Energy spending per household in 2013 hit new high above JPY300,000

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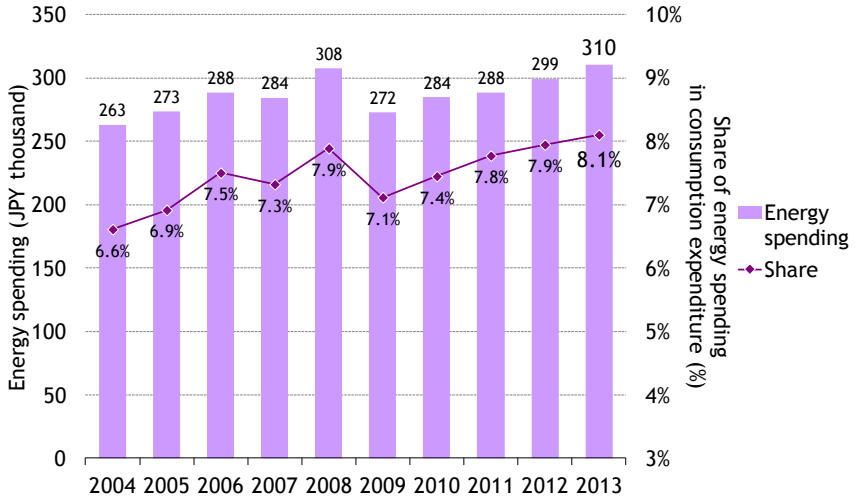
Energy spending per household[1] in Japan increased by JPY11,000 from the previous year to a new record, JPY310,000 in 2013 (Figure 1). Share of energy spending in total household consumption expenditure[2] also exceeded 8% for the first time ever. Previous highs for the spending and its share came in 2008, when the oil price hit a record high above $140/bbl just before the Lehman Shock.

Figure 1 Energy spending and its share in consumption expenditure



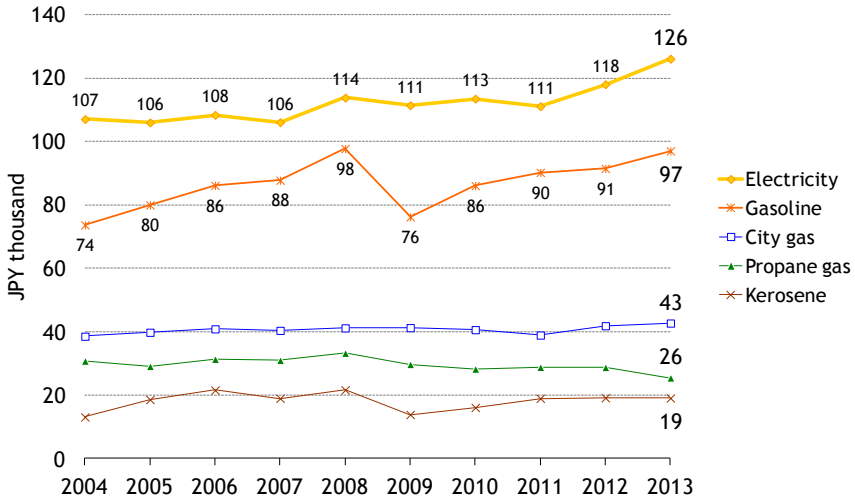
Source: Statistics Bureau, Ministry of Internal Affairs and Communications "Family Income and Expenditure Survey"

Over recent years, electricity bills have risen remarkably. From 2010 to 2013, annual electricity spending per household soared by a total of JPY13,000 to JPY126,000 (Figure 2). Gasoline spending posted the second largest rise of JPY11,000. But the gasoline spending

[1] "Household" here means a worker household consisting of two or more persons.
[2] The share corresponds to the energy version of Engel's coefficient.

level of JPY97,000 in 2013 slipped by a little less than JPY1,000 from the level for 2008. Changes in city gas, propane gas and kerosene spending were relatively small[3].

Figure 2 Energy spending by source



Source: Statistics Bureau, Ministry of Internal Affairs and Communications "Family Income and Expenditure Survey"

Defining energy spending are energy prices and consumption volumes[4]. Energy prices are now exposed to rises in international prices and the yen's depreciation. Meanwhile, electricity price has been raised on upward revisions in full scale for the first time in about 30 years as fossil fuel-fired power generation has expanded its share of total generation in the absence of progress in efforts to restart nuclear power plants after the Great East Japan Earthquake in March 2011. As a result, prices for energy have been rising far more rapidly than for other consumer goods in Japan (Figure 3). While the Japanese economy is expected to end deflation at last after the core-core consumer price index[5] scored a positive year-on-year growth rate in October 2013 for the first time in five years, the energy CPI is making great contributions to boosting the overall CPI (Figure 4).

[3] However, since kerosene consumption for space heating in cold regions is far higher than in other regions, kerosene spending growth greatly differs from region to region.

[4] In this report, energy consumption volumes are calculated by dividing the spending on each energy source by the relevant energy prices.

[5] The core-core CPI excludes food (other than alcoholic beverages) and energy. The core CPI excludes fresh food.

Figure 3 Consumer price index (changes year-on-year)

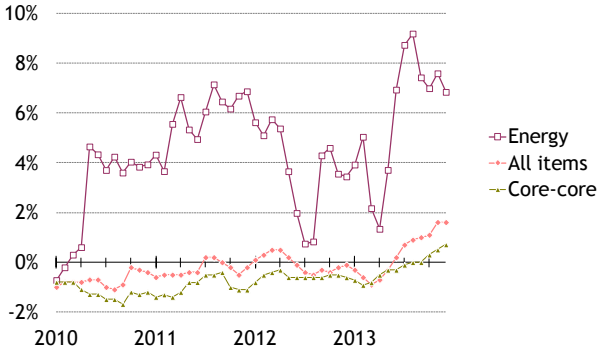
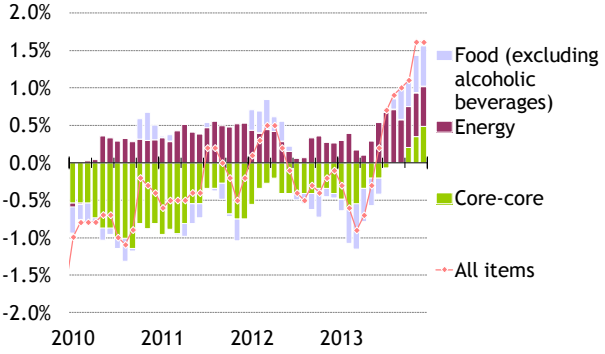


Figure 4 Contributions to changes in consumer price index (year-on-year)



Source: Compiled from Statistics Bureau, Ministry of Internal Affairs and Communications "Family Income and Expenditure Survey"

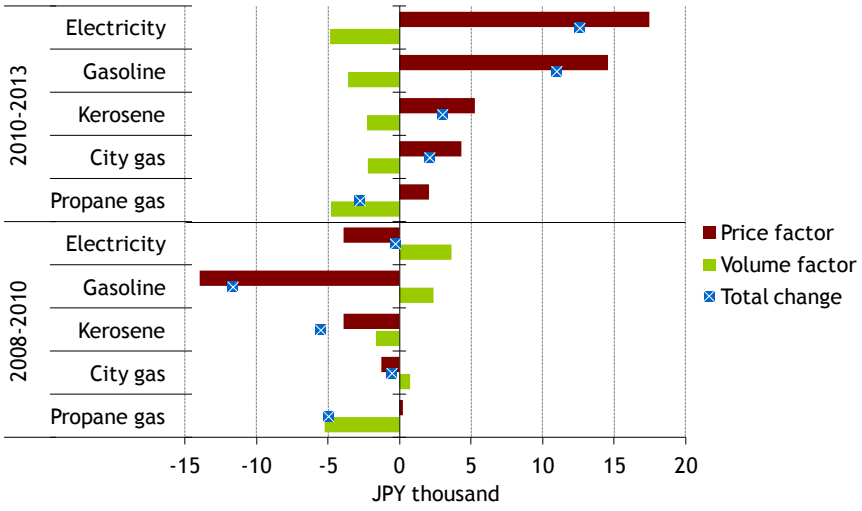
Here, energy spending is decomposed into price and volume factors to look into the background for energy spending changes from the previous record high in 2008 to the new record in 2013. The period's second half – between 2010 and 2013 – saw a far different trend from the first half – between 2008 and 2010 (Figure 5). The price factor made a negative contribution to energy spending growth due to international energy price falls and the yen's appreciation in the first half. In the second half when these moves were reversed with electricity price raised, however, the price factor made a major positive contribution.

Meanwhile, the volume factor, excluding kerosene and propane gas, which consumption is in a structural downward trend, made a positive contribution to energy spending growth due to the economy's bottoming out and unusual temperatures[6] in the first half. In the second half, however, the volume factor made a negative contribution due to electricity and energy conservation and mild temperatures.

While household energy consumption has decreased due to electricity saving after the Great East Japan Earthquake and induced overall energy conservation, the decrease has fallen short of offsetting the impact of energy price rises. As a result, household energy spending in 2013 hit a new record above the previous high in 2008 despite a household income fall of JPY128,000 and a household consumption expenditure drop of JPY69,000 from 2008.

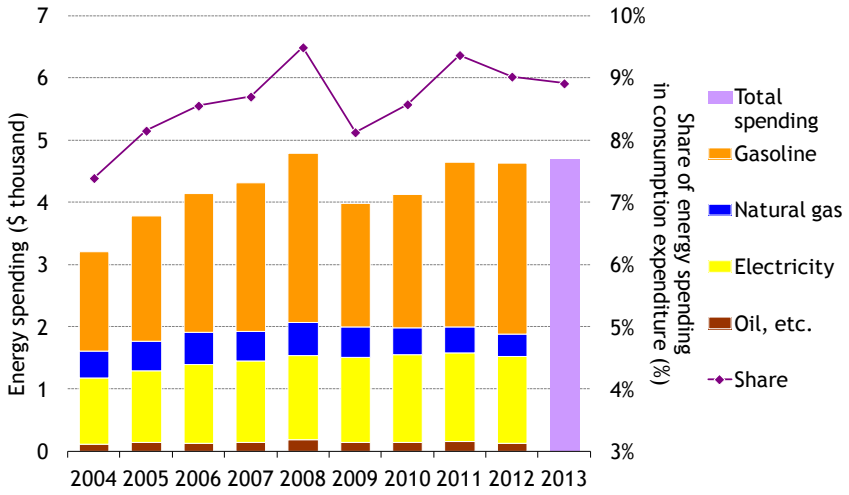
[6] The year 2010 saw record summer heat waves and slightly-lower-than-usual winter temperatures.

Figure 5 Decomposition of changes in energy spending by energy source



In the most recent years, electricity and gasoline prices have soared remarkably as noted earlier. Gasoline price rises caused directly by international oil price increases represent an internationally common problem rather than a problem peculiar to Japan. In the United States, for example, gasoline prices have risen again since 2010 (Figure 6). In contrast, Japan's electricity price increase, though attributable partly to international energy price rises, is a problem unique to Japan that depends heavily on costly fossil fuel-fired power generation.

Figure 6 Energy spending and its share in private consumption expenditure in United States

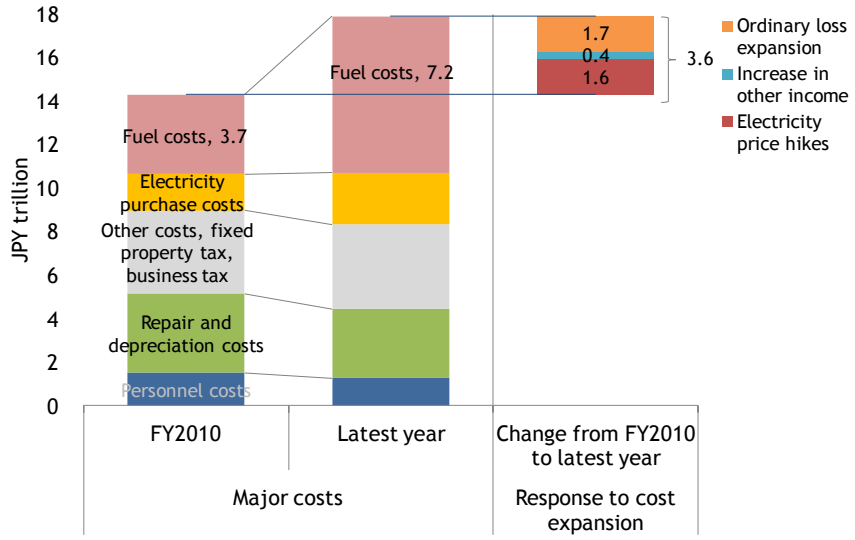


Note: Data for 2013 represent estimates.

Source: U.S. Department of Labor "Consumer Expenditure Survey"

The problem remains severe as electricity price is expected to rise further, increasing burdens on consumers. Figure 7 indicates ordinary cost changes and responses to them at the 10 major Japanese electric utilities from FY2010 to the latest year[7].

Figure 7 Changes in ordinary cost and responses to them
at the 10 major electric utilities in Japan (from FY2010 to the latest year)



Note: The latest year is from the fourth quarter of 2012 to the third quarter of 2013.
Sources: Complied from profit–and-loss statements by the 10 major electric utilities

During the period, changes in power generation mix (an increase in fossil fuel-fired power generation and a decline in nuclear power generation) and international energy price rises worked to expand their fuel costs by as much as JPY3.5 trillion, with their electricity purchases from autoproducers of electricity increasing to help offset the lack of nuclear. Although some of the expansion was offset by personnel and repair cost cuts, their overall ordinary costs grew by JPY3.6 trillion.

Less than half of the net cost increase of JPY3.6 trillion has been covered by electricity price hikes. As a result, the electric utilities' combined ordinary loss expanded by JPY1.7 trillion. Such massive loss, if it continues to accumulate, could promptly force these companies to go insolvent or bankrupt. Such loss expansion would be unsustainable. Emotional calls for cutting wages to cover the cost increase may be not unsympathetic. In fact, however, even cutting personnel costs to zero falls far short of offsetting the fuel cost increase. If the situation remains unchanged, further electricity price hikes may be unavoidable, leading annual energy spending per household to increase by some JPY10,000 more.

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[7] From the fourth quarter of 2012 to the third quarter of 2013