

## Energy and Climate Security for Sustainable Development\*

Tsutomu Toichi

Senior Managing Director and CKO

The Institute of Energy Economics, Japan (IEEJ)

It is a great honor for me to have this opportunity to make a brief presentation on the subject of “Energy and Climate Security for Sustainable Development.” First of all, I would like to emphasize that the world today faces major threats and risks to energy security as well as global warming.

The price of crude oil has soared considerably in recent years. The WTI (West Texas Intermediate) crude oil price reached a record high of almost \$150/bbl this July although it has retreated to around \$80/bbl recently. Such a sharp rise in the oil price is not only seriously damaging the economic growth of oil-importing countries, but also dramatically changing political and economic power balances in the world. As a matter of fact, resource-rich countries such as the Middle East and Russia are awash with huge amounts of oil money and have significantly strengthened their influence in the global market.

My view is that the current situation concerning energy resources, such as the surge in crude oil prices, should be considered a 21<sup>st</sup> century-type of energy crisis. Two oil shocks in the 1970s were transient crises that were triggered by the war and the revolution in the Middle East amid the rapid growth of developed economies after rising from the ashes of World War II. However, I believe that the current energy crisis is a structural and lasting one caused by numerous factors.

One of the most important characteristics of this crisis is that newly emerging countries such as China, India, Brazil, and ASEAN nations, which account for more than half of the world’s population of 6.7 billion, have started full-scale economic growth and consequently, their demand for

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energy resources has begun to increase sharply. Although this phenomenon may change due to economic factors in the short term, it is a major long-term trend in the 21<sup>st</sup> century.

On the supply side, on the other hand, as various restraining factors and bottlenecks have arisen, there is concern that supply may not keep pace with the ever-increasing demand. As the oil and gas resources of developed countries have started to deplete, a few supplier countries like OPEC and Russia are increasingly enjoying a seller's market. Against this backdrop, resource nationalism is rampant in producing countries. Thus for international oil companies, the investment climate for resources development has worsened and expansion of production capacity is severely delayed.

With the growing geopolitical risks among resource-rich countries in the Middle East and Africa, in addition to these concerns on supply-side constraints, a large amount of speculative money has flowed into the commodity markets, thus driving up prices for resources including oil. This is one characteristic of the 21<sup>st</sup> century-type of energy crisis that we face today.

The second characteristic is that the current energy crisis has mutual interactions with other global issues such as global warming, the precipitous rise in food prices, water shortages, and nuclear proliferation.

Bio-fuel production, for example, has increased tremendously as a result of the recent upsurge in crude oil prices, and is a major cause of the global rise in food prices. On the other hand, as a result of higher oil and gas prices, the consumption of coal has increased significantly in recent years, but this has caused a rapid increase in the world's CO<sub>2</sub> emissions. Moreover, unusual weather attributed to global warming has led to an increase in drought, serious water shortages, and adverse effects on food production.

Meanwhile, as a viable tool for achieving energy security and combating global warming, the development of nuclear power is expected to spread rapidly not only in Western countries, but also in many Asian countries and

the Middle East. To encourage the use of nuclear energy for peaceful purposes, it is crucial to ensure operational safety, achieve security against terrorist attacks and establish safeguards to prevent nuclear proliferation.

In this context, I would like to briefly touch on the India-US civilian nuclear cooperation agreement. As a result of very lively debates, the 45-member Nuclear Suppliers Group (NSG) including Japan has agreed to authorize cooperation with India on the peaceful use of nuclear energy early September. Following that decision, it has been finally ratified by the US congress at the end of last month. This is good news from the viewpoint of energy and climate security, because India is not only facing a serious shortage of electric power supply, but is also expected to participate in combating climate change. Frankly speaking, however, the Japanese people are very concerned that it could undermine the international system of the Nuclear Non-Proliferation Treaty (NPT). It was reported that during the NSG session, Indian delegates reiterated their commitment to non-proliferation and the unilateral test ban on nuclear weapons. Since Japan is the only nation which has suffered from unprecedented disaster by nuclear weapons, I strongly hope that the commitment will be observed.

Anyway, in order to weather the current global crises just mentioned, we must work together to carry out comprehensive measures. Even though the G8 Toyako Summit of this year discussed global warming, rising crude oil prices and the food issue, the G8 leaders failed to come up with effective countermeasures due to the conflicting interests of the participating countries.

Even as the intractable global problems worsen, a global governance scheme that involves newly emerging countries such as India and China which should play a critical role in solving these problems has not been formulated. As is evidenced by the recent deadlock of WTO negotiations, emerging economies are assuming greater importance in the world system.

Finally I would like to emphasize the importance of regional cooperation in Asia to cope with energy and climate security. It has become increasingly difficult for each country to solve its energy security as well as global

warming risks on its own. Therefore we should strengthen international cooperation within the Asia-Pacific region. Although inevitably each country will pursue its national interests, at the same time efforts are needed to avoid an undue scramble for resources by improving energy security for the Asian region as a whole.

In this context, I should point out the effectiveness of international cooperation among Asian countries relating to the excellent energy-saving technologies and systems available in developed countries. According to our analysis, India's primary energy demand in 2030 could be reduced by 220 million tons of oil equivalent or 20% of the demand by disseminating advanced technologies to India. This energy saving is equivalent to about half of Japan's current total energy demand.

Therefore it should be emphasized that there is a very large potential for energy conservation, especially coal and oil, in India through enhancing energy efficiency. This means that GHG emissions could be drastically reduced as a result, contributing greatly to the fight against global warming. According to our analysis, 27% of the India's total CO<sub>2</sub> emission will be mitigated in 2030 in the Technologically Advanced scenario. This amount is about 70% of the present CO<sub>2</sub> emission of India.

Based on an inter-governmental agreement between Japan and India, our institute is involved in bilateral joint research on energy efficiency and conservation policy with the Energy Research Institute (TERI) in India. I believe that this kind of cooperation is one of the most important areas to promote a mutually beneficial relationship based on common interests.

I would like to close my short presentation by introducing a very famous aphorism by Mahatma Gandhi. His warning to humankind regarding the planet was: "The world has enough for man's need, but not for man's greed." It rightly teaches us that sustainable development is impossible without sharing the finite resources and environment of our planet with each other.

Contact : [report@tky.ieej.or.jp](mailto:report@tky.ieej.or.jp)