

Follow-up on the Environmental Action Plan by the Japanese Electric Utility Industry

Federation of Electric Power Companies
September 17, 2013

1. Background to the “Environmental Action Plan by the Japanese Electric Utility Industry”

The Environmental Action Plan by the Japanese Electric Utility Industry sets out the policies and plans of the 12 companies¹⁾ affiliated with the Federation of Electric Power Companies with respect to the issues including global warming countermeasures, formation of a recycling-based society, and management of chemicals. The Action Plan has been followed up each year since 1998 to check the status of its implementation and progress. This year marks the 16th follow-up.

The global warming countermeasures of the Action Plan have been integrated into the Voluntary Environmental Action Plan formulated by the Nippon Keidanren in June 1997, and are also included in the government’s Kyoto Protocol Targets Achievement Plan. Further, the policies and plans in the Action Plan for creating a recycling-based society have been incorporated in the Basic Plan for Establishing the Recycling-Based Society pursuant to the Basic Law for Establishing the Recycling-based Society.

As this year is the final year of the CO₂ emissions reduction target (fiscal 2008 – fiscal 2012) of our global warming countermeasures, this follow-up summarizes the efforts made during this period, as well as the status of implementation for 2012.

1) The 12 companies affiliated with the FEPC:

The 10 members of the FEPC (Hokkaido, Tohoku, Tokyo, Chubu, Hokuriku, Kansai, Chugoku, Shikoku, Kyushu and Okinawa Electric Power Companies), J-POWER and the Japan Atomic Power Company

2. Global Warming Countermeasures

CO₂ emissions reduction target

Reducing CO₂ emissions intensity (emissions per unit of user-end electricity) by an average of approximately 20%, about 0.34 kg-CO₂/kWh, from the fiscal 1990 level during fiscal 2008 to fiscal 2012

CO₂ emissions during the five years from fiscal 2008 to fiscal 2012

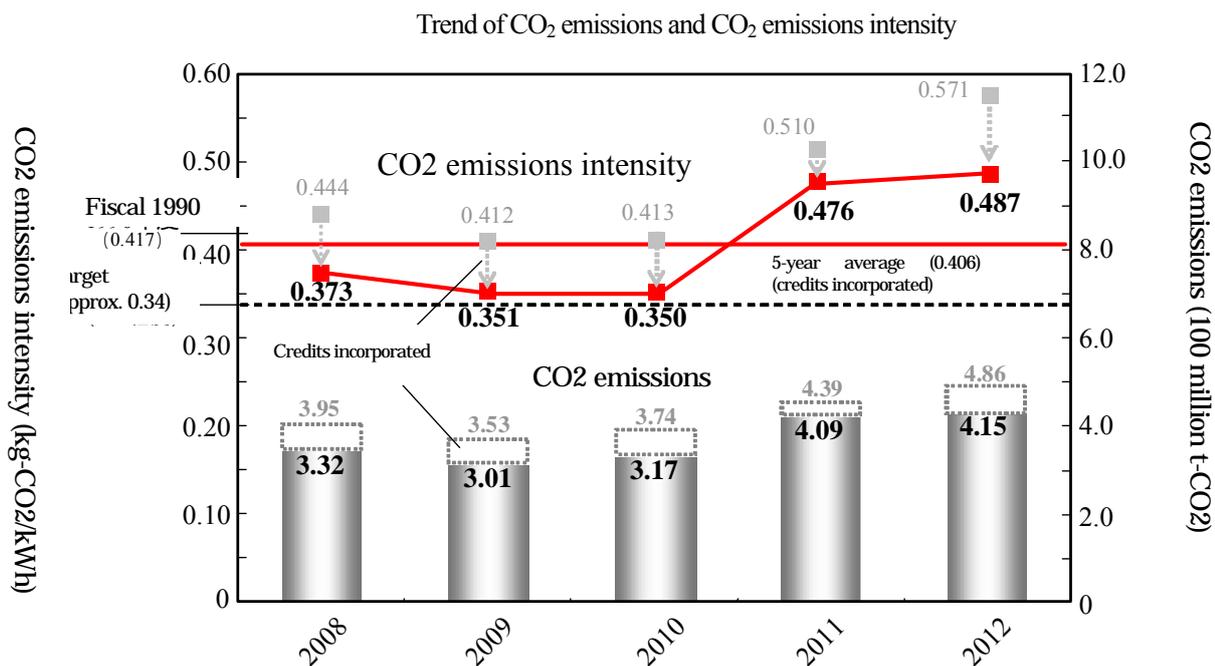
Item \ Year	1990	2008	2009	2010	2011	2012	Five-year average (2008–2012)
Electric power consumption (billion kWh)	659	889	859	906	860	852	—
CO ₂ emissions ^{*1} (million t-CO ₂)	275	332 [395] ^{*2}	301 [353] ^{*2}	317 [374] ^{*2}	409 [439] ^{*2}	415 [486] ^{*2}	—
CO ₂ emissions intensity user-end electricity ^{*1} (kg-CO ₂ /kWh)	0.417	0.373 [0.444] ^{*2}	0.351 [0.412] ^{*2}	0.350 [0.413] ^{*2}	0.476 [0.510] ^{*2}	0.487 [0.571] ^{*2}	0.406 [0.469] ^{*2}

*1 CO₂ emissions and the CO₂ emissions intensity of user-end electricity reflect the Kyoto mechanism credits (“credits”) in accordance with the method stipulated in the “Act on Promotion of Global Warming Countermeasures”. The figures for 2012 and the five-year average may improve slightly when the additional credits currently outstanding due to the delay in review by the UN have been incorporated.

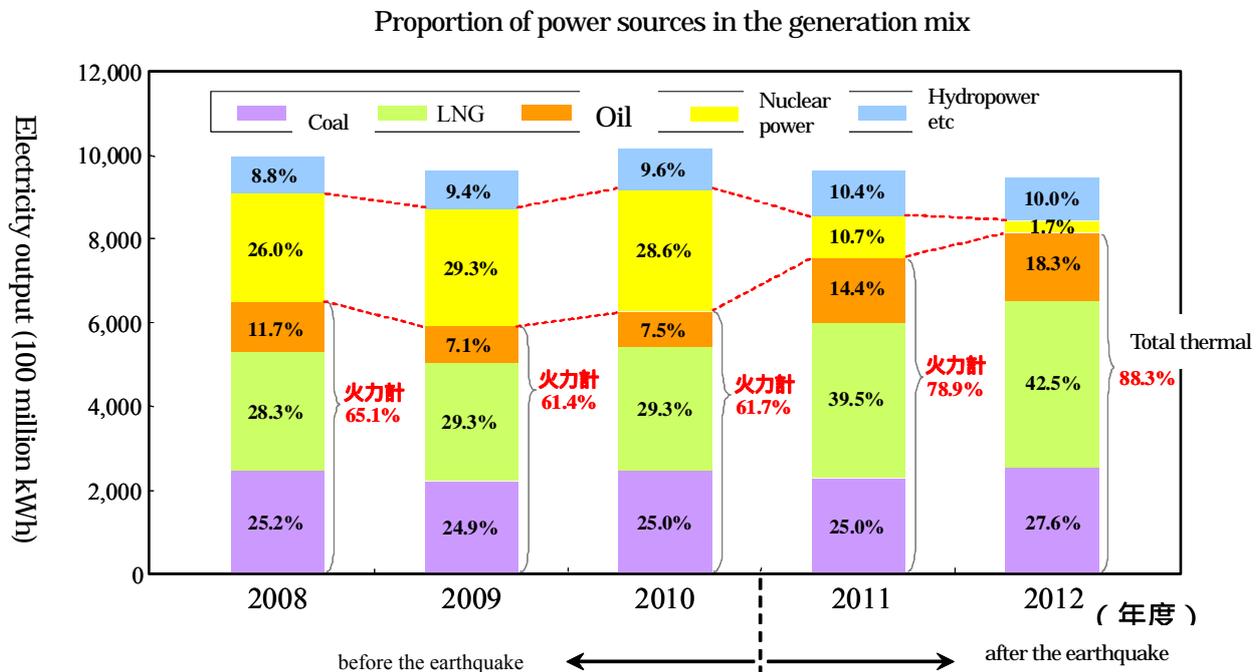
*2 The figures in brackets [] are the CO₂ emissions and user-end CO₂ emission intensity without reflecting carbon credits.

Analysis and evaluation of the CO₂ emissions results

In order to achieve the CO₂ emissions reduction target, the companies affiliated with the FEPC have made utmost ongoing efforts, including using nuclear power premised on safety, developing and promoting renewable energies, and improving the heat efficiency of thermal power plants, as well as using the Kyoto Mechanism. However, due to the long-term shutdown of nuclear power plants after the Great East Japan Earthquake in March 2011, the 5-year average user-end emissions intensity between 2008 and 2012 (credits incorporated) reached only 0.406 kg-CO₂/kWh (down 2.6% from 1990 levels).



This is due mainly to the fall of the proportion of nuclear power, which has been perceived as a major global warming countermeasure, from 30% before the earthquake disaster to 10%, and the increase in the proportion of thermal power from approximately 60% to 80–90%.

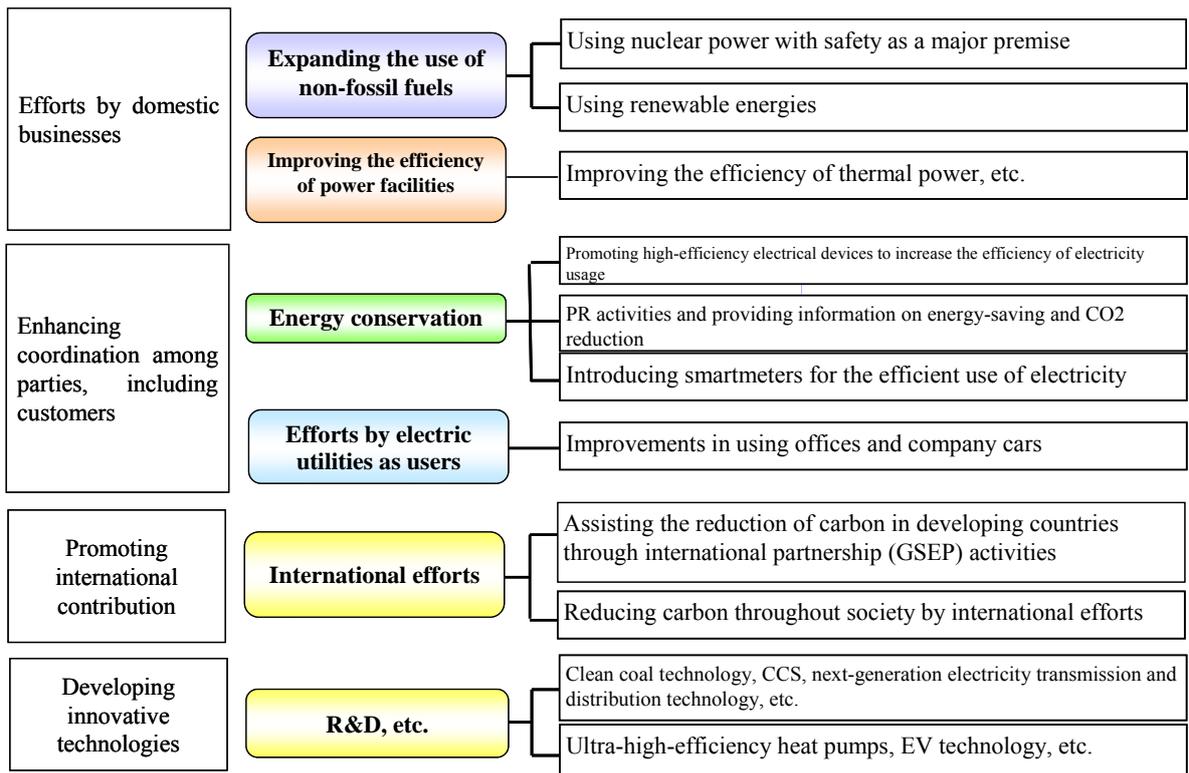


Despite the failure to meet the CO₂ emissions reduction target of 0.34 kg-CO₂/kWh (-20% from fiscal 1990 levels), efforts to reduce CO₂ were continued even during the prolonged shutdown of the nuclear power plants after the disaster. Further, the use of the Kyoto Mechanism credits surpassed the 5-year target set before the earthquake disaster, reaching approximately 270 million t-CO₂. Through these maximum efforts, we believe that we have contributed to achieving the national target for the Kyoto Protocol.

Promotion of the Action Plan for Achieving a Low-Carbon Society

So far, the electric power companies have been focusing on reducing global warming CO₂ emissions as the key issue in the fight against global warming.

Beyond 2013, the companies will continue to actively address global warming and participate in the Action Plan for Achieving a Low-Carbon Society announced by the Keidanren in January 2013, and implement measures on both the supply and demand sides of electricity based on the “S+3E’s policy”, which stands for safety, which is a major premise, as well as energy security, environmental conservation and economic efficiency, in order to achieve a low-carbon society.



CO₂ reduction target for 2020

With a realistic national energy policy yet to be formulated, and with no clear prospects for restarting the nuclear power stations, the electric power companies find it difficult to set numerical targets.

The companies will begin to consider specific targets when a realistic energy policy is established and the prospects for restarting the nuclear power plants materialize, whereupon they can present a business outlook for the supply and operation of electricity.

3. Formation of a recycling-based society

Target waste recycling rate

The electric utility industry has been steadily reducing the amount of final waste disposal based on the 3R policy of Reduce, Reuse and Recycle, and has raised the target several times. Since 2005, it has set a target recycling rate, which is less susceptible to the fluctuations of the demand for electricity, of 90%. In 2006, the target was raised by 5 points to 95% by 2010.

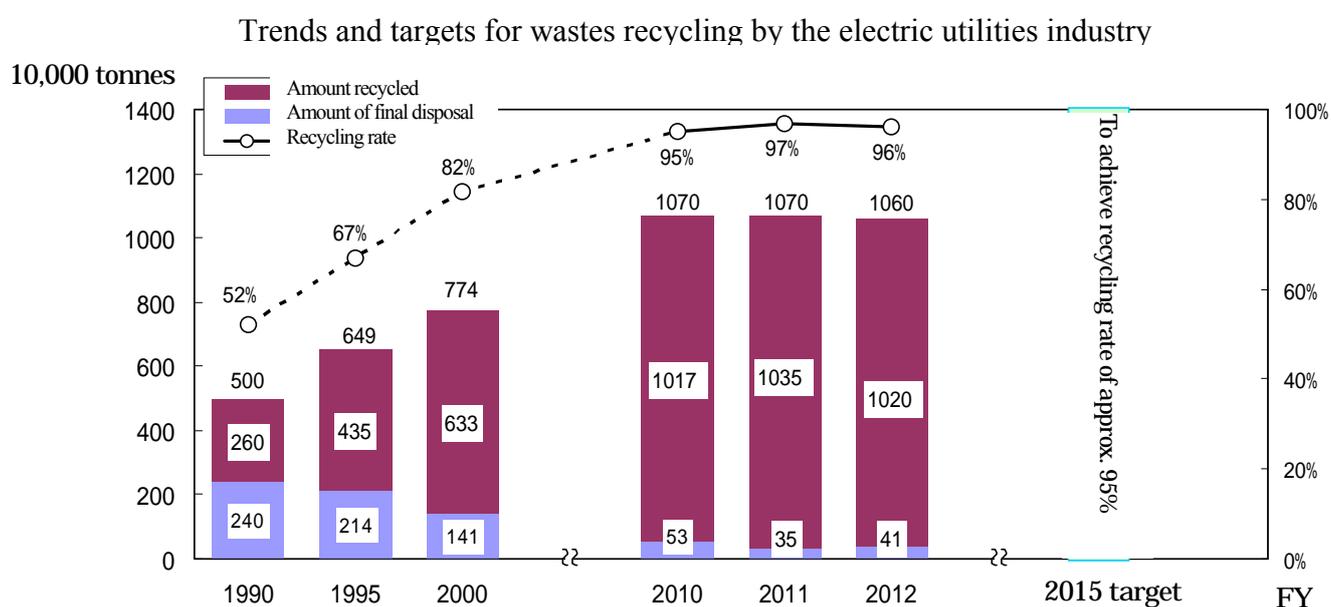
To maintain this high recycling rate, the target year was revised in 2011.

Achieving a waste recycling rate of approx. 95% by 2015

Record of waste recycling

The amount of wastes generated in fiscal 2012 was 10.6 million tonnes, down 90,000 tonnes from the previous year. Meanwhile, the amount of wastes recycled in fiscal 2012 was 10.2 million tonnes, down 150,000 tonnes from the previous year.

As a result, the recycling rate for fiscal 2012 reached 96%, achieving the high target of 95% again following fiscal 2011.



Future efforts for reducing and recycling wastes

The industry will continue to maintain and improve the heat efficiency of thermal power, while reducing the amount of wastes such as coal ash. Further, as coal ash is the most abundantly generated among the various types of wastes, the industry will continue to search for areas that can use it constantly and in large quantities, and will study technologies for effectively reusing it.

Establishing the nuclear fuel cycle as a means for recycling

For establishing the nuclear fuel cycle, a reprocessing plant is currently under construction in Aomori Prefecture. The plan ahead is the plutonium-thermal program in which plutonium recovered from the spent fuel is to be burned in light-water reactors as MOX fuel (Mixed Oxide Fuel: mixed fuel consisting of uranium and plutonium).

Effective use of recyclable resources (clearance system)

In 2006, the recycling of wastes with no or negligible radioactivity generated from a nuclear power station (clearance system) was launched at the decommissioned Tokai Power Station of the Japan Atomic Power Company. The industry will continue to actively recycle those wastes that the government has confirmed as suitable for clearance.

4. Management of chemicals

Since before the implementation of the Pollutant Release and Transfer Register Act (“PRTR Act”), the electric power companies have been conducting PRTR investigations at their own initiative since 1997 to capture the actual situation of the release and transfer of chemicals from power stations, and have released the results in the Environmental Action Plan since fiscal 2000.

After the registration system was launched in April 2002 based on the PRTR Act, the power companies have been reporting the figures per office to the government. Further, in 2006, the power companies started to identify the amount of transfer of asbestos.

To inform the public of the positive efforts of the electric power companies on the management of chemicals, the industry published the investigation results for fiscal 2012, and will continue to appropriately control chemicals and reduce releases.

5. Efforts on biodiversity

While utilizing natural resources in their business from the installation and operation of power facilities to the disposal of wastes, the electric power companies could affect biodiversity on both the global and regional levels through the impact of CO₂ emissions on global warming, and through land modification for installing facilities, for example.

Thus, the industry is committed on a global scale to alleviating the impact on the environment by using nuclear power premised on safety and promoting renewable energies, the formation of a recycling-based society, preserving the environment at the regional level through environmental impact assessments, and social contribution activities such as forestry preservation and environmental education.

In addition to clarifying the direction of the industry's efforts for minimizing the impact on biodiversity and using biodiversity in a sustainable manner, the industry drew up and published the Biodiversity Action Guideline of the Japanese Electric Utility Industry in April 2010. Based on these Guidelines, the industry will work to achieve a sustainable business model in harmony with nature.