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South Korea
Michael Chang, Sang-Hyun Lee,
Su-Yong Jung and Dae-Hyuk Choi
Shin & Kim LLC

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Contributed by:
Michael Chang, Sang-Hyun Lee, Su-Yong Jung and Dae-Hyuk Choi
Shin & Kim LLC see p.16

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1. General Structure and Ownership of the Power Industry

1.1 Principal Laws Governing the Structure and Ownership of the Power Industry

The principal law that governs the ownership and structure of the power industry is the Electric Business Act. Electricity business as defined under the Electric Business Act includes the electricity generation business, electric transmission business, electric distribution business, electric sales business and district electricity business. The Electric Business Act provides for permits and approvals required by each business, structure of the electricity market, permits, approvals and safety requirements for electric facilities.

A distinctive feature of the Korean electricity market is that it is a cost-based pool market, under which the variable costs are reflected in the market price. The market price is determined not by price bidding but by summing the increase in actual variable costs for additional electricity supply (the system marginal price) and a separate capacity price that compensates for fixed costs.

The Korea Electric Power Corporation (KEPCO) exercised monopoly over the Korean electricity generation market until 2001, when the competitive market structure was implemented. Currently, independent power producers, including six subsidiaries of KEPCO, are engaged in the generation business. Entities engaged in the generation business and electric sales business must trade electricity through the Korea Power Exchange (KPX) in accordance with the Rules on the Operation of the Electricity Market. In Korea, KEPCO has monopoly over the transmission, distribution and sales markets, in contrast to other countries that have adopted a district monopoly system for the transmission and distribution markets or competitive system for electricity sales.

Although the competitive system has been introduced to the Korean generation market, KEPCO has vertical monopoly of certain segments of the electricity market.

1.2 Principal State-Owned or Investor-Owned Entities

As noted in **1.1 Principal Laws Governing the Structure and Ownership of the Power Industry**, KEPCO has monopoly over the transmission, distribution and sales markets and KEPCO's subsidiaries are the principal entities in the generation market.

KEPCO is a stock company established under the Korea Electric Power Corporation Act. Although it is listed on the Korean securities exchange, KEPCO is a market-based public corporation and its major shareholder (approximately 33% shareholding) is the Korean Development Bank, a 100% government-owned bank, which - together with the Korean government (approximately 18% shareholding) - holds approximately 51% of the shares.

KEPCO's six generation subsidiaries are:

- Korea South-East Power Co, Ltd., Korea Midland Power Co, Ltd, Korea Western Power Co, Ltd, Korea Southern Power Co, Ltd and the Korea East-West Power Co, Ltd, (thermal generation companies); and
- Korea Hydro & Nuclear Power Co, Ltd (hydro and nuclear generation company).

The six generation subsidiaries are wholly owned by KEPCO and as of 2019, KEPCO and its six generation subsidiaries generate approximately 70% of the total generation capacity.

1.3 Foreign Investment Review Process

Foreign investment in Korean entities is generally not restricted and unless otherwise provided under relevant laws, foreign investors are treated equally as domestic investors. The Foreign Investment Promotion Act offers certain incentives, such as tax reductions or exemptions and lease subsidies, to foreign investors that meet certain requirements. However, foreign investment in certain industries may be restricted by designation or public notice if foreign investment:

- threatens national security and public order;
- harms public health and sanitation or environmental preservation;
- is against Korean morals and customs; or
- violates any Korean laws or regulations.

Restrictions to Foreign Investment

The following restrictions apply to foreign investment in the power industry.

Under the Electric Business Act, if an investment in a nuclear power generation business is a foreign investment as defined by the Foreign Investment Promotion Act (investment amount of KRW100 million or more and 10% or more shareholding), the Minister of Trade, Industry and Energy (MOTIE) is required to revoke the nuclear power generation business permit. The Integrated Public Notice of Foreign Investment provides restrictions on the acquisition of shares issued by generation businesses that operate nuclear power generators (generally restricts 10% or more shareholding) and foreign-investment entities cannot obtain newly issued generation business permits for nuclear power generators.

Under the Financial Investment Services and Capital Markets Act, a foreign entity cannot acquire more than 3% of equity securities of a listed entities in certain industries essential to the national economy, including national key industries ("Public Purpose Corporation") (even if a foreign entity acquires more than 3% of equity securities of such listed entities, it may not exercise its voting rights for equity securities in excess of 3%). As KECPO is designated as a Public Purpose Corporation, the foregoing restrictions apply to the acquisition of KEPCO's shares.

1.4 Principal Laws Governing the Sale of Power Industry Assets

Apart from any merger control issues under the Monopoly Regulations and Fair Trade Act (the "Fair Trade Act"), which would generally, under the Electric Business Act (please refer to Section **1.1 Principal Laws Governing the Structure and Ownership of the Power Industry** for the URL to the English translation of the Electric Business Act), the following requires the approval of the Minister of MOTIE:

- acquisition of all or part of an electricity business,
- division or merger of an electricity business; or
- acquisition, for the purpose of exercising control, of 20% or more of an electricity business with generation facilities of power generation capacity of 20MW or greater, becoming the largest shareholder (Article 10(1)).

The acquirer must obtain the approval for modification before the closing of the relevant transaction. In practice, the approval of the Minister of MOTIE is immediately granted after passing the deliberation of the Electricity Regulatory Commission (commission established under MOTIE under the Electric Business Act). The general processing time for an approval for modification is one or two months from submission of the application.

The Electricity Regulatory Commission considers the following factors during its deliberation:

- whether the entity has the financial and technological capacity necessary to operate the electricity business;
- whether the entity will be able to carry out the electricity business as planned;
- for the distribution business and district electricity business, whether the business territory of two or more distribution business entities or the supply territory of two or more district electricity business entities will not fully or partially overlap;
- for the district electricity business, whether the entity will have the supply capacity of at least 60% of the total electricity demand in the particular supply district and the entity's district electricity business will not cause any disruptions in the electricity supply by other electricity business entities that supply to users residing in neighbouring districts;
- whether the concentration of electric power stations or fuels in a specific district will interfere with electric power systems;
- whether concentration in a specific fuel will interfere with electricity supply;
- compliance with the master plan for electricity supply and demand; and
- whether the achievement of the greenhouse gas reduction target will not be interfered with.

Photovoltaic Power and Minimum Requirements

In the case of photovoltaic power generation business, the Electric Business Act was recently amended to include, in addition to the above requirements that "the generation business shall have commenced in the preparatory period for the electric business". The implications of this amendment which comes to effect on 1 October 2020, is that for photovoltaic power generation business, the above approval cannot be obtained until the generation business has commenced in principle. Thus, conducting a transfer of an electric business for photovoltaic power generation has become more difficult, unless the transaction falls under the category of transactions which does not require obtainment of the above approval (for example, a share transfer which involves electric business operator with a power generation facility with a capacity of less than 20MW).

Although the Electric Business Act does not explicitly provide for minimum requirements, such as capital requirements, for an acquirer of a generation business, during its deliberation, the Electricity Regulatory Commission comprehensively considers not only the largest shareholder's financial and technological capacity but also whether the acquisition will affect the sustainable and stable operation of the generation business.

1.5 Central Planning Authority

MOTIE (mainly the Electric Power Division) is the central authority that overseas and administers the government's electricity supply policy. To stabilise electricity supply, MOTIE establishes the master plan for electricity supply and demand every two years, which includes:

- general direction for the supply and demand of electricity;
- long-term prospects for the supply and demand of electricity;
- plans for generation facilities and major transmission and substation facilities;
- management of electricity demand;
- evaluation of the master plan; and
- other matters deemed necessary for the supply and demand of electricity.

MOTIE also establishes and implements the electric business industry foundation plan; and must establish and publicly notify of standards to maintain the credibility of the electric power system. If the credibility of the electric power system is not maintained in accordance with such standards, harming the interest of consumers, the Minister of MOTIE, through the deliberation of the Electricity Regulatory Commission, may order the KPX or electricity business entities to take necessary measures.

The Electricity Regulatory Commission
The Electricity Regulatory Commission, established under MOTIE has the authority to deliberate on the following matters:

- electricity business license;
- approval of sale and acquisition of electricity business;
- approval of charges for use of transmission and distribution facilities;
- approval of electric sales entity's terms and conditions;
- maximum electricity trading price;
- approval of the Rules on the Operation of the Electricity Market;
- annual plan and results of the management of the credibility of the electric power system and establishment, amendment and repeal of related regulations; and
- reorganisation of the electricity industry, such as introduction of competitive systems.

The KPX was established as a separate entity under the Electric Business Act for the operation of the electricity market and electric power system. It is engaged in the establishment and operation of the electricity market, electricity trading, calculation of the volume of electric power traded and operation of the electric power system.

1.6 Recent Material Changes in Law or Regulation

As mention in **1.4 Principal Laws Governing the Sale of Power Industry Assets**, other than the restriction on the obtainment of an approval for the transfer of a photovoltaic power generation business which has not commenced business in the preparatory period for the electric business (which consequently puts a limitation on the capital gains), the following considerations should be noted regarding the amendment to the Electric Business Act which comes to effect on 1 October 2020.

When permitting photovoltaic, wind, and fuel cell power generation projects for which an environmental impact assessment and mini environmental impact assessment is necessary, it has become more important for the competent authority to ensure that local residents finds the relevant power generation project acceptable through the process of collecting opinions of the residents by giving prior notice on the details of the business.

In order to ease the administrative burden on small-scale photovoltaic power generation businesses with generation capacity of less than 3,000 KW, the permit process for photovoltaic power generation business is simplified by allowing that the development activities permit, which is required under the National Planning and Utilization Act, is deemed granted.

The obligation to restore mountainous areas has been strengthened such that if there is an order for an interim restoration from, for example, the head of Korea Forest Service, the restoration obligation for the relevant renewable energy facility installed in the mountainous areas should be performed prior to the electric power transaction. In the event the electric power transaction is conducted without complying with the order, the project may be suspended upon request by, for example, the head of the Korea Forest Service.

1.7 Announcements Regarding New Policies

Under the comprehensive plan on fine dust and master plan for electricity supply and demand and for the reduction of fine dust and environmental protection, the government is enforcing policies to discontinue or suspend springtime operation of coal-fired thermal power plants. Under coal energy reduction policies, taxation on coal will increase and taxation on LNG will decrease, and environmental power dispatch, which reflects environmental costs, will be adopted.

In particular, the draft of the 9th Basic Plan for Power Supply and Demand was announced recently on 8 May 2020. According to this plan, all coal generators which shall have operated for 30 years up until 2034 shall be replaced by LNG power generation. According to the plan, 30 out of 60 coal-fired units (15.3 GW) are expected to be abolished by 2034. New and renewable energy is anticipated to expand by 62.3GW via installation of new facilities by 2034 (totalling 40% of power generation facilities in 2034), and the proportion of new and renewable energy projects is expected to continuously increase in the future.

1.8 Unique Aspects of the Power Industry

As mentioned in **1.1 Principal Laws Governing the Structure and Ownership of the Power Industry**, a distinctive feature of the Korean electricity market is that it is a cost-based pool market. The price of electricity on the wholesale electricity market is not determined based on supply and demand, but on generation entities' expected costs and expected demand. More specifically, generators bid based on electric capacity without price bidding and KEPCO, having monopoly on demand, accepts the bid of the generator with the lowest variable costs and adjusts based on costs, not price.

The adjusted unit price is reviewed and determined by the costs assessment commission. The electricity price constitutes of the

system marginal price, which reflects variable costs, and capacity payment, which reflects fixed costs.

The price for electricity generated through new and renewable energy is also traded at the system marginal price for a particular point in time. In consideration of the variability of the system marginal price, a long-term fixed price contract system was introduced for new and renewable energy such as solar and wind power. In other words, when KEPCO's subsidiaries purchase electricity generated from solar and wind power, they sign a long-term contract for a contract term with approximately 20 years for a sum of the system marginal price and the renewable energy certificate price, and the power generation business operators are guaranteed to expect stable profits in long-term, even if the system marginal price varies from time to time.

1.9 The Impact of COVID-19

It appears that COVID-19 will not have a direct impact from a legal or policy perspective in relation to alternative energy sectors or industries. However, as with other construction projects or contracts, disputes may arise regarding the EPC contract related to the construction of new and renewable energy facilities or the delay or suspension of construction or supply in the facility supply contract. Therefore, it is important to clearly define whether or not a failure to fulfil a contractual obligation due to COVID-19 would be construed as a force majeure event, and specifically stipulate the allotment of risks for provisions such as adjustment of the contract price, extension of the deadline for any delays or suspension, early termination or liability for damages incurred.

2. Market Structure, Supply and Pricing

2.1 Structure of the Wholesale Electricity Market

The Electric Business Act also regulates the structure and functions of the wholesale electricity market (See **1.1 Principal Laws Governing the Structure and Ownership of the Power Industry** for the URL to the English translation of the Electric Business Act).

As noted above, an operator of the electricity generation business and an operator of the electric sales business must carry out electricity transactions in the electricity market in accordance with the electricity market operational rules. A subsidiary of KEPCO engaged in the operation of the electricity generation business and a private operator of the electricity generation business is in charge of electricity generation in accordance with the power supply instructions of the KPX, and the KPX, taking a neutral position, is in charge of the electricity market and the operation of the power system (including determination of the electric power sales price). KEPCO is in charge of supplying electricity to consumers by purchasing electric power at the price determined by the electricity market.

The electricity generation market is competitive, such that private generation business operators are generating electric power. However, since KEPCO's monopoly system is still maintained in the transmission and distribution of electricity and in the electricity sales business, there is no wholesale electricity market which is wholly competitive. Furthermore, there is no nodal pricing system.

See **1.1 Principal Laws Governing the Structure and Ownership of the Power Industry** and **1.8 Unique Aspects of the Power Industry** for details on the structure of the wholesale electricity market, electric power trading procedure and the price determination method.

2.2 Imports and Exports of Electricity

It is understood that the act of importing and exporting electric power is not specially prohibited by the relevant laws and regulations. However, whilst there are many cases in which a person who engages in the electricity generation business makes a profit by earning revenue through EPC contracts, O&M contracts, raw material supply or sales contracts and power facility sales contracts, there is no confirmed case exporting electricity generated within Korea to jurisdictions outside of Korea or importing electricity generated from other jurisdictions into Korea. This is because in order to import or export electricity, grid connection is required to connect the power with other countries, and yet, geographically, Korea is surrounded by the sea on the eastern, western and the southern borders and is separated from North Korea on the northern border, such that, in reality, South Korea is isolated as an "electric power system island".

As a result, electricity import and export through a grid system is not achieved. Recently, the government announced that it is pursuing the goal of joint use of clean energy sources by Northeast Asian countries through the so-called "Super Grid" connecting the South Korean-North Korean-Russian and the Korean-Chinese-Japanese electric power systems, but it is still understood as a plan at a declarative level only.

2.3 Supply Mix for the Entire Market

As of 2019, the approximate ratio of generation by fuel source is as follows:

- coal (bituminous coal plus anthracite coal) 40.4%;
- LNG 25.6%, nuclear 25.9%;
- new and renewables 5.2%;
- pumped-storage and others 2.9% (pumped-storage: generation of electricity by allowing water to fall through a turbine

generator after pumping the water from its lower reservoir to the upper reservoir with surplus power).

As of 2018, the amount of power generated by new and renewable energy consists of:

- 17.5% solar power;
- 4.7% wind power;
- 6.4% hydropower;
- 0.6% marine power;
- 1.2% geothermal energy;
- 0.1% hydrothermal energy;
- 24.9% bioenergy;
- 50.9% waste treatment;
- 2.1% fuel cell; and
- 2.0% IGCC (Integrated Gasification Combined Cycle).

2.4 Principal Laws Governing Market Concentration Limits

In the electricity business industry, including the power supply market, Korea does not specifically restrict the market dominance of specific operators in terms of market share. As mentioned, competition in the power generation market has been introduced, but KEPCO and its six power generation subsidiaries still account for more than 70% of the total power generation. KEPCO is monopolising the power transmission, distribution and sales markets. It is understood that the government has a broad range of authority over regulation of the electricity business based on the nature of electric power and the unique characteristics of electricity business industry, in return for allowing a vertically integrated monopolistic electricity business operator to engage in all of electricity power generation, transmission, distribution and sales.

However, even if KEPCO's monopoly is accepted in the electricity sales market, the electricity sales business operator under the Electric Business Act has the obligation to supply electric power, such that it is not permitted to deny the supply of electricity without a justifiable reason, pursuant to the license obtained according to the terms and conditions of electricity supply from the government (MOTIE). Likewise, electricity business operators are prohibited from engaging in unfair trade practices under the Fair Trade Act.

In this regard, the Korea Fair Trade Commission (KFTC) has the authority to regulate abuse of market-dominant positions and unfair trade practices.

2.5 Agency Conducting Surveillance to Detect Anti-competitive Behaviour

The Fair Trade Act is a general law that prohibits anti-competitive behaviour of a specific business in a specific market which provides for market surveillance and enforcement procedures. As explained above, the KFTC plays a role as the surveillance and regulatory authority on anti-competitive behaviour (corrective measures, imposition of fines, criminal prosecution, etc), and the governmental authority for the formulation of related regulations and policies.

On the other hand, MOTIE also has the authority to investigate, order measures, take disciplinary action, levy and collect fines, in the event an electricity business operator commits a prohibited act under the Electric Business Act, such as submitting false data about the electricity generated by the power plant to the KPX for the purpose of setting an unreasonably high price for electricity trading and unjustly discriminating against the end-user when providing usage of electric facilities for power transmission and distribution.

If an electricity business operator undertakes anti-competitive actions in the market, it may be subject to administrative dispositions such as corrective actions and administrative fines, as well as criminal penalties such as imprisonment and fines.

3. Climate Change Laws and Alternative Energy

3.1 Principal Climate Change Laws and/or Policies

In order to realise greenhouse gas (GHG) reduction and low carbon green growth, Korea enacted the Framework Act on Low Carbon, Green Growth (the "Green Growth Act") in 2009 and the "Act on the Allocation and Trading of Greenhouse-Gas Emission Permits" (the "Emission Permits Trading Act") in 2012, which is currently both in effect. The Green Growth Act is a framework law related to climate change, and the Emission Permits Trading Act was enacted to introduce the above system in accordance with the provisions of the Green Growth Act.

A business entity eligible for allocation of an emission permit under the Emission Permits Trading Act (a number of electricity business operators such as KEPCO and its power generation subsidiaries are designated as entities to be allocated such permit) shall report to the competent authority the amount of GHG emissions actually emitted in each performance year, and the competent authority shall evaluate the appropriateness thereof and certify the actual GHG emissions of the business entity in that particular year. The business entity eligible for allocation of an emission permit must submit to the competent authority the emission permit in compliance with the GHG emissions certified by the competent authority.

If GHG emissions under the emission permit which is allocated to the business entity is less than the actual GHG emissions of the business entity, such entity should purchase and provide the shortfall in the carbon emission trading market. In the event that the business entity fails to submit the emission allowance corresponding to the certified GHG emissions, an administrative fine that is three times the average market price of the emission permit in the performance year in which the emission obligation shall be carried out may be imposed for the deficit amount, within the range of KRW100,000 per tCO2-eq (1 ton of carbon dioxide).

3.2 Principal Laws and/or Policies Relating to the Early Retirement of Carbon-Based Generation

As set out in **1.7 Announcements Regarding New Policies**, the government has recently implemented policies such as closure of old power plants (coal) and suspension of operation during the spring season for the protective measures taken for the environment, such as comprehensive measures to manage fine dust pollution, the basic plan for power supply and demand, and the energy conversion roadmap.

Whilst the law currently does not enforce the early closure of old power plants, an amendment to the Electric Business Act has been initiated to establish a new clause for the closure of old power plants. The amendment proposes that "when a certain period of time as prescribed by the Presidential Decree has lapsed within a period of 25 years or more from the date of completion of the coal power plant, and there is a possibility that the power generation business operating the power plant may significantly affect the environment and the safety of the public", the operation of such power plan may be suspended for six months or less, or the permit revoked. In addition, if power generation business operator, for which the permit for the coal power generation business is revoked due to the foregoing reason, desires to start a power generation business after converting the power general fuel, the Minister of MOTIE may provide monetary support for a portion of the costs incurred thereby (the details of the requirements and level of, as well as the procedure for, the support have not yet been determined).

3.3 Principal Law and/or Policies to Encourage the Development of Alternative Energy Sources

To diversify energy sources through technology development and utilisation/supply of new and renewable energy and promotion of new and renewable energy industries, and to promote stable supply of energy, environment-friendly conversion of energy structure and reduction of GHG emissions, the Act on the Promotion of the Development, Use and Diffusion of New and Renewable Energy (the "New and Renewable Energy Act") is in operation.

Under the New and Renewable Energy Act, the term "new energy" includes hydrogen energy, fuel cells, energy from liquefied or gasified coal, and energy from gasified heavy residual oil, and the term "renewable energy" includes solar energy, wind power, hydroelectric power, marine energy, geothermal energy, bio energy converted from biological resources, and energy from waste materials.

The Renewable Portfolio Standards

The New and Renewable Energy Act introduced the Renewable Portfolio Standard (RPS) (as such, the feed-in tariff system, which was introduced in 2002, was suspended at the end of 2011 due to the adoption of the RPS system), providing that electricity generation business operator under the Electric Business Act, who own a power generation facility of a certain size (500MW) or more (the "mandatory supplier") is obliged to supply greater than a certain amount of new and renewable energy per year within a range of 10% of total amount of power generated. For the observance of the above obligation, electricity generation business operators shall obtain a Renewable Energy Certificate (REC) certifying the energy supply using new and renewable energy and submit the REC to the supply certification authority. More specifically, the system operates in accordance with the following procedure:

- designation of a mandatory supplier;
- imposition of mandatory supply;
- fulfilment of obligation;
- confirmation of performance; and
- imposition of fines.

The REC is issued based on the MWh unit computed by multiplying the weighted value by the actual amount of electricity supplied from the supply facility, and it certifies that the mandatory supplier has produced and supplied electricity using new and renewable energy facilities. A mandatory supplier may purchase a REC and appropriate it for mandatory supply. The government issues RECs with greater weighted value for electricity supply through certain new renewable energy sources (for example, photovoltaic or wind power linked to the Energy Storage System).

In addition, the mandatory supplier is granted monthly allowance from the KPX for a portion of the cost incurred in fulfilling the obligation to supply new and renewable energy. Such costs are indirectly reflected in the end-user's electricity consumption price and are not paid directly as tax or funded amounts.

4. Generation

4.1 Principal Laws Governing the Construction and Operation of Generation Facilities

The principal laws that govern the construction and operation of generation facilities are the Electric Business Act and Electrical Construction Business Act (Regarding the Electric Business Act, see **1.1 Principal Laws Governing the Structure and Ownership of the Power Industry** for the URL to the English translation).

As discussed above, the Electric Business Act provides for general regulations on the electricity business including:

- generation business permits;
- stabilisation of electricity supply, safety management of electric facilities and composition of the electricity market; and
- the KPX, Electricity Regulatory Commission and the Korea Electrical Safety Corporation.

The major approvals required under the Electric Business Act are the generation business permit, approval for the acquisition of a generation business (or change in largest shareholder), approval or report of the construction plan for electric facilities for electric utility and pre-use inspection. In general, the Minister of MOTIE (in certain circumstances, the mayor or do governor) has the authority to issue such permits, approvals and reports.

The Electrical Construction Business Act provides for the standards regarding construction, management and supervision of generation facilities and regulates the electrical construction business registration, orders for and subcontracting of electrical construction and technical management. The major approval required under the Electrical Construction Business Act is the registration of electrical construction business, which must be filed with the relevant local authority.

Administrative Regulations

Administrative regulations provide guidelines and elaborate on the obligations of generation business entities and the following are material regulations that affect the electricity industry: Specific Standards for Electricity Business Licenses, Standards for Calculation of Electric Utility Charge, Public Notice on Permissible Errors of Electric Meters and Operation of Electric Power System and Standards on Electric Facilities Technology.

All entities engaged in the electricity business have the obligation to maintain facilities that it has installed or operates to comply with such standards and are subject to regular inspections.

4.2 Regulatory Process for Obtaining All Approvals to Construct and Operate Generation Facilities

The regulatory process for obtaining all approvals can be categorised into the below five categories and the relevant laws are as follows:

- new and renewable energy policy: New and Renewable Energy Act;
- entry into and operation of generation business: Electric Business Act;
- construction, management and supervision of generation facilities: Electrical Construction Business Act;
- generation facilities site: National Land Planning and Utilization Act; and
- environment: Environmental Impact Assessment Act and various laws regulation emission of pollutants.

Obtaining Approvals

The general order for obtaining approvals are as follows:

- generation business permit under the Electric Business Act;
- development activity permit or urban planning facility decision under the National Land Planning and Utilization Act;
- if required, (small-scale) environmental impact assessment;
- approval of the construction plan under the Electric Business Act;
- construction of the electric facilities in accordance with the Electrical Construction Business Act;
- pre-use inspection of the electric facilities;
- test run;
- report of business commencement; and
- commercial operation.

Under the New and Renewable Energy Act, facilities utilising new and renewable energy must, within one month from pre-use inspection, additionally apply for REC facilities confirmation.

As noted in **1.4 Principal Laws Governing the Sale of Power Industry Assets**, the following factors are considered for the issuance of the generation business permit:

- whether the entity has the financial and technological capacity necessary to operate the electricity business;
- whether the entity will be able to carry out the electricity business as planned;
- for the distribution business and district electricity business, whether the business territory of two or more distribution business entities or the supply territory of two or more district electricity business entities will not fully or partially overlap;

- for the district electricity business, whether the entity will have the supply capacity of at least 60% of the total electricity demand in the particular supply district and the entity's district electricity business will not cause any disruptions in the electricity supply by other electricity business entities that supply to users residing in neighbouring districts;
- whether the concentration of electric power stations or fuels in a specific district will interfere with electric power systems;
- whether concentration in a specific fuel will interfere with electricity supply;
- compliance with the master plan for electricity supply and demand; and
- whether the achievement of the greenhouse gas reduction target will not be interfered with.

In addition to the above, as of 1 October 2020 when the new amendment to the Electric Business Act comes to effect, in the case of approving permits for photovoltaic, wind and fuel cell power generation businesses, the opinions of residents will be taken into account by providing prior notice to the residents (see **1.6 Recent Material Changes in Law or Regulation**).

Technical Capacity
An entity applying to register as an electrical construction business must have certain technical capacities (at least three electrical construction engineers); capital of at least KRW150 million (if a foreign entity establishes a Korean branch applies to register, the establishment capital of the Korean branch must be at least KRW150 million); and office for the operation of the electrical construction business. Generally, the project implementer does not register as an electrical construction business for the installation of electric facilities and EPC duties are subcontracted to entities that have obtained the electrical construction business permit.

The following standards must be complied with to obtain the development activity permit:

- the development plan must be in accordance with the development scale limits prescribed by the Enforcement Decree;
- the development plan must not run counter to any urban or local management/growth plans;
- the development plan must not impede any urban or local management/growth plans;
- the development plan must be harmonious with surrounding land usage, local environment, and scenery; and
- the infrastructure and securing of sites under the development plans must be appropriate.

If required under the Environmental Impact Assessment Act, full-scale or small-scale environmental impact assessment must be conducted. Opinion hearings of residents are required in certain stages, such as the development activity permit.

Processing time
Although it may vary based on the scale and location of the project, the general processing time is:

- one to three months for the generation business permit;
- if required, one year for a full-scale environmental impact assessment; and
- one year or more, excluding environmental impact assessment, for the development activity permit:
  (a) assessment based on the evaluation criteria: three months;
  (b) consultation and discussion with relevant administrative bodies: three months;
  (c) evaluation by the Urban Planning Commission: two to three months; and
  (d) evaluation by the Central Urban Planning Commission: two to three months.

The Minister of MOTIE's approval of the construction plan may require one to two months.

4.3 Terms and Conditions Imposed in Approvals to Construct and Operate Generation Facilities

Generally, generation business permits provide for obligations under the Electric Business Act regarding the installation and operation of electric facilities; and approval of division, merger or business acquisition and a generation business permit may be cancelled for violation of such obligations.

The following additional conditions are frequently imposed, although the conditions will vary for each business:

- must comply with the obligations under the Electric Business Act and other relevant laws and regulations;
- must commence operations within the approved preparation period and in the event of a cause of delay, must apply for extension before the installation period;
- must obtain approvals for required for development activity, construction, conversion of mountainous districts, occupation and use of roads under the Mountainous Districts Management Act, Building Act, National Land Planning and Utilization Act, Cultural Heritage Protection Act, Road Act and environmental laws;
- must conduct prior negotiations with relevant authorities if the generation capacity is to be modified during the process of obtaining the above approvals and must comply with the review of the relevant agencies;

- must report the construction plan to the relevant local authorities to commence construction under the Electric Business Act after obtaining the above approvals;
- must use best efforts to implement safety measures during construction to promote safety and minimise environmental damage and in the event of inevitable environmental damage, must restore without delay after construction completion; and
- must sufficiently gather and reflect the opinion of interested parties, including neighbouring land owners and residents, through information session and conduct the business after implementing measures to prevent civil complaints.

Other than modification approvals or reports, the Electric Business Act does not explicitly provide for required procedures to amend or relax a term or condition of a generation business permit. Accordingly, negotiations with the relevant authority will be required and if a term or condition of an approval violates the relevant laws and regulations, such term or condition will be deemed to be a separate measure of the relevant authority and may be challenged through administrative litigation.

4.4 Proponent's Eminent Domain, Condemnation or Expropriation Rights

Under the Korean Constitution, compensation for expropriation, use or restriction of private property for public necessity must be in accordance with the relevant laws and just compensation must be paid. The Act on Acquisition of and Compensation for Land, etc, for Public Works Projects (the "Land Compensation Act") provides that installation of electric business facilities under the Electric Business Act is a business for which land may be acquired or used under the Land Compensation Act. The Electric Business Act also allows for the use of a third party's land under the Land Compensation Act. Accordingly, land may be acquired or expropriated for the installation of electric business facilities and compensation must be paid. Under the Land Compensation Act, lump-sum compensation must be paid in cash to each individual and the amount of compensation is to be determined by an appraiser.

In general, government-led businesses and privately-led large impact businesses are acknowledged as public works projects and the majority of privately-led businesses are conducted through purchase, lease or establishment of surface rights on land. Issuance of the generation business permit may be restricted if land is not secured for the business. An entity that has obtained the approval public works project execution plan must prepare land and goods protocol, publicly announce, notify and make available the compensation plan, determine the compensation amount and negotiate with landowners and other interested parties. If negotiations are not concluded, compensation for expropriation or use are paid through alternative procedures such as adjudication by the relevant land tribunal and objection to adjudication. Compensation under the Act on the Compensation and Support for Areas Adjacent to Transmission and Substation Facilities may additionally be required.

Under the Electric Power Source Development Promotion Act, which provides for relaxed regulations, if an electric power source business entity obtains an approval of an execution plan for electric power resource development, it is deemed to have acquired all permits, licenses, decisions, designations, approvals, cancellations, agreements and measures required under each separate law. Upon approval of the execution plan, the electric power source business entity may also expropriate or use required land. Accordingly, expropriation and use rights may also be obtained under the Electric Power Source Development Promotion Act.

4.5 Requirements for Decommissioning

Under the Nuclear Safety Act, construction of nuclear power reactors and relevant facilities requires the permit from the Nuclear Safety and Security Commission and the permit application must include a decommissioning plan, which must thereafter be regularly renewed. The Nuclear Safety and Security Commission's approval is also required for the decommissioning of nuclear power reactors and relevant facilities (as noted in **1.3 Foreign Investment Review Process**, foreign investment in a nuclear power generation business is a cause for revocation of the nuclear power generation business permit). Generation businesses other than the nuclear generation business are not subject to specific decommissioning requirements except general obligations under environmental laws and construction laws.

If the generation facility site is within a mountainous district or farmland, a deposit for restoration is required. If the generation facility site is leased, the premises must be restored to the original state under the lease agreement with the lessor.

5. Transmission

5.1 Regulation of Construction and Operation of Transmission Lines and Associated Facilities

5.1.1 Principal Laws Governing the Construction and Operation of Transmission Facilities

The principal laws governing the construction and operation of transmission facilities is the Electric Business Act and Electrical Construction Business Act (see **1.1 Principal Laws Governing the Structure and Ownership of the Power Industry** for the URL to the English translation of the Electric Business Act, and **4.1 Principal Laws Governing the Construction and Opera-**

tion of Generation Facilities for the same regarding the Electrical Construction Business Act).

Under the Electric Business Act, transmission businesses must obtain a permit from the Minister of MOTIE. The registration of electrical construction business must be obtained in accordance with the Electrical Construction Business Act (see **4.1 Principal Laws Governing the Construction and Operation of Generation Facilities** for registration standards).

As discussed, KEPCO has monopoly over the Korean transmission market.

5.1.2 Regulatory Process for Obtaining Approvals to Construct and Operate Transmission Facilities

The factors considered for the issuance of the electricity business license (electricity business includes the generation business, transmission business, distribution business sales business and district electricity business), as noted in **4.2 Regulatory Process for Obtaining All Approvals to Construct and Operate Generation Facilities** also apply to transmission businesses.

Although KEPCO has monopoly over the transmission business, a power generator is generally obligated to construct transmission lines for grid connection at its own cost and responsibility. Also, the electricity plan, which is one of the documents submitted when applying for the electricity business license should include, among others:

- an opinion issued by KEPCO concerning the effect of grid connection; and
- an electricity transmission map.

Accordingly, it would be necessary to consult in advance with KEPCO about, among other things, where the transmission lines would be located. In such process, KEPCO may require that transmission lines be placed in different locations than originally planned.

Installation of Electrical Facilities
Under the Electrical Construction Business Act, electrical construction includes the installation of electric facilities. The Electric Business Act's definition of electric facilities includes facilities for generation, transmission, distribution, supply and use. Accordingly, the standards for the electrical construction business as mentioned in **4.2 Regulatory Process for Obtaining All Approvals to Construct and Operate Generation Facilities** also applies to construction of transmission facilities. Other procedures such as the development activity permit and environmental impact assessment also apply to the construction of transmission facilities. See **4.2 Regulatory Process for Obtaining All Approvals to Construct and Operate Generation Facilities** regarding the typical processing time.

5.1.3 Terms and Conditions Imposed in Approvals to Construct and Operate Transmission Facilities

See **4.3 Terms and Conditions Imposed in Approvals to Construct and Operate Generation Facilities**. As the Electric Business Act's definition of electric facilities includes facilities for generation, transmission, distribution, supply and use, the terms and conditions imposed in an electricity business license also apply, where relevant, to the transmission business and construction of transmission facilities.

5.1.4 Proponent's Eminent Domain, Condemnation or Expropriation Rights

As with the installation of generation facilities, installation of transmission lines require ownership, surface rights or lease rights for the installation site. As mentioned in **4.4 Proponent's Eminent Domain, Condemnation or Expropriation Rights**, under the Electric Business Act and Land Compensation Act, land may be acquired or expropriated for the installation of electric business facilities, which includes transmission facilities. Accordingly, the procedures for compensation mentioned in **4.4 Proponent's Eminent Domain, Condemnation or Expropriation Rights** apply.

5.1.5 Transmission Service Monopoly Rights

KEPCO has monopoly over the entire Korean transmission market, as compared to other countries' entities that have exclusive rights within a defined territory.

The Electric Business Act does not restrict the issuance of a transmission business permit to KEPCO, and KEPCO's monopoly over the transmission market is not explicitly provided for in the relevant laws or regulations or governmental authority's administrative measures. Historically, KEPCO had monopoly over the entire electricity market and in the early 2000s, a plan to implement competition in the electricity market in phases was introduced. After competition in the generation market was implemented, the next phases of the plan were suspended, resulting in the current structure of the Korean electricity market.

To prevent monopoly price and ensure the stable supply of electricity, the Electric Business Act requires the transmission business to:

- obtain the prior approval of the Minister of MOTIE regarding the charges for use of transmission facilities; and

- ensure that electricity businesses may use the transmission facilities without discrimination.

5.2 Regulation of Transmission Service, Charges and Terms of Service

5.2.1 Principal Laws Governing the Provision of Transmission Service, Regulation of Transmission Charges and Terms of Service

As noted in **5.1.5 Transmission Service Monopoly Rights**, the Electric Business Act provides for certain requirements to prevent monopoly price and ensure the stable supply of electricity (see **1.1 Principal Laws Governing the Structure and Ownership of the Power Industry** for the URL to the English translation of the Electric Business Act). It also regulates the charges for use of transmission and distribution facilities. The transmission business must obtain the approval of the Minister of MOTIE regarding the charges for use and other terms and conditions and before the approval of the Minister, deliberation of the Electricity Regulatory Commission is required.

In accordance with the above requirements, KEPCO provides for the regulations on the use of transmission and distribution facilities, which has been approved by the Minister of MOTIE. Under the Enforcement Decree of the Electric Business Act, the following must be included in such use regulations:

- use charges;
- method of calculation of volume traded and use charges;
- liabilities between the transmission business and distribution business and liabilities between the transmission and distribution businesses and users of the transmission and distribution facilities;
- method and procedure for application for use of the transmission and distribution facilities;
- standards and payment method of costs to be borne by transmission and distribution facilities users;
- access point and standards for access between the transmission and distribution businesses and users transmission and distribution facilities users; and
- any other matters regarding the protection of the transmission and distribution facilities users' interests.

5.2.2 Establishment of Transmission Charges and Terms of Service

The approval criteria for the usage charges for the use of transmission and distribution facilities and other usage conditions, as well as the criteria for the approval for change, are as follows:

- the usage fee should be an amount which is equal to a reasonable cost plus a reasonable profit;
- the use of electric facilities is free from discrimination; and
- the relationship of rights and obligations with respect to the use of electric facilities shall be clearly specified.

According to MOTIE Notification, "Standard for Calculation of Transmitted Electricity Usage Charges", the transmission charge should be determined at a level that compensates for the overall cost of transmission. The total cost is the sum of the appropriate cost for transmission business plus the appropriate investment compensation incurred under good faith and efficient management. The appropriate cost is the amount obtained by deducting a part of non-operating income and expenses and the asset depreciation from the cost of sales related to the transmission business, general administrative expenses, and appropriate corporate income tax.

The appropriate amount of investment compensation is defined as the appropriate compensation for the actual invested assets that are directly utilised in connection with the transmission business. Such amount is calculated by multiplying the "appropriate investment compensation ratio" determined at a level that can harmonise the corporate performance and the public interest in consideration of factors such as capital cost of transmission business, risk, interest rate, inflation rate, reinvestment and expansion plan of the fiscal year, repayment plan of principal, and price prospects, by the "base fee" based on the sum of the average net operating facility assets at the beginning of the fiscal year and at the fiscal year-end, the working capital for a certain period, and the assets under construction by self-financing for the fiscal year under review.

Transmission Charge System

The transmission charge system is composed of basic charge and usage fee, and it should be structured so that the burden on the users of the electricity transmission facility is fairly maintained and the resources are distributed reasonably based on the cost of transmission business.

The Electric Business Act does not explicitly stipulate how an electricity transmission business operator shall contest the approval of the Minister of MOTIE in relation to the regulation for the use of transmission facilities. However, if the license is illegal or unfair, KEPCO will be able to contest it in accordance with the general principles and procedures of administrative litigation. Whilst there is no explicit procedure for a complaint to be raised about the current regulation, but one can submit an application for the change to the license conditions by attaching the statement of grounds for change.

5.2.3 Open-Access Transmission Service

As described in **5.2.2 Establishment of Transmission Charges and Terms of Service** "the use of electric facilities without discrimination shall be guaranteed" is one of the licensing criteria in the facility usage regulation.

The usage regulation provided by KEPCO also provides that "KEPCO, in providing usage of electricity transmission and distribution facilities, shall ensure that the customers are able to use such facilities without being unfairly discriminated against" (customers include both consumers in demand and power generators).

If a customer makes an application to use KEPCO's transmission and distribution facilities, KEPCO shall conduct a technology review of the access plan and make an offer of connection to the customer. The customer shall accept the offer and KEPCO shall allow the customer to use the transmission and distribution facilities by negotiation and execution of a Term of Use agreement with the customer within one month after KEPCO receives the acceptance of offer notice.

6. Distribution

6.1 Regulation of Construction and Operation of Electricity Distribution Facilities

6.1.1 Principal Laws Governing the Construction and Operation of Electricity Distribution Facilities

The main laws governing the construction and operation of the distribution facilities are also the Electric Business Act and the Electrical Construction Business Act (see **1.1 Principal Laws Governing the Structure and Ownership of the Power Industry** for the URL to the English translation of the Electric Business Act, and **4.1 Principal Laws Governing the Construction and Operation of Generation Facilities** for the same of the Electrical Construction Business Act).

Under the Electric Business Act, a license is required for the electricity business operation and the authority to grant such license is with the Minister of MOTIE in principle. For the construction of electricity distribution facilities, the electricity construction business should be registered according to the Electrical Construction Business Act (see **4.1 Principal Laws Governing the Construction and Operation of Generation Facilities** for registration standards).

Meanwhile, Korea's electricity distribution market is also dominated by KEPCO, as mentioned above.

6.1.2 Regulatory Process for Obtaining Approvals to Construct and Operate Distribution Facilities

Since the Electric Business Act stipulates the provisions for the transmission facilities and the distribution facilities in parallel and applies the same rules, therefore please refer to **5.1.2 Regulatory Process for Obtaining Approvals to Construct and Operate Transmission Facilities** for details.

6.1.3 Terms and Conditions Imposed in Approvals to Construct and Operate

See **4.3 Terms and Conditions Imposed in Approvals to Construct and Operate Generation Facilities**. (The electricity business is inclusive in that it is referred to all electricity related businesses such as the electricity generation business and the electricity distribution business. The conditions of the electricity business license (EBL) applies similarly to the distribution business.)

6.1.4 Proponent's Eminent Domain, Condemnation or Expropriation Rights

As for the installation of electricity distribution facilities, the right of ownership such as land on the business site or the right of superficies, lease, etc, shall be required as in the case of installation of electricity generation facilities. However, since the projects recognised as projects for public benefit under the Land Compensation Act and the Electric Business Act, for which the acquisition, acceptance, or use of the land are recognised are installation businesses for installation of electric facilities for the electricity business, and given the electricity business and installation of electric facilities include the electricity distribution business and electricity distribution facilities, the same procedure with regard to the business site of power generation facilities is applied. See **4.4 Proponent's Eminent Domain, Condemnation or Expropriation Rights**.

6.1.5 Distribution Service Monopoly Rights

Unlike countries like Japan, UK, France, and USA, where the transmission/distribution market has a monopolistic structure, the Korean distribution market is also dominated by KEPCO (that is, it is not a monopoly by region, but an exclusive structure where KEPCO is the exclusive operator of the entire transmission market in Korea). See **5.1.5 Transmission Service Monopoly Rights**.

6.2 Regulation of Distribution Service, Charges and Terms of Service

6.2.1 Principal Laws Governing the Provision of Distribution Service, Regulation of Distribution Charges and Terms of Service

Since the Electric Business Act stipulates the provisions for the transmission facilities and the distribution facilities in parallel and applies the same rules, see **5.2.2 Establishment of Transmission Charges and Terms of Service** for details.

6.2.2 Establishment of Distribution Charges and Terms of Service

Since the Electric Business Act stipulates the provisions for the transmission facilities and the distribution facilities in parallel and applies the same rules, therefore please refer to **5.2.2 Establishment of Transmission Charges and Terms of Service** for details.

Whilst there is a notice for "standard for calculation of distributed electricity usage fee" separate from the notice for "standard for calculation of transmitted electricity usage fee" from MOTIE, the contents of the two are almost the same. Thus, the explanation for "transmission" of electricity in **5.2.2 Establishment of Transmission Charges and Terms of Service** can be read as "distribution" of electricity.

Shin & Kim LLC is one of Korea's largest law firms, with offices in Seoul, Pangyo, Beijing, Shanghai, Ho Chi Minh City, Hanoi and Jakarta. With more than 580 professionals, it provides comprehensive legal services to clients including Fortune 500 companies, Korean conglomerates, foreign and domestic financial institutions, small and medium-sized enterprises and government agencies. Shin & Kim LLC is consistently recognised by prominent international legal publications as one of the foremost law firms in M&A, banking and finance, antitrust, labour, projects and energy, construction, real estate, TMT and dispute resolution/litigation. The firm's projects and energy team provides legal advice in various energy and infrastructure projects, including photovoltaic, wind and fuel cells power generation projects, and has been at the forefront of advising clients on related energy regulation issues. The team also has a wealth of experience in overseas and domestic projects. Clients include the National Pension Service, mutual aid associations, banks and insurance companies, and global renewable energy developers which make investments in various energy and infrastructure projects at home and abroad.

Authors

Michael Chang is a senior foreign attorney at Shin & Kim LLC whose principal areas of practice are project finance, infrastructure, energy (including renewable energy) and M&A. Michael has broad commercial law experience ranging across a number of jurisdictions, including Australia, Singapore, Indonesia, Cambodia, the Philippines, Peru, USA, Canada and Vietnam. He has acted for banks, infrastructure funds, strategic investors and governmental agencies in a wide range of sectors, including infrastructure, media, power, mining, property development, hotels and transport. Michael has the depth of experience and expertise to assist a client in reaching its commercial objectives in Korea.

Sang-Hyun Lee has advised clients in various types of banking and finance transactions. He is highly experienced in energy, renewable energy, waste-to-energy, natural resources, rail, roads, bridges, tunnels, ports, power generation and other infrastructure projects and has particular expertise in the preparation and negotiation of project financing documents. Sang-Hyun is well reputed in providing proactive advice to clients based on his insight, expertise and experience on all aspects of projects across different sectors. Sang-Hyun is dedicated to providing the most reliable advice to clients and his practice is motivated and focused on the client's needs.

Su-Yong Jung is a partner of Shin & Kim. He is an expert in all aspects of energy regulation and has developed a reputation in the market that is seeing clients migrating from other firms to him. He continues to be the market-leading energy regulatory expert, and features in all domestic and outbound energy projects that the firm is involved in.

Dae-Hyuk Choi was recently promoted to a partner. With extensive knowledge of energy-related policies and regulations in Korea, he is deeply involved in most of the firm's renewable energy and infrastructure projects. He is also expanding his practice into cross-border infrastructure projects and PPP projects. He has written various articles and books on Korean energy law, including International Construction and Energy Law (2017, co-authored with Su-Yong Jung).

Shin & Kim LLC

23F, D-Tower(D2)
17 Jongno 3-gil
Jongno-gu
Seoul 03155
Korea

Tel: +82 2 316 1708
Fax: +82 2 756 6226
Email: shinkim@shinkim.com
Web: www.shinkim.com