

## *Session B: Energy Conservation and Renewable Energy*

### *Summaries of Report Contents*

In Session B, a total of nine persons (four from the Japanese side and five from the Russian side) made presentations. The import of the session as a whole was: the carrying out of reports on the situation for the respective initiatives between Japan and Russia in the area of energy conservation and renewable energy, and the future prospects thereof, and an exchange of opinions; and at the same time the seeking anew of possibilities for cooperation between the two countries in this field. I introduce the outlines of the content of each person's presentation below.

1. Zenji MATSUMOTO, Group Leader, Russia Sub Working Group, Japanese Business Alliance for Smart Energy Worldwide (JASE-World), and Associate General Manager, Corporate Planning Division, Toyo Engineering Corporation

"JASE-World and Its Activities for Russia"

The Japanese Business Alliance for Smart Energy Worldwide (JASE-World) takes as its objective the expanding to the world on a business basis of Japan's energy conservation technology. Within this organization there is a Russia team and it aims at project development in Russia. Currently, we are developing activities aiming at the realization of cogeneration projects in Russia in particular. For their realization, we are also considering utilizing Japanese finance, such as JBIC and the Japan-Russia Investment Platform.

2. Ryoza MIURA, Associate Director, Russia and the NIS, Gas Turbine and Machinery Company, Kawasaki Heavy Industries, Ltd.

"The Development of Our Company's Gas Turbine Technology and CO<sub>2</sub>-Free Hydrogen in Russia"

Our company has the achievement of supplying a total of seven 7,000-kW-class gas turbine units for the 2012 Vladivostok APEC Summit venues. Currently too, we are undertaking negotiations, including for the supply of cogeneration plants for cities, towns and villages alongside the Far Eastern gas pipelines, and projects for the city of Artyom in Primorsky Krai. Meanwhile, hydrogen is attracting attention as a next-generation energy with no CO<sub>2</sub> emissions, and an increase is forecast in demand accompanying the future spread of fuel cell vehicles. Our company will manufacture hydrogen utilizing a hydroelectric plant in Magadan, and is moving forward with plans to import it into Japan.

3. Irina IVANOVA, Head of Laboratory for Energy Supply to Remote Areas, Energy Systems Institute, Siberian Branch of the Russian Academy of Sciences

"Prospects for the Development of Renewable Energy in the East of Russia and Areas for Russian-Japanese Cooperation"

Currently, the share within the total amount of electricity generation for energy sources occupied by

renewable energy in Russia, excluding the fuel from waste timber, is some 0.2%. Increasing that has become a national issue, and upgrading and review in the legal sphere have been furthered, and a target has been made of making this share 2.5% up to 2020. Last year the new construction of electricity generating plants by competitive tendering also commenced. In the Far East, the installation of renewable energy as a means for small-scale distributed electricity generation for remote areas is being pursued enthusiastically. According to the Academy of Sciences' study results, the total output of renewable energy electricity sources of the east of Russia, including Siberia, is forecast to grow to 470 MW up to 2035.

4. Georgy NIKONOV, Representative, Sakha Republic (Yakutia) Representative Office in the Far Eastern Federal District in Khabarovsk

"Installation Planning for Renewable Energy in Sakha Republic (Yakutia)"

In the Sakha Republic, the installation, respectively, of wind power, solar power, and small-scale hydropower is being pursued enthusiastically as an alternative to the existing distributed diesel electricity generation. The most mainstream among them is wind power, but there are problems such as that equipment with an Arctic specification has not yet been fully developed. We would also like to further cooperation in this field with Japan.

5. Sergey KOVALEV, Acting Director, Department of Energy, Oil, Gas and Coal Industry, Primorsky Krai, Russia

"Development Strategy for the Primorsky Krai Fuel and Energy Complex"

The characteristic of Primorsky Krai is that it depends greatly on the import of energy and fuel from other regions. In addition, the aging of electricity generating plants, distribution lines, and heat supply piping networks is striking, and the replacement of that equipment is an urgent task; we have been getting to work on such matters as the revamping of existing electricity generating plants via the installation of gas turbines which utilize natural gas. For renewable energy also, the installation of solar power, wind power and hydropower electricity generation in settlements has begun. Moreover, the plans for construction of an LNG plant, a gas chemical plant, and a petrochemical plant as large-scale projects at the federal level have been initiated, and a direction has been set out for the support of the regional government also. In this sense, as the sectors in which Japanese firms can cooperate in Primorsky Krai are numerous, we hope for the furthering of cooperation.

6. Alexander GULKOV, Director, Institute of Oil and Gas, Far Eastern Federal University

"Prospects for Cooperation between Primorsky Krai and Niigata Prefecture in the Energy Conservation Sector"

Recently in Russia, a variety of programs have been

worked out aimed at energy conservation and the improvement of energy efficiency. Actually, however, there are the resources in Russia and hence a change in the mentality of energy consumers has not moved forward, and mechanisms for installing equipment have not been fully achieved either. Funding is also lacking. Consequently, I think time will still be required for Russia to introduce energy conservation technology and renewable energy equipment in earnest. On the other hand, there are also sectors where a start has already been made. In Russia there is great interest in Japanese technology. I think that small-scale cogeneration systems (gas turbines) utilizing gas and fuel cells are particularly promising. Giving consideration to on-site assembly and production is important.

7. Mikhail SOROKIN, Head of the Far Eastern Association of Builders

"Energy Saving Building Technology in Khabarovsk"

As the amount of energy which building consumes is enormous, the concept of green building, that is to say environmentally-friendly building technology, is currently playing an extremely important role. This technology has been developed in Russia also over the last decade or so, and has already achieved results. An example is residential building in Khabarovsk, and this can also be called the "smart house". Here a variety of the latest technology has been taken advantage of, including: energy saving, such as heat recovery; dust-proofing measures; metering and recording systems for the amount of energy consumed; and the use of solar energy. At the same time consideration has also been made of the comfort of living. The building costs are also not so high, and a widening popularity is expected.

8. Takeshi SAKEMI, Director, Business Support Division, ERINA

"The Current Status for Renewable Energy in Japan and Russia: In pursuit of business opportunities"

The total amount of electricity generated in Japan in 2013 was 939.7 billion kWh, with 2.2% of that renewable energy excluding hydropower, and the figures have been

steadily rising each year. A "feed-in tariff (FIT) system" was introduced in Japan, and has been playing a driving role in the expansion of renewable energy electricity sources. Niigata Prefecture is no exception either, and the introduction of Mega-Solar electricity generation, biomass electricity generation, and small-scale hydropower, etc., is proceeding earnestly. The proportion of Russia's renewable energy electricity sources is still low, but last year the introduction of new electricity generating plants by competitive tender commenced. In addition, many projects are underway in the Russian Far East for renewable energy electricity sources for distributed power sources to substitute for the existing diesel electricity generation. Japanese firms should be seizing this as a business opportunity.

9. Koichi KOZAKAI, Director, Sales General Manager, Ohara Corporation

"Our Company's Small Biogas Generators"

We are a Nagaoka City, Niigata Prefecture, firm, which manufactures biogas electricity generators, using as fuel local energy resources, such as sewage sludge, animal manure, and food waste. To date in this sector we have achieved the supply of 38 units domestically. Biogas differs from other renewable energies, in that it is stored in the raw materials, and has the characteristic that some form of biogas exists, whatever the region. Our company's biomass power generators have five characteristic features: small with high efficiency; output control is possible; the advantage of scale, via increasing the number of units and output; easy maintenance; and optional settings to match the operating conditions are possible. Based on the needs of each area, we would like to go on developing the conversion of technology globally, including in Russia.

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