

# **[FUTURE PASS-THROUGH COSTS AND CONCERNS ABOUT INCREASES IN ELECTRICITY RATES IN JAPAN]**

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## **Overview**

Although Japan was able to overcome electricity supply and demand issues for the summer of 2012, grim realities were expected for electricity supply and demand in the winter of 2012/2013, especially for Hokkaido Electric Power Company (HEPCO). In actuality, those electricity companies increasing their use of expensive thermal power generation are all showing increased losses in their bleak quarterly financial reports. As of October 2012, household usage and regulated sectors have not seen rates increase except for the special case of Tokyo Electric Power Company (TEPCO). Even in the deregulated sectors, it is uncertain how much of the costs have been passed through via their electricity rates. This analysis deals with our survey of the actual increase in electricity rates and additional costs that may arise, which have been divided into fuel cost factors and other factors. We then deducted fuel cost adjustments and other price factors from the electricity rate increases to deduce how much of the fuel consumption factor has already been passed through. In the industry and other sector, based on the our analysis, there have been an estimated 0.28 yen/kWh of pass-through costs incurred so far, but there remain an estimated 1.1 trillion yen of yet to be passed through out of 1.27 trillion yen to be passed through.

## **Methods**

The way to reflect increase in cost by rises in fuel prices to electricity rate is different from that originated from changes in power generation mixture, e.g. the current situation in which fuel usage at thermal power plants is increasing in order to substitute nuclear power generation. Fuel consumptions have already increased significantly in FY2011. The fuel cost adjustment system alone cannot accommodate the current additional costs. For this reason, it is important to identify how much costs which are not covered by the fuel cost adjustment system are going to be passed through for cost-related expenses. Huge expenses become a significant issue for electricity companies and users alike. IEEJ (2012) estimates that fossil fuel costs to electricity companies in FY2012 increased by 3.1 trillion yen compared to FY2010. Contribution to this cost increase by each factor is as follows.

Fuel consumption: 1.9 trillion yen, Fuel prices: 1.2 trillion yen, Exchange rates: -0.3 trillion yen. Confounding factor : 0.3 trillion yen.

Of these factors, factors that can be attributed to the fuel cost adjustment system are “Fuel prices” and “Exchange rates”. If we divide sum of them by the FY2012 projection for generated electricity (897.7 TWh), we get 1.00 yen/kWh, a value we can consider the unit price for fuel cost adjustments to be passed through. Change in fuel consumption factors incurred by increased thermal power generation to substitute for nuclear power generation per unit of electricity is 2.1 yen/kWh. Actual electricity rates were estimated from the consumer price index (CPI) and other data are 23.1 yen/kWh for household use and 12.6 yen/kWh for industry and other uses as of July 2012. When compared to FY2010 average prices, these have increased by 1.70 yen/kWh and 1.89 yen/kWh, respectively. They suggested that some price increase has been occurring using the fuel cost adjustment system or some other method including renewable surcharges. With these elements in mind, we deduct the fuel cost adjustment factor, the FIT factor and the Solar surcharge factor from the electricity rate increases to estimate how much of the cost increases have been already passed through. This is demonstrated in the calculation below.

“Passed through fuel consumption factor for industry and other uses” = “Increase in electricity rates” – “Fuel cost adjustment factor” – “Solar surcharge factor” – “Renewable Energy Power Promotion Surcharge (FIT Surcharge) factor” – “Confounding factor”

## Results

As of July 2012, costs to be passed through are estimated at 1.9 trillion yen. The 1.9 trillion yen of costs incurred by the fuel increases will be borne either by the consumers or by the electricity companies. Given the FY2012 projections for household electricity demand (approx. 300 TWh) and industry and other electricity demand (600 TWh) from IEEJ (2012), households will bear 630 billion yen and industry and others will bear 1,270 billion yen. In the household sector, on the top of the electricity rate revisions made by TEPCO in September 2012, a part of the 630 billion yen is likely to be passed through. In the industry and other sector, it is estimated that 0.28 yen/kWh of fuel consumption factor has been passed so far, following the electricity revisions made by TEPCO. There remain an estimated 1.1 trillion yen out of 1.27 trillion yen yet to be passed through. The portions not passed through are borne by the electric power companies as a loss for the time being. In the future, there is a concern that further passed through costs will mean electricity costs will continue to increase for the consumers.

## Conclusions

Tackling future challenges in electricity supply and demand, it is necessary to prioritize discussions on how to address increase of electricity costs. This analysis pointed out the possibility that the increases in fossil fuel import costs are not adequately passed through to the consumers. These contained costs may be passed through in the future as electricity rate increases, and the impacts on the future Japanese economy, industrial competitiveness and citizen lifestyles needs to be monitored. As of September 20th 2012, media reports indicated that Kansai and Kyushu Electric Power Companies were considering electricity rate increase requests for households and other regulated sectors. Suspending nuclear reactors has had grave impacts on both electricity supply and demand and costs, while further impacts in both areas are expected to surface going forward. In the future, the impacts on both electricity supply and demand as well as cost will require further analysis and appropriate countermeasures.

## References

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