

Session B: Environment

Summaries of Report Contents

In Session B a total of six persons made reports from the perspectives of the environment, and energy-saving and renewable energy. Below I will introduce the summaries of the contents of those reports.

1. Yoshihiko Murasawa, Secretary General, Japanese Business Alliance for Smart Energy Worldwide (JASE-World)

"Introduction of JASE-World and Its Activities aimed at Russia"

JASE-World, with an organization that has 90 members which are Japanese private-sector firms and bodies, is active on the challenge of continuing to develop overseas, placing energy-saving and renewable energy technology products and technologies which Japanese firms possess under a public-private cooperation system. In order to achieve this aim, we have created a book, "Japanese Smart Energy Products & Technologies", which can be called a general catalogue relating to Japanese technology in this field, and have sent it overseas. The working groups for individual sectors within the organization have been established, and a specialist group for the energy-saving sector related to Russia also has been established. At present in Russia domestically we have made our target striving for the spread and promotion of high-efficiency cogeneration systems, and discussions to base it on an ESCO (Energy Service Company) scheme have begun.

2. Aleksandr Gulkov, Director, Institute of Oil and Gas, Far Eastern Federal University

"The Prospects for the Creation of an Energy Center: Energy-saving and alternative energies on the basis of the Far Eastern Federal University"

At the new Far Eastern Federal University, the themes of "energy resources and energy saving" have been designated as one of the directions for future development at the university. In order to achieve this, we are proceeding with collaborative research with firms and research institutes within and without the country, and it is planned to also establish an experimental plant on campus for education, research and development, and manufacturing. We would like to investigate constructing in the future a smart house on campus in collaboration with Japanese firms, and, making that the basis, introduce and disseminate the energy-saving technology of Japanese firms. In the area of small-scale wind power generators, concrete cooperative relations with Japanese firms are being constructed.

3. Michiaki Harada, Director, Research and Development Department, Japan Coal Energy Center

"Japan's Clean Coal Technology"

For coal, in the world as a whole, import and export transactions of approximately one billion tonnes take place. Japan, also, has continued over the long term to import coal from Russia, and in 2011 it imported over 10 million

tonnes. From the viewpoint of measures to tackle global warming, in Japan, the development and proving, as clean coal technology for using coal cleanly, is being promoted from the two directions of high efficiency via high-temperature combustion and CCS (carbon capture and storage) technology for recovering CO₂ and storing it in the ground. Related to the former, the following can be raised: ultra supercritical pressure system development; the practical application of IGCC (the integrated gasification combined cycle); and the development of IGFC (an integrated gasification fuel cell). Regarding the latter, verification tests via the participation of Japanese firms have been pursued in Australia. When such technology gets settled and established it will become possible to utilize cheaply the large amount of coal globally, and it will become possible to avoid CO₂ emissions. The construction of cooperative relations in this area of coal-fired thermal power between Japan and Russia is hoped for.

4. Akira Okunoya, Executive Officer in Charge of Overseas Business, Winpro Co., Ltd.

"Introduction of Winpro's Technology and the Initiative in Vladivostok"

Our company is a venture company undertaking the manufacture of small wind power generators. It possesses its own developed technology, including a vertical wind power generator which rotates regardless of the wind direction, a hybrid system which utilizes both wind and solar power, and a high-efficiency non-contact inversion generator with a maximum output of 5 kW. We concluded a basic contract on joint development with the Far Eastern Federal University in Vladivostok, and are progressing with consultation on installing a wind power generator on the campus of that university. Furthermore, with the plan of continuing to execute joint development with the Far Eastern Federal University in the field of renewable energy, including wind power generation, solar power generation, storage batteries, fuel cells, and biofuel power generation, we would like to make efforts in the future as a bridge between Japan and Russia.

5. Nobuyuki Kusama, Director of Sales and Marketing, Toshiba Fuel Cell Power Systems Corporation

"Residential Fuel Cell Systems"

Our company manufactures and sells "Ene-Farm", a residential cogeneration system. It is a system for producing electricity and hot water where the fuel is town gas or LPG (liquefied petroleum gas); the gas is not combusted, but the hydrogen is separated and extracted and supplied to the fuel cell. At the company we commercialized and put the product on sale in 2009, and in the four years to 2012 sold 20,000 units. For 2013 we have plans to achieve sales of 20,000 in that one year alone. Due to the device showing promise for high energy-efficiency and great energy-saving outcomes, 100,000 have already been installed in Japan as a

whole, and it is rapidly spreading as a form of distributed energy source. With the Japanese government in the lead, each manufacturing firm has been planning the export of this device, and from 2016 there is the prospect of the promoting of overseas expansion. If that happens, it is hoped that there will also be a point of contact with Russia.

6. Shinobu Saito, Director, Environmental Sales Department II, Ohara Ironworks Co., Ltd.

"Biogas Electricity Generators using Methane Fermentation"

The "biogas power generation plant" which our company manufactures is a system with a plant based on the biochemical transformation technology of "methane fermentation" that: pretreats such materials as sewage water, sewage sludge, animal manure, kitchen refuse, and garden plant refuse; converts them to biogas which is a

burnable gas; and then using this as fuel generates electricity. Giving consideration to application at small-scale sites and to low maintenance costs, we have commercialized plants of two standard kinds with electricity output of 25 kW and 50 kW, and we have realized a generating efficiency of 35%. In Russia there exist many areas that are not connected to electricity transmission lines, and it appears that there is latent demand for small-scale and distributed power sources. Furthermore, because the momentum for utilization of renewable energy is also continuing to increase, our company's technology appears able to contribute to Russia's needs also.

(Takeshi SAKEMI, Deputy Director,
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[Translated by ERINA]