

The Rise in Cost of Power Generation in Japan after the Fukushima Daiichi Accident and Its Impact on the Finances of the Electric Power Utilities

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The electric utilities of Japan released their financial reports at the end of June 2013¹. We used this information to update the power generation cost and the financial situation of each company which we calculated earlier in our report “Cost Evaluation per Power Source and Its Impact on the Finances of the Electric Power Utilities”² released previously. The details will be compiled in a report and released on our website.

1. Rise in Cost of Power Generation

Figure 1 shows the trend of power generation cost of the twelve general and wholesale electric utilities. The total cost of power generation has increased from 7.5 trillion yen in 2010 before the Fukushima Daiichi accident to 9.6 trillion yen in 2011 and to 10.6 trillion yen in 2012. In particular, the fuel cost for thermal power generation rose sharply from 3.7 trillion yen in 2010 to 6.1 trillion yen in 2011 and 7.3 trillion yen in 2012, almost doubling in the two years from 2010 to 2012. Of the fuels, the cost of purchasing natural gas and fuel oil increased the most.

Note that the figures in the previous report and Figure 1 differ slightly as the former were obtained using the Domestic Corporate Goods Price Indices, while the latter shows nominal costs.

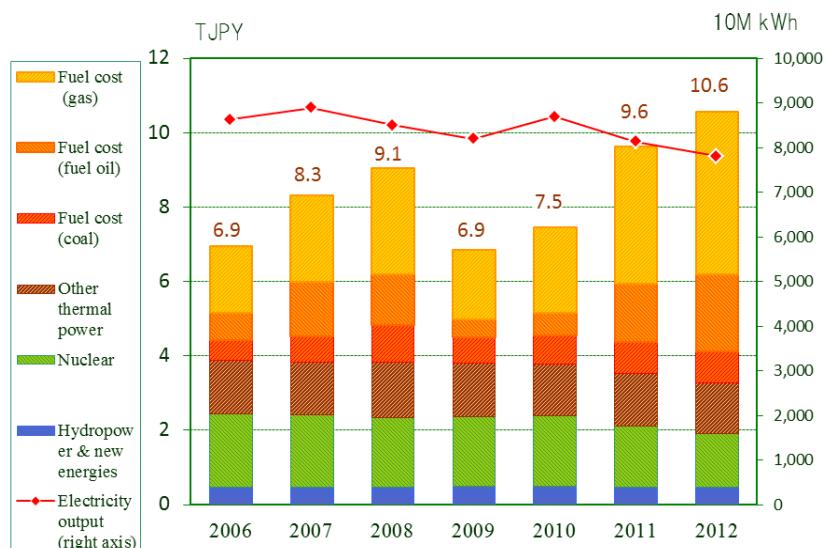


Figure 1 Trend of Power Generation Costs (Total for 12 Companies)

¹ “Financial Report” of the electric utilities, submitted to EDINET <http://info.edinet-fsa.go.jp/>

² Matsuo, Yamaguchi, Murakami, “Cost Evaluation per Power Source and Its Impact on the Finances of the Electric Power Utilities”, IEEJ website: <http://eneken.ieej.or.jp/data/4620.pdf>

Figure 2 shows the factors causing the higher cost of power generation, which can be summarized as follows.

1) Rise in the import price of fossil fuels

It is estimated that the rise in primary energy prices (the prices of imported crude oil, LNG and coal) between 2010 and 2012 has cost the country an additional 1.4 trillion yen. However, this cost has been offset somewhat by the currency exchange rate, resulting in a net increase of 1.2 trillion yen.

2) Increase in the volume of fossil fuel imports

Although the thermal power generation output was greater in 2012 than in 2010 to compensate for the shutdown of nuclear power plants, the increase was partially offset by the decrease in electricity consumption (power saving, etc).

If the demand for electricity had not decreased and the loss of nuclear power output had been replaced entirely by thermal power, the cost of purchasing fossil fuels would have increased by 3.6 trillion yen. Subtracting the decrease in nuclear power cost of 0.5 trillion yen, the net increase in the cost of power generation would have been 3.1 trillion yen. However, the actual increase in cost was 1.9 trillion yen, as the demand for electricity reduced the required imports of fossil fuel by 1.2 trillion yen.

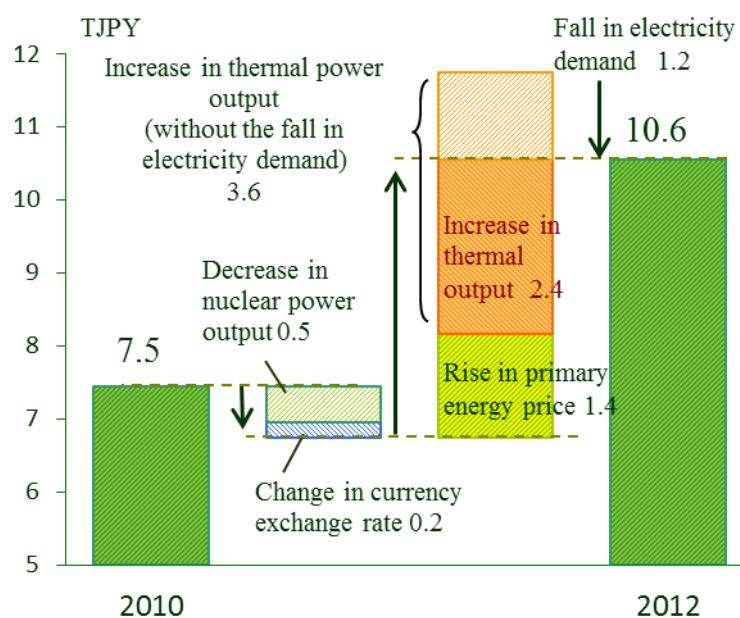


Figure 2 Factors for the Increase in Power Generation Costs

Figure 3 shows the trend of the average unit cost of power generation of the 12 electric utilities. After the Oil Crises, the unit cost remained fairly stable from the 1990s at around 8 yen/kWh, rising to as high as 10.7 yen/kWh in 2008 when oil prices soared. As crude oil prices fell thereafter, the unit price slowly decreased to 8.6 yen/kWh in 2010, but rose again sharply after the Fukushima Daiichi accident, reaching 11.8 yen/kWh in 2011 and 13.5 yen/kWh in 2012. The unit cost is expected to rise even further in 2013 due to the weak yen.

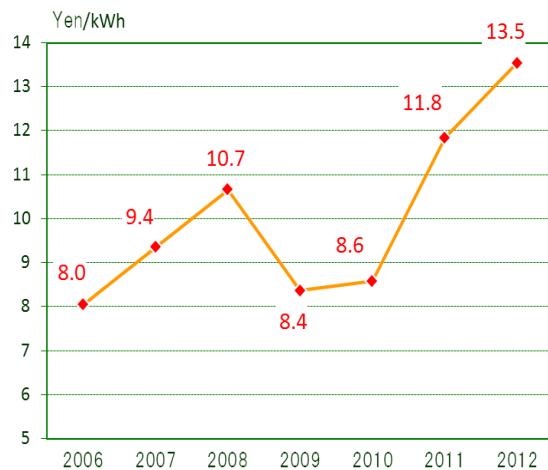


Figure 3 Trend of Average Unit Cost of Power Generation (12 Electric Utilities)

2. Impact on the finances of the electric power companies

The increase in the cost of power generation is seriously affecting the finances of the electric utilities. Figure 4 shows the trend of net profit and retained earnings of the Tokyo Electric Power Company and the other eight general electric utilities (excluding Okinawa Electric). The eight companies posted net profits of 200 to 400 billion yen each year except in FY2008 when oil prices soared, even in FY2010 at the end of which the losses from the Great East Japan Earthquake were reported and Tokyo Electric registered a net deficit of 1.3 trillion yen. However, in FY2011 and 2012, all eight companies registered huge net losses, totaling 800 billion yen among them. This dramatically reduced their retained earnings, which dropped by 2 trillion yen in total between 2010 and 2012.

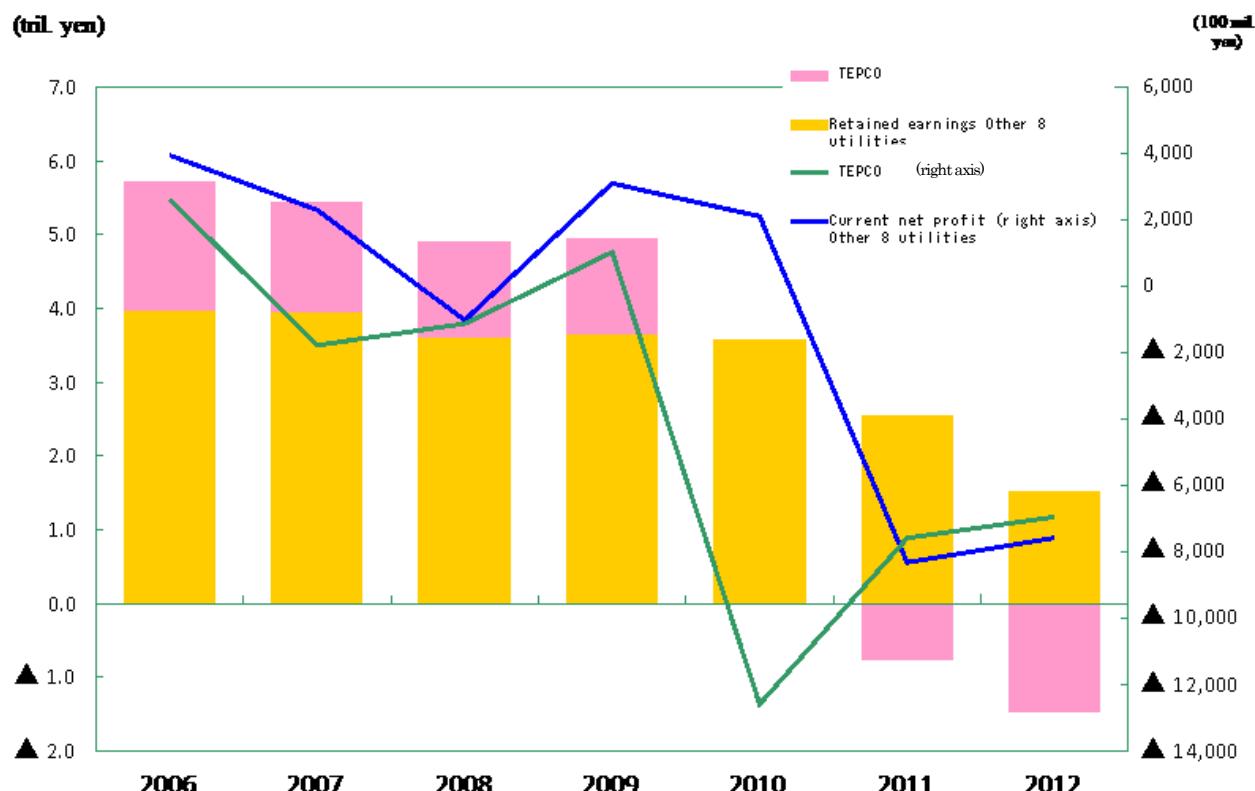


Figure 4 Trend of Net Profit and Retained Earnings of TEPCO and the Other Eight General Electric Utilities