

Welcome Address at the International Energy Agency (IEA) Photovoltaic Power Systems (PVPS) International Conference 2003 (IEA/PVPS International Conference 2003)

Date: May 19, 2003 (Monday)

Time: 10:01-10:11 a.m.

Place: Osaka International Convention Center (Grand Cube Osaka, Conference Room 1003, 10th Floor)

Good morning ladies and gentlemen. I am Tsutomu Makino of the New Energy and Industrial Technology Development Organization (NEDO). I am delighted that so many people have come here to participate in this IEA/PVPS International Conference 2003 today. I hear that this IEA/PVPS International Conference we are holding today and tomorrow, together with last week's Third World Conference on Photovoltaic Energy Conversion (WCPEC-3) and its Exhibition, is very likely the largest, most comprehensive international event ever as one to focus on this issue. As the organizer of this conference, it is very gratifying that more than 250 people from 27 countries and regions all over the world are taking part.

I think it is noteworthy that exactly 30 years ago the technological development of PV power generation systems was established as a national project in Japan with the launching of the Sunshine Project. This year also marks the 10th anniversary of the IEA/PVPS.

In 1980, six years after the launching of the Sunshine Project in Japan, NEDO was set up. Through NEDO, a structure was established for the promotion of research and development based on industry-university-government cooperation among the private sector, universities, and national research laboratories. NEDO is now Japan's biggest comprehensive industrial technology research organization, conducting research not only on PV power and other new energy sources but also on industrial technologies such as IT, life sciences, the environment, and nanotechnology. Among these, research and development on PV power generation technologies form one of the most important pillars of NEDO's research activities. We have also consistently provided society with the results of this research. With our contribution, the cost of producing PV cells is now about one-hundredth of what it was when we started, and conversion efficiency has been improved from the 10% level to about 17%. As you are aware, the many new

technologies and skilled technicians fostered during this period have become the driving force behind today's PV power market, and I would like to take this opportunity to express my deep appreciation of the efforts of all those involved both in Japan and overseas.

At present, however, the global economy, and particularly the Japanese economy, has been suffering from a long recession and we now face a major turning point. To break out of this recession, structural reforms such as privatization and the disposal of non-performing loans have been advocated, but even more important than this are positive reforms to promote the creation of new industries that can raise the economy out of this recession and bring vitality back to both corporations and individual citizens. For this, what we need above all is a technological breakthrough. The importance of this has been stressed at the Japanese Government's Council for Science and Technology Policy, and policies have been formulated for intensive efforts in priority areas by the government, the private sector, the academic community, and citizens as a whole. Needless to say, great things are expected of PV power generation technologies as one of these priority areas.

The PV power generation market has grown significantly, with the total annual production in Japan being 100 billion yen and global production about 200 billion yen. As yet the scale is small, and from the perspective of technology development and diffusion the industry still cannot be said to be completely self-sufficient. Still, much can be expected from the ongoing creation of this new industry. Incidentally, future visions of PV power generation have been set forth by both government and industry in Japan, the USA, and Europe. The report of the G8 Renewable Energy Task Force published in July 2001 projected that the cumulative total amount of PV power to be introduced will grow at over 20% annually, with 118 gigawatts by 2020 and 655 gigawatts by 2030, the highest growth rate in the entire field of renewable energy. To turn this vision into reality and promote self-sustaining and stable growth, international coordination in technological development and market expansion is going to be increasingly important.

I would now like to mention three key points in international cooperative activities that I believe are necessary requirements for realizing the recommendations.

The first key point is the active exchange of information on renewable energy technology development and assiduous international efforts.

In particular, it will be essential to further reduce the cost and improve the efficiency of PV cells and related systems.

Second, it will be necessary to actively conduct technological development aimed at solving the problems of grid-connection among power systems. It is forecast that PV power generation systems in Japan will be increasingly connected in large numbers to the same transmission cables. Furthermore, there is growing demand for grid-connection control technologies for hybrid systems combining PV power with other kinds of renewable energy, as well. I believe that international cooperation for the establishment of such grid-connection technologies will become increasingly important.

Third, it will be necessary for the IEA member nations to strengthen their cooperation regarding the diffusion of PV power generation systems to non-member nations. NEDO has always cooperated in promoting the adoption of PV power systems in Asian countries. For example, together with the government of Thailand, NEDO has conducted a pilot project on a PV power generation system for battery charge stations, thereby contributing to the formulation of a Thai government plan for electrification of villages presently without electricity, using battery charge stations. Of the 300 planned stations, 283 have already been set up. NEDO has conducted joint demonstration research with the government of Mongolia on portable power generation systems and contributed to the Mongolian government's "100,000 Gher Plan", which aims to provide electricity to 100,000 gher, the traditional tents in which Mongolian nomads live. NEDO has also cooperated

with the Chinese government in research on PV cell evaluation technologies, contributing to the Chinese government's Guangming or Brightness Program for electrification using PV power generation in areas where systematic electrification is difficult. We are also providing assistance in countries such as Cambodia in order to solve problems relating to energy hybridization and grid-connection. We believe it is essential to continue to provide effective cooperation through prioritization in line with the progress made in these countries.

I very much hope that, bearing these three key points in mind, we will have broad and detailed discussions at this conference and that we will be able to determine a new form and overall plan of action for the IEA/PVPS.

Finally, I would like to mention that this conference has received very strong support

from the IEA authorities and the Japanese government, especially the Ministry of Economy, Trade and Industry. We have also received various kinds of assistance from many other organizations. I would like to take this opportunity to express once again my appreciation for this support. Although we only have a short time at our disposal, I very much hope that this will prove to be a significant and fruitful conference for all of you.

Thank you very much for your attention.