



## Comment

# Renewables as the Major Power Source for Decarbonization Japan's Basic Energy Plan Should Depart from Coal and Nuclear

12 June 2018

Renewable Energy Institute

(Japanese original published on 15 May 2018)

The Agency for Natural Resources and Energy (ANRE) has unveiled the draft outline of the revised Basic Energy Plan. In the introduction, it refers to the Paris Agreement, stating “Japan shall undertake challenges towards energy transition and decarbonization targeted in 2050”, further mentioning that renewable energy should be “placed as a major power source.”

These statements may seem to represent some progress from the current Basic Energy Plan. However, contrary to such statements, the entire outline reflects the Government's energy policies which still depends on coal-fired and nuclear power generation. Under the current Basic Energy Plan, the Government set the target of renewables deployment at 22 to 24% by 2030. It is lower than the estimated share of coal-fired power generation, 26%, and almost the same as that of nuclear, 20 to 22%. Around the world, a number of countries and regions aim at producing 40 to 50% of their power with renewables by 2030. If Japan genuinely intends to place renewables as a major power source, its deployment target must be raised to the same level of the leading countries. However, with no such ambitions in the proposed outline, the Government states they will maintain the current targets.

The proposed outline mentions “fading out of inefficient coal power” but promotes “highly efficient coal-fired power generation”. Even “highly efficient” coal-fired power plants emit more than double the amount of CO<sub>2</sub> of LNG power stations. As the Advisory Panel to the Foreign Minister on Climate Change points out in its recommendations published in February, “Even the most advanced coal-fired power cannot meet the 2 degrees target of the Paris Agreement.”

Nevertheless, ANRE presented an estimate to the Strategic Policy Committee that “Japan can provide the most efficient technology, ultra-supercritical pressure power generation (USC), to coal-fired power plants in Asian countries including China and India, as well as the United States. It would help reduce CO<sub>2</sub> emissions by roughly 1.2 billion tons.” In fact, the estimated reduction would only represent a little less than 18% of CO<sub>2</sub> emissions. Replacement with “highly efficient coal-fired” plants would leave 82% of the current level of CO<sub>2</sub> emissions for more than 40 years. That would be far from decarbonization required by the Paris Agreement.

In addition, the proposed outline refers to nuclear power that “dependency should be reduced to the lowest possible level,” but continues to recommend as “an option for decarbonization in practical use.” However, given the uncertainty of decommissioning costs, with no prospect of proper nuclear waste management, nuclear power cannot be a reliable technology for a carbon-free society. Another critical problem is the increasing cost of power generation at nuclear plants, and consequently its declining economic competitiveness against other power sources. The proposed outline does not refer to such issues in spite of dedicating many paragraphs to the “Reshaping of Nuclear Power Policy.”

Even after the nuclear accident, ANRE reiterates that nuclear plants produce electricity at a lower cost than other power sources. The cost estimation is JPY10.1/kWh excluding unknown future additions and assuming a construction cost less than half of new nuclear projects underway in Europe and the United States. Taking that fact into account, the estimated cost should be raised by as much as JPY4/kWh or more. Producing electricity with nuclear power costs more than other energy sources,

this is becoming commonly recognized around the world. Nuclear power's loss of cost competitiveness is evidently seen in the fact that plant construction projects underway in Turkey and the United Kingdom have become stuck due to cost increases despite the sponsorship the Government of Japan has offered.

What is required of a revised Basic Energy Plan is giving up the persistence with out-of-date technologies—coal-fired and nuclear power generation—and instead presenting specific strategies for improving energy efficiency and deploying renewables to achieve decarbonization. In a report released in April, the International Renewable Energy Agency (IRENA), to which Japan belongs, demonstrated that improved efficiency in energy consumption and greater deployment of renewables can achieve more than 90% of CO<sub>2</sub> emission reductions needed by 2050 to comply with the Paris Agreement.

Even Japan, a country that lags behind in deployment of renewable energy, sees the cost of renewable electricity constantly declining. The electricity cost of solar PV has halved over the past five years, and wind has fallen below JPY14/kWh. Once the investment environments are improved for renewables by removing grid connection limits and other hurdles for the deployment of renewables and raising the deployment target by 2030 to around 40%, Japan will be able to benefit from low-cost renewable energy on par with other countries around the world.

On the contrary, if Japan clings to coal and nuclear and places them as “important base-load power sources” in its Basic Energy Plan, that would leave Japan lagging further behind the rest of the world as energy transition accelerates globally. Not only would it make decarbonization more difficult in Japan, it might also deprive Japan of significant business opportunities.

A revised Basic Energy Plan is required to present a definite path of improving energy efficiency and deploying more renewable energy to achieve decarbonization.