

Report Compiled by Working Group on Classification Standards for Retail Labeling (Summary)

A council on the label display program for retailers established under the Agency for Natural Resources and Energy has compiled a "Report on Revision of the Label Display Program for Retailers (Water Heaters and Television Sets)."

1. Background to compilation of the report

The Label Display Program for Retailers was started in 2006 in order to promote energy saving in the private sector, and provide easy-to-understand information on the energy efficiency of equipment to encourage consumers to select energy-efficient equipment.

Recently, revisions on water heaters and television sets have been made under the Top Runner Program, which is a set of regulations governing energy efficiencies involving energy-consuming equipment. In light of these revisions, the Label Display Program for Retailers needs to be revised so that it can contribute to increasingly promoting energy efficiency.

2. Multiple-scale scoring system

(1) Scoring method for water heaters (gas, oil, and electric water heaters)

For water heaters, a uniform scoring method covering all the different energy types will be established, in order to set cross-category multiple-scale scoring standards that will apply to all water heaters regardless of their energy type.

(2) Formulas for calculating the multiple-scale score for each device

Formulas for calculating the multiple-scale score (multiple-scale scoring standards) will be set for water heaters (gas, oil, and electric) and television sets.

(3) Conversion factors and mini-labels for water heaters (gas, oil, and electric)

With water heaters, the primary energy efficiency is affected by differences in hot-water feeding load and energy consumption. These in turn vary depending on the ambient temperature in the regions where the heaters are used and the number of people in the households. The corresponding rate of change also depends on the type of water heater. Consequently, primary energy efficiency will be calculated and factors will be set for conversions, with both the efficiency and conversion factors being based on the region and household size. Multiple-scale scores based on the region and household size will then be calculated based on these. A webpage will be created for calculating the multiple-scale scores based on the region and household size, and the QR code for the webpage will be included on the label to make it easier for people to obtain information.

Mini-labels that display multiple-scale scores will not be used for water heaters, because they cannot provide information to consumers on how to calculate multiple-scale scores based on region and household size.

3. Regarding estimated charges for typical annual energy consumption, etc.

(1) Setting unit costs for each energy type

The unit costs for the Label Display Program for Retailers will be set based on various statistical surveys, etc.

Energy	Unit cost
Electricity unit cost	27 yen/kWh
Electricity unit cost (Electric water heaters with specifications other than for cold regions)	23 yen/kWh
Electricity unit price (Electric water heaters with specifications for cold regions)	20 yen/kWh
City gas unit cost	156 yen/m ³
LP gas unit cost	706 yen/m ³
Kerosene unit cost	88 yen/L

(2) Revisions to the unit cost for each energy type

The unit costs for the energy types all fluctuate. However, revising them over short periods will cause a market situation where for a certain period of time, labels based on two unit costs exist for the same device. This could lead to confusion among consumers and retailers, and will increase the burden on the latter.

Consequently, in addition to timely checking of statistical information on each energy type, if a major change involving, for example, the supply structure has been confirmed, the necessity of revising unit costs will be examined while taking into account the discussions on target standard values under the Top Runner Program, and the impact on consumers.

(3) Labeling method for water heaters (gas, oil, and electric)

In order to set uniform hot-water feeding loads for calculating the energy consumption of water heaters, energy consumption values will be calculated using the hot-water feeding load of electric water heaters, for which changes in air temperature and feed-water temperature have been considered in greater detail (JIS C 9220:2018). For gas and oil water heaters, estimated annual energy consumption charges will be displayed by taking the energy consumption calculated based on the aforementioned hot-water feeding load, and multiplying it by the unit cost for the relevant energy type. For electric water heaters, estimated annual energy consumption charges will be displayed by taking the electricity consumption calculated based on the aforementioned hot-water feeding load, and multiplying it by the electricity unit cost (for electric water heaters).

Also, although the energy unit costs have been set in 2.(1), if any of them have been decided in order to compare them with different energy types, this might lead to variations in the differences between the unit costs that consumers actually use. Consequently, when labeling water heaters with estimated annual energy consumption charges, the methods of calculation (for energy consumption and unit cost), etc. will be included in the label notes.

Water heaters (electric)



Water heaters (gas)



Water heaters (oil)



Example of labelling for the estimated charges for typical annual energy consumption

(4) Conversion factors for water heaters (gas, oil, and electric)

Although the method for calculating the energy consumption of each kind of water heater has been set in 3.(3), the differences in energy consumption will vary. This is because the hot-water feeding loads will depend on the ambient temperature in the regions where the heaters are used and the number of people in the households. Consequently, energy consumption based on the region and household size will be calculated, and conversion factors will be set for the estimated annual energy consumption charges to be indicated on labels. Estimated annual energy consumption charges based on the region and household size will then be calculated based on these. A webpage will be created for calculating guides to annual energy consumption charges based on the region and household size, and the QR code for the webpage will be included on the label to make it easier for people to obtain information.

(5) Labeling method for television sets

The current labeling already displays estimated annual energy consumption charges. This will continue, with an estimation displayed being obtained by multiplying the annual electricity consumption by the electricity unit cost.

4. Suggestions toward energy efficiency, etc.

In order to spread the use of uniform energy efficiency labels, etc. and promote further energy efficiency in household equipment, it is essential that the concerned parties make active and continuous efforts to achieve these aims. In this regard, suggestions were compiled in the expectation of further efforts by the concerned parties (users, retailers, manufacturers, and the government).

Reference: Working Group on Classification Standards for Retail Labeling of the Energy Efficiency and Conservation Subcommittee of the Committee on Energy Efficiency and Renewable Energy under the Advisory Committee for Natural Resources and Energy

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