

**Revisions of the Ministerial Ordinance and the Notification  
of the Ministry of Economy, Trade and Industry (METI)  
under the Act on the Rational Use of Energy**

Energy Efficiency Division  
Agency of Natural Resources and Energy  
Ministry of Economy, Trade and Industry

**1. Background**

Under the Act on the Rational Use of Energy (Law No. 49 of 1979; hereinafter referred to as the “Energy Efficiency Law”), the Minister of Economy, Trade and Industry shall establish and publicize standards for manufacturers/importers (hereinafter referred to as the “manufacturers, etc.”), with regard to the improvement of the energy efficiency performance for the respective equipment which is specified in Cabinet Order under the Energy Efficiency Law including gas or oil water heaters.

The Minister also shall specify the matters to be labeled by manufacturers, etc. with regard to energy efficiency of specified equipment including gas or oil water heaters.

In addition, the energy efficiency standards shall be established taking into consideration the highest level of energy consumption performance of the respective specified equipment and other related factors (as it is called the "Top Runner Program").

The Minister proposes new energy efficiency standards for gas or oil water heaters to promote rationalization of energy use pertaining to gas or oil water heaters in Japan in order to cope with the recent increase of energy consumption in the household sector, climate change, and so forth.

**2. Outline of amendment**

**(A) Scope**

- (1) Gas water heaters; gas instant water heaters, bath tub water heaters and gas water heaters for space heating
- (2) Oil water heaters; appliances for hot water supply and for heaters

**(B) Energy consumption efficiency and measurement method**

**(Gas water heaters)**

The energy consumption efficiency of appliances other than those with an air heating function is to be evaluated with the “mode thermal efficiency (%)” The measurement method is set forth in the “Measurement method of efficiency for domestic gas and oil water heaters under standard usage mode” (JIS S 2075:2011).

The energy consumption efficiency of appliances with an air heating function is to be evaluated by a weighted mean of “rated thermal efficiency (%)” of the air heating part whose measurement method is set forth in the “Gas hydronic heating appliances for domestic use” (JIS S 2112:2011) and the “rated thermal efficiency (%)” of the hot water supplying part whose measurement method is set forth in the “Gas burning water heaters for domestic use” (JIS S 2109:2019) in the ratio of 1:3, as is in the current standards.

(Oil water heaters)

The energy consumption efficiency of appliances other than those with an air heating function is to be evaluated with the “mode thermal efficiency (%)” Measurement method is set forth in the “Measurement method of efficiency for domestic gas and oil water heaters under standard usage mode” (JIS S 2075:2011).

The energy consumption efficiency of appliances with an air heating function is to be evaluated with the “rated thermal efficiency (%)” as is in the current standards. As for the measurement method, it is evaluated based on the “General rules for test methods of oil burning appliances” (JIS S 3031 : 2009).

(C) Target fiscal year

The target fiscal year for both gas water heaters and oil water heaters is FY2025.

(D) Category and targeted standard value

(Gas water heaters)

The categories and targeted standard values are as follows.

Table 1. Targeted standard values for gas water heaters

Category			Targeted standard value
Category name	Purpose	Ventilation type	
I	Gas instant water heaters	Natural ventilation type	77.50%
II		Forced ventilation type	$84.37\% \times \alpha_{II}$
III	Bath tub gas water heaters		$87.21\% \times \alpha_{III}$
IV	Gas water heaters for space heating		90.32%

Table 2. Structural coefficients  $\alpha_{II}$ ,  $\alpha_{III}$  (Category II, III)

	Structure	Structural coefficient value
$\alpha_{II}$	Through-the-wall type	0.9998
	Wall built-in type	0.9869

	Forced flue type	0.9900
	Forced exhaust type (limited to conventional type)	0.9661
	Integrated with cooking range ventilator cover (limited to conventional type)	0.8415
	Other	1.0000
$\alpha_{III}$	Through-the-wall type	0.9839
	Wall built-in type (limited to conventional type)	0.9576
	Other	1.0000

(Oil water heaters)

The categories and targeted standard values are as follows:

Table 3. Targeted standard values for oil water heaters

Category			Targeted standard value
Category name	Purpose	Heating type	
I	For hot water supply	Without bath use	Instantaneous type
II		With bath use	Storage type
III			Instantaneous type
IV		Storage type	
V	For heaters	Storage type	

Table 4 Structural coefficients  $\beta_I$ ,  $\beta_{III}$ ,  $\beta_V$  (Category I, III, V)

	Structure	Structural coefficient value
$\beta_I$	Pressure-spray-type	0.9585
	Other	1.0000
$\beta_{III}$	Pressure-spray-type	0.9492
	Other	1.0000
$\beta_V$	On/off control (limited to conventional type)	1.0051
	Other	1.0000

#### (E) Method to determine achievement

The manufacturers of appliances are required to keep the harmonic means of the energy

consumption efficiency of appliances shipped for each fiscal year starting from the targeted fiscal year, weighted with shipment volume by category, at the same level or higher than the harmonic means of the standard energy consumption efficiency weighted with shipment volume by category.

(F) Labeling requirement

These revisions include requirements that manufacturers, etc. should indicate on their catalogs with regard to energy consumption efficiency etc.

**4. Proposed date of entry into force**

Around April of 2021\* (except labeling requirement\*\*).

\*Target fiscal year for achieving the new standard is set to be FY2025.

\*\*As for labeling requirement, proposed date of entry into force is around March of 2022.