

# **Strengthened Regulatory Measures for Japanese Energy Conservation Policy**

Expansion of Regulatory Measures for Commercial Sector

Introduction of Sectoral Approach  
to National Regulation

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Agency for Natural Resources and Energy  
Ministry of Economy, Trade and Industry

## Revision of Energy Conservation Law (Law concerning the Rational Use of Energy)

Energy Conservation Law (Law concerning the rational use of energy) is the pillar for Japanese energy conservation policies. The law was instituted in 1979 in the light of the oil shock. The law is comprehensive and covers all sectors as follows:

- Manufacturing sector, commercial sector, energy management in transportation business
- Energy conservation standards for vehicles and equipment and appliances (Top Runner Program)
- Energy conservation standards for houses and buildings

The law was revised to promote further the climate change prevention measures. By the revision, the world's first introduction of the Sectoral Approach as a domestic regulatory measure has been determined. The revision includes a wide range of strengthening of regulations. (Starting in April 2009)

### Policy Measure 1 Regulatory Expansion in the Commercial Sector (P2)

#### < Current Regulation >

Only large scale factories and workplaces over 1,500kl\* in crude oil equivalent are regulated. Energy management is obligatory for each factory or workplace of the targeted.

- 1,500kl: Approximately equivalent to the annual energy consumption of a medium scale boiler.
- Regulation coverage is approx. 90% in the Industrial sector.

Currently this covers approximately 7,000 companies which include approximately 9,000 factories and 5,000 workplaces.

Revised

#### < After Revision >

Company-wide (per company) energy management becomes obligatory. Company wide energy management is obligatory for companies who has and run factories or workplaces of which energy consumption amounts to over 1,500kl as the total energy consumption.

#### Level of Regulation Coverage

- Companies who run offices and retails shops with the total floor space of approximately over 30,000m<sup>2</sup>
- Companies who run convenient stores over 30 ~ 40 shops.
- Companies who run restaurants over about 15 restaurants

Approximately 10,000 companies will be covered

### Policy Measure 2 Introduction of Sectoral Benchmarking (P3 ~ )

#### < After Revision >

Sectoral benchmarking approach is introduced to assess the activities and measures implemented by the company. For this scheme, the government created for companies belonging to certain industries an index that represents the level of energy conservation achieved by the company. As well, energy conservation target level (s) which the company shall achieve in the medium and long term are also created.

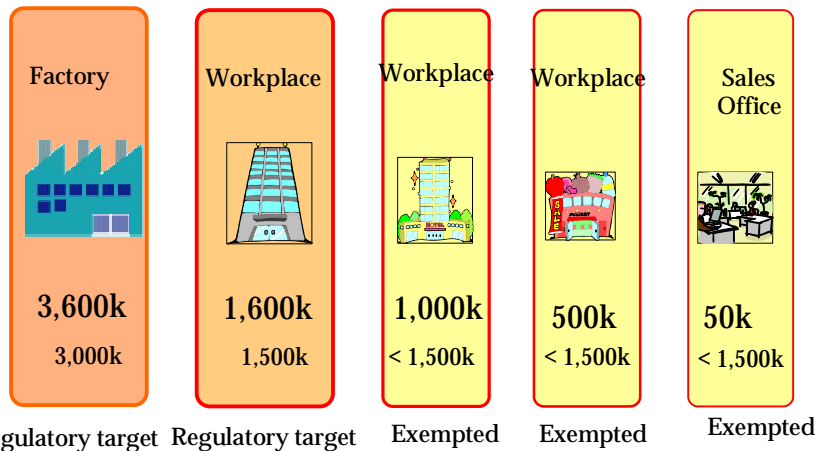
# Regulatory Expansion in the Commercial Sector

Regulatory structure is changed from regulating each workplace or factory to regulating the company wide management. Currently, only large scale factories and workplaces have been regulated to perform energy management, but after the revision, a company who use a certain amount of energy as the whole company will be required to regulate all of its factories and workplaces it has.

New regulation: Obligatory appointment of a person in charge of energy management for the whole company, who shall be selected from board members. By this revision, energy conservation policy in the commercial sector is strengthened with the regulations that target not only factories in the manufacturing industry, but also offices, franchise chain companies who run convenient stores, etc. by covering them as one company.

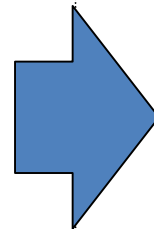
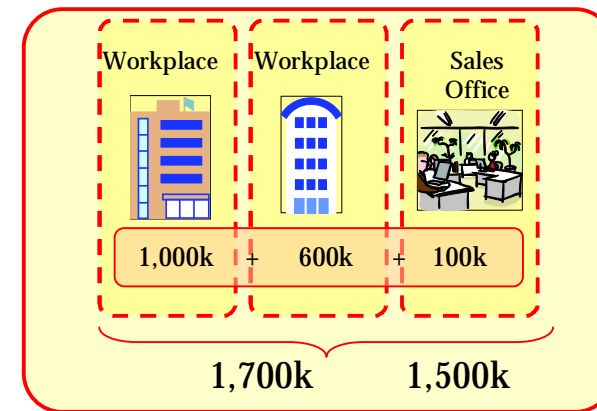
## Before Revision

### Energy Management per Factory or Workplace



## After Revision

### Energy Management in the Company on the Whole



In this case, the company on the whole consumes over 1,500kl, thus covered as the regulatory target

#### [Energy Management Structure]

- Appointment of a nationally qualified "Energy Manager"

#### [Planning and Reporting]

- Regular reports stating: Management structure of energy management in the company, management standards, annual energy consumption, evolution of energy intensity, etc.
- Medium and long-term planning stating: Investment planning for energy conservation

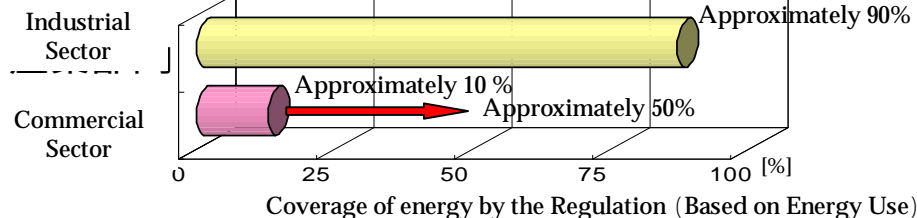
#### [Energy Management Structure]

- Appointment of a person in charge of energy management in the company on the whole, who shall be selected from board members.
- Appointment of a nationally qualified "Energy Manager" for each factory or workplace over a certain scale.

#### [Planning and Reporting]

- Each company shall make a regular reporting and a medium and long-term planning

This revision largely expanded the regulatory coverage in the commercial sector (Approximately 10% approximately 50%)



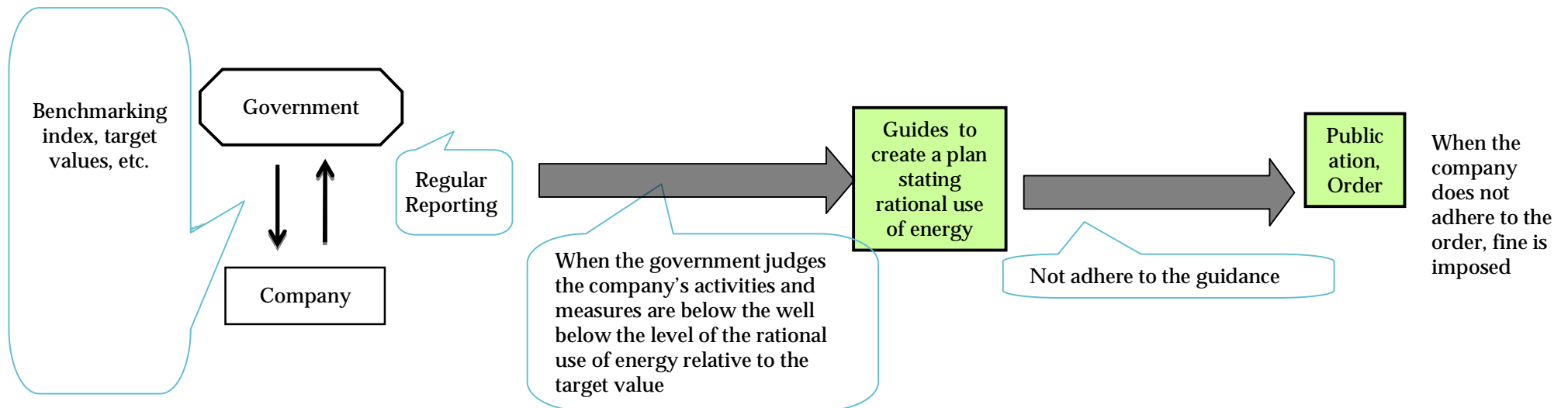
# Introduction of Sectoral Benchmarking Approach

Sectoral approach has been introduced as a domestic regulatory measure. This is the world's first introduction as a government policy measure.

Specifically for certain business categories (sectors):

- Indexes (benchmarking indexes) enabling a comparison among companies of the status and level of energy conservation are determined
- Medium and long-term targets (levels to achieve) are set (2015 ~ 2020)

- Target setting under the past and current energy conservation law: each factory and workplace has to achieve the target of: annually reduce 1 % or more on average of energy (consumption) intensity.
- Future target setting: In addition to the target reduction rate of energy intensity for companies, benchmarking indexes are set as well as the target levels are set which shall be achieved in the medium and long-term period for energy intensive industries such as iron and steel companies, cement producers, electricity suppliers.
- Goals (levels to achieve) shall be at the level which the best performing companies in each industrial sector can achieve (10%-20%) ("Average value - Standard deviation").
- Based on this, companies are obligated to report every year on the status of the rate of reduction of energy (consumption) intensity, implementation status of energy management, status of benchmarking index.
- Reported by the company, the government may take measures when it sees there is a substantial lack of the company's implementing status in reference to the target values. The measures include guidance, publication, order (fine is imposed when the company does not adhere to the order).



## Benchmarking Index and Goals (Level to Achieve) for Each Sector 1

Benchmarking indexes were determined as follows in reference to those adapted by APP, WBCSD.

In addition to iron and steel industry, cement producers, and electricity suppliers, chemical industry, oil refining industry are also considered for the industry sector coverage.

Target sectors, benchmarking indexes, and goals (levels to achieve) will be subject to appropriate review and update, taking into account of technological trends of these sectors and other factors.

### < Iron and Steel Industry >

For the iron and steel industry, sectors are determined taking into account of the manufacturing process and products. Benchmarking indexes and goals are set for each of them.

#### ➤ Steel company using blast furnace

Target Sector	Benchmarking Index	Goal (Level to achieve)
Steel company using blast furnace	$\frac{\text{Total Energy Consumption}}{\text{Crude Steel Production}}$	Below 0.531 kl/t

#### ➤ Ordinary steel company using electric arc furnace

Target Sector	Benchmarking Index	Goal (Level to achieve)
Ordinary steel company using electric arc furnace	$\frac{\text{Total Energy Consumption of Steel Production}}{\text{Crude Steel Production}} + \frac{\text{Total Energy Consumption after Rolling Process}}{\text{Total Material of Steel Rolling}}$	Below 0.143 kl/t

#### ➤ Specialty steel company using electric arc furnace

Target Sector	Benchmarking Index	Goal (Level to achieve)
Specialty steel company using electric arc furnace	$\frac{\text{Total Energy Consumption of Steel Production Process}}{\text{Crude Steel Production}} + \frac{\text{Total Energy Consumption after Rolling Process}}{\text{Product Shipping}}$	Below 0.36 kl/t

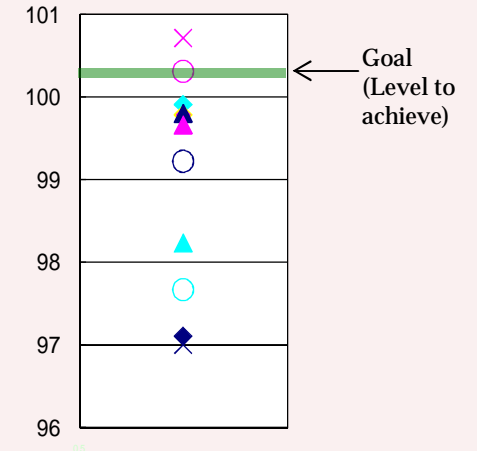
## Benchmarking Index and Goals (Level to Achieve) for Each Sector 2

### < Electricity Suppliers >

For electricity suppliers, two benchmarking indexes were created taking into account of efficiency of power generation plants. Goals were set only for index [1] and the index [2] will be used as its supplement.

(Lowering the operation rate of the power plants results in the significant lowering of the index [2], by improving the operation rate of nuclear power plants or expanding the introduction of solar power. Due to this concept, only the target is set for the index [1], as this index is not reliant to the rate of operation.

Benchmarking Image



Target Sector	Benchmarking Index	Goal (Level to achieve)
Electricity Suppliers	[1] Gross Thermal Efficiency in Performance Test at Rated Output	Over 100.3 %
	[2] Heat efficiency of the power generation plant	-

### < Cement producers >

For cement producers, target levels are set at values lower than the “Average value - Standard deviation”. This is because there is energy conservation potential which enables to achieve the level much lower than the level accrued from the “Average value - Standard deviation”.

Target Sector	Benchmarking Index	Goal (Level to achieve)
Cement producers (projects to produce Portland cement, etc.)	$\frac{\text{Energy Consumption for Raw Materials Process}}{\text{Amount of Ground Raw Materials(Clinker Production Base)}} + \frac{\text{Energy Consumption for Burning Process}}{\text{Clinker Production}}$	Below 3868 MJ/t
	$+ \frac{\text{Energy Consumption for Finishing Process}}{\text{Amount of Ground Clinker and Mineral Components(ordinary portland cement base)}} + \frac{\text{Energy Consumption for Shipping and Others}}{\text{Shipping of Cement Sand Clinkers}}$	

The average values of distribution and standard deviation reported by the companies will be publicized by the government. Companies performing well beyond will be publicized.