

How to achieve GHG mitigation target and enhance energy security in Japan after 311

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Overview

The Japanese government notified the UNFCCC Secretariat in January 2010, according to the Copenhagen Accord, of Japan's mid-term emissions reduction target. This target calls for Japan to reduce GHG emissions by 25% by 2020, compared to the 1990 level, with the proviso that a fair and effective international framework in which all major economies participate be established and that ambitious targets be agreed on by all the major economies. In November 2009, Japan announced in a joint message with the U.S. on climate change negotiations that Japan would aim at an 80% reduction in its emissions by 2050 and that Japan would support a target for halving global emissions by 2050.

The Mid- and Long-Term Roadmap Subcommittee of the Global Environmental Committee of the Central Environment Policy Council, chaired by Dr. Shuzo Nishioka, Senior Visiting Researcher at the National Institute for Environmental Studies ("the Subcommittee") was established in April 2010 to examine the Vision for Policies and Measures to Achieve the Mid- and Long-Term Emissions Reduction Targets (the Mid- and Long-Term Roadmap). The Subcommittee has discussed the matter at 19 meetings. This interim report was prepared to clarify the past discussions and is presented by the Subcommittee to the Global Environmental Committee of the Central Environment Policy Council as well as to the public.

Due to Tohoku Earthquake on March 11, 2011, TEPCO Fukushima Dai-ichi nuclear power plants lost their control and Kanto area suffered from electricity shortage in March and forced us energy-saving in this summer, 2011. Mid- and Long-term Roadmap assumed the same amount of installed capacity of nuclear power plants as Basic Energy Plan by Ministry of Economy, Trade and Industry on June 2010. Operation rate of nuclear power plants are averagely less than 20% in Japan now (October, 2011) because of accidents, regular checking period, and difficulty of restarting after regular checking.

It is necessary to reconsider climate policy and energy policy for sustainable future in Japan.

Methods

AIM project team of the National Institute for Environmental Studies developed low-carbon-society scenario analysis model and reflect the results of discussions in the various sectors that envisioned image of a Japanese society that achieves an 80% reduction by 2050. We developed technical model to understand the general picture of the integrated supply-demand balance of energy for the three cases of domestic GHG emissions reductions (15%, 20% or 25%) by 2020 and 2030.

Several scenarios for nuclear power plant, energy-saving, renewable energy and others will be taken into model simulation and analysis of technological possibility, economical reality, and energy security will be conducted.

Expected Results

Even though it could be tough to achieve 25% GHG reduction target by 2020, wider range of approach should be examined for energy-saving, renewables, carbon crediting (including offsets), new technologies, life-style changes and so on. Not only qualitative analysis but quantitative simulation results will be shown and support for further discussion on energy and climate change for Japan, Asia and the world.

References

Mid- and Long-Term Roadmap Subcommittee, Global Environmental Committee, Central Environment Policy Council, “Vision for Policies and Measures to Achieve the Mid- and Long-Term Emissions Reduction Targets (Mid- and Long-Term Roadmap: Interim Report)”, December 2020