“Laws and Issues of the Solar Business in Japan -Referring to the successful case of my seminar graduate student-”

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“Laws and Issues of the Solar Business in Japan -Referring to the successful case of my seminar graduate student-”

Presentation on

“The 2nd Forum for the Cooperation on Rule of Law among the Countries along the Belt and Road” at Gansu University of Political Science and Law, Gansu Provincial law Society in China on 26th July 2019

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1. The background of the Solar business in Japan

(1) Why go Solar Business?

There are two main reasons.

First is that the theme of this forum relates to the belt and road initiative where much energy is required for the development and sustainability of it.

Second is that my ex-graduate student was successful in the solar business in Japan. Thus, by introducing his case seems to be very significant.

(2) Global Warming and the Paris Agreement

Reducing global warming by the drastic reduction of CO2 emissions is an urgent issue of the world and the Paris Agreement.

(3) The Nuclear Power Problem

Now Japan is facing the shutdown/Currently Japan is experiencing the shutdown of many nuclear power plants starting/which commenced from the Fukushima nuclear power plant problems/disaster caused by the great East Japan Earthquake in March 11, 2011.

Since then, renewable alternative energy power is/has been urgently required in Japan.

(4) What is Renewable Energy?

Renewable energy, unlike fossil fuels such as coal, oil and natural gas, exists everywhere in the natural world such as solar light, wind power and geothermal energy and it cannot be depleted and does not emit or increase carbon dioxide levels.

There are 7 types of renewable energy sources: (a) solar light, (b) wind power, (c) hydropower, (d) geothermal, (e) heat in the atmosphere and other heat in nature, (f) solar heat, (g) biomass (organic matter derived from animals and plants).

Internationally the ratio of renewable energy to total energy in Japan is still lower than in many developed countries, therefore, there seems to be room for development of renewable energy.

(5) The relative ease of entry into the solar power business

2. The FIT system that spreads renewable energy generation in Japan

(1) What is the FIT system?

The FIT（Feed-in Tariffs）is a system that requires electric utilities（electric power companies）to purchase electricity from renewable energy sources such as solar power, wind power, hydropower, geothermal power and biomass energy for a fixed period at a fixed price.

The FIT system which commenced in 2012, promoted the rapid development of the renewable energy power generation business in Japan.

Electricity from renewable energy is purchased through the grid by electric power companies, however, the cost is eventually transferred to the power consumers through levies.

(2) Purchase period（procurement period）

Small scale less than 10kW: Solar Power; 10 years

Solar power generation of 10kW or more: Solar Power; 20 years

Wind power, Hydropower and Biomass power generation; 20 years

Geothermal power generation; 15 years

(3) Purchase price（more than 10kw/per 1kwh）

2012　40 JPY ＋ tax（consumer tax: 8%）

2013　36 JPY ＋ tax

2014　32 JPY ＋ tax

2015　April ～ June　29 JPY ＋ tax

　　July ～　　27 JPY ＋ tax

2016　24 JPY ＋ tax

2017　21 JPY ＋ tax　bid: more than 2000kW

2018　18 JPY ＋ tax　bid: more than 2000kW

2019　14 JPY ＋ tax　bid: more than 2000kW

The purchase price is reviewed every year and has gradually reduced. Of course, once the price is decided, the fixed price continues for a certain period.

What is the reason for the gradual decrease of the power purchase price by photovoltaic generation?

It prevents the power producers from gaining too much profit, as the cost of the equipment such as solar panels is gradually decreasing.

(4) Problems with the FIT system

(a) Review of repeated operations since the commencement of the system

(b) Installation delays after equipment qualification and purchase price determination

(c) Avoidance of regulations by the intentional division of large-scale equipment

(d) Problems of securing the land

(e) Time taken from certification applications to actual certification

(f) Profit risks due to unstable output

(g) Consumer burden increases due to charges

(5) Is this the end of the fixed purchase system?

"The Ministry of Economy, Trade and Industry will end the system for large electric power companies to buy electricity created by solar and wind power companies at a predetermined price. The burden on consumers is rising due to the increase in purchase costs, and a new competitive bidding system will be introduced to reduce costs. Related laws will be revised in 2020" (Nikkei

Newspaper 2019/06/13）.

(6) When the FIT system ends

After the ending of the FIT system, are there any business opportunities for selling electricity at free competitive prices by storage batteries at night?

At any rate, progress in storage battery technology is expected.

3. Laws and regulations of the Solar Business

(1) Laws and regulation on land Right acquisition

(a) Land Use Planning Act: After acquiring ownership, superficies right, right leases, reporting to the prefectural governor is required.

(b) Farmland Law: The permission of the prefectural governor or the minister of agriculture, forestry and fisheries is necessary to divert farmland to solar power business purposes.

(2) Laws and Regulations on Geological changes

(a) Nature Park Act: Prior permission, notification is required.

(b) Natural Environment Conservation Act

(c) Cultural Property Protection Act: Inquiry to the Board of Education, notification

(d) Act on the Protection and Management of Birds and Beasts and Optimization of Hunting: Permission of the Environment Minister, prefectural governor

(e) Act on Conservation of Endangered Species of Wild Animals and Plants: Permission of Minister of Environment

(f) Soil Contamination Countermeasures Act: Report to the prefectural governor for trait change of land of more than 3000 square meters

(g) Forest law: Protected forests cannot be harvested without the permission

of the prefectural governor.

(h) City Planning Act: Development permission is required.

(i) Aviation law: Response to light reflection of solar panels

(3) Laws and regulations on power generation equipment

(a) Electric Business Law: Solar power generation equipment with an output of more than 50kW needs to be notified to the Minister of Economy, Trade and Industry as an electrical structure for business use, and prior to self-inspection

(b) Design and installation of power generation facilities: Permission of the mayor based on the Fire Service Act and is required to meet the requirements of the Building Standard Act.

(4) Local government level regulations

(a) Landscape Law: Obligation to form a good landscape, obligation to cooperate with the state and local governments: Confirmation of the regulations of each local government is necessary.

(b) Environmental impact assessment method: Confirmation of the regulations of each local government is necessary.

4. Issues regarding the Solar Business

Important points to note/consider regarding the solar power generation business are as follows:

(1) Consensus-based decision-making processes with neighbors through a public information session

(2) The disposal problem of solar power generation equipment: treatment methods, harmful substances, reuse and so forth

(3) Land use rights of business is desirable ground right: Since the solar power

generation business is not intended to own buildings and is not protected by the Act on Land and Building Leases, thus, it is desirable to establish ground rights for over 20 years.

（4）Insurance contracts: Fire insurance, liability insurance, and power sale revenue guarantee contracts for equipment are essential conditions in order to obtain loans, but it should be noted that insurance underwriting may be refused in earthquake risky areas.

（5）Bankruptcy of solar panel manufacturer: Failure to fulfill inspections, repair obligations are subject to equipment certification cancellation.

5. Suggestions/Recommendations of a business case from a seminar graduate student

My seminar graduate student started his solar power generation business in 2012, and since then it has developed steadily, and several years later his business will become the largest solar power business in Tokyo and the surrounding areas（Kanto area）. His successful business is a great honor for me, as his seminar professor.

Based on the FIT system, he first made an application to the Ministry of Economy, Trade and Industry in order to secure a site and obtain accreditation for solar power generation equipment. Since the fixed purchase price for a fixed period by the electric power company is revised every year by the notification of the Ministry of Economy, Trade and Industry, it is necessary to receive the certification of the equipment before the revision. The time to prepare for the application by the revision of March of following year was very tight.

In parallel with the application for equipment qualification, he had to negotiate for a power supply and demand contract with the electric power company.

For this purpose, it was necessary to ask and grasp whether there was a

vacancy in the transmission line and what kind of construction was necessary.

If someone doesn't start selling electricity within 3 years after receiving the equipment certification, a penalty will be imposed, and if it is a 20-year purchase period, that period will decrease every month according to the delay. This is a measure in view of the fact that someone intended to delay installation, as the cost of equipment such as solar panels has been decreasing every year.

If it is more than 2000kW（2Mega）, it is classified as "extra high voltage" and a substation must be installed. If it is more than 50kW and less than 2000kW, it is classified as "high voltage", and a cubicle and high voltage line must be installed. If it is less than 50, a low voltage line is sufficient enough.

Since equipment cost increases according to the output, some people split the equipment unlawfully. Actually, at the beginning of the FIT system, it was possible to divide equipment by dividing the power pole, but this was prohibited after 2 years. At present, a method of dividing land by people seems to have been adopted as a new deregulation method, which is also a regulatory issue.

The Forest law § 10-2 stipulates that, when developing forest land, the permission of the prefectural governor must be obtained in accordance with the procedure specified by the Ministry of Agriculture, Forestry and Fisheries.

If deforestation is carried out, the water holding capacity may decrease and the sediment may leak, and so forth, thus, a reservoir must be installed.

The water in the reservoir is drained by a pump, but the drainage route needs to be approved by the Water Association.

In order to develop forest land, it is necessary to create an outer frame of the land band leaving a surrounding forest, and it is necessary to leave a forest as a whole 25%.

In addition, tall trees must be planted in the created forest.

Special care of rare animals must be undertaken when harvesting forests. For example, if we find a hawks nest, we must move the nest carefully.

If a developer finds a buried cultural property, the developer must examine it at the expense of the municipality, and if there is a possibility of developing the land, it has to dig it at its expense. This could lead to the interruption of the development of the land. However, according to the graduate student, such buried cultural properties should eventually be filled with soil. It is based on the idea that cultural property is required to be further protected.

Renewable energy sources should be the commonly used infrastructure in countries along the “belt and road”. Above all, solar power business seems to be suitable for this area. Technological progress of the storage battery is a key for success.

It is said that “Law is the growing industry”. As I mentioned above, owing to the enactment of the FIT Law, my graduate grasped the great chance to start his solar business. Even though he is still only 30 years old, he has already built a huge asset and is steadily increasing it.

The role of the FIT system will be end soon, but its achievement to have spread the solar business in Japan is very significant.

―Junichiro KUSUMOTO, Professor of Toyo University Faculty of Law―