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Contents

Nagashima Ohno & Tsunematsu is one of the foremost providers of international and commercial legal services based in Tokyo. The firm has over 450 lawyers, including over 30 experienced foreign attorneys from various jurisdictions, and its overseas network includes offices in New York, Singapore, Bangkok, Ho Chi Minh City, Hanoi and Shanghai, and collaborative relationships with prominent local law firms throughout Asia and other regions. The firm regularly advises leading power utilities, trading companies and investors on their energy projects as well as regulatory matters, and financial institutions on financing on those projects. The firm has dealt with a number of renewable power projects since the introduction of the feed-in tariff in Japan. The firm represented Tokyo Electric Power Company Group on establishing an alliance platform with Chubu Electric Power Co, Ltd in the fuel and power business (including the establishment of a joint venture company, JERA).

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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 Electricity Business Act (Act No 170 of 1964, as amended) governs the electricity business in general.

The structure of the power industry of Japan was formulated during General Headquarters' (GHQ's) occupation after World War II when nine vertically integrated companies (together with Okinawa Electric Power Company, Incorporated, 'Major Utilities') were incorporated on 1 May 1951 pursuant to a GHQ directive. Each of the nine companies was granted a regional monopoly (in 1972 when Okinawa was returned from the USA, Okinawa Electric Power Company was incorporated and it monopolised the electricity business in Okinawa). The exception to such vertical integration was limited to two wholesale electricity generators, (i) Electric Power Development Co, Ltd. (also known as 'Denpatsu' or, since 2002, 'J-Power'), which was incorporated in 1952 as a State-owned company (with 40% of the shares being held by Major Utilities) to supplement the generation capacity of the nine companies, and (ii) Japan Atomic Power Company, which was incorporated in 1957 to promote the development of nuclear power plants by Major Utilities and J-Power.

The vertical integration and the regional monopoly in the generation sector, the transmission and distribution sector and the retail sector have been gradually relaxed and liberalised since 1995.

With respect to the generation sector, the regime of independent power producers (IPPs) was introduced and the generation and wholesale of electricity was liberalised.

The retail sector was also partially liberalised by way of the introduction of a Power Producer and Supplier (PPS) licence. A PPS can sell its generated electricity to large-volume purchasers (50 kW or more).

As an exception to the regional monopoly of the transmission and distribution sector as well as the vertical integration, a Specified Electricity Business operator licence was established, where a holder of such licence sells its generated electricity to consumers in a very limited geographical area through the transmission and distribution network that it operates and maintains on its own in such area.

In 2003, an electricity wholesale market, Japan Electric Power Exchange (JEPX), was established to provide a liquid market of electricity.

In 2004, J-Power was privatised through being listed on the Tokyo Stock Exchange.

Since 2013, the power industry has been in the middle of a structural reform that consists of (i) establishing a system to efficiently manage electricity generated by power producers in the country across the transmission networks, (ii) full liberalisation of the retail sector and (iii) 'legal unbundling' of the transmission and distribution sector from the generation and retail sector (for more details, please see **1.6 Recent Material Changes in Law or Regulation**).

Under the current Electricity Business Act, there are five types of regulated business:

- Electricity Generation Business (*hatsuden jigyo*);
- General Electricity Transmission and Distribution Business (*ippan sohaiden jigyo*);
- Electricity Transmission Business (soden jigyo);
- Specified Electricity Transmission and Distribution Business (*tokutei sohaiden jigyo*); and
- Retail Electricity Business (*kouri denki jigyo*).

The Electricity Generation Business is the business to generate and sell electricity to retail sellers and the Retail Electricity Business is the business to sell electricity to consumers.

With respect to the transmission and distribution sector, the General Electricity Transmission and Distribution Business corresponds to the transmission and distribution segment of the business that each of the Major Utilities or their wholly-owned subsidiaries has conducted since its inception and, even after the structural reform, will be conducted by the wholly-owned subsidiaries of the Major Utilities with a privilege of regional monopoly. The General Electricity Transmission and Distribution Business is not limited to the operation and maintenance of the transmission and distribution network but also carries the responsibility to provide ancillary services such as supply-demand adjustment and frequency control in the region where the transmission and distribution network is maintained.

The Electricity Transmission Business is an exception to non-separation of transmission and distribution and it is the business to transmit electricity to the General Electricity Transmission and Distribution Business operator through the transmission lines that it operates and maintains on its own. Unlike the General Electricity Transmission and Distribution Business, an operator of Electricity Transmission Business is not responsible for providing the ancillary services as described in the previous paragraph. The Specified Transmission and Distribution Business is the business introduced in 1995 as part of liberalisation of the power industry as described above.

1.2 Principal State-owned or Investor-owned Entities

With the exception of more than 50% of the shares in Tokyo Electric Power Company Holdings, Incorporated that are held by the Nuclear Damage Compensation and Decommissioning Facilitation Corporation, a quasi-governmental institution established in response to the Fukushima nuclear incident in 2011, half of whose capital is funded by the government, Major Utilities are investor-owned companies whose stock is listed on a stock exchange in Japan and freely traded in the market.

Generation

As of the end of April 2019, there are 763 Electricity Generation Business licence-holders.

The principal Electricity Generation Business Operators are Major Utilities or their wholly-owned subsidiaries (JERA Co., Inc.; Tokyo Electric Power Company Holdings, Incorporated; Chubu Electric Power Company, Incorporated; The Kansai Electric Power Company, Incorporated; Tohoku Electric Power Company, Incorporated; Kyushu Electric Power Company, Incorporated; The Chugoku Electric Power Company, Incorporated; Hokkaido Electric Power Company, Incorporated; Hokuriku Electric Power Company, Incorporated; Shikoku Electric Power Company, Incorporated; and The Okinawa Electric Power Company, Incorporated) and J-Power.

Transmission and Distribution

As of the end of April 2019, there are ten General Electricity Transmission and Distribution Business licence-holders, three Electricity Transmission Business licence-holders and 31 Specified Electricity Transmission and Distribution Business licence-holders.

The main transmission and/or distribution network operators are Major Utilities or their wholly-owned subsidiaries (TEPCO Power Grid, Incorporated; The Kansai Electric Power Company, Incorporated; Chubu Electric Power Company, Incorporated; Tohoku Electric Power Company, Incorporated; Kyushu Electric Power Company, Incorporated; The Chugoku Electric Power Company, Incorporated; Hokkaido Electric Power Company, Incorporated; Shikoku Electric Power Company, Incorporated; Hokuriku Electric Power Company, Incorporated; and The Okinawa Electric Power Company, Incorporated) and J-Power.

Retail

Since 1995, the Retail Electricity Business has been gradually liberalised. After full liberalisation of the retail electricity market in 2016, the number of licence-holders of Retail Electricity Business has grown significantly from 57 in August

2015 to 588 in May 2019. Although most of them are investor-owned companies, there are some retail electricity suppliers owned by municipal governments.

The main retail electricity suppliers are Major Utilities or their wholly-owned subsidiaries (TEPCO Energy Partner, Incorporated; The Kansai Electric Power Company, Incorporated; Chubu Electric Power Company, Incorporated; Tohoku Electric Power Company, Incorporated; Kyushu Electric Power Company, Incorporated; The Chugoku Electric Power Company, Incorporated; Hokkaido Electric Power Company, Incorporated; Shikoku Electric Power Company, Incorporated; Hokuriku Electric Power Company, Incorporated; and The Okinawa Electric Power Company, Incorporated) and ENNET Corporation.

It is noted that those principal retail electricity suppliers (except for ENNET Corporation) occupy a dominant share of electricity supply. As of February 2019, the sales share of the electricity supplied by other retail suppliers (including ENNET Corporation) is approximately 14.6%.

1.3 Foreign Investment Review Process

The Electricity Business Act (as of 1 October 2017 and further amendments are not reflected) does not provide any nationality requirement on a licence of electricity business or any restriction with respect to foreigners holding a share in an operator of an electricity business.

Under the Foreign Exchange and Foreign Trade Act (Act No 228 of 1949, as amended), however, a foreign investor may not invest in an unlisted power company or own 10% or more of the shares of a listed power company unless he makes an ex ante notification and the required waiting period elapses. In principle, the length of the waiting period is 30 days, but it may be shortened to two weeks or extended up to five months, at the discretion of the government.

In the meantime, the waiting period is shortened to five business days if an investment falls within one of the following categories:

- to incorporate a wholly-owned subsidiary in Japan or acquire equity in or debt of such subsidiary, or to open a branch in Japan ('greenfield investment');
- to acquire additional equity in a Japanese company without changing its shareholding therein and with no change in the management structure thereof, within six months from the most recent acquisition of equity therein for which the ex ante notification was made ('rollover investment'); and
- to acquire equity in or debt of a Japanese company as a passive investor having no voting right on material management matters ('passive investment').

In reality, approximately 90% of ex ante notifications made in 2015 with respect to investments over which the Ministry of Economy, Trade and Industry (METI) holds jurisdiction (including investments in the energy sector) fell into one of those three categories and thus were cleared within five business days.

If, during the waiting period, the Ministry of Finance (MOF) or METI has decided that the investment may undermine national security, public order, or public safety, or adversely affect the national economy, MOF and METI may issue a warning to change the terms of, or surrender, the investment, and if the investor does not respond to the warning or expresses his intention to disobey the warning, MOF and METI may issue an order to change the terms of, or surrender, the investment.

At the time of writing, the only precedents are the warning to surrender investment and the order to surrender investment, each of which was issued in 2008 against the Children's Investment Fund, which intended to increase its shareholding in J-Power from 9.9% to 20% by acquiring additional shares.

1.4 Principal Laws Governing the Sale of Power Industry Assets

The Electricity Business Act regulates (i) the sale of a whole business, (ii) an amalgamation and merger, and (iii) a corporate split (collectively, 'Business Transfer'), which may be made by an operator of electricity business.

Under the Electricity Business Act, an operator of (i) Electricity Generation Business, (ii) Specified Electricity Transmission and Distribution Business or (iii) Electricity Retail Business may implement a Business Transfer at its own discretion, while an operator of (i) General Electricity Transmission and Distribution Business or (ii) Electricity Transmission Business may not implement a Business Transfer without the approval of METI, failing which, the Business Transfer will not take effect.

Further, the Electricity Business Act requires an operator of (i) General Electricity Transmission and Distribution Business or (ii) Electricity Transmission Business to make an ex ante notification to METI if it sells or disposes of the facility employed for its business. If METI considers that such sale or disposition adversely affects the operation of its business, METI may issue an order to change the terms of or surrender such sale or disposition.

A person who has acquired facilities used for electricity business must submit an ex post facto notification to METI under the Electricity Business Act.

The Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors (Act No 166 of 1957,

as amended) provides that an operator of a nuclear plant may not implement (i) amalgamation and merger or (ii) corporate split without the approval of the Nuclear Regulation Authority (NRA). In addition, a person who intends to acquire a nuclear power plant must obtain the permission of the NRA before the transfer.

More generally, under the Act on Prohibition of Private Monopolisation and Maintenance of Fair Trade (Act No 54 of 1947, as amended), if merger, amalgamation, company split or transfer of business substantially restrains competition in a particular field of trade, the Japanese Fair Trade Commission (JFTC) may issue an order to forbid such actions or to change the terms of such actions.

www.nsr.go.jp/data/000067232.pdf (as of 1 March 2014 and further amendments are not reflected)

www.japaneselawtranslation.go.jp/law/detail/?ft=2&re=2&dn=1&yo=%E7%8B%AC%E5%8D%A0%E7%A6%81%E6%AD%A2&ia=03&ph=&x=0&y=0&ky=&page=2 (as of 1 April 2015 and further amendments are not reflected)

1.5 Central Planning Authority

The ministry responsible for energy policy is METI, and the Agency for Natural Resources and Energy (ANRE), an institution under METI, is in charge of proposing an energy policy and implementing the energy policy adopted by the government. In particular, ANRE is given an independent authority to promulgate rules to implement the energy policy of the government. As such, except for safety regulations, most of the regulatory matters of the electricity industry are delegated to ANRE.

As a part of the structural reform of the electricity industry since 2013, the Organisation for Cross-regional Co-ordination of Transmission Operators (OCCTO) was established in 2015. OCCTO is not a State-owned organisation and all licensed operators of electricity business are required to join OCCTO, which has the power to give directions to operators in order to achieve its missions.

The essential mission of OCCTO is to co-ordinate the transmission networks in the country in accordance with the Network Codes (which is approved by METI), so that those transmission networks may function as an integrated network and be operated, maintained and developed in a consistent manner. The Network Codes are OCCTO's executive rules on how OCCTO executes its network operations (including the procedure required by a network user in relation to accessing the transmission and distribution networks). All electricity business operators, as members of OCCTO, are required to operate their business in accordance with the Network Codes.

Before, the demand and supply of electricity was monitored at a transmission network level by each of the Major Utilities that had been granted exclusivity as sole licensed operator in a certain geographical area. The Electricity Power System Council of Japan (ESCJ) was established in 2004 to support co-ordination between Major Utilities from 2005. OCCTO was established to strengthen the control of the demand and supply of electricity nationwide as a successor of ESCJ. OCCTO is expected to enhance efficiency in the use of the transmission networks by way of monitoring the demand and supply of electricity at a country level and giving directions to operators.

The Electricity and Gas Market Surveillance Commission (EGC) was established on 1 September 2015, half a year before the electricity retail market was fully liberalised on 1 April 2016 (the gas retail business was liberalised one year later, on 1 April 2017). EGC's primary missions are to monitor the energy market and propose better regulations to promote competition (based on the information it acquires through monitoring activities and the analysis thereof).

In order to achieve its missions, EGC, as a council to METI, has the power to issue a warning to operators of electricity business and to propose solutions to METI. As an exercise of that power, EGC detects improper trades through daily market surveillance; examines and reviews the rate of transmission and distribution tariffs, and regulated retail tariffs set by Major Utilities; and proposes regulations that it thinks are appropriate in order to promote competition or protect consumers.

www.occto.or.jp/en/about_occto/articles/files/Network_Codes_1810.pdf (amendments of 2019 are not reflected)

1.6 Recent Material Changes in Law or Regulation

As described in **1.1 Principal Laws Governing the Structure and Ownership of the Power Industry**, the vertical integration and the regional monopoly in the generation sector and the retail sector have been gradually relaxed and liberalised since 1995.

At the time of writing, the electricity industry is in the middle of structural reform that consists of (i) establishing a system to efficiently manage electricity generated by power producers in the country across the transmission networks, (ii) full liberalisation of the retail sector and (iii) a 'legal unbundling' of the transmission and distribution sector from the generation and retail sector.

OCCTO was established in 2015 and the retail sector was fully liberalised in 2016, accordingly. With respect to the liberalisation, however, as Major Utilities and their affiliates have a dominant share in the market, their existing basic retail tariffs of electricity have been regulated in order to secure fair competition with other retailers, which regula-

tions are expected to be lifted some time after 2020 (when the 'legal unbundling' occurs) when the government views that a sound competitive market has been established.

1.7 Announcements Regarding New Policies

The last piece of the ongoing structural reform, the 'legal unbundling', will come into effect on 1 April 2020. Under the legal unbundling, an operator of the General Transmission and Distribution Business (ie, Major Utilities except for Okinawa Electric Power Company, Incorporated, in the Okinawa region) is not allowed to operate Electricity Generation Business (if it is considering supplying electricity for retailers or consumers) or Retail Electricity Business (except for such business in certain isolated islands) and is required to create a separate entity if it also wants to operate such businesses within its group. It aims to secure the impartiality of the Major Utilities as operators of transmission and distribution networks so that every electricity retailer and electricity generator may be given equal access to their networks under fair and equal conditions. In order to achieve the goal, as a supplement of a separate entity requirement, new regulations would be promulgated that require a firewall arrangement and other measures to prevent the transmission and distribution network operators from exercising influence on the operations of their affiliate retailers and/or generators. Please see **5.1.3 Terms and Conditions Imposed in Approvals to Construct and Operate Transmission Facilities**.

In addition, the capacity market, where the value of generation capacity in 2024 and subsequent years will be auctioned and traded, will start to operate in 2020.

1.8 Unique Aspects of the Power Industry

As the vertically integrated Major Utilities were granted regional monopoly for nearly 50 years, an electricity retailer that is a Major Utility or its affiliate occupies a dominant share in the geographical area where such Major Utility or its parent Major Utility enjoyed the regional monopoly.

As such, since the retail sector's liberalisation began to be discussed, the question of how to secure an environment where new entrant electricity retailers can compete with Major Utility retailers has been an important item on the agenda. Among the unique aspects of Japan's power industry is that while the government establishes regulations that it thinks appropriate to address that issue, it also requires the Major Utilities to develop and implement voluntary solutions to support new entrant retailers through private-sector autonomy. An example of such autonomous solution is that Major Utilities voluntarily commit themselves in supplying their surplus electricity to JEPX at marginal costs.

Other characteristics of Japan's power industry include the following: (i) the transmission sector and the distribution sector are not distinguished for a regulatory purpose under the Electricity Business Act and those are covered by a single licence (except for Electricity Transmission Business), and (ii) there is no interconnection with other countries, which means that the demand of electricity has to be satisfied by the electricity generated by power generation facilities in Japan.

2. Market Structure, Supply and Pricing

2.1 Structure of the Wholesale Electricity Market

In Japan, an electricity retailer procures electricity by way of entering into a power purchase agreement with an electricity generator or through an electricity wholesale market, and JEPX is the electricity wholesale market in Japan. Trades available in JEPX as wholesale of electricity are (i) spot market trading, (ii) forward market trading, (iii) intraday market trading and (iv) OTC trading. At the date of writing, there is no futures market in Japan.

Spot market trading is trading of electricity supplied on the next day after a trade date, where the minimum trading unit is 30 minutes and 0.5 MW, and the trading price is determined through a 'blind and single-price auction'. Under a blind and single-price auction, wholesale market participants submit a bid for purchasing or selling electricity by 10am on the trade date and the trading price is fixed at the highest price at which all demanded electricity will be cleared.

Forward market trading is trading of electricity supplied for a certain period starting on a day that is two or more days from a trade date, where traded time periods are one week, one month and one year, and orders are continuously executed in strict price and time priority (an order entered into the system at an earlier time must be executed in full before an order at the same price entered at a later time is executed).

Intraday market trading is trading of electricity supplied on a day for which the spot trading is closed, where the minimum trading unit is 30 minutes and 0.5 MW, and orders are continuously executed in strict price and time priority.

OTC trading is usually employed for trading a small amount of electricity that does not satisfy the thresholds for spot or intraday trading.

In addition to the above, the base-load market began in July 2019, which is a wholesale market of electricity generated by a nuclear power plant, a traditional large-scale hydro power plant, a coal-fired power plant or a geothermal power plant (also known as 'base-load electricity') to electricity retailers. Major Utilities (except for The Okinawa Electric Power Company) and J-Power are required to offer base-load electricity to the base-load market by no less than a certain amount calculated by a prescribed formula to secure retailers' access to base-load electricity.

In principle, there are no price regulations on electricity wholesale. However, in order to secure competition on an equal footing between Major Utility retailers and other retailers, wholesale trading of electricity generated by Major Utilities is monitored and scrutinised so that their price will not be unduly expensive.

2.2 Imports and Exports of Electricity

At the time of writing, Japan has no international interconnection and there is no legal restriction against imports and exports of electricity.

2.3 Supply Mix for the Entire Market

According to ANRE, the supply mix of electricity in 2017 was as follows:

- natural gas 39.5%;
- coal 32.7%;
- oil, etc 8.7%;
- nuclear 3.1%;
- hydro 7.9%;
- solar 5.2%;
- wind 0.6%;
- biomass 2.1%; and
- geothermal 0.2%

Japan's target of the supply mix in 2030 is natural gas 27%, oil 3%, coal 26%, nuclear 20-22%, hydro 8.8%-9.2%, solar 7.0%, wind 1.7%, biomass 3.7%-4.6% and geothermal 1.0-1.1%.

2.4 Principal Laws Governing Market Concentration Limits

There are no concentration limits in Japan.

2.5 Agency Conducting Surveillance to Detect Anti-competitive Behaviour

EGC was established on 1 September 2015, half a year before the retail sector of electricity was fully liberalised on 1 April 2016. Among EGC's missions is to ensure the impartiality, fairness and soundness of trades of electricity and gas, and to promote competition in the market.

Under the Electricity Business Act, EGC has responsibility for market surveillance to secure the soundness and fairness of electricity business, and if any anti-competitive behaviour is detected in an electricity business operator, EGC may give a warning to such electricity business operator to improve its business, and advise the Minister of METI to issue an order to such electricity business operator to improve its business.

In addition, under the Act on Prohibition of Private Monopolisation and Maintenance of Fair Trade, the JFTC oversees the power industry and if any anti-competitive behaviour is detected, JFTC has the power to issue an order to a person who is found to conduct anti-competitive practice to take specific actions to eradicate such practice.

3. Climate Change Laws and Alternative Energy

3.1 Principal Climate Change Laws and/or Policies

The Act on Promotion of Global Warming Countermeasures (Act No 117 of 1998, as amended) (amendments of 2008 and thereafter are not reflected) requires all business operators to endeavour to take actions to reduce greenhouse gas emissions.

As a signatory of the Kyoto Protocol, Japan achieved its commitment to reduce its greenhouse gas emissions by 6% (below 1990 levels) in the first commitment period (2008-12) within the framework under the Kyoto Protocol. While Japan did not participate in the second commitment period (2013-20), Japan signed the Paris Agreement.

While submitting its Nationally Determined Contributions in accordance with the Paris Agreement that it will target a 26% reduction in its greenhouse gas emissions (below 2013 levels) by 2030, the Japanese government adopted the Plan of Global Warming Countermeasures in 2016 that refers to the same target. The Plan also states that Japan will target an 80% reduction in its greenhouse gas emissions (below 2013 levels) by 2050.

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

In Japan, thermal power plants, including coal-fired generations, are still considered an important source of energy and are classified as a 'base-load' electricity source, as shown in the 2030 energy mix target (see **2.3 Supply Mix for the Entire Market**). However, in order to reduce the amount of emission of carbon dioxide, the power industry in Japan strives to develop and introduce high-efficiency and low carbon coal-fired power plants under the Act on Rationalising Energy Use (Act No 49 of 1979, as amended) (amendments of 2018 are not reflected)

As an action taken by the government to facilitate the retirement of aged coal-fired power plants, the government issued a guideline in 2012 where a simpler and less time-consuming environmental impact assessment will be available if it is confirmed that the replacement will reduce carbon dioxide emissions.

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

The Act on the Promotion of Use of Non-fossil Energy Sources and Effective Use of Fossil Energy Materials by Energy Suppliers (Act No 72 of 2009, as amended) was promulgated with recognition of the importance of developing non-fossil energy sources.

Pursuant to the Act, the government published the basic policy to achieve its purpose, whereby it targets an increase

in the share of non-fossil energy sources to 44% by 2030, and electricity suppliers of 500,000 MWh or more are required to prepare and submit an implementation plan to achieve such target and a progress report every year.

In order to achieve the above target, the Act on Special Measures Concerning Procurement of Electricity from Renewable Energy Sources by Electricity Utilities (Act No 108 of 2011, as amended, or the FiT Act) was promulgated in 2011, while the feed-in tariff regime (FiT Regime) was introduced in 2012. The FiT Act boosted the development of alternative energy sources as the feed-in tariff was very generous to developers.

Under the FiT Act, renewable energy that meets statutory and regulatory requirements is sold at a fixed price for 20 years to transmission and distribution network operators, and transmission and distribution network operators are not allowed to refuse to purchase such renewable energy, with very limited exceptions.

The renewable energy that can benefit from the FiT Regime is electricity generated by solar, wind, hydro, geothermal or biomass generation.

In order to promote investment in renewable energy, the feed-in tariff – ie, the price of renewable energy – is set at a rate higher than the market rate, and any additional cost incurred by transmission and distribution network operators in relation to the purchase of the renewable energy is transferred to and assumed by consumers through a surcharge being imposed on consumers. Electricity retailers are required to transfer funds collected from their customers as a surcharge to the Green Investment Promotion Organization (GIO), and GIO pools such funds received from electricity retailers. GIO distributes those pooled funds to the purchasers of energy sold in the FiT regime so that additional costs incurred by those purchasers will be compensated.

Also, in order to promote the development of renewable energy, the government has introduced a reduced rate of property tax for certain qualified renewable energy facilities during the first three years.

See the following:

https://elaws.e-gov.go.jp/search/elawsSearch/elaws_search/lsg0500/detail?lawId=421AC0000000072 (currently there is no English translation of the entire law)

4. Generation

4.1 Principal Laws Governing the Construction and Operation of Generation Facilities

In general, the Electricity Business Act requires a person who intends to generate electricity for sale (unless its quantity falls below 10 MW) to notify METI of being an operator of Electricity Generation Business. The Act also requires the operator to be a member of OCCTO.

The operator is also required to proceed with an environmental impact assessment in accordance with the Environmental Impact Assessment Act (Act No 81 of 1997, as amended) (as modified by the Electricity Business Act) when it intends to construct a generation facility of a certain prescribed capacity. There are some local governments that establish their own environmental impact assessment process for the construction of a generation facility of a smaller capacity.

In general, the operator is required to file a construction plan of a generation facility with METI no less than 30 days prior to its commencement if it has a certain prescribed capacity.

With respect to the construction of a thermal power plant with a fossil energy source, the Act on Rationalising Energy Use requires the operator to endeavour to ensure that such thermal power plant satisfies a standard of power generation efficiency as set out in the Act and its related regulations.

With respect to a nuclear power plant, under the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors, the permission of NRA is required for the installation of a nuclear reactor and the approval of NRA is required for its construction plan, and the operator has to obtain approval from METI on a construction plan in accordance with the Electricity Business Act.

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

Under the Electricity Business Act, a person who intends to generate electricity for sale (unless the quantity of electricity generated is below 10 MW) is required to submit to METI a notification form filled in with certain prescribed information such as location of the generation facility and the power source and other specifications of the facility. The operator is also required to submit to OCCTO an application for OCCTO's membership prior to submitting the notification to METI. A generation facility so constructed must pass a pre-use investigation conducted by METI before it starts commercial operation.

The environmental impact assessment under the Environmental Impact Assessment Act (as modified by the Electricity Business Act) has the following steps.

- *Consideration statement* – the operator prepares a statement of the environmental impact that the operators expect the construction to have, and submits it to METI for review; the operator is expected (but not obliged) to publish it to seek comments from the public.
- *Scoping statement* – based on the consideration statement as revised to reflect METI's comments and the public's comments (if any), the operator prepares a statement defining the scope and methodology of the environmental impact assessment that the operator proposes to implement, submits it to METI and the relevant local government for review and publishes it to seek comments from the public.
- *Environmental impact assessment* – based on the scoping statement as revised to reflect the comments of METI, and the relevant local government and the public's comments (if any), the operator shall implement the environmental impact assessment.
- *Draft environmental impact statement* – based on the environmental impact assessment implemented, the operator prepares a draft of the environmental impact statement, submits it to METI and the relevant local government for review and publishes it to seek comments from the public.
- *Environmental impact statement* – taking into account the comments of METI, and the relevant local government and the public's comments (if any), the operator prepares an environmental impact statement, submits it to METI for review and, based on METI's feedback (if any), finalises the environmental impact statement, submits it to the relevant local government and publishes it. METI has the authority to issue an order to further revise the environmental impact statement if it thinks such revision necessary to ensure due consideration of environmental impact.

Under the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors, the operator may not install a nuclear reactor without obtaining the permission of NRA and approval of its construction plan from NRA.

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

An operator of Electricity Generation Business owes, in particular, the following obligations pursuant to the Electricity Business Act and its secondary regulations:

- to supply electricity, as directed by the transmission and distribution network operators to balance the demand and supply of electricity within the network;
- to join OCCTO;
- to supply electricity in accordance with an order that METI may issue (such order has never been issued);
- to prepare and submit a supply plan to OCCTO;
- to submit its financial statements to METI;
- to submit a report on its performance and operation result, etc; and
- to comply with the Network Codes.

4.4 Proponent's Eminent Domain, Condemnation or Expropriation Rights

The Expropriation of Land Act (Act No 219 of 1951, as amended) amendments of 2017 and thereafter are not reflected)

empowers an operator of electricity business under the Electricity Business Act to expropriate a piece of land for its business in exchange for paying just compensation to the right-holder, following the procedure set out therein.

In order to expropriate land lots, the operator must first obtain approval from the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) or the relevant local government, as the case may be, on an undertaking that necessitates expropriation. After obtaining such approval, the operator files for expropriation with the Expropriation Committee, which will grant to the operator an award of expropriation unless the undertaking is found to be materially different or materially differently implemented than as explained to MLIT or the relevant local government.

4.5 Requirements for Decommissioning

If an operator of Electricity Generation Business intends to suspend or terminate the whole or a part of its business, it must submit an ex ante notification to METI. In addition, if the operator decommissions a generation facility that has an installed capacity of 100 MW or more, such operator must submit an ex ante notification to OCCTO in accordance with the Network Codes of OCCTO.

With respect to a nuclear power plant, the operator must prepare a decommissioning plan and obtain approval from NRA for the plan under the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors.

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 Electricity Business Act governs the licences in relation to the construction and operation of transmission and distribution networks, and the process in relation to the construction of such networks and associated facilities.

In principle, METI controls the development of transmission and distribution networks through requiring operators

of General Electricity Transmission and Distribution Business and Transmission Business to submit a development plan of major network assets (major transmission lines and transformer stations) for the forthcoming ten years. With respect to an individual construction work, the operator is required to file a construction plan with METI no less than 30 days prior to its commencement if it involves the construction of a transmission line or transformer substation of 170 kV (in some cases, 100 kV) or more. Such transmission line or transformer substation must pass a pre-use investigation conducted by METI.

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

As mentioned in **1.1 Principal Laws Governing the Structure and Ownership of the Power Industry**, the transmission and distribution network sector is not liberalised and ten Major Utilities are given regional monopoly in their respective service areas. As METI's position is to keep the current regional monopoly regime, it is unlikely that METI would issue a new licence of General Transmission and Distribution Network to any person.

An exception is a transmission line maintained by an operator of Electricity Transmission Business. J-Power was the only operator of Electricity Transmission Business when the current licence regime was introduced. At the time of writing, two more operators have a licence of Electricity Transmission Business. They are expected to supplement the transmission services by the operator of General Transmission and Distribution Business within its service area through constructing a transmission line in an area that the existing transmission network does not cover and will not cover in the near future, and it is considered important to ensure that an unnecessary transmission network will not be constructed as the cost of construction will be ultimately paid by consumers. As such, Electricity Transmission Business requires the approval of METI and a person (other than an operator of General Transmission and Distribution Business and an operator of Specified Transmission and Distribution Business) may not construct or operate a transmission line without obtaining the approval of METI.

The other exception is Specified Transmission and Distribution Business. A transmission and distribution network of such business is constructed to serve consumers within a certain limited geographical area. Because of that, such network is more akin to a distribution network than a transmission network in respect of length and capacity. Because the impact that such network may have on the transmission and distribution network of General Transmission and Distribution Business is not materially large, Specified Transmission and Distribution Business can be conducted with notification to METI of certain areas of services such as geographical area of service, layouts of transmission and distribution lines, and specifications thereof.

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

An operator of General Electricity Transmission and Distribution Business owes, in particular, the following obligations pursuant to the Electricity Business Act and its secondary regulations:

- to accept access to transmission and distribution networks in its service area, and apply the terms and conditions (approved by METI) to all electricity business operators equally;
- to provide last-resort services and electricity retail services in isolated islands within its service area;
- not to use proprietary information of electricity business operators or consumers for purposes other than its transmission and distribution business;
- not to engage in discriminatory treatment;
- to endeavour to maintain the voltage and frequency of the electricity in its service area at a prescribed level;
- to measure, record and keep the voltage and frequency of the electricity in its service area;
- to submit its financial statements to METI;
- to submit its segmental financial statements of its transmission and distribution services to METI;
- to submit a report concerning the occurrence of imbalance;
- to join OCCTO;
- to prepare and submit a supply plan to OCCTO; and
- to comply with the Network Codes of OCCTO.

After the amendment to the Electricity Business Act comes into effect on 1 April 2020, operators of General Electricity Transmission and Distribution Business will be subject to certain additional restrictions and obligations, which include (i) their directors cannot assume an office of its parent holding company or any of its affiliates that operate electricity retail business or generation business (such parent holding company and affiliates being 'interested parties'), (ii) restrictions on trades with interested parties and (iii) an appropriate information barrier arrangement has to be installed.

5.1.4 Proponent's Eminent Domain, Condemnation or Expropriation Rights

Please see **4.4 Proponent's Eminent Domain, Condemnation or Expropriation Rights**.

5.1.5 Transmission Service Monopoly Rights

Each operator of General Transmission and Distribution Business is assigned its service area and is granted a de facto

exclusivity within such service area by METI since METI does not grant two licences of General Transmission and Distribution Business in any service area. Electricity Transmission Business and Specified Transmission and Distribution Business are the exceptions, as described in **5.1.2 Regulatory Process for Obtaining Approvals to Construct and Operate Transmission Facilities**.

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

Pursuant to the Electricity Business Act, the terms and conditions of transmission and distribution services need to be approved by METI. The matters to be set out in the terms and conditions and the methodology to compute service charges are set out in the regulations listed below. To date, English translation is not available for those rules promulgated by METI.

- Executive rules of Electricity Business Act (*denkijigyoho shikokisoku*).
- Rules on methodology to compute tariffs of transmission and distribution services (*ippan sohaiden jigyo takusokyokyu to yakkan ryokin santei kisoku*).
- Rules on methodology to balance income and loss from transmission and distribution services (*denkijigyo takusokyokyu to shushikeisan kisoku*).

5.2.2 Establishment of Transmission Charges and Terms of Service

The rate of tariffs and the terms and conditions of transmission and distribution services are proposed by an operator of General Transmission and Distribution Business, and are fixed upon the approval of METI based on the advice of EGC. METI's standard review period is four months.

The terms and conditions of services are reviewed to see if the following requirements are satisfied:

- the rate of tariff is the sum of efficient cost of services plus fair rate of fair margin, with an assumption that the business is operated in an efficient manner;
- the terms and conditions do not significantly undermine accessibility to the transmission and distribution services;
- the method of computing the tariff is clearly and fairly set out;
- the allocation of responsibility as well as cost sharing between an operator of General Transmission and Distribution Business and users of the transmission and distribution network is clearly and fairly set out;
- the terms and conditions do not discriminate against any specific person; and
- the terms and conditions do not hinder public interest.

At the time of writing, the rate of tariff is computed based on the fully distributed cost method, the principle of which is that the tariff will be determined such that projected revenues of the tariff of the forthcoming three years will balance with the sum of (i) efficient and necessary costs (including depreciation cost and capacity charges for balancing powers) of providing services of the forthcoming three years and (ii) the capital cost of the forthcoming three years.

5.2.3 Open-access Transmission Service

Pursuant to the Electricity Business Act, an operator of General Transmission and Distribution Business is obliged to provide access to its transmission and distribution network on a non-discriminatory basis.

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

Please see **5.1.1 Principal Laws Governing the Construction and Operation of Transmission Facilities**.

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

Please see **5.1.2 Regulatory Process for Obtaining Approvals to Construct and Operate Transmission Facilities**.

6.1.3 Terms and Conditions Imposed in Approvals to Construct and Operate

Please see **5.1.3 Terms and Conditions Imposed in Approvals to Construct and Operate Transmission Facilities**.

6.1.4 Proponent's Eminent Domain, Condemnation or Expropriation Rights

Please see **4.4 Proponent's Eminent Domain, Condemnation or Expropriation Rights**.

6.1.5 Distribution Service Monopoly Rights

Please 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

Please see **5.2.1 Principal Laws Governing the Provision of Transmission Service, Regulation of Transmission Charges and Terms of Service**.

6.2.2 Establishment of Distribution Charges and Terms of Service

Please see **5.2.2 Establishment of Transmission Charges**.

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