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To Get to 2050 and Beyond, the United States and Japan Must Take the Lead in Green Innovations

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Can you imagine the world in 2050? If CO₂ emission and energy/resource consumption continue to increase, a drastic environmental change will have occurred. I'm expecting that **the year 2050 will be a crucial tipping point** in determining whether current human lifestyles will face severe challenges or not, something the world is just now coming to think about. Japan and the United States are two of the most industrialized countries in the world, and both national leaders have declared their intention to create low carbon societies. We should take further action on the global issues of climate change and energy consumption in order to find positive answers by 2050.

We have three ways to proceed. The most effective way is to **improve energy efficiency by three times**. Cars manufactured by Japanese companies can reduce their consumption of gasoline by 20% and hybrid cars by half. When it comes to electric cars and cars with fuel cells, energy consumption at 1/10th the current level is possible. As in the case of Japanese manufacturing companies, investment to increase energy efficiency brings a certain return. In other words, **improving energy efficiency means a business opportunity**. As the smart grid policy gets under way, Japan is ready with the high technology and the United States has a great market and demand. In order to improve efficiency by three times, green technologies should be introduced into every industry and even into individual households through US-Japan cooperation.

Doubling the use of non-fossil energy and establishing recycling systems of materials are also necessary. Developed countries need to use renewable energy while reducing their use of fossil fuels by 80% by 2050. In renewable energy, the United States has become one of the leading countries in the world in wind energy. The United States and Japan have started research cooperation since this year in smart/micro grid experiments in New Mexico, Hawaii, and Okinawa. The Japanese government is planning development of offshore wind power plants equal to 10 atomic

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power plants. Of course, atomic energy plants are also necessary to reduce CO₂, and we need to raise their utilization rate. As for the recycling system, the key is how effectively and qualitatively materials can be recycled and reproduced. It is not only a technological research theme but also a social issue related to individual life styles.

The United States and Japan should have closer cooperation in these R&D projects, in their implementations, and in the international systems used for the transferring of technology to developing countries. To achieve low carbon societies, it is also necessary to involve the developing countries. If we implement these measures, change on earth can be ameliorated. Temperature increase until 2050 should be kept within 2-3 C degrees. The year 2050 will come very soon. Countries capable of taking significant action, such as the US and Japan, should begin now.