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Changes to Japan's Existing Renewable Energy Feed-in-Tariff System

June 2016

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On May 25, 2016, the Japanese Diet passed a law that will authorize a range of changes to Japan's existing renewable energy feed-in tariff (FIT) system. The Ministry of Economy, Trade and Industry (METI), which sought the changes, has stated that it aims to promote a better balance between the various forms of renewable energy that receive government support under the scheme and to tackle grid connection delays and the soaring costs of the system to consumers.[1] The program of changes will take effect on April 1, 2017, and includes a reverse auction system that will replace the FIT system for large-scale photovoltaic (PV) solar projects. Although the law itself is not very specific in many instances about what new rules will be put in place, a METI committee[2] released documents in April which we believe indicate the policies that will likely be adopted in the Ministry ordinances which implement the new law.

The Ministry wants new generating capacity to be more evenly distributed between the various types of renewable energy. The current FIT system has been successful in bringing the share of non-hydroelectric renewables in Japan's energy mix to 6%, up from 4%.[3] However, the bulk of the energy generated under the scheme, 64%, has come from PV,[4] even though only 29% of the total 80 GW of PV capacity approved to date has actually been installed.[5] The new law aims to moderate the supply of PV, and also deal with this embarrassing backlog of incomplete projects. Under the current system, there is no fixed timeframe in which projects have to start operation, and as a result plant operators have an incentive to wait as long as possible after they have received regulatory approval and locked in their tariff before they start construction so that they can take advantage of newer, more cost-effective technology. Potential plant operators rushed to sign up and

1 http://www.meti.go.jp/press/2015/02/20160209002/20160209002.html

2 A meeting of the Ministry of Economy, Trade and Industry's General Energy and Natural Resources Investigation Committee and Renewable Energy Support System Reform Committee was held on April 1, 2016. A summary of the meeting and discussion materials distributed at the meeting are available on the METI website: http://www.meti.go.jp/committee/sougouenergy/kihonseisaku/saisei_kanou/008_haifu.html.

3 http://www.isep.or.jp/images/library/JSR2015all.pdf

4 Calculated from data at http://www.fit.go.jp/statistics/public_sp.html.

5 http://www.pv-magazine.com/news/details/beitrag/japan-solar-auctions-approved-by-cabinet_100023106/#axzz46QVZCTPA

secure the very high tariffs that were offered in the first two years of the scheme, but it is now unclear how much of the approved capacity belongs to viable projects that are likely to come online in the near future.

The cost of the FIT system, currently US$16 billion a year,[6] is also a major concern. US$11.5 billion of this is passed on to consumers through the Renewable Energy Levy,[7] which amounts to a 'second' consumption tax on electricity of nearly 9%.[8] Industrial consumers are entitled to an 80% reduction, but nonetheless the levy is unpopular in some quarters.

Reverse Auction System and Changes to FIT Mechanism

In order to address these issues, Japan, like California, Germany and India, among other countries, has decided to implement a reverse auction system for capacity for large PV solar projects. Companies will submit bids and compete for the right to supply a fixed amount of power to the utilities. The bids will be accepted from the lowest bid upwards until the capacity available at the auction is completely allocated. The exact size threshold above which projects will have to participate in the auction system has not yet been announced, but the Ministry has indicated that the auction system will be introduced first for "large-scale" (*daikibo*) projects. According to the documents released by the METI committee, auctions will be held from one to three times per year, and bidders will have to meet certain criteria and agree to abide by a fixed project timeline in order to participate. A deposit of some description will also be required. Under the current system, FITs for industrial-scale (*jigyouyou*; 10kW+) PV projects are guaranteed for twenty years, and as there is no suggestion in the committee documents that this period will be shortened, it is likely that prices won at auction will also be guaranteed for twenty years. A FIT will remain in place as at present for industrial-scale PV projects under the scale threshold for the auction system. For smaller PV facilities that are classified as for 'home use' (*juutakuyou*; under 10kW), the Ministry intends to release a schedule outlining how the applicable FIT will decline over time. The objective of these new pricing mechanisms is in each case to bring the tariff down, over time, to the general wholesale price of electricity. The largest new PV solar projects are currently entitled to 24 yen per kilowatt hour for the energy they produce, but industrial end-users only pay around 15 yen per kilowatt hour (Kanto).[9]

New wind projects, just like PV facilities for 'home use', will have their tariff governed by a schedule that incorporates reductions in the tariff over time. The initial Ministry target will be a tariff that is 80% of the current level, but it appears that further reductions will be considered because the proportion of approved wind projects that are operational has recently been increasing.[10]

Geothermal, hydroelectric, and biomass projects, on the other hand, will benefit from a slightly more favorable tariff framework. From now on, the Minister of Economy, Trade and Industry will announce the tariff available to projects certified in a given year "in advance", in order to reflect the longer period of time that geothermal, hydroelectric, and biomass projects take to become operational compared with other renewable energy projects. The documents released by the METI committee indicate that "in advance" will likely mean two to five years ahead of the year in question.[11] The committee documents also contain a proposal that METI set in 2016 a single fixed price for 2017, 2018 and 2019 to ease the adjustment to the new regime, but it is not yet certain that METI will choose to adopt this approach.[12]

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6 http://www.meti.go.jp/press/2015/02/20160209002/20160209002.html

7 http://www.meti.go.jp/committee/sougouenergy/shoene_shinene/shin_ene/pdf/010_05_00.pdf

8 The average Japanese household of 2 persons or more used 428.2 kWh of electricity per month in 2014 (calculated from http://www.stat.go.jp/data/kakei/sokuhou/tsuki/pdf/fies_rf3.pdf). The average monthly expenditure on electricity by the same households (see Statistics Bureau of Japan, 2014 National Survey of Family Income and Expenditure) was ¥11,203. The 2014 Renewable Energy Levy was ¥0.75 per kWh (http://www.meti.go.jp/press/2013/03/20140325002/20140325002.html). Therefore, the average levy for these households was around ¥321, and the average before-levy price of electricity around ¥10,882. The present renewable energy levy is ¥2.25 per kWh (http://www.enecho.meti.go.jp/category/saving_and_new/saiene/kaitori/surcharge.html). Assuming the average before-levy price of electricity remains the same, this will amount to a ¥963 levy on average for the same households, or (in other words) an 8.8% surcharge on top of the price without the levy.

9 http://www.tepco.co.jp/ep/corporate/plan_h/plan01.html

10 http://www.meti.go.jp/committee/sougouenergy/kihonseisaku/saisei_kanou/pdf/008_02_00.pdf

11 http://www.meti.go.jp/committee/sougouenergy/kihonseisaku/saisei_kanou/pdf/008_02_00.pdf

12 http://www.meti.go.jp/committee/sougouenergy/kihonseisaku/saisei_kanou/pdf/008_02_00.pdf

New Certification Rules

The changes to the FIT system include a great number of revisions that tighten existing rules. Requirements to carry out regular inspections and sufficient maintenance to ensure supply, to report production costs and capacity to the Ministry at fixed intervals, to supply power in a way that enhances grid stability, to dispose of facilities that have ceased to be used, to conclude a connection agreement with a utility, to commence supply within a fixed timeframe, to comply with all applicable land laws and safety regulations, and to maintain appropriate signage on site have been added to the list of the criteria that must be met by the project company for a plant to be certified. The Ministry will have the authority to order operators to rectify infringing equipment and to revoke a plant's certification at any time if it discovers or is made aware by another government agency or by a local government that one of the certification requirements is not satisfied.[13] A number of these criteria double up on general legal requirements, or even, in the case of the requirement to stick to a timeframe, duplicate other changes to the system (see section on 'lead time' limits below), but in any case it seems that the Ministry will be less tolerant of projects which are not on track to contribute to its goal of building a strong, diversified electricity supply for Japan.

According to the legislation, the new certification requirements will apply to all projects that do not obtain "consent to grid connection" from a utility prior to April 1, 2017, but the meaning of "consent to grid connection" is unclear. The documents released by the METI committee construe "consent to grid connection" to mean the conclusion of a grid connection agreement with a utility.[14] Assuming that this will be the case, any certification issued to a project on or before July 1, 2016 will become invalid (*kouryoku wo ushinau*) for all projects without a grid connection agreement on April 1, 2017. Project companies who obtain a certification after July 1, 2016 will have nine months from the date of certification to sign a grid connection agreement, unless they are in the auction phase of negotiations with a utility, in which case they will have six months from the completion of that process. As this grand-father rule may be critical for existing projects, it will be important to closely monitor developments in the Ministry's interpretation of the new legislation in this area.

However, according to the documents released by the METI committee, even projects whose certification under the old system will remain valid will be subject to new limits on 'lead time', or the period of time that may elapse between a project's certification and its final operation date. The Ministry will announce specific lead time limits according to project type and capacity. The Ministry appears to be considering a three year limit for PV projects over 1 MW in size. This limit was not included in the legislation, but was discussed extensively by the METI committee.[15] We expect further policy developments in this area.

A New Paradigm for PV in Japan?

It is difficult to make a detailed assessment of how Japan's model will compare to the auction systems that have been implemented in other countries because many of the important details regarding exactly what requirements will be imposed on bidders are not contained in the legislation and have been left to the Ministry to decide. For example, the new legislation provides that the Ministry may require a 'deposit' from bidders as a condition of participation in an auction process. However, it is unclear whether this 'deposit' will be a bid bond such as has been adopted in Brazil and Peru, or whether the Ministry will opt for performance deposits from successful bidders like the California Public Utilities Commission, or require both bid bonds and completion bonds, like Germany.[16] The new lead time limit is another requirement of which it will be hard to judge the significance until the details are announced. The 36-month lead time limit for PV solar projects over 1 MW discussed by the METI committee would be the same as the time limit the California Public Utilities Commission has adopted in recent auctions. This is twice the 18-month limit the Commission first set in 2010,[17] and longer than the 24-month time limit that has been imposed in Germany.[18] Japan has considerable scope to cut down on this generous lead time limit, given that it takes only a few months to construct most PV plants and a stricter time limit may raise the overall quality of the bidders.

13 http://www.meti.go.jp/committee/sougouenergy/kihonseisaku/saisei_kanou/pdf/008_02_00.pdf

14 http://www.meti.go.jp/committee/sougouenergy/kihonseisaku/saisei_kanou/pdf/008_02_00.pdf

15 http://www.meti.go.jp/committee/sougouenergy/kihonseisaku/saisei_kanou/pdf/008_02_00.pdf

16 http://www.irena.org/DocumentDownloads/Publications/Renewable_Energy_Auctions_A_Guide_to_Design.pdf

17 http://docs.cpuc.ca.gov/word_pdf/FINAL_DECISION/128432.pdf

18 http://www.pv-magazine.com/news/details/beitrag/third-german-solar-tender-delivers-unit-price-of-eur-008-kwh-_100022638/#axzz4ACKPc4Bj

On the basis of what has been made public, it seems likely that Japan will remain a relatively favorable environment for PV investors, even if plant operators will be subject to greater Ministry oversight as the government tries to ensure the system works for Japan as well as for the renewable energy industry.

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