

Japan Concludes “Energy Mix Target” to Simultaneously Achieve Three E's + S

Ken Koyama, PhD
Chief Economist, Managing Director
The Institute of Energy Economics, Japan

At its 10th meeting on June 1, the Long-term Energy Supply and Demand Outlook Subcommittee of the Advisory Committee for Natural Resources and Energy, an advisory panel for the Ministry of Economy, Trade and Industry on which I have served, deliberated on and approved a draft outlook on Japan's energy supply and demand in FY2030. This covers an electricity mix, primary energy supply and demand, and energy-related carbon dioxide emissions projected for FY2030. A government proposal for a specific, quantitative energy outlook or energy mix, which had failed to be included into the Basic Energy Plan decided by the cabinet in April 2014 to indicate Japan's overall long-term energy strategy, has thus been concluded at last.

Attracting attention among specific numerical projections in the outlook have been the electricity mix, and nuclear and renewable energy power generation projections. The outlook includes a desirable or target electricity mix indicating that nuclear energy will account for 20-22% of total electricity generation in FY2030, renewable energy for 22-24%, liquefied natural gas for 27%, coal for 26% and oil for 3%. A guideline for the desirability calls for pursuing a balanced energy supply and demand structure responding to the three E's – energy security, economic efficiency, and environmental protection -- and safety as provided in the abovementioned Basic Energy Plan.

Furthermore, the outlook cites specific objectives regarding the Three E's with Safety as a precondition: (1) the energy self-sufficiency rate should be raised from 6% at present to some 25% to enhance energy security, (2) electricity costs which inflated substantially after the 2011 Great East Japan Earthquake should be reduced from the present level to improve economic efficiency, and (3) Japan's CO₂ (and greenhouse gas) emission reduction target to promote environmental protection should be as ambitious as European and U.S. targets. The advisory panel concluded the abovementioned electricity mix as a solution to achieve these purposes. The electricity mix is expected to roughly attain these purposes by raising the energy self-sufficiency rate to 24% in FY2030, cutting electricity costs by 2-5% from the present level and reducing CO₂ emissions in the year by 25% (GHG emissions by 26%) from FY2013.

Given that energy investment entails long lead times and takes a long time to be reflected in actual energy supply and demand in the future, it is very significant for Japan plagued with great energy security and environmental problems to address energy problems under specific long-term goals. Japan has explored long-term targets based on new realities after the Great East Japan Earthquake that triggered the Fukushima nuclear power plant accident. After four years of exploration, the advisory panel has at last concluded the new energy mix.

In this report, I do not look into numerical details of the supply and demand outlook or its assessment. As a matter of course, I believe that it is important to use all energy options in a balanced manner while overcoming the problems with each option, with the recognition of the absence of any perfect energy source, and that using nuclear energy, renewable and fossil fuels skillfully meets Japan's national interests. In this sense, I appreciate the new energy mix as representing maximum efforts to balance energy options while there are various difficult problems and challenges in Japanese and other energy situations and many uncertainties about the future.

In this report, I would like to propose measures to be required, based on the new energy mix. The first important point for me here is that the new mix represents a desirable future and may not necessarily be attained naturally. Given various arguments discussed at the advisory panel and social, economic and technological environments involving nuclear energy, renewables and energy conservation, we see a large number of challenges to be solved for attaining the new energy mix. Concluding the energy mix is an important achievement. But more important are specific policy measures to “realize” the energy mix. In the future, efforts to realize the mix will be the most important on the policy side. Real market players such as the energy industry, energy users and consumers and the public sector will have to take specific measures to attain the mix.

It is also important for the government to secure the people's understanding about the new energy mix in order to promote specific measures to realize the energy mix. The government must implement and enhance dialogue and communications with the Japanese public on why the new energy mix is necessary and essential for Japan's balanced achievement of the Three E's + S.

Energy situations in Japan and the world are always changing. How to respond to new situations is important for realizing the new energy mix. Implications of crude oil prices' wild fluctuations and international energy supply and demand changes represent the factor that Japan, plagued with great energy security challenges, cannot brush off. International politics, geopolitical risks and the destabilizing Middle East situation are important for Japan as part of the macro-environment surrounding Japan. The ongoing electricity and gas market reform to improve economic efficiency must be recognized as a factor that would not only bring about various advantages but also cause long-term investment shortages, market deregulation measures' impacts on nuclear power generation and other problems that could increase uncertainties about realization

of the new energy mix. In the future, the government will have to implement specific measures to attain the energy mix while accurately reflecting new energy situations in Japan and the world. It will also have to revise the energy mix itself as necessary in conjunction with reviewing the Basic Energy Plan every three years.

The conclusion of the new energy mix is a key milestone for Japan's energy policy. In various senses, however, Japan's energy policy is entering a critical stage from now on.

Contact: report@tky.ieej.or.jp

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