

Asia Pacific Projects Update

JAPAN'S RENEWABLE ENERGY FEED-IN TARIFF REGIME

BACKGROUND

Prior to the Fukushima nuclear disaster in March 2011, Japan relied on nuclear power for roughly 30% of its energy needs, with 60% coming from conventional sources such as coal, oil and natural gas. Hydroelectric power accounted for 9% of Japan's energy resources, with other renewables - solar, wind, biomass and geothermal energy - contributing only 1% of the total power capacity of the nation.¹ Since the disaster, however, all of Japan's nuclear reactors have been taken offline, leaving power generated from the remaining sources to fill the gap. Currently, 90% of all power in Japan is derived from fossil fuels.²

In an effort to diversify the country's energy base, the Japanese Diet has taken an aggressive measure to encourage the development of renewable energy resources. The *Act on Purchase of Renewable Energy Sourced Electricity by Electric Utilities* (Act), which became effective on 1 July 2012, establishes a feed-in tariff (FIT) regime for renewable energy. Under the Act, electric utility operators are required to purchase electricity generated from renewable sources (renewable electricity) from suppliers for prices and durations fixed by the Minister of Economy, Trade and Industry (METI). This regime guarantees a market with fixed, and relatively high, prices for electricity generated from renewable

resources, and is widely expected to spur investment in Japan's renewable energy supply industry.

STRUCTURE OF THE FIT REGIME

Sources of renewable energy

The renewable electricity targeted by the Act includes electricity generated by (i) solar, (ii) geothermal, (iii) wind (iv) hydroelectric, (v) biomass and (vi) other renewable means to be stipulated by ministry ordinances under the Act, such as ocean thermal energy, wave power and tidal current power.

Facility accreditation

In order to receive the benefit of the FIT, a supplier must first obtain accreditation from METI for the facility generating renewable electricity. While there are particular requirements for each kind of renewable resource, the following criteria apply to all:

- The facility must have a system in place that enables it to maintain its expected capacity during the anticipated term of the agreement with the electric utility operator that will purchase the electricity.
- The facility must have a proper mechanism to accurately measure the amount of the renewable electricity supplied.
- The functions and operations of the facility must be specifically identified and reported to METI.
- The installation and operating costs of the facility must be recorded accurately and filed with METI.

¹ METI Website, May 2012. <http://www.enecho.meti.go.jp/saiene/kaitori/dl/120522setsumei.pdf>

² World Nuclear News, 31 May 2012. http://www.world-nuclear-news.org/EE_Fossil_fuels_rule_Japan_3105121.html

There is no charge for an entity to apply for its facility to be an accredited renewable electricity facility. The accreditation process will take approximately one month.

Foreign investment

It should be noted that there are no restrictions on foreign investment for participation in the FIT regime. In fact, foreign investment is welcomed by the Japanese Government to help increase the country's renewable electricity base.

Guaranteed market for renewable electricity

After a supplier has received accreditation, it may then apply to enter into an agreement with an electric utility operator. The electric utility operator must enter into an agreement with the renewable electricity supplier to purchase the renewable electricity. The terms of the agreement are determined by METI. The electric utility operators are also obligated to connect the suppliers to their power network if the suppliers apply for such connection.

Price and term

Under the Act, METI has the authority to determine the price per kilowatt hour of the renewable electricity as well as the duration of the agreement between the electric utility operator and renewable electricity supplier. METI will exercise this authority to set prices and agreement durations before the beginning of each year, and bases such price and duration on the type and scale of the electric power facility where the renewable electricity is to be generated.

Generally speaking, the price and the duration of the agreement will be determined in consideration of the following factors:

- The anticipated cost of generation of energy from the particular renewable electricity source, based on the assumption that the renewable electricity supplier is operating efficiently.
- Costs actually incurred by the suppliers who supplied renewable electricity before enforcement of the Act.
- The expected amount of renewable electricity to be supplied by the renewable electricity supplier.
- An allowance for modest profits for the renewable electricity supplier.
- The overall supply of renewable electricity in Japan.

In particular, METI will give special consideration to the profits to be received by the renewable electricity supplier during the first three years of the Act's enforcement. It is understood that the profits may be geared to be higher during these first three years in order to provide strong

incentives for suppliers to make the necessary initial investments.

In principle, METI's prices and agreement durations are set after consultation with other relevant governmental ministries and are set in a neutral fashion, with no preference toward either the renewable electricity supplier or electric utility operator.

As well as the above considerations, METI bases the duration of the agreements between the renewable electricity supplier and the electric utility operator on industry standards. In deciding on the duration, METI will take into account the standard lifespan of the kind of facility generating renewable electricity. For 2012, the terms of the METI-defined contracts range from 10 to 20 years.

Once a renewable electricity supplier and an electric utility operator have concluded an agreement, the price of the renewable electricity will be fixed for those parties until the end of the term of the agreement, even if METI sets a different price for the renewable electricity during the term of the agreement. Such price will only apply to agreements concluded after the new price has been put into effect.

The 2012 prices and terms for the different energy sources follow:

Solar Power

Electricity Generated	More than 10kW	Under 10kW	Under 10kW (Solar cogeneration)
Procurement price	JPY 42 p/k Wh	JPY 42 p/k Wh	JPY 34 p/k Wh
Procurement term	20 years	10 years	10 years

Wind Power

Electricity Generated	More than 10kW	Under 10kW
Procurement price	JPY 23.1p/k Wh	JPY 57.75 p/k Wh
Procurement term	20 years	20 years

Hydroelectric Power

Electricity Generated	More than 1,000kW Under 30,000kW	More than 200kW Under 1,000kW	Under 200kW
Procurement price	JPY 25.2 p/k Wh	JPY 30.45 p/k Wh	JPY 35.7 p/k Wh
Procurement term	20 years	20 years	20years

Geothermal Power

Electricity generated	More than 15,000kW	Under 15,000kW
Procurement price	JPY 27.3 p/k Wh	JPY 42 p/kWh
Procurement term	15 years	15 years

Biomass Power

Generation Method	Methane fermentation gasification power generation	Unused wood combustion power generation	Wood combustion power generation	Waste material (excluding wood) combustion power generation	Recycled wood combustion power generation
Procurement price	JPY 40.95 p/kWh	JPY 33.6 p/kWh	JPY 25.2 p/kWh	JPY 17.85 p/kWh	JPY 13.65 p/kWh
Procurement term	20 years	20 years	20 years	20 years	20 years

Source: METI Website³

Funding the FIT

Costs incurred by the operators of electric utilities due to their purchase of renewable electricity are recovered through surcharges to consumers. The surcharge is to be determined by METI each year.

EFFECT

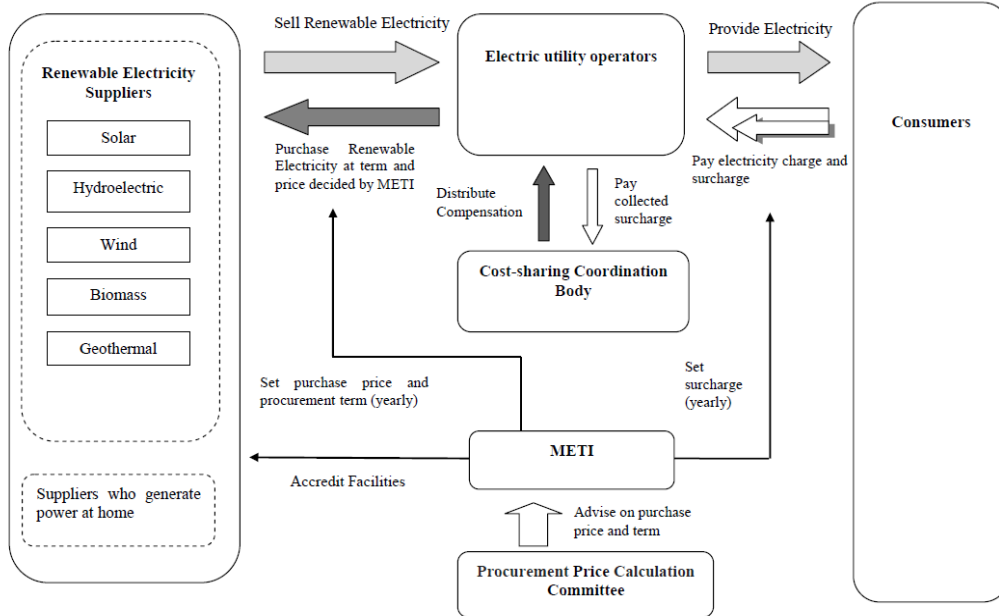
The rates provided for renewable electricity generation are very favorable, especially for solar energy. A price of JPY 42 per kw/h is at least double similar tariffs imposed in France and Germany. It can be expected that both Japan-based and foreign businesses will see opportunities to take advantage of these high rates that are locked in for as long as 20 years. Japan's Softbank Corporation is aiming to be the country's largest solar power firm, with plans to open seven large solar plants throughout the country, producing a combined 256.5 megawatts. Nippon Telegraph and Telephone Corp. (NTT) has invested 15 billion yen to build solar plants in 20 locations, with a total output of 60 megawatts.⁴

It is most important to note that the prices for renewable electricity are determined by METI each year, and that such prices are based in part on the overall supply of renewable electricity in Japan. This is a measure that allows METI to continuously retune the FIT depending on its level of success in generating investment in renewable electricity. One of the clear goals of the FIT is to encourage early investment, particularly in the first three years of its operation. After that, it is foreseeable that the high prices could reduce to levels that are enough to sustain the industry, but not encourage new investment to the same extent as the initial three years. The lasting effect of the FIT has not yet been determined. Whether the FIT will jumpstart a robust industry for which the FIT may eventually no longer be needed, or whether it will create an industry that will always be reliant on the FIT, remains to be seen. Whatever the ultimate outcome, we will certainly be seeing significant growth in Japan's renewable electricity industry in the short term.

³ METI Website, 2012. <http://www.enecho.meti.go.jp/saiene/kaitori/kakaku.html> [Japanese]

⁴ Nikkei, 26 May 2012. <http://e.nikkei.com/e/ac/TNKS/Nni20120625D2506A15.htm?NS-query=Largest%20Solar%20Operator%20>

ANNEX I: Structure of FIT Regime



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