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Japan

Renewable Energy

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This country-specific Q&A provides an overview of renewable energy laws and regulations applicable in Japan.

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Japan: Renewable Energy

1. Does your jurisdiction have an established renewable energy industry? What are the main types and sizes of current and planned renewable energy projects? What are the current production levels? What is the generation mix (conventional vs renewables) in your country?

Since the introduction of the Feed-In Tariff ("FIT") system in 2012, the renewable energy industry has developed significantly. The percentage of all electricity generation attributable to renewable energy increased from 10.4% in 2011 to 22.9% in 2023. The percentages of all electricity attributable to renewable energy, by type, in 2023 are as follows: solar—9.8%; hydro—7.6%; biomass—4.1%; wind—1.1%; and geothermal—0.3%. On the other hand, thermal power plants other than biomass power plants still generate 68.6% of all electricity. In 2018, the Japanese government introduced auction processes to allow developers to use certain designated ocean areas for offshore wind projects under the Act on Promoting the Utilization of Sea Areas for the Development of Marine Renewable Energy Power Generation Facilities ("Marine Renewable Energy Act"). According to the Act, the government has held public tender processes, and several developers have already been selected as Appointed Business Operators (*sentei jigyosha*). The government plans to revise this Act to newly cover the exclusive economic zone. According to the Act, the number of offshore wind projects is expected to increase much further.

2. What are the key developments in renewable energy in your country over the last 12 months?

In November 2024, the government announced a "Geothermal Development Acceleration Package" that includes a policy to provide strong support for the development of both conventional and next-generation geothermal energy. For several difficult reasons, development of geothermal power plants has been limited so far. However, we expect this package to provide solutions to the difficulties and expand the development of geothermal energy. In December 2024, the result of the latest tender process in accordance with the Marine Renewable Energy Act for two designated ocean areas was announced. In February 2025, the government announced the Seventh Strategic Energy

Plan, which states that the government will promote the maximum introduction of renewable energy as a major power source while harmonizing with local communities and controlling excessive national burdens.

3. What are your country's net zero/carbon reduction targets? Are they law or an aspiration?

In 2020, the government declared that Japan is striving to achieve carbon neutrality by 2050. The target is not reflected in existing laws.

4. Is there a legal definition of 'renewable energy' in your jurisdiction?

The Act on Special Measures Concerning Promotion of Utilization of Electricity from Renewable Energy Sources ("Renewable Energy Act") defines "renewable energy" as including sunlight, wind power, hydraulic power, geothermal power, biomass, and any other resources other than crude oil, petroleum gas, combustible natural gas, coal, and products manufactured therefrom that may be designated by a cabinet order in the future.

5. Who are the key political and regulatory influencers for renewables industry in your jurisdiction? Is there any national regulatory authority and what is its role in the renewable energy market? Who are the key private sector players that are driving the green renewable energy transition in your jurisdiction?

The Ministry of Economy, Trade and Industry ("METI") and its related agency, the Agency for Natural Resources and Energy, are responsible for energy policy. The Minister of METI has the authority to certify business plans for renewable energy projects that are entitled to enjoy the FIT system and the Feed-In Premium ("FIP") system in accordance with the Renewable Energy Act.

The Organization for Cross-regional Coordination of Transmission Operators, Japan ("OCCTO") is a public entity incorporated under the Electricity Business Act, which plays various roles, including: (a) gathering payments from electricity retailers (which the retailers collect from electricity consumers) and distributing this

money as compensation to transmission utilities (obligated purchasers) under the FIT system, and as premiums to power generators under the FIP system; (b) holding auctions to select power operators that will be entitled to enjoy the FIT or FIP system; (c) managing the reserves deposited by operators of solar power plants for the future decommissioning of those plants; and (d) conducting the Capacity Market (*yoryo shijo*).

In addition to METI, the Ministry of Land, Infrastructure, Transport and Tourism ("MLIT") is authorized to grant certifications for dominant use of certain ocean areas for the purposes of offshore wind projects under the Marine Renewable Energy Act.

The Ministry of the Environment ("MoE") is responsible for environmental policy, and it runs subsidy programs for certain renewable power projects for environmental purposes.

Many private companies, including electric/gas utilities, trading companies, oil companies, financial institutions, and their affiliates, actively participate in the renewable energy industry by means of the FIT/FIP system or subsidy programs.

6. What are the approaches businesses are taking to access renewable energy? Are some solutions easier to implement than others? If there was one emerging example of how businesses are engaging in renewable energy, what would that be? For example, purchasing green power from a supplier, direct corporate PPAs or use of assets like roofs to generate solar or wind?

Some electricity retailers provide electricity generated purely from renewable energy, which is certified by non-fossil certificates with tracking information. Businesses can introduce renewable energy easily by purchasing it. Also, installing renewable energy power generators (i) on-site (on-site PPAs), typically, through installation of solar panels on the roof of a building or factory, or (ii) at separate sites (off-site PPAs) is a popular approach to access renewable energy. Corporate PPAs are expanding. The Electricity Business Act requires registration in order to engage in the business of supplying electricity to meet general demand. Therefore, except for certain exceptional cases, it is necessary to involve a registered electricity retailer in a (physical) corporate PPA transaction (i.e., "direct" corporate PPA is not always possible). On the other hand, in the case of a "virtual" corporate PPA, a direct transaction between an operator and a consumer is

allowed under certain conditions.

7. Has the business approach noticeably changed in the last year in its engagement with renewable energy? If it has why is this (e.g. because of ESG, Paris Agreement, price spikes, political or regulatory change)?

Since the FIP system was implemented on April 1, 2022, corporate PPAs have become popular. The transactions through corporate PPAs include the trading of non-fossil certificates. In order to consider the appropriate structure of corporate PPAs, in addition to knowledge of the Renewable Energy Act (including the FIP system), understanding complex rules applicable to transactions of non-fossil certificates is required. In addition, the government encourages transition from the FIT system to the FIP system. For example, the order of curtailment will be revised to benefit business operators using the FIP system. Therefore, recently some business operators who operate projects under the FIT system have decided to make a transition to the FIP system.

8. How visible and mature are discussions in business around reducing carbon emissions; and how much support is being given from a political and regulatory perspective to this area (including energy efficiency)?

As the government set an ambitious target to achieve carbon neutrality by 2050, Japanese society is moving rapidly toward decarbonization. For example, companies are striving to procure electricity generated from renewable energy sources, and financial institutions actively provide funds for the development of renewable energy power plants. As mentioned above, the government is supporting decarbonization by introducing the FIT/FIP systems to facilitate the introduction and development of renewable energy. Also, the government is focusing on other new technologies for decarbonization such as the use of hydrogen, ammonia or CCS (Carbon Capture and Storage) and enacted new laws to facilitate these technologies in May 2024.

9. How are rights to explore/set up or transfer renewable energy projects, such as solar or wind farms, granted? How do these differ based on the source of energy, i.e. solar, wind (on and offshore), nuclear, carbon capture, hydrogen,

CHP, hydropower, geothermal; biomass; battery energy storage systems (BESS) and biomethane?

During fiscal year 2025, the FIP system is available for solar projects with a capacity equal to or greater than 10kW, and for wind, hydropower, geothermal or biomass projects with a capacity equal to or greater than 50kW. The FIT system is still available under certain conditions, in a limited manner. To enjoy both the FIT and FIP systems, developers must obtain certification of their business plans by the Minister of METI pursuant to the Renewable Energy Act. To obtain the certification, an application must be filed that meets the business plan development guidelines issued by METI. In addition, developers of a certain scale of solar, wind, and biomass projects must apply for participation in an auction process held by OCCTO to enjoy the FIT or FIP systems.

Developers of offshore wind projects under the Marine Renewable Energy Act must apply to participate in an auction process held by METI and MLIT, and must win the auction and obtain certification from METI and MLIT, in order to use a dominant portion of certain designated ocean areas for a period of up to 30 years.

10. Is the government directly involved with the renewables industry (auctions etc)? Are there government-owned renewables companies or are there plans for one?

The government supports the development of renewable industries via the FIT/FIP system and subsidies. There is no government-owned renewables company, except for the Japan Organization for Metals and Energy Security (known as JOGMEC), an incorporated administrative agency, the roles of which include providing financial support for oil, gas and metals projects, and supporting the development of geothermal, offshore wind, hydrogen, ammonia, and CCS projects.

11. What are the government's plans and strategies in terms of the renewables industry? Please also provide a brief overview of key legislation and regulation in the renewable energy sector, including any anticipated legislative proposals?

In 2012, the government introduced the FIT system, via the Renewable Energy Act. Under the FIT system, certified operators are entitled to sell electricity to a general transmission utility (obligated purchaser) at a fixed price for a fixed period (typically 20 years). The fixed price is

determined by a government committee, annually, based on the type of power generation and scale, and based on the cost-plus margin concept. To be entitled to enjoy the FIT system, developers must obtain certification of their business plans, issued by the Minister of METI.

An amendment to the Renewable Energy Act in 2022 introduced the FIP system. Under the FIP system, certified operators need to sell electricity by themselves (through the wholesale electricity market (JEPX) or via a bilateral power purchase agreement (corporate PPA)); however, they are entitled to receive a certain premium from OCCTO. The amount of the premium is the difference between the standard price (*kijun kakaku*) and the reference price. The standard price is determined by a government committee, based on the cost-plus margin concept, depending on the type of power generation and facility size. The reference price is determined on a monthly basis, considering information such as expected revenue from the wholesale electricity market and the non-fossil value market.

From April 2024, an amendment to the Renewable Energy Act became effective, and it introduced a new requirement to obtain certification of the business plans. Under the amended Renewable Energy Act, an operator, with certain exceptions, must hold an explanatory meeting for local residents regarding the project, before applying for certification of its business plan or certification of an amendment of important items in the business plan such as the name of the operator or certain investors. Details of the requirement are provided in a guideline issued by the Agency for Natural Resources and Energy in February 2024.

With respect to offshore wind projects, in 2016, the Port and Harbour Act was revised to introduce auction processes for dominant use of certain port areas for the purposes of offshore wind projects or other public projects. In addition, in 2018, the government enacted the Marine Renewable Energy Act in order to further facilitate the development of offshore wind projects. The Marine Renewable Energy Act enables an offshore wind power operator that has won an auction process to be the dominant user of a certain designated ocean area, which is a large sea area outside of port areas, for the purposes of an offshore wind project for a certain period, up to 30 years.

12. Are there any government incentive schemes promoting renewable energy (direct or indirect)? For example, are there any special tax deductions

or subsidies (including Contracts for Difference) offered? Equally, are there any disincentives?

In addition to the FIT/FIP system under the Renewable Energy Act, there are multiple subsidies for development of renewable energy projects, granted by METI, MoE, or local governments. In addition, there is preferential tax treatment available for renewable power projects, such as a reduction in the tax base of certain renewable power assets under the fixed assets tax.

13. How does the structure of the natural gas industry in your country impact the price of electricity? Are there any plans to de-link the price of renewable electricity from gas prices?

The price of natural gas directly affects the price of electricity because gas-fired power plants are still the mainstream (32.9%). Recently, the price of electricity has been rising due to increases in natural gas prices, and the government has provided support to reduce the burden of these high electricity costs. De-linking the price of renewable electricity from gas prices has not been widely discussed yet.

14. What are the significant barriers that impede both the renewables industry and businesses' access to renewable energy? For example, permitting, grid delays, credit worthiness of counterparties, restrictions on foreign investment, regulatory constraints on acquisitions; disputes/challenges?

Appropriate sites for geothermal power plants tend to be located in areas designated as national parks under the Natural Parks Act, and permission is required to develop the plants in those areas. Also, permission under the Hot Springs Act is required to excavate the ground for purposes of bringing hot water or hot steam from underground. In addition, building consensus with local people, including those who engage in the hot spring (*onsen*) business, is sometimes difficult. These are some of the major barriers to development of geothermal power plants.

As the number of corporate PPA transactions increases, the creditworthiness of the off-takers is becoming an important issue, especially where project financing is procured.

15. What are the key contracts you typically expect to see in a new-build renewable energy project?

Key contracts typically include PPAs (Power Purchase Agreements), grid connection agreements, land lease agreements, EPC contracts, O&M agreements, insurance agreements, fuel supply agreements (for biomass projects), turbine supply agreements (for wind projects), and finance-related agreements.

In projects supported by the FIT system, PPAs are usually prepared using a common template prepared by an electricity transmission utility, which is obligated to purchase the generated electricity from certified operators. However, in non-FIT projects, including projects supported by the FIP system, negotiation of a PPA is necessary unless an operator sells electricity on the Japan Electric Power Exchange. This is because no one is obligated to purchase the electricity generated by an operator.

Grid connection title and land use title are requirements to obtain the FIT/FIP certification by METI. It is often necessary for developers to bear certain construction costs necessary for grid connection.

Where project financing is procured, a loan agreement, security agreements, a sponsor support agreement, hedge agreements and direct agreements are commonly executed; moreover, lenders also review project agreements such as EPC contracts, O&M agreements, and PPAs in order to secure bankability.

16. Are there any restrictions on the export of renewable energy, local content obligations or domestic supply obligations? What are the impacts (either actual or expected) of the implementation of the Net Zero Industry Act (EU) Regulation 2024/1735?

The contribution to the local economy and the Japanese economy will be considered and evaluated in the auction process for offshore wind projects under the Marine Renewable Energy Act. Moreover, the impact of the implementation of the Net Zero Industry Act (EU) Regulation seems to have been limited so far.

17. Has deployment of renewables been impacted in the last year by any non-country specific factors: For example, financing costs,

supply chain or taxes or subsidies (e.g. the US's Inflation Reduction Act)?

Large fluctuations in currency rate adversely influence renewable energy projects in which equipment or fuel is expected to be imported from overseas.

18. Could you provide a brief overview of the major projects that are currently happening in your jurisdiction?

In December 2024, the results of auction processes for two ocean areas were announced. The auction process has become very competitive. As the government plans to expand ocean areas for offshore wind power plants into the exclusive economic zone, more offshore wind projects are expected to be developed in the coming years.

In addition to renewable energy projects relying on the FIT/FIP system, we also recognize renewable energy projects not relying on such a system, which often use on-site or off-site corporate PPAs, or participate in subsidy programs provided by government agencies.

19. How confident are you that your jurisdiction can become a leader in newer areas like offshore wind or hydrogen?

As mentioned above, the Japanese government has strongly encouraged the introduction of offshore wind power. Thanks to legislation facilitating their development, many offshore wind projects are expected to be launched in the near future. Also, the government

actively supports geothermal projects, hydrogen/ammonia projects, battery projects, and CCS projects, all of which will contribute to achieving a carbon neutral society. Based on our experience with these projects, we believe Japan will become a leader in these fields in the future.

20. How are renewables projects commonly financed in your jurisdiction?

Project financing is commonly used, especially for large-scale projects. Large Japanese banks are often appointed as mandated lead arrangers (MLA). Other financial institutions such as trust banks, local banks, insurance companies and lease companies often join project financing as lenders. Investment by funds through *tokumei-kumiai* (TK), pursuant to the Commercial Code, is also common.

21. What is your forecast for the coming year(s) for renewable energy in your jurisdiction?

As mentioned above, the government announced the Seventh Strategic Energy Plan and a rapid expansion of renewable energy is highly anticipated. More than ten years have passed since the introduction of the Renewable Energy Act in 2012, and we are facing a somewhat stagnant situation, resulting from difficulties in the development of renewable energy power plants. Now, new technologies such as perovskite solar cells and closed-loop systems of geothermal power have attracted attention to address the current situation. To achieve a carbon-neutral society, the further development of renewable energy is an urgent issue. In addition to conventional projects, next-generation projects will appear with strong support from the government.

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