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TWELFTH EDITION

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PREFACE

In our 12th year of writing and publishing *The Energy Regulation and Markets Review*, the most pressing global concerns continue to be inflation, supply chain concerns, the Ukraine war and continuing efforts to combat climate change. Accordingly, many of our contributing authors have emphasised concerns associated with the effects of these crises on infrastructure development, commodity purchases and energy demand. We have also seen industry and regional specific changes that have added uncertainties to global energy policies. For example, oil and gas prices have remained high, compared with three years earlier. European demand for natural gas has remained an important energy security issue in light of the region's historical reliance upon supplies from Russia, which, in turn, dramatically increased European electricity prices. Additionally, there has been a sharp increase in the development of liquified natural gas (LNG) facilities in the United States and increased export activity as a result of the pricing changes globally. The convergence of these events has created a catalyst for increased investment in renewable energy and energy efficiency in order to further reduce reliance upon Russian natural gas and oil. Additionally, the United Kingdom continues to experience uncertainties resulting from its transition, not only in terms of energy resources associated with decarbonisation efforts, but also out of the European Union (a process known as Brexit). The Biden administration has continued to reassure US allies and historical trading partners that it remains committed to the 2015 Paris Agreement, notwithstanding the Trump administration's previous withdrawal. And the memory of 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, the Biden administration has continued to commit to the fight against climate change, despite the previous administration's support for fossil fuels. While coal and other aged fossil fuel plants continue to retire at an unprecedented rate (primarily because of the economics of those facilities), the Texas winter storm in February 2021 and winter storm Elliott in the north-east and mid-Atlantic regions in December 2022 have raised questions about whether renewable resources alone will be sufficient for long-term reliability. The US Federal Energy Regulatory Commission has continued to focus on ensuring resource adequacy at just and reasonable rates, and on winter gas-electric coordination in the northeast markets. While many states have continued to award procurements of thousands of megawatts of new offshore wind development projects on the east coast, companies that were awarded

contracts have initiated renegotiations of those contracts due to price increases emanating from supply chain issues and inflation. The Federal Energy Regulatory Commission has continued to struggle with whether and how to impose regulatory restrictions on the ability of states to subsidise renewable energy projects in light of their adverse impacts on competitive market prices. The Inflation Reduction Act provides additional incentives to assist in the conversion to renewable resources.

The European Union's Renewable Energy Directive II seeks to reach 32 per cent of the region's total energy needs through renewable energy and 14 per cent for the share of renewable fuels, both by 2030, and climate neutrality by 2050. This past March, the EU Commission published proposed changes to regulations and market issues that will create further divergence from the United Kingdom's regulatory approach. 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. France has recently updated its national policy priorities with respect to climate change to include low-carbon hydrogen resources as well as power plants equipped with pumped storage, and provided a new certification process for biogas. 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, and has changed the recently formed Ministry of Ecological Transition to the Ministry of Environment and Energy Security to assist with the fight against climate change. To reduce reliance on Russian oil and gas, Belgium seeks to triple its offshore wind capacity to 5.8GW by 2030. Portugal is retiring coal generation and replacing it with renewable and hydrogen generation resources, and recorded a 7 per cent drop in carbon emissions in 2020. Greece is decommissioning some of its old lignite plants and has begun implementation of a 'just transition' plan (increasing renewables from 14 per cent to 43 per cent of all generation), while increasing domestic coal production in the near-term, and accelerating its effort to develop offshore natural gas resources and increase LNG storage.

China continues to have ambitious renewable energy goals, aiming for an emissions peak by 2030, carbon neutrality by 2060 and a goal of 25 per cent of generation supplied by non-fossil fuel generation by 2030. India aims for almost half of its generation capacity to be made of renewable energy resources by 2030, which would amount to 500GW. Singapore has a Green Plan to meet its sustainability targets, including increasing solar energy deployment fivefold to 2,000MW, having 200MWh of energy storage deployment after 2025, and increasing clean energy imports. A new law was enacted last year in Indonesia that sets forth a path to meet its climate-change commitments, including new coal-fired power plant commitments, as well as a law (enacted the previous year) on carbon pricing. While 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 point to continued uncertainty regarding Australia's commitment to carbon reduction, Australia has already met its legislated target of 23.5 per cent of power generation from renewables.

Nigeria is targeting to have 30 per cent of its electricity generated from renewable resources by 2030 and net zero carbonisation by 2060. 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 multiple crises so far this year (e.g., inflation, the war in Ukraine, supply chain issues, etc) have made infrastructure development difficult for many countries, particularly those in which a reliable energy supply remains the primary concern, regardless of fuel source. Even the United States is no exception, as controversy remains over the Dakota Access Pipeline, development and approvals for which have continued to stall, and the Biden administration revoked the Keystone XL Pipeline's presidential permit in January 2021, regardless of the recent dramatic increases in oil prices, leading to an arbitration claim by Keystone against the United States government for US$15 billion. The European Union has recognised the need to secure a diverse energy supply, particularly in view of Russia's invasion of Ukraine and the desire to reduce reliance on Russian oil and gas. Belgium is expected to increase investment not only in renewable generation but also in hydrogen and geothermal energy to combat reliance upon Russian oil and gas. This was, for example, the first time in over a decade that Spain exported significant amounts of natural gas to France. Portugal is also expanding the development of green hydrogen as an alternative fuel source, including development of the Sines project, which is intended to replace in part the capacity lost following the retirement of coal generation. It is anticipated that Brazil may be able to produce the cheapest green hydrogen in the world, due to geographic and climate conditions. Furthermore, and unsurprisingly, Russia has not received any foreign investment from Europe, the United States or the United Kingdom due to sanctions imposed by these countries related to Russia's invasion of Ukraine. Singapore is adding to its LNG import capabilities. Ever since sovereign power was transferred to Myanmar's Commander-in-Chief of the Defence Services three years ago, foreign investment in infrastructure development has stalled, which has made the country's goal of electrification of 75 per cent of the population by 2026, and electrification of the entire population by 2030, a challenge. Lebanon has consistently faced energy shortfalls and is now in a full-blown economic crisis that has made significant infrastructure development extremely difficult. Nigeria has only 16,000MW of installed generation capacity, which is insufficient to meet its needs, and is looking to the gas sector in the country to supply sufficient fuel to support additional generation resource development. The energy infrastructure of the Democratic Republic of the Congo is even more challenging, as there is only enough electricity to power 19 per cent of its approximately 90 million people.

III NUCLEAR POWER GENERATION

Ten years after the Fukushima disaster, there is a struggle between efforts to limit reliance upon nuclear energy and the emissions reductions and fuel diversity benefits nuclear power offers. Because of the Ukraine war and the need for fuel diversity, and the importance of nuclear power for fighting climate change, Belgium has extended the economic lifetime of two nuclear power plants until 2035 and is now considering extending three other plants beyond 2025. France had previously sought to eliminate nuclear generation by 2025 but has extended that date. In the United States, although 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, albeit without the participation of the United Kingdom. Belgium, Portugal, Greece and France (among others) have each taken significant steps towards further liberalisation of the energy sector. This was particularly important for countries (such as France) that had longstanding state-owned electricity and natural gas monopolies. However, many countries, including Spain, Portugal and Australia, imposed regulatory limitations on electricity and gas prices, due to the sharp price increases, and adopted a new resource-specific pricing mechanism that resulted in significant differences in electricity prices from renewable generation compared to natural gas generation. Australia has opened access to transmission through regulatory reforms to ensure timely transmission investment and encourage market entry, and continues to engage in significant changes in the regulation of the energy market, including increases in the wholesale market price cap. Brazil has recently implemented net metering regulations and is now implementing distributed generation regulations. China has reduced subsidies for renewable energy and has implemented a market-price 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 renewable generation (particularly significant new subsidies for offshore wind development in the Northeast), the Federal Energy Regulatory Commission has continued to struggle between deference to states in making procurement decisions and protections against adverse impacts on competition by implementing minimum offer price rules to combat buyer-side mitigation markets. Mexico appears to be taking an anti-liberalisation approach, seeking to unwind reforms from previous years, and favouring state-owned electric and oil companies over non-Mexican companies.

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 12th edition of *The Energy Regulation and Markets Review*.

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Washington, DC
May 2023

Chapter 10

INDONESIA

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I OVERVIEW

Indonesia's energy market is under the supervision of the Ministry of Energy and Mineral Resources (MEMR), which issues implementing regulations. MEMR generally oversees the following energy segments:

a oil and gas;
b electricity;
c minerals and coal; and
d new and renewable energy and energy conservation.

Indonesia's energy market is heavily regulated. For example, in the power or electricity sector, the purchase price or tariff is determined by or subject to approval from the government.

To implement its Paris Agreement commitment, nowadays the government is actively pushing for energy transition from the use of fossil fuels to non-fossil fuels and new or renewable energy sources. For the past year, the government has issued several new regulations on renewable energy, carbon tax and carbon trading to incite and accelerate the energy transition in Indonesia.

II REGULATION

i The regulators

The main regulator for the energy industry in Indonesia is MEMR. MEMR has, among others, the following duties:

a formulation and determination of policies in the field of development, control and supervision of oil and gas, electricity, minerals and coal, new energy, renewable energy, energy conservation and geology; and
b implementation of policies in the development, control and supervision of oil and natural gas, electricity, minerals and coal, new energy, renewable energy, energy conservation and geology; and
c managing non-tax state revenues from the energy and mineral resources sector in accordance with the provisions of laws and regulations.

The MEMR has several directorate generals, which are responsible for different energy segments:

1 Serafina Muryanti and Maher Sasongko are partners, and Adya Sepasthika is an associate at ABNR Counsellors at Law.

a directorate general of oil and gas;
b directorate general of electricity;
c directorate general of mineral and coal; and
d directorate general of new, renewable energy and energy conservation.

Each directorate general is tasked with carrying out the preparation, implementation, supervision and monitoring of policies and regulations in the relevant energy segment (including monitoring energy companies' compliance with regulations).

The Indonesia's energy market is mainly regulated by the law (*Undang-Undang*) (UU)), government regulations, presidential regulation and ministerial regulations. In practice, it is also subject to certain ministries' policies that may be relevant in the implementation of Indonesia's energy market, such as the MEMR, the Ministry of Finance, Ministry of Industry, and the Ministry of the Environment and Forestry (MOEF).

ii Regulated activities

Unless otherwise stated, the main licences (especially business licences and operational licences) in the energy industries (i.e., electricity and power, oil and gas, mining, and new and renewable energy) are issued by the MEMR. The application and issuance of licences are conducted through the Online Single Submission (OSS) system. Below are the main activities in each sector of the energy industry that requires licences or approvals.

Electricity

The main regulation that governs the electricity industry in Indonesia is Law No. 30 of 2009 on electricity as lastly amended by Law No. 6 of 2023 on Stipulation of Government Regulation in Lieu of Law No. 2 of 2022 on Job Creation to become Law (Electricity Law). The implementation of electricity business is further regulated by several government regulations and MEMR regulations.

The activities in electricity sector and the main licences required under the regulations are as follows.

Electricity supply business

Electricity supply in Indonesia is divided into electricity supply for the public interest and electricity supply for own use. The business activities are divided into the following categories under the regulation:

a electricity generation;
b electricity transmission;
c electricity distribution;
d electricity sale; and
e integrated activities covering more than one activity set out above.

Supplying electricity in the public interest (e.g., power generation, transmission, distribution and power sales) requires an electricity supply business licence (IUPTL), which is issued by the OSS system on behalf of the MEMR, governor or regent (as applicable). In the case of distribution and sale of electricity, the business undertaking must also obtain the following from the MEMR:

a approval of its business area stipulation;

b approval of its electricity approval; and
c approval of its electricity supply business plan (RUPTL).

The MEMR approves electricity tariffs after obtaining approval from the House of Representatives (DPR). Unlike other licences, approvals of RUPTLs are issued by the MEMR through decrees.

A company that owns a power plant and generates more than 500KW of electricity from a single installation system for its own use is required to hold an electricity supply business Licence for own use (IUPTLS).

In addition to the above approvals and licences, every power plant or electricity generation installation, whether it is for supplying the public or for a company's own use, must obtain worthiness certificate (SLO) before it can be commercially operated or used.

Electricity supporting business

All activities that support electricity generation and supply activities are also regulated and require a specific licences. These activities include:

a consultancy;
b construction, testing, commissioning, operating and maintaining electricity installations (including transmission lines);
c research and development;
d certification; and
e education and training.

Companies that conduct electricity supporting business activities require the IUJPTL and SBU licences.

Oil and gas

The main regulation that governs the oil and gas industry in Indonesia is Law No. 22 of 2001 on Oil and Gas. It was last amended by Law No. 6 of 2023 on Stipulation of Government Regulation in Lieu of Law No. 2 of 2022 on Job Creation to become Law (Oil and Gas Law). Upstream and downstream oil and gas activities are further controlled by government regulations and MEMR regulations.

Upstream business activities (e.g., exploration and exploitation) are carried out by way of production sharing contracts entered into by the business entity and a special agency established by the government under the MEMR called the Special Task Force for Upstream Oil and Gas Business Activities (SKK Migas).

Downstream business activities (e.g., processing, transportation, storage, and commerce and trading) are carried out through a licensing mechanism in the form of a business licence that covers the relevant downstream business activities.

Mining

The mining industry in Indonesia is mainly governed by Law No. 4 of 2009 on Mineral and Coal Mining, which was last amended by Law No. 6 of 2023 on Stipulation of Government Regulation in Lieu of Law No. 2 of 2022 on Job Creation to become Law (Mining Law). The implementation of mining activities is further regulated by government and MEMR regulations.

To conduct exploration activities (including general surveys and feasibility studies) and production activities (e.g., construction, mining, processing, refining and smelting, development, and utilisation (including hauling and sale), and facilities to control environmental impacts based on the findings of feasibility studies), requires a mining permit (IUP).

If mining activities are conducted under a contract of work scheme, the contract with the government will remain valid until the end of the contract period. In order to continue production operations, a mining company must obtain a Special Mining Permit to Continue Contract/Agreement Operations.

For mining services business activities (e.g, mining construction, hauling, reclamation and post mining activities, general surveys, mining environment and safety, etc.) requires a Mining Services Business License (IUJP). A company engaged in hauling or transportation of mining products, or their sale, must obtain a Hauling and Sale Permit or a Mining Permit for Sale, respectively.

Geothermal

The main regulation on geothermal mining activities is Law No. 21 of 2014, amended by Law No. 6 of 2023 on Stipulation of Government Regulation in Lieu of Law No. 2 of 2022 on Job Creation to become Law (Geothermal Law). As with any other energy sector in Indonesia, geothermal business activities are further regulated by government and MEMR regulations.

Prior to the issuance of Geothermal Law, geothermal mining activities, especially for power or electricity generation, fell under the same regime as oil and gas, and so the production and utilisation of geothermal energy were conducted with joint operation contracts with Pertamina. Presidential Decree Number 22 of 1981 (as amended by Presidential Decree Number 45 of 1991) granted this wholly state-owned company the right to explore and exploit geothermal resources or energy for power generation in Indonesia. Pertamina's geothermal mining concession is now held by PT Pertamina Geothermal Energy (PGE).

After the adoption of the first geothermal energy law in 2003, geothermal mining activities no longer fell under a joint operation regime, but are conducted by way of permits (geothermal permits). Nevertheless, joint operation contracts that were signed prior to the issuance of the 2003 and 2022 geothermal laws remain valid until the end of their term.

A geothermal permit is issued by the MEMR after a relevant holder wins a tender for a geothermal working area conducted by MEMR. Such a permit holder can conduct geothermal exploration and exploitation within that working area. Tenders of geothermal working areas are normally for indirect use (i.e., to produce electricity), and in these cases, electricity generation activities are subject to the electricity regulations, permits and approvals set out above.

iii Ownership and market access restrictions

Except for power generation of less than 1MW, which is closed for foreign investment, there are no restrictions on foreign ownership within Indonesia's electricity, oil and gas, and geothermal energy sectors.

Under the current regulations, foreign investors may also acquire up to 100 per cent of shares in Indonesian mining companies, subject to a divestment obligation. Pursuant to Government Regulation No. 96 of 2021 concerning Implementation of Mineral and Coal Mining Business Activities, the holder of a mining permit (an IUP or an IUPK) must divest

at least 51 per cent of its shares, in stages during operation production stage, to the central government, regional government, state-owned companies, regional-owned companies or private companies.

iv Transfers of control and assignments

Electricity

In electricity sector, any transfer of shares in power generation companies or independent power producers (IPPs) which sells electricity to PT Perusahaan Listrik Negara (Persero) (PLN), Indonesia's state-owned electricity generation and distribution company, under power purchase agreements are subject to restrictions set out under Minister of Energy and Mineral Resources Regulation No. 48 of 2017 concerning the Supervision of Business Activities in Energy and Mineral Resources Sector (MEMR 48/2017). In this regard, MEMR 48/2017 differentiates between transfers of shares for non-geothermal IPP and those of geothermal IPP.

Non-geothermal IPP

For non-geothermal IPP, written approval must be obtained from PLN for to transfer shares prior to the commercial operation date. In any case, such transfers are only allowed to affiliated parties that are at least 90 per cent owned by the IPP shareholder intending to transfer its shares. In other words, the transfer of shares is only permitted to subsidiaries of the transferring shareholder, and transfers to non-affiliated parties are not permitted even with the PLN's approval. The transfer shall be approved by the IPP's shareholders and the Ministry of Law and Human Rights (MOLHR) must be notified no later than 30 days from the date of the notarial deed of general meeting of shareholders approving the transfer. The MEMR must be notified of every share transfer within five business days of the date MOLHR issues a notification receipt with respect to the transfer.

Geothermal IPP

MEMR 48/2017 distinguishes between a public and private sale of shares of geothermal IPP enterprises.

A geothermal IPP may transfer shares in Indonesia's stock exchange once the exploration phase is complete, subject to it receiving the MEMR's approval prior to the initial public offering (IPO) or the transfer of share ownership is recorded in the stock exchange.

The MEMR's approval is required before any secondary offering or rights issue is executed, and prior to a transfer of ownership being recorded in a stock exchange. The MEMR issues its approval or rejection of a share transfer via a public offering within 14 business days of receiving all of the required documentations. It is unclear whether the prohibition on the transfer of shares during the exploration phase applies to private sales. However, it is understood that the current applicable view from the Directorate General of New, Renewable Energy and Energy Conservation of the MEMR is that a geothermal IPP can privately transfer shares during exploration and exploitation phases.

The requirement to notify the MEMR of such transfers within five business days of notifying a stock exchange, and obtaining the MOLHR's approval , also applies to the transfer of shares in geothermal IPPs.

Oil and gas

The transfer of participating interest under a production sharing contract requires prior approval of the MEMR through the Special Task Force for Upstream Oil and Gas Business Activities (SKK Migas). If some or all of the participating interest in an oil and gas contractor is transferred to a non-affiliate or another company that is not a partner in the same working area, the MEMR may request that such a contractor to offer the participating interest to a national company.

For indirect transfer of participating interest by way of a transfer of shares of the oil and gas contractor, the MEMR's approval is required if the transfer is related to a majority shareholding, thus resulting in a direct change of control of such contractor. The granting of approval is based on consideration or recommendation provided to MEMR by SKK Migas. If the transfer of shares results in an indirect change of control of the contractor, a report regarding such a transfer must be submitted to the MEMR through SKK Migas. Additionally, the direct and indirect transfer of participating interest and resulting change of control are both subject to taxes imposed in accordance with the regulations.

Mining

Any share transfers in a mining company holding mining permits requires prior approval from the MEMR. The Mining Law expressly prohibits the transfer of shares in holders of mining permits without first securing the approval of MEMR. The MEMR's approval can be granted if the mining permit holder has completed the exploration stage, as evidenced by the availability of data of resources and reserves, and has fulfilled administrative, technical, environmental and financial requirements.

Under the previous regime, the maximum foreign ownership in a mining company was limited to between 49 to 70 per cent, subject to certain conditions. The current regulations no longer stipulate this restriction. Therefore, it can be interpreted that a foreign investor is now permitted to acquire up to 100 per cent of shares in an Indonesian mining company, subject to a divestment obligation. However, since this regulation was issued in 2021, in practice we have not yet seen any approvals from the MEMR on share transfers issued under this regime, especially regarding approving share transfers resulting in foreign shareholders holding more than 49 per cent of shares. The time period for MEMR to issue an approval is difficult to estimate as it varies: it can take months or even years for the MEMR to approve the transfer of shares in a mining company.

III TRANSMISSION/TRANSPORTATION & DISTRIBUTION SERVICES

i Vertical integration and unbundling

The public electricity supply industry consists of power generation, power transmission, power distribution and power sales.

Government Regulation 14 of 2012 on Electricity Supply Business as amended by Government Regulation 23 of 2014 (GR 14/2012) stipulates that a private power company or IPP may carry out power generation, transmission, distribution and sales in an integrated manner. However, the provisions under the Electricity Law that regulates these (and is the basis of the provision under GR 14/2012) is subject to Constitutional Court Decision No. 111/PUU-XIII/2015, dated 14 December 2016 (Decision 111/2015) against the claims submitted by a representative of the labour union of PLN. Decision 111/2015 does not annul the Electricity Law but found that Articles 10 (2) and 11 (1) of the Electricity Law,

which provide the right for an IPP company to carry out power generation, transmission, distribution and sales in an integrated manner to be 'conditionally unconstitutional'. This means that both articles remain legally binding, unless:

a The provision of integrated electricity or power supply activities under Article 10 (2) of Electricity Law is interpreted to justify unbundling practices in the electricity supply business for public interest, which results in the loss of the state's control over electricity supply and therefore contradicts the principle that electricity should be under the state's control.

b Article 11 (1), which stipulates that the business of supplying power for the public must be conducted by state-owned entities, region-owned entities, private entities, cooperatives and self-reliant communities engaged in the field of power supply, is interpreted as the state relinquishing control over the electricity sector in violation of the state's control principle. In its decision, the Constitutional Court stated that there is no prohibition on the involvement of private entities in the electricity sector as long as the government of Indonesia retains control over such involvement.

In general, Decision 111/2015 has no direct impact of the on the power sector in Indonesia, which has been confirmed by the Directorate General of Electricity (DGE) through Press Release No. 00122.Pers/04 dated 15 December 2016, which states that Decision 111/2015 advises the government to not issue any policy that may contradict the Constitution. The government still has control over the electricity sector through:

a determination of electricity tariffs;

b determination and approval of the business area for an electricity provider to distribute or sell its electricity;

c the procedure and issuance of licences in electricity sector; and

d approval of electricity price and lease of electricity network.

Based on the foregoing, we do not think Decision 111/2015 will have any major impact on the power industry in Indonesia. In practice, the power industry in Indonesia consists of disaggregated entities for the generation, transmission, distribution and (unbundled) sales, with most of the private power companies engaging in the power generation activities with PLN as the off taker. The transmission, distribution and sale to end consumers are generally still 'monopolised' by PLN.

There are a very limited number of private power companies that carry out power generation, transmission, distribution and sales in an integrated manner within one entity, and supply or sell to end consumers (bundled services). Most, if not all, of these private power companies or private power utility (PPU) companies in Indonesia supply electricity to industrial areas. One of the reasons why there is a very limited number of PPU companies in Indonesia, and bundled power supply activities, is because the number of approvals that must be obtained and the requirements are burdensome (i.e., business area approval, electricity tariff approval and the obligation to prepare a long-term business plan that must be approved by the MEMR).

Similar to electricity sector, the oil and gas industry in Indonesia is also a disaggregated industry. Mostly it is state-owned companies that own and operate different sets of facilities throughout the chain of production, transmission/transportation, and distribution in the electricity and oil and gas sectors.

ii Transmission/transportation and distribution access

The Indonesian law does not oblige the owners and operators of transmission/distribution facilities to provide access to third parties. However, MEMR Regulation No. 11 of 2021 on the Electricity Implementation (MEMR 11/2021) encourages the owners and operators of transmission/distribution facilities to provide access to third parties. MEMR 11/2021 provides that in meeting the quality and reliability standards of the electricity system, holders of integrated IUPTLs, IUPTLs for electricity transmission, IUPTLs for electricity distribution and IUPTLs, can carry out cooperation between holders of business licences in the form of, among other things, joint utilisation of electrical grid (power wheeling scheme).

Electrical grid joint utilisation includes transmission and distribution, which must match the capacity capability to distribute electricity in accordance with the required network capacity and the grid code.

Transmission and/or distribution grid that can be utilized jointly can be owned by the holders of:

a integrated IUPTLs;
b IUPTLs for electricity transmission;
c IUPTLs for electricity distribution; and
d IUPTLS for the transmission or distribution of electricity.

The owner of a transmission and distribution grid carrying out power transmission business will not be limited by business area and is obligated to open opportunities for a joint utilisation of its electricity transmission grid.

The owner of a power distribution business must be carried out in within one business area and must be open to opportunities for joint the utilisation of its electricity distribution grid.

The owner of the transmission and/or distribution grid may interconnect the electricity system by utilizing the transmission and/or distribution grid in the form of lease to holders of an integrated IUPTL that has a business area, an IUPTL for power generation or an IUPTLS.

Furthermore, it is to be noted that standards for the quality and reliability of the electricity system must be in accordance with the network rules for the relevant local system which include the grid code and electricity distribution rules. Grid codes in Indonesia cover the following areas:

a Java, Madura and Bali;
b Sumatera;
c Sulawesi;
d Kalimantan; and
e South East Nusa, Maluku and Papua.

iii Rates

The regulations do not provide a specific tariff or method or formula to calculate the transmission grid tariff for the supply and distribution of electricity. However, electrical grid lease price or tariff must be charged under the principle of sound business, and such a lease price or tariff must include all costs associated with the power transmission and distribution grid. Thus, generally, the lease price or tariff for the use of power transmission and distribution

grid is determined based on negotiation of the parties. The lease price or tariff agreed by the parties must be approved by the MEMR or governor (depending on the coverage of the transmission and distribution grid).

iv Security and technology restrictions

National interests are somewhat affected by security and technology restrictions, regulatory or legislative policies in Indonesia. In Indonesia, companies, in particular state-owned companies, have only recently begun to use advanced technology in transmission/transportation and distribution facilities. Generally, owners and operators of transmission/transportation and distribution facilities must adhere to security and technology legislation; particularly Law No. 27 of 2022 on Protection of Personal Data (the PDP Law), which applies to any type of business activities. The company must also ensure that its operation meets required security and technology standards.

Cybersecurity

Cybersecurity in Indonesia is quite extensively regulated. The government has attempted to address cybersecurity concerns through the following legislation, among other laws.

Law No. 27 of 2022 on Protection of Personal Data

This law has extraterritorial effect to the extent that any activity within its ambit has legal effect in Indonesia. Under the PDP Law, a business entity has the following obligations and requirements:

a a business entity must establish a lawful basis for processing (including sharing) Indonesian customers' personal data, which are:
- express consent;
- contractual necessity;
- legal obligation;
- vital interest;
- public interest; and
- legitimate interest;

b a business entity must obtain parental or guardian consent to process children's data in a recordable manner and substantiate evidence of consent;

c data subjects can sue and request compensation from a business entity if it is proven that the processing of personal data violates the laws and regulations;

d a business entity must notify the regulator and data subjects of all data breaches, regardless of scale, or whether any harm flows from the failure of to protect personal data;

e a business entity may have to perform impact assessments:
- on all automated decision-making (ADM) processing of personal data;
- all types of evaluation, scoring or systematic monitoring, including user engagements and certain content for targeting advertisements;
- all new features and algorithms that are implemented, as they may be considered as new technologies; and
- if ongoing processing of personal data limits the exercising of a data subject's rights.

Should it fail to comply with the above requirements, a business entity may face criminal sanctions (e.g., imprisonment, fines, closure of businesses, seizure of assets etc.), administrative

sanctions (e.g., written warnings, temporary suspensions of personal data processing activities, erasure or destruction of personal data, and administrative fines) or civil claims, due to damages arising out of the failure to ensure data protection obligations.

In the event of a personal data breach, a business entity must notify a data subject and the Ministry of Communications and Information Technology (MCIT) within 14 days. However, from 17 October 2024, the deadline will be 72 hours. If the business entity fails to notify a data subject of their personal data being breached, certain sanctions may be imposed on it, and it may be subject to a claim for damages.

Law No. 11 of 2008 on Electronic Information and Transaction, as amended by Law No. 19 of 2016

The EIT Law has extra-territorial effect to the extent any such activity is within the ambit of EIT law that has legal effect in Indonesia, requires any electronic system operator to provide electronic systems in a reliable and secure manner, and take responsibility for the proper operation of electronic systems. This security aspect covers the protection of electronic systems physically and non-physically, which should include the security of hardware and software.

Failing to comply with the above requirement, the relevant electronic system operator may face criminal sanction (e.g., imprisonment, fines, closure of business or seizure of assets); administrative sanctions (e.g., written warnings, temporary suspension of business, administrative fines, termination of access to the relevant interaction activity with electronic system (independent or within a network), or exclusion from the registry maintained by the MCIT).

Government Regulation No. 71 of 2019 on the Provision of Electronic Systems and Transactions

GR 71 requires electronic system operators to secure electronic information and electronic documents, and immediately report system failures or disturbances of the electronic system caused by the actions of third parties to law enforcement and relevant ministries and agencies.

Electronic system operators that fail to comply with the above requirements may face administrative sanctions (e.g., written warnings, temporary suspension of business, administrative fines, termination access, and exclusion from the registry maintained by the MCIT) and civil claims due to damages arising out of the unlawful processing of personal data.

As a preventive measure, the above legislation requires electronic system operators to maintain and implement:

a governance policies, (which must include an organisation structure, business processes, performance management and personnel-related polices), operational standards, and regular audit mechanisms;

b security procedures, facilities, and systems to prevent and mitigate security threats and attacks; and

c an audit trail of all operational activities of electronic systems, including personal data processing, for the purpose of supervision, law enforcement, dispute resolution, verification, testing, and other investigations.

Technology transfer restriction

The laws and regulations on technology transfers generally favours domestic interests. For example, those domiciled within Indonesian territory should be prioritised in transfers of technological-related intellectual property resulting from research and development. However, we believe that outbound technology transfers may be allowed once domestic priority requirements is fulfilled.

IV ENERGY MARKETS

i Development of energy markets

The electricity market has evolved. Under the revoked Law No. 15 of 1985 on Electricity, PLN held the sole right to provide electricity in Indonesia, and so monopolised the electricity sector.

In 2002, the government reformed the electricity business in Indonesia through the revoked Law No. 20 of 2002 on Electricity (2002 Electricity Law), which allowed private participation in the generation and retail sectors for the first time. Under the current Electricity Law, private participation is allowed in all electricity supply business activities, starting including electricity generation, electricity transmission, electricity distribution, electricity sales and integrated activities.

Indonesia's power industry is generally based on a capacity market with PLN as a major (and the largest) offtaker; only a small percentage of electricity produced is purchased or sold to private buyers and end-consumers as part of integrated electricity supply business activities by PPUs in industrial areas or through leasing schemes. The energy market for electricity in Indonesia is generally not a bid-for-sale or purchase-based market. The PLN holds a de facto monopoly for the transmission, distribution and supply of electricity, as it is mandated by the government and so has the public responsibility to supply electricity to all Indonesian people. Consequently, the Indonesia's energy market is basically driven by PLN, where bids for new power generation projects depend on PLN being the sole offtaker, which owns the transmission and distribution grid and sells the electricity to end-consumers. Although the regulations allow the private sector to actively participate in electricity supply business activities, as the licensing mechanism regulates electricity purchase prices and tariffs for end-consumer, which are also subject to approval by the government, it does not allow for the creation of an energy market that is entirely based on bids for sales or purchases. A similar situation also applies to the natural gas market as state-owned companies generally have the power to dominate the distribution market to end-consumers and gas prices are regulated by the government.

ii Energy market rules and regulation

Electricity

The Indonesian power sector is heavily regulated by the government. Therefore, almost every stage of power project development will involve the government, through the MEMR and other relevant ministries and the PLN. In principle, the PLN is granted 'first priority position' to supply electricity in the public interest, although other private companies can also supply electricity in the public interest, pursuant to the Electricity Law.

The Indonesian power market structure involves the following parties:

a the MEMR, through the Directorate General of Electricity and the Directorate General of New and Renewable Energy, which acts as a regulator and issues permits, licences, approvals and other authorisations;
b as Indonesia's state-owned company, PLN holds a mandate from the government to supply electricity to the Indonesian people, and so acts as the main offtaker and buys electricity generated by IPPs; and
c IPPs, as owners of power generation facilities sell electricity generated to the PLN or an IUPTL holder for distribution and sale; however, this is uncommon, due to the limited numbers of private entities that hold IUPTLs for distribution and sale in Indonesia.

Developers that intend to develop power projects in Indonesia and sell generated electricity to PLN, must participate in the procurement process run by PLN and bid on procured projects. The procurement of a power project by PLN is regulated under several ministerial regulations issued by the MEMR. In brief, the procurement can be done through:
a public tender, which applies to fossil fuel power plants;
b direct selection, which applies to new and renewable energy power plants; or
c direct appointment, which applies in certain circumstance, such as the expansion of existing power projects).

The winner of a bid (or an appointed IPP) will then enter into a power purchase agreement (PPA) with PLN.

In the geothermal power generation sector, PLN is mandated by the government to purchase the electricity from geothermal permit holders.

Oil and gas

As with electricity, the oil and gas sector is supervised by the MEMR. As the grantor of the relevant concession or working area, upstream oil and gas activity is controlled by the government, through the MEMR.

Upstream and downstream business activities may be carried out by state- and regionally-owned companies, cooperatives, small-scale businesses or private-business entities.

Upstream business activities can be conducted by permanent establishments (PE) of foreign incorporated enterprises. Due to the ring-fencing principle the oil and gas regulations, where only one production sharing contract can be granted to each PE or Indonesian limited liability company (PT), separate entities must be set up for each work or concession area. The MEMR determines and announces the work or concession area that will be offered to upstream business entities through tenders or direct selection. Following the tender process, and after coordinating with SKK Migas, the MEMR will announce and appoint the business entity or PE as the tender winner, which will act as a contractor and carry out the exploration and exploitation of the relevant work or concession area. Such contractors will then enter into a joint cooperation contracts, normally in the form of production sharing contract, with SKK Migas.

Upstream business entities are prohibited from engaging in downstream activities (and vice versa), except where an upstream entity must build transport, storage or processing facilities or other downstream activities that are an integral part to its exploitation activities.

iii Contracts for sale of energy

Individuals are not allowed to enter into production sharing contracts for the sale of electricity or natural gas under a PPA.

In electricity sector, only state- and regional-owned companies, private companies, legal entities, cooperatives and non-governmental organisations that can engaged in the supply of electricity. Similarly, in the natural gas sector, only business entities and PEs may enter production sharing contracts and conduct upstream business activities.

A PPA entered into by an IPP and PLN are subject to the minimum provision requirements stipulated under MEMR Regulation No. 10 of 2017 regarding Main Provisions for Power Purchase Agreements, as lastly amended by MEMR Regulation No. 10 of 2018 (MEMR 10/2017). MEMR 10/2017 requires a PPA, at a minimum, to incorporate terms governing:

a the PPA's duration;
b rights and obligations of the parties;
c risk allocation between the parties;
d performance guarantees;
e commissioning and commercial operation date;
f fuel supply;
g the operation management system; and
h penalties related to electricity generation performance, termination, assignment, price adjustment, dispute resolution and force majeure.

The purchase price under the PPA is also regulated under several regulations, among others, Presidential Regulation No. 112 of 2022 on the Acceleration of Renewable Energy Development for Power Supply (PR 112) for renewable energy power plant. PR 112 provides ceiling price for electricity purchased from renewable energy power plants based on the type of energy sources and locations.

Related to the upstream oil and gas business, a joint cooperation contract (JCC) between SKK Migas and the contractor consists of:

a a cost recovery production sharing contract;
b a gross split production sharing contract; and
c other JCCs (e.g., services contracts).

Pursuant to GR 35/2004, JCCs must explicitly stipulate the following provisions:

a ownership of oil and gas resources with the government until the point of delivery;
b management control over the operations carried out by the contractor lies with the executing agency; and
c all capital and risks are borne by the contractor.

Furthermore, the JCCs must contain the following main provisions, at a minimum, namely:

a state revenue;
b the work area;
c expenditure obligation;
d transfer of ownership of the production of oil and gas;
e term and condition of contract extension;
f dispute resolution;
g obligation to supply crude oil or natural gas for domestic needs;

h contract expiration;
i obligations after mining operations;
j occupational health and safety;
k management of the environment;
l transfer of rights and obligations;
m required reporting;
n field development plan;
o prioritising the use of domestic goods and services;
p development of the surrounding community and guaranteeing the rights of indigenous peoples; and
q prioritising the use of Indonesian workers.

iv Market developments

Currently, the government mainly focuses on the development of the renewable energy to meet the renewable energy mix percentage target of 23 per cent by 2025 and 31 per cent in 2050 as stipulated in the 2014 National Energy Policy. To support such goals, the government has issued, among others, several renewable energy-related regulations explained in Section V, as well as carbon tax and carbon trading regulations.

V RENEWABLE ENERGY AND CONSERVATION

i Development of renewable energy

The government recently issued several regulations in renewable energy sector. The following are worth noting.

Presidential Regulation 112

In September 2022, the president finally issued a long-awaited regulation that maps out a road towards cleaner power generation in Indonesia, in line with Indonesia's international climate-change commitments. The key features of PR 112 are as follows:

a A restriction on the operation and development of new coal-fired power plants (CFPPs), except for those that have been identified in the PLN's Electricity Supply Business Plan prior to the issuance of PR 112 or if they meet several requirements (e.g., those that will not be in commercial operation beyond 2050).
b An obligation on the PLN to accelerate the decommissioning of its CFPPs and those owned by IPPs by way of early termination of CFPP power purchase agreements with IPPs for the supply of electricity, while taking into account power supply and demand conditions.
c A government funding and financing framework to provide fiscal support to accelerate the decommissioning of CFPPs and the early termination of CFPP PPAs with IPPs, which includes blended financing sourced from state budgets and other sources aimed at accelerating energy transition in Indonesia.
d Two different purchase price mechanisms: the ceiling-price mechanism (taking into account, the location factor (F factor)) and agreed price mechanism.
    - In the ceiling price mechanism, the price is determined by negotiation, with an upper limit based on a ceiling price stipulated in the Annex to PR 112, and no escalation during the PPA period, save for geothermal power plants. Other

specific conditions on the ceiling price mechanism also apply for certain types of renewable energy power plants, such as those equipped with batteries or other power storage facilities. The PR 112 ceiling price requires MEMR's approval.

- The agreed price mechanism applies to hydropeak power plants, biofuel power plants and tidal/ocean thermal energy conversion power plants. Under the agreed price mechanism, the price is solely determined on negotiations between PLN and IPPs. Prices must be approved by the MEMR. Following PR 112 coming into force on 13 September 2022, agreed purchase prices must be evaluated on an annual basis having regard to the latest average contract price with PLN.

e PR 112 provides that the procurement of all forms of renewable energy power plants by PLN should be conducted through a direct selection process, except in certain circumstances, where a direct-appointment mechanism may be employed.

Presidential Regulation No. 98 of 2021 and Minister of Environment and Forestry Regulation No. 21 of 2022

In 2021, the government issued Presidential Regulation No. 98 of 2021 on Carbon Pricing for Achieving Nationally Determined Contribution Target and Controlling Greenhouse Gas Emissions in National Development (PR 98/2021), which was an attempt to implement the government's contribution of reducing greenhouse gas emissions to control climate change through carbon pricing and achieve nationally determined contribution (NDC) targets related to achieving the Paris Agreement commitment. Its key features are as follows.

Carbon pricing as an implementation to achieve NDC targets

PR 98/2021 sets out carbon pricing provisions to achieve NDC targets. The implementation of the carbon pricing is carried out at the sector level (comprising of energy, waste, industrial processes and product uses, agriculture, forestry, and other sectors in accordance with developments of science and technology) and sub-sector level (comprising of generation, transportation, building, solid waste, liquid waste, garbage, industry, rice fields, husbandry, farms, plantation, forestry, peat and mangrove management, and other sub-sectors in accordance with the development of science and technology.

Other sectors and sub-sectors will be determined by the MOEF by coordinating with the relevant ministers. Carbon pricing is conducted by ministries and agencies, local governments, business actors, and communities.

The implementation of carbon pricing is carried out using the following mechanisms:

a carbon trading;

b result-based payments;

c carbon levies; and

d other mechanisms as determined by MOEF, pursuant to developments in science and technology.

Transparency in achieving NDC targets

Efforts to achieve NDC targets through implementing climate change mitigation, climate change adaptations and carbon pricing are carried out in an accurate, consistent, transparent, sustainable and accountable manner through:

a measurement, reporting, and verification (MRV);

b the National Registry System for Climate Change Control (SRN); and
c greenhouse gas emission reduction certification.

Further detailed provisions on carbon pricing are set out in MOEF 21/2022, the implementing regulation of PR 98/2021.

ii Energy efficiency and conservation

One of the significant developments occurred related to the energy conservation is related to battery electric vehicles (BEV). In 2019, the president issued Presidential Regulation No. 55 of 2019 on the Acceleration of Battery Electric Vehicle Programs for Road Transportation (PR 55/2019). This regulation aims to outline the measures that will be taken by the government to promote and accelerate the implementation of various BEV programs in Indonesia to increase energy efficiency, security and conservation in the transportation sector, and to actualise clean energy, clean air and environment-friendly quality, as well as Indonesia's commitment to lower the greenhouse gas emissions.

PR 55/2019 sets out several main points to accelerate BEV programmes in Indonesia, namely:

a the development of a domestic BEV industry;
b incentives;
c provisions for charging stations and electricity tariffs for charging BEVs;
d technical requirements of BEVs; and
e environmental protections.

To support the implementation of PR 55/2019, the government recently issued Minister of Finance Regulation No. 38 of 2023 on Value-added Tax of Certain Four-Wheeled Battery-Based Electric Motorized Vehicles and Certain Bus Battery-Based Electric Motorized Vehicles Borne by the Government for the 2023 Fiscal Year, which sets out the provision of a VAT incentive the applies to electric cars and buses that already meet certain requirements of the domestic component level, as stipulated in Decree of the Minister of Industry No. 1641 of 2023.

iii Technological developments

To encourage technological development in the areas of renewable energy and conservation in Indonesia, the government is conducting its own research and study, and has issued regulations to encourage the use of new technology in these areas. The MEMR and other ministries are also actively developing projects that will create a new market for renewable energy, such as solar photovoltaic projects for cold storage facilities with the Ministry of Marine Affairs and Fishery, the idea of which is to integrate supply and demand sides to create a new market for renewable energy. This project intends to develop the next level of rural renewable energy, which is not just for lighting but also increases productivity and local economies.

Implementation of smart grids

Based on a publication issued by the International Renewable Energy Agency (IRENA) and the MEMR, the RUPTL 2021–2030 announced that a smart grid plan will be released later. Additionally, the government provided regulatory support for smart grid development through MEMR No. 143/K/20/MEM/2019, MEMR No. 39 K/20/MEM/2019 and Presidential Regulation No. 18/2020.

Recently, PLN also completed the first tender for an advance metering infrastructure (AMI) system, or a 'smart meter', to support the implementation and use of smart grids in Indonesia.

VI THE YEAR IN REVIEW

We anticipate that Indonesia's government will issue further regulations and policies to support the implementation of the energy transition. As the main offtaker of electricity in Indonesia, PLN is now focusing on the procurement of renewable energy power projects and we expect it will continue to do so in the future. We also see trends in takeovers of renewable energy companies from those developing smaller scale projects to large projects.

VII CONCLUSIONS AND OUTLOOK

The Indonesian government being a contracting party to the Paris Agreement, and its commitment to accelerate achieving its NDC targets will encourage the development of renewable energy and clean energy in Indonesia. In addition to issuing regulations on renewable energy to accelerate and encourage the development of clean energy and energy conservation projects, the government has also issued carbon tax and carbon trading regulations that will become effective in the upcoming year.

With the demand for clean energy and green electricity from private sectors, especially manufacturing companies, the development of renewable energy power plants and generation facilities (especially solar photovoltaic facilities) in Indonesia has steadily grown during the last years, despite some delays in the issuance of major regulations, such as PR 112 and MOEF 21/2022.