KEIDANREN's Views on the "Options for Energy and the Environment"

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Keidanren

In order for Japan to ensure prosperous, safe and secure livelihoods to its citizens while at the same time it resolves its various challenges, such as recovery and reconstruction in the aftermath of the Great East Japan Earthquake, and fiscal reconstruction, it must achieve its growth strategy, which aims to realize growth at a real rate of 3 percent and a nominal rate of 2 percent.

If energy cannot be stably supplied at an economically efficient price, not only will the growth strategy be set back, the hollowing-out of industry and employment will be accelerated in the midst of intensified global competition. The economy and industry must not be hindered by energy issues.

In this context, Keidanren made two proposals for energy policy last year[1]. Given the government announcement of the "Options for Energy and the Environment," we take this opportunity to once again deliver our opinions as follows:

1. Basic perspectives required in energy policy

(1) Given the consequences of the Great East Japan Earthquake, safety must be assured as a major prerequisite, and the principles of energy

[1] Please refer to: First Proposal on Energy Policy (www.keidanren.or.jp/policy/2011/078honbun.pdf), and Second Proposal on Energy Policy (www.keidanren.or.jp/policy/2011/107honbun.pdf)

security (securing a stable supply), economic efficiency and environmental suitability should be appropriately balanced.

(2) Efforts should be made to secure the energy necessary for economic growth and national livelihood, with adequate consideration to the cost efficiency of policies and how they will affect national livelihood and corporate activity.

(3) In light of the finite nature of fossil fuels, maximum efforts must be made to develop and disseminate energy conservation and renewable energy technologies. However, careful studies should be conducted to determine a realistic level of introduction potential of energy conservation and renewable energy in order to prevent the occurrence of an energy supply-demand gap.

(4) With scarce fossil fuel resources and no easy means to import electricity, Japan must maintain diversified energy options from the perspectives of risk dispersion and acquiring negotiation capacity against resource-rich countries.

(5) Climate change issues should be firmly addressed in good balance with economy. It is important that Japan contribute to global climate change mitigation by drawing on the technology possessed by its private sector.

2. Evaluating the three scenarios presented in the Options for Energy and the Environment

(1) Common drawbacks among the scenarios

a) Energy demand forecasts are based on the assumption that economic growth will be represented by a real GDP growth rate of 1.1 percent between 2010 and 2019 and 0.8 percent between 2020 and 2029.

However, these figures are inconsistent with the government's growth strategy. A comparison of the estimated energy demand in 2030 under growth strategy target achievement case and the energy demand given in the three scenarios indicates a 7.5 percent difference in terms of final energy consumption and an 8.1 percent difference[2] in terms of electricity demand. Under scenarios based on such assumptions, energy issues may become a cause of hindered growth.

b) Energy conservation levels exceed the ambitious levels provided in the current Basic Energy Plan – by 10 percent in terms of final energy consumption and by 20 percent in terms of electricity demand. Although Japan's GDP elasticity of electricity demand has historically followed a positive trend[3], each of the three scenarios assume a completely contradictory trend, depicting declining electricity demand against GDP growth for the coming twenty years.

Renewable energy is also set to significantly increase its share compared to the ratio provided in the current Plan. The feasibility of these figures has not been adequately verified, nor have underpinning measures been clarified[4]. Furthermore, the size and costs of backup power sources required to support the wide introduction of renewable energy have yet to be identified.

In order to prevent a future shortage of electricity, optimistic assumptions of energy efficiency and conservation and renewable energy levels should be avoided and more realistic assumptions should be formulated from the viewpoint of economic affordability.

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[2] This amounts to a shortage of 80 billion kWh of electricity.

[3] In the past forty years, a unit of growth in GDP was accompanied by more than a unit of growth in electricity demand. The elasticity for 2011-2010 was 1.0.

[4] Even the "15% scenario" provides for the installation of solar power panels on the roofs of almost all free-standing houses where installation is possible and wind power introduction in a total area equivalent to 1.6 times that of Tokyo.

For example, some estimates show that in order to introduce the volume of renewable energy assumed in the "0% scenario," surcharges will be 7.1-7.2 Yen/kWh (7.1-7.2 trillion annually) in 2030 and electricity consumers will assume a debt of 74-75 trillion Yen beyond 2030[5].

Furthermore, the scenario provides for investments exceeding 100 trillion Yen towards energy efficiency and conservation, renewable energy and power system stabilization measures. If such costs and burden lead to a shortage of funds to invest in future growth, Japanese industry is likely to suffer serious impacts on its international competitiveness.

c) The government's energy policy must be designed to protect national livelihood, industry and employment. However, all three scenarios take for granted that electricity charges will increase significantly and that the macro-economy will be adversely affected. According to estimates publicized by the government, electricity charges will rise by 26 to 130 percent (in 2030 compared to the normal case), real GDP will decline by 0.4 to 7.6 percent (likewise)[6], and gross production will decrease by 0.4 to 7.8 percent (likewise). No detailed analysis has been conducted regarding impacts on the international competitiveness of industry and employment[7].

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[5] According to the same estimates, even under the "20-25% scenario," costs including surcharges will amount to 4.6-5.8 trillion yen annually and debts to be assumed by electric power consumers beyond 2030 will be 49 – 59 trillion yen.

[6] Larger negative economic impacts are exhibited in the results estimated using international mode which explicitly addresses leakage resulting from rising energy prices in Japan.

[7] According to estimates done by the Keidanren secretariat based on estimates made by Mr. Akimoto at the Research Institute for Innovative Technology for the Earth (RITE), the unemployment rate (number of unemployed) will be 7.2 – 7.3 percent (4.86-4.93 million people) under the "0% scenario," 6.2 percent (4.19 million people) under the "15% scenario," and 6.0-6.1 percent (4.05-4.12 million people) under the "20-25% scenario" (against the current rate of 4.4 percent (2.97 million people).

d) There is no verification of the international equity of greenhouse gas emission reductions. If equity cannot be secured, not only will the hollowing out of industry be accelerated but greenhouse gas emissions will likely increase globally when production bases are moved to developing countries which are characterized by lower energy efficiency.

(2) An evaluation of the three scenarios

a) The "0% scenario" is the most unrealistic, including its call for measures that are ignorant of economic efficiency and entailing large increases in public burden. Furthermore, it excludes nuclear power from future energy options when diversified energy sources are required for Japan.

b) The "15% scenario" not only requires an energy conservation level and renewable energy ratio difficult to attain, but also sidesteps the decision of whether or not to maintain nuclear power. Therefore, it cannot be a responsible choice for the government to make.

Without prospects of maintaining nuclear in the energy mix, it will be difficult for Japan to make global contributions through safety nuclear technologies developed after the Great East Japan Earthquake.

c) We welcome the "20-25% scenario's" position to maintain nuclear energy in the energy mix. However, it entails the many problems shared with the other two scenarios regarding the feasibility of the assumed energy conservation level and renewable energy introduction potential as well as higher electricity charges.

(3) The choice that Japan should make

With regard to the abovementioned, all three scenarios embrace numerous problems, including their feasibility and economic impact. The “0% scenario” and “15% scenario” particularly entail difficult challenges, and the options must be reconstructed into a more realistic scenario based on the concept of maintaining diverse energy sources, including nuclear power, and by incorporating the points mentioned below.

Then, within approximately five years, the energy and environmental policy must be fundamentally reviewed based on a verification of technological innovation in the energy field, the relationship between the introduction of energy conservation/renewable energy technologies and public burden, international circumstances, and the recovery of public trust in nuclear power.

a) Under the nuclear regulatory body to be newly established, public confidence in nuclear power should be reinstated through ceaseless efforts to secure safety and improved administrative transparency - for example, new safety criteria founded on scientific grounds – based on the results of a thorough investigation of the causes of the Fukushima Daiichi Nuclear Power Plant.

   At the same time, Japan must proactively become engaged in improving safety nuclear technologies based on its accident experience, and therefore contribute to the enhancement of safety in nuclear power generation around the world.

b) Remaining in line with the growth strategy, energy conservation and renewable energy introduction estimates should be replaced with figures more realistic from a cost-effectiveness perspective as well. In

order to secure the fossil fuel sources required to meet consequent increases in demand, public-private efforts must be made in resource diplomacy and resource development in neighboring waters.

Furthermore, more flexible targets with a range should be determined.

c) The utmost efforts should be made towards technological innovation for higher efficiency and lower costs in renewable energy. At the same time, the current feed-in-tariff program, which is likely to impede technological innovation, should be reviewed. Policy measures such as the tax for measures against global warming and corporate emission reduction targets, which will undermine corporate activity, should not be adopted.[8]

d) The new mid-term greenhouse gas emission reduction target to be pledged internationally should be carefully discussed over time, along with the inseparable issues of energy policy, based on a thorough analysis of international equity as well as its feasibility and the public burden incurred.

The greenhouse gas emission levels given in all three scenarios stand on the premise that nuclear power plants will gradually be restarted; and therefore, the recovery of public confidence in nuclear power generation is inevitable from a climate change perspective as well.

3. Conclusion

The energy issues accompanying the Great East Japan Earthquake

[8] The Central Environmental Council mentions establishing corporate emission reduction targets and introducing the tax for measures against global warming as policy measures to be taken by industry even under the policy case in its medium scenario.

and the accident at the Tokyo Electric Company Fukushima Daiichi Nuclear Power Plant have greatly affected national livelihood and corporate activity, spreading concerns over the future. The government should prioritize the identification of a roadmap for securing electric power in the next three to five years[9].

We have heard an extremely large number of opinions from industry that the scenarios presented by the government are not only unrealistic but also vague and lacking in adequate information on their impact of national livelihood and corporate activity. The government must pay full attention to these voices. We expect it will take these opinions into consideration in making a responsible decision through more careful discussion from the perspective of "protecting national livelihood."

The industry is determined to make every possible effort to improve energy and environmental technologies as well as the safety of nuclear power and energy efficiency and conservation in both demand and supply dimensions.

[9] In order to replace all energy demand covered by nuclear power generation before the Great East Japan Earthquake, additional fuel costs of over 3 trillion yen will be required annually. This being the equivalent of 20 percent of the total annual electricity charges in Japan previous to the earthquake, there are increasing fears of price increase risks in addition to concerns over securing the required volume of electricity.