supply to a particular disco. The rates for energy sale in these contracts must comply with the MYTO methodology. New entrant independent power plants that require a tariff beyond the MYTO benchmark must apply to the NERC for approval and an individual site-specific pricing model will be used, in which case the NERC will apply prudence and relevance tests to determine whether such site-specific costs should be allowed in the rates.

Market participants involved in the sale and purchase of off-grid power may enter into bilateral contracts. With the exception of contracts between embedded generation companies and discos, which must also comply with the MYTO methodology, there are no regulatory requirements that govern the rates and contract terms for the sale and purchase of off-grid power.

For natural gas sales, an offtaker that has applied to and obtained a gas purchase order from the GACN is entitled to negotiate a gas supply and aggregation agreement (GSAA) with a gas producer that has been issued a DGSO by the DPR. There is a template GSAA for DGSO transactions. The GSAA provides for the gas producer to be paid an aggregate price, which is a weighted average of all payments under similar GSAs for sale of DGSO volumes received by the GACN into an escrow account established for that purpose. A gas producer that has satisfied its DGSO can contract freely on terms with any offtaker for the sale of natural gas on a 'willing seller/willing buyer' price basis.

iv Market developments

The Petroleum Industry Bill 2020, for the reform of the petroleum industry is currently under consideration by the Nigerian parliament. It proposes several far-reaching changes to the legal, institutional and regulatory framework for the petroleum industry, including the establishment of a new industry regulator. With respect to natural gas, it seeks to create a distinct regulatory framework for midstream and downstream gas operations by introducing a new licensing regime and a framework for the technical and commercial regulation of the gas sector.

V RENEWABLE ENERGY AND CONSERVATION

i Development of renewable energy

The government approved a national energy policy in 2003 that outlines the government's commitment to integrate renewable energy sources into the nation's energy mix. Consistent with this policy vision, the NNPC has established a Renewable Energy Division to exploit renewable energy sources and participate in global carbon emissions reductions initiatives. The government has also approved the National Renewable Energy and Energy Efficiency Policy 2015 (NREEEP). This document serves as a blueprint for the sustainable development, supply and utilisation of renewable energy resources for both on-grid and off-grid energy solutions. It focuses on hydropower, biomass, solar, geothermal, wave and tidal energy power plants and cogeneration plants for energy production as well as the improvement of energy efficiency as an additional source of energy. The NERC has also developed a feed-in tariff regime for renewable energy sourced from solar, wind, biomass and small hydro in order to stimulate investment and achieve a target of 2000MW of electricity developed from renewable energy by 2020. By 2030, the government expects that renewable energy will contribute a 30 per cent share in the electricity mix.

ii Energy efficiency and conservation

The NREEEP recognises energy efficiency and conservation as a key component of a sustainable energy policy. The key policies to drive the promotion of energy efficiency centres on improving consumer awareness and provision of incentives to encourage investment in and use of energy efficient technologies.

Pursuant to NREEEP, the government has developed the National Energy Efficiency Action Plan (NEEAP) as a supporting strategy document to guide the implementation of NREEEP. The NEEAP sets out targets for energy efficiency in buildings, industries, electricity distribution and energy efficiency labels and standards from 2015 to 2030, as well as specific policy measures to achieve the targets such as public awareness campaigns, mandatory labelling and certification, installation of efficient lighting in social housing projects and

fiscal incentives to reduce prices of efficient lighting. It also proposes the adoption of fiscal instruments to reduce prices on efficient lighting products, an incentives scheme to support local manufacture of on-grid and off-grid equipment and financing schemes to cover the upfront costs of lighting products.

Actions plans from the NEEAP that have been implemented to date include the adoption of a National Building Energy Efficiency Code in August 2017, which sets out the minimum requirements for energy-efficient buildings and provides for their proper implementation control and enforcement. The Code applies initially to public buildings of the Ministry responsible for implementing the Code and it is expected that it will subsequently be adopted by states and local governments. The Standards Organisation of Nigeria has also launched the Energy Guide Label to guide Nigerians on the amount of energy consumed by air conditioners, refrigerators and lamps.

iii Technological developments

There are no significant technological developments in the area of renewable energy and energy conservation.

VI THE YEAR IN REVIEW

i Key decisions, legislation, cases or policy changes

Milieudefensie (Friends of the Earth Netherlands) and 2 Ors v. Shell Petroleum NV. & 1 other (the Milieudefensie case)

On 29 January 2021, the Court of Appeal in the Hague in a landmark judgment found Shell guilty of a breach of its duty of care by not doing enough to prevent oil spills from its pipeline in two villages in the Niger Delta, Nigeria. It is the first time that a foreign court has held Shell accountable for its duty of care abroad and this could open up a flood of litigation against parent companies of European oil companies operating in Nigeria that have caused significant harm to the environment from oil spills and gas flares.

Changes and policy flip-flops in the deregulation of downstream petroleum prices

For several decades, Nigeria has been attempting to withdraw fuel subsidies and deregulate the price of petrol in a bid to attract investments into the petroleum-refining sector in Nigeria. Labour unions have over the years resisted the withdrawal of these subsidies in view of the adverse impact they are likely to have on transportation costs and commodity prices, which most affect underprivileged citizens.

In the latest episode of this long-drawn-out saga, in 2020 the government via the Petroleum Products Pricing and Regulatory Agency issued directives signalling the deregulation of petroleum prices. However, due to significant pushback from the labour unions the government reversed its decision to remove the subsidies and assured citizens that it will continue to cap prices and that no upward review is imminent.

NERC Distribution Franchising Guidelines

In June 2020, NERC issued the Guidelines on Distribution Franchising in the Nigerian Electricity Supply Industry 2020 (Franchising Guidelines) to enable discos take advantage of evolving business structures and technology for the purpose of providing adequate, safe and reliable services to end users. In this regard, a disco is permitted to enter into a franchising

arrangement with a third party (franchisee) to authorise the franchisee to perform some of the specific functions of the disco within the disco's licensed area. This will facilitate an improvement in the quality of service delivery to end users and address some of the operational and liquidity challenges in the electricity industry.

MYTO review of electricity tariffs for service reflexivity

On 1 September 2020, NERC issued a new tariff order – MYTO 2020 – to allow utility companies to charge higher electricity tariffs that will better cover the true cost of their operations, if the utilities in turn provide better services to the relevant customers. Five tariff bands have been introduced that apply to five service thresholds, graduated by the minimum number of hours electricity is provided per day (i.e., 20, 16, 12, 8 and 4). This development is significant as it should address the long-standing liquidity challenges in the electricity industry.

ii Key mergers, takeovers, activity in the market, tenders or auctions

Marginal field bid rounds 2020

The marginal field bid rounds 2020 began in July 2020, and the government is offering indigenous companies the opportunity to acquire an interest in marginal fields within various acreages held by licence holders that have delayed developing these fields. There is an increased level of M&A activity in the energy sector, with several of these indigenous bidding companies setting up alliances and joint ventures to acquire and exploit the marginal fields on offer.

IOC divestments continue

Shell and Chevron are divesting more of their long-held oil mining leases in the Niger Delta; the latest divestments are interests in OML 17, OML 86, OML 88 and OML 132. As Nigeria forges ahead as a mature province, the trend in the last decade has been for all the international oil companies operating in Nigeria to sell off some of their petroleum assets to independents and indigenous oil companies.

iii Trends in the sector

The decade of gas initiative

The government is promoting investments in gas projects to increase gas production and utilisation over the next decade. The 'decade of gas' initiative is being championed by the government to increase utilisation of gas in the domestic market, with the objective of displacing the current over-reliance on other petroleum products as the primary source of energy for transportation, household, commercial and industrial uses.

VII CONCLUSIONS AND OUTLOOK

Several issues have impacted the development of Nigeria's energy market over the years, especially as it relates to the gas-to-power segment. Market illiquidity occasioned by lack of payment discipline, ineffective contracts and lack of cost recovery across the value chain has caused market participants to consistently report losses and has restricted the flow of investment to fund the much-needed infrastructure developments and upgrades.

It is expected that the recent interventions by the government, especially with the transition towards truly cost-reflective tariffs, will reduce the current market distortions and consequently attract more investment into the sector. It is also expected that the reforms proposed by the Petroleum Industry Bill 2020 will enable the gas sector to better serve the electricity markets.

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Adegbite Adeniji is the managing partner at ENR Advisory. He advises a variety of clients in the petroleum, electricity and mining sectors. His clients include IOCs and Nigerian independent oil companies whom he advises on market leading commercial transactions, regulatory issues and on the development of projects.

Adegbite’s experience spans many decades and includes a number of significant roles including senior technical adviser to the Minister of State for Petroleum Resources, counsel for the development of the Nigerian Gas Masterplan and senior consultant on oil and gas policy matters at the World Bank. In these roles ‘Gbite has advised the Nigerian government on policy development, regulation and reform of the petroleum sector including leading the preparation of the current National Gas Policy and the National Petroleum Policy 2017 and advising the National Assembly on the Petroleum Industry Bill 2020. Adegbite is also credited with the development of a program for the elimination of gas flares in Nigeria – the Nigerian Gas Flare Commercialisation Programme (NGFCP) – the first of its kind globally and with helping to draft Nigeria’s current Minerals and Mining Act.

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She previously worked with the World Bank in Washington, DC, where she provided support to the World Bank Group’s Sanctions Board in their adjudication of integrity compliance issues in the procurement and execution of World Bank-financed projects. In 2019, she led a team constituted by the Rural Electrification Agency to support the Nigerian Electricity Regulatory Commission in fast-tracking the licensing of mini-grid developers under the Solar Hybrid Mini Grid Programme of the Nigerian Electrification Project.

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