Speech by H.E.Mr.Kaoru ISHIKAWA, Ambassador of Japan in the workshop on New and Renewable Energy

July 7, 2008

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H.E. Minister of Higher Education, Dr. Hany Mahfouz Helal,H.E. Minister of Electricity, Eng. Hassan Ahmed YounesDistinguished Guests,

Ladies and Gentlemen,

1. Japanese Leadership

(1) G8 Hokkaido-Toyako summit and Kyoto Protocol

July the 7th is an important day for us Japanese, since we believe that this is the only evening throughout the year that two lovers separated across the Milky Way could meet. And that, with one important condition: if the sky is not clean, they cannot meet. I believe that this is the reason why my Prime Minister H.E.Mr.Yasuo Fukuda decided to host G8 Summit today in Japanese Northern Island of Hokkaido, to discuss how to keep clear the sky.

Well, joke put aside, 2008 is the first year of Kyoto Protocol, and we must talk seriously and take concrete actions for post-2012 framework on climate change after the first commitment period of Kyoto Protocol. In 2005, G8 Gleneagles Summit was held in Scotland, and described in details eco-friendly energy actions to be taken by G8 countries in various sectors such as construction, appliances, surface transport, aviation and industry. G8 leaders also committed themselves to promote the continued development and commercialization of renewable energy.

Last year, Japan proposed the "Cool Earth 50" promotion program, calling for a halving of global greenhouse gas emissions by 2050. At the annual World Economic Forum held in Davos in January 2008, Prime Minister Fukuda outlined his new proposal "Cool Earth Promotion Programs", and emphasized equity in the target setting for the post-Kyoto framework, while offering Japan's international cooperation in adaptation and mitigation of the climate change. Japan believes it necessary to establish quantified national targets for emissions reductions, and to realize these targets a bottom-up approach is a logical conclusion. That is to compile a sectoral basis energy efficiency and tallying up the reduction volume.

Year 2008 coincides with the starting year of Kyoto Protocol commitment. To realize our common goal, huge energy consuming and CO2 emitting countries such as USA and China are encouraged to join other countries' endeavor. In doing so, not only new technology but also existing technology will play a key role. We need to implement concrete application of new and existing technologies to actual factories' production system and their products, and each of us must change consumers' purchase preferences and to change our life style. Japan intends to help developing countries in their concrete actions not only to adapt to, but also and mainly to mitigate climate change through financial as well as technical cooperation. This will ensure that developing countries will realize a new way of economic take off, without hindering their people's health. Indeed, Japan is eager to support developing countries, because with today's technology they can avoid repeating our mistakes causing death and health hazard to the people only if they so decide.

(2) Existing technology and Energy Efficiency

Based on this conviction and the high level in energy efficiency and in energy diversification, both of which are based on technology, Japan is extending transfer of technology to developing countries. There are two concrete merits. Firstly, if you use less energy resources to produce same amount of GDP, it means that you contribute not only to energy conservation but also to emit less CO2, SOx and NOx. Secondly, world can benefit the world highest existing technology. In fact, according to International Energy Agency, or IEA, Japan has the highest energy efficiency in the world. To produce a same amount of GDP, Japan uses half of the energy that USA uses, one tenth of China and India, and one twentieth of Russia. This is because Japan has been extending strenuous efforts to realize energy-efficient society while some others did not. If others introduce similar measures, the earth will be less polluted and energy will be

preserved as well.

(Note: To produce 1000 US Dollars GDP, Japan needs 0.106 tons oil equivalent energy, USA needs 0.221, both China and India need 1.020 and Russia needs 2.090. This means that USA uses 2.1 times more energy resources than Japan to produce the same amount of wealth, China and India 9.6 times and Russia 19.7 times. World average is 3.0 times.)

Here, I must stress one important point. That is, before talking about new energy resources, we must know that with already existing technologies on earth, we can do much better, only if people concerned want to use them. Some really do not want to. So, actually by implementing concrete actions in countries such as China and India with our help, they can largely improve their energy efficiency. Our support to these countries is usually extended through official development assistance, or ODA. But in addition to that, private business is also doing well in renewable energy sector. For example, in India, a Japanese company established a joint venture with a small yet dynamic newly established Indian entrepreneurial company, and they sell together small scale windmill generator to ordinary households in Indian rural area. Incidentally here in Egypt, Japan Bank for International Cooperation supports wind power generation project in Zafarana on Red Sea region (the amount is 13.5 billion yen / about 110 million US Dollars. Soft loan with 10 years grace period and 30 years repayment with 0.75% interest rate). I may also mention that some European countries ignore the fact that cyclone, monsoon or typhoon exists on other part of the world and it is only in Europe that they have mild and constant breeze. This ignorance is hindering wider use of wind power in the world.

(Ladies and Gentlemen,)

- 2. Diversification of Energy Resources
- (1) Reduce oil dependency

I come from a country which has no natural resources. This is an important point when I speak about energy and energy efficiency. Indeed, if you do not have natural resources, logical conclusion would lead you to diversify your supply sources, to use the obtained resources in the most efficient way and to innovate technology to get energy resources from new materials including sunshine and wind which are limitless. The world has learned very expensive lessons through the two oil crises in the last century, but Japan alone took it really seriously and started to reduce the high dependency on oil. One of the results of this strategy is clearly shown in electricity sector. In 1973 the share of oil in Japanese power generation was 71.4%. It went down through the years and in year 2004, the share was 8.2%. During the 31years, nuclear energy and LNG increased their share and, in 2004 they were 29% and 26% respectively. We are pursuing actions to realize the best energy mix. In case of power generation, it would be to use hydropower, geothermal, nuclear, coal, LNG and oil according to electricity demand pattern.

(2) Diversify energy resources

Another challenge that all of us are now facing is climate change. This leads us to accelerate technology innovation to further diversify energy resources and enhance energy efficiency. In case of electricity generation, Japan has comparative advantage mainly in the following technologies.

(i) 55% of world photovoltaic power generation is now produced in Japan (source: IEA). Our target for year 2010 is to generate 4 million 820 thousand kilowatt. We will dramatically raise the generation efficiency. And we will reduce the current cost of solar power generation (46 yen/kWh) to the same level as thermal generation (7 yen/kWh). In addition to traditional photovoltaic generation devices, some private companies have invented transparent solar battery. This battery has a shape of usual grass window which allows sunlight to go through the window. Big difference with usual window is that it generates electricity.

(ii) Wind power generation is also a high priority. The problem of countries which are situated in east side of a continent like Japan is that we do not have constant breeze but face typhoon or calm (that means no wind). This led some Japanese private companies to invent small size wind mill which generate power with very weak wind. The size is so handy that instead of installing huge wind mills in the midst of nowhere, each household can afford installing a small windmill to suffice its need. Hybrid type of solar and wind power generation devices are also available.

(iii) Light-emitting diode, or LED, is also a new trump card. LED needs little electricity to produce large light energy. You can see them mainly used so far in traffic light and publicity panels. In Japanese rural areas, traffic lights with LED are often powered by a small solar panel. Good news is that LED has also started to be used as lighting in office and house.

(iv) We have also rediscovered hydroelectric power generation in the sense that small to medium scale hydropower generation is now mainstreamed. If you have a small stream in your backyard you can get electricity. A village of 1500 households with four persons each can obtain necessary electricity by a single 4500 kilowatt generator.

Regarding transportation sector, needless to say hybrid car is rapidly increasing its market share. For example, TOYOTA, the leading producer of hybrid cars, has produced more than half a million Prius, leading hybrid car. Incidentally, Japanese Prime Minister's car is a hybrid LEXUS. Talking about Government official cars, under the direct instruction of then Prime Minister Mr. Junichiro Koizumi, all of the 7,000 cars owned by Japanese central government are replaced by eco-friendly cars such as hybrid cars and LNG fuel cars.

3. Actions and Participation

(1) Top down approach

To further enhance the use of new energy, we need political leadership, legal framework and people's participation, not to mention world wide participation to build a better future.

Let me first illustrate some concrete cases of top down approach. In Japan, successive Prime Ministers have been taking leading roles to realize a less energy consuming society with emphasis on energy efficiency, diversification of energy resources and change of life style.

For example, ten years ago, Prime Minister Hashimoto, while cutting by half the number of Japanese Ministries to pursue administrative reform, graded up National Environment Agency to Environment Ministry.

Prime Minister Koizumi ordered to change all of the government owned cars to eco-friendly vehicles as I mentioned earlier, and introduced solar generation system to all of the ministries' buildings, including Prime Minister's office. The Prime Minister's office is also equipped with the first model of fuel battery for housing. Prime Minister Abe, who came to Cairo, last year, declared that his administration will implement measures to tackle with the global warming including the promotion of the use of renewable energies. And as I have mentioned earlier today, Prime Minister Fukuda proposed "Cool Earth Partnership Program," and is now leading Discussion on climate change in the G8 Hokkaido Toyako meeting.

In these campaigns to promote energy efficiency and energy resources diversification, people's life style is not a sanctuary. The Koizumi administration fixed air conditioning temperature in public buildings at 28 degrees and not less during the hot summer season. At the same time Prime Minister himself took off his tie during the summer season so that the warm air-conditioning could be accepted by people. Incidentally, this triggered a new fashion in Japan and boosted textile and cloth industry. The administration also launched a campaign to change the mind set of people to think more seriously about the resources. The campaign is 'Reduce waste, Reuse resources and Recycle goods'. This campaign was named '3R' campaign. We see some plastic bottles containing water on the

table. In Japan they are recycled after use for the production of clothes. Here lies a hint. Renewable energy can be promoted as a part of holistic approach. In my humble opinion, just promoting renewable energy by singling it out would not necessarily lead to a massive and effective move towards the actual use of renewable energies.

In a broader front, rule making is also a result oriented approach. In my country, electricity companies are legally bound to use a certain percentage of wind energy, solar energy, geothermal energy, medium and small scale hydropower generation and biomass to generate electricity.

(2) Bottom up approach

Now, we can not talk about holistic approach without mentioning ordinary citizen's participation. The above mentioned '3R' campaign, 'Reduce, Reuse and Recycle campaign' was certainly launched by the then Prime Minister, but it would not have spread at national level unless ordinary people supported it and participated in the movement.

People's participation is more clearly recognized in my country in solar panel and wind power generation. Many households have their solar panel on the roof which generates electricity for the household's use which contributes not only to reduce the use of traditional energy resources but also to reduce household's spending. Some constructing companies have put into market roof which are themselves solar panels. Small scale windmill generator is also gaining little by little ordinary household's support. When they generate more electricity than the consumption by the household, the household can sell the electricity to electricity companies. Participation is also encouraged through market mechanism. For example, we have a campaign named 'top runner method'. When an appliance or a car is recognized as the most energy efficient by a neutral independent commission, the said appliance maker or car producer is officially allowed to say so publicly in the market. This gives them more attractive feature to consumers. Market mechanism, through competition, will then force other producers to improve their energy efficiency through new technology renovation including the use of new energy resources. Labeling is also an efficient way to heighten consumer's interest to those products which have official label showing that they are eco-friendly. In those cases, both producers and consumers participate in improving energy efficiency and energy resources diversification.

In conclusion, let me reiterate three points that I believe important in promoting renewable energies.

One: top down approach with strong political will

Two: solid technology basis including sharing of knowledge and transfer of technology, and

Three: bottom up approach through participation of market players and ordinary citizens

Today my country has the highest technology to prevent pollution. Under the strong leadership of Prime Minister Yasuo Fukuda, we are launching COOL EARTH INTIATIVES. Developing countries which support COOL EARTH INTIATIVES and also implement concrete actions to fight back environmental degradation are eligible to our technical cooperation; Prime Minister Fukuda set a new fund amounting approximately to 10 billion dollars for this purpose.

I thank you for your kind attention.