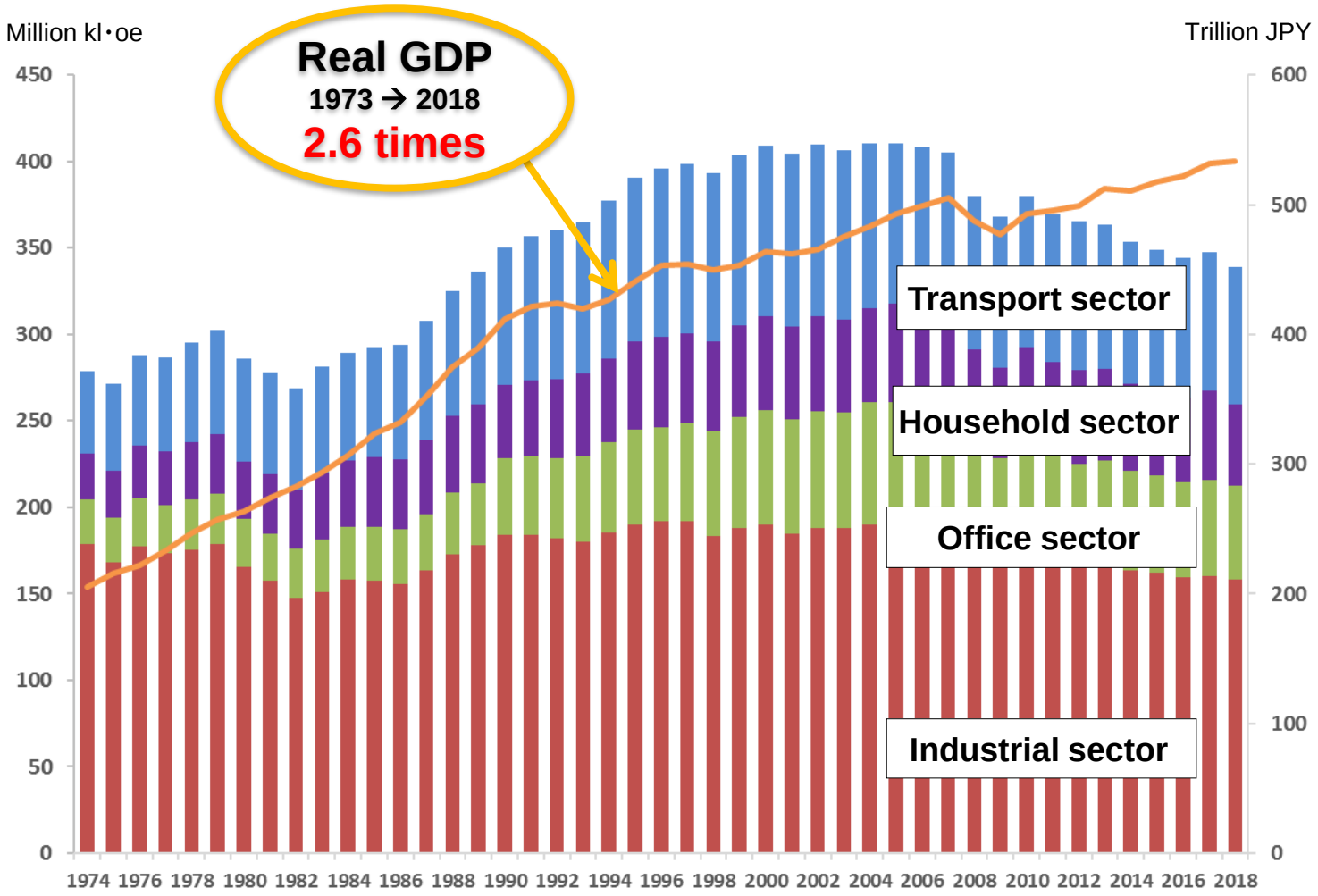
METI
Ministry of Economy, Trade and Industry

Energy Efficiency Policy

Ministry of Economy, Trade and Industry (METI), Japan

Final energy consumption

➔ **Real GDP is up 2.6 times** since the oil crisis in 1970s, while **final energy consumption is up 1.2 times**.



Final energy consumption	
Total	1973 → 2018 **1.2 times**
Transport	1973 → 2018 **1.7 times**
Household	1973 → 2018 **1.9 times**
Office	1973 → 2018 **2.1 times**
Industry	1973 → 2018 **0.8 times**

2050 Carbon Neutral and 2030 Climate Goal in Japan

In October 2020, Prime Minister Suga declared that by 2050 Japan will aim to reduce greenhouse gas emissions to net-zero, that is, to realise a carbon-neutral, decarbonised society.

At Leaders Summit on Climate in April 2021, Prime Minister Suga announced that Japan aims to reduce its GHG emissions by 46 percent in FY 2030 from its FY 2013 levels.

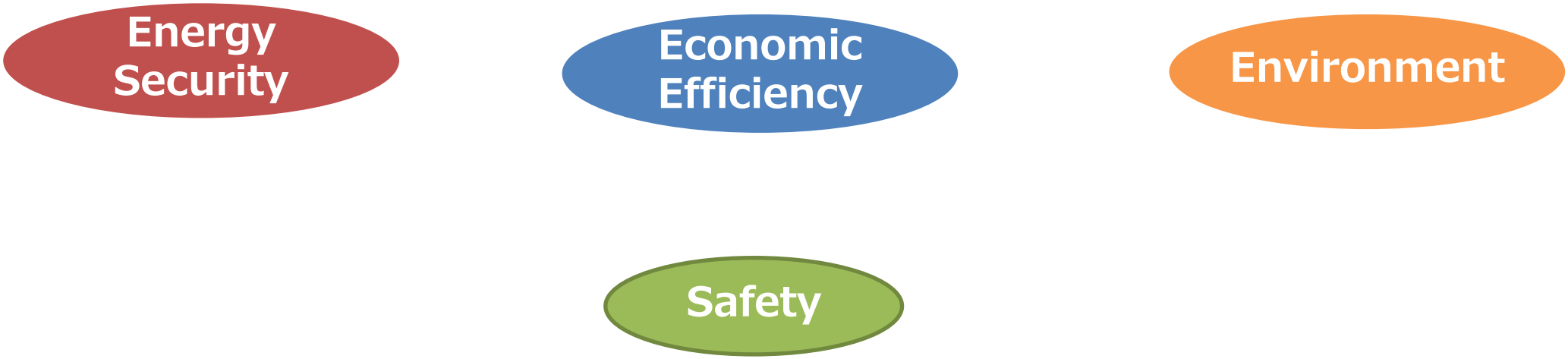
Remarks at Leaders Summit on COP26 (Nov. 2021)

Japan aims to reduce its greenhouse gas emissions by 46 percent in the fiscal year 2030 from its fiscal year 2013 levels, and that **Japan will continue strenuous efforts in its challenge to meet the lofty goal of cutting its emissions by 50 percent**.

Policy targets in Japan's Energy Policy

Based on the Strategic Energy Plan, Japan sets up the energy policy targets,①**Safety**, ②**Energy security**, ③**Economic efficiency**, and ④**Environment** simultaneously (S+3E)

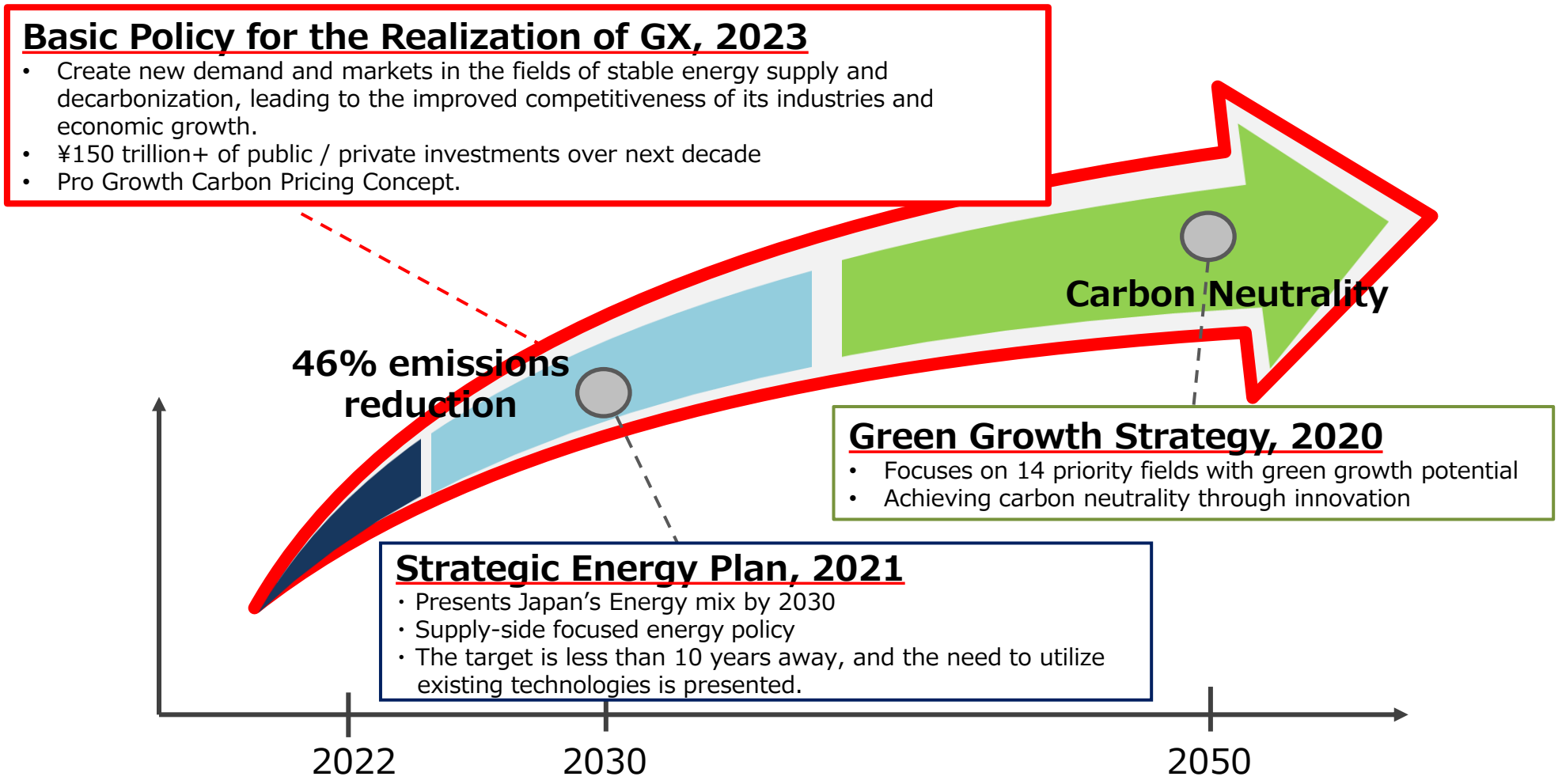
<Energy Policy targets for S+3E>



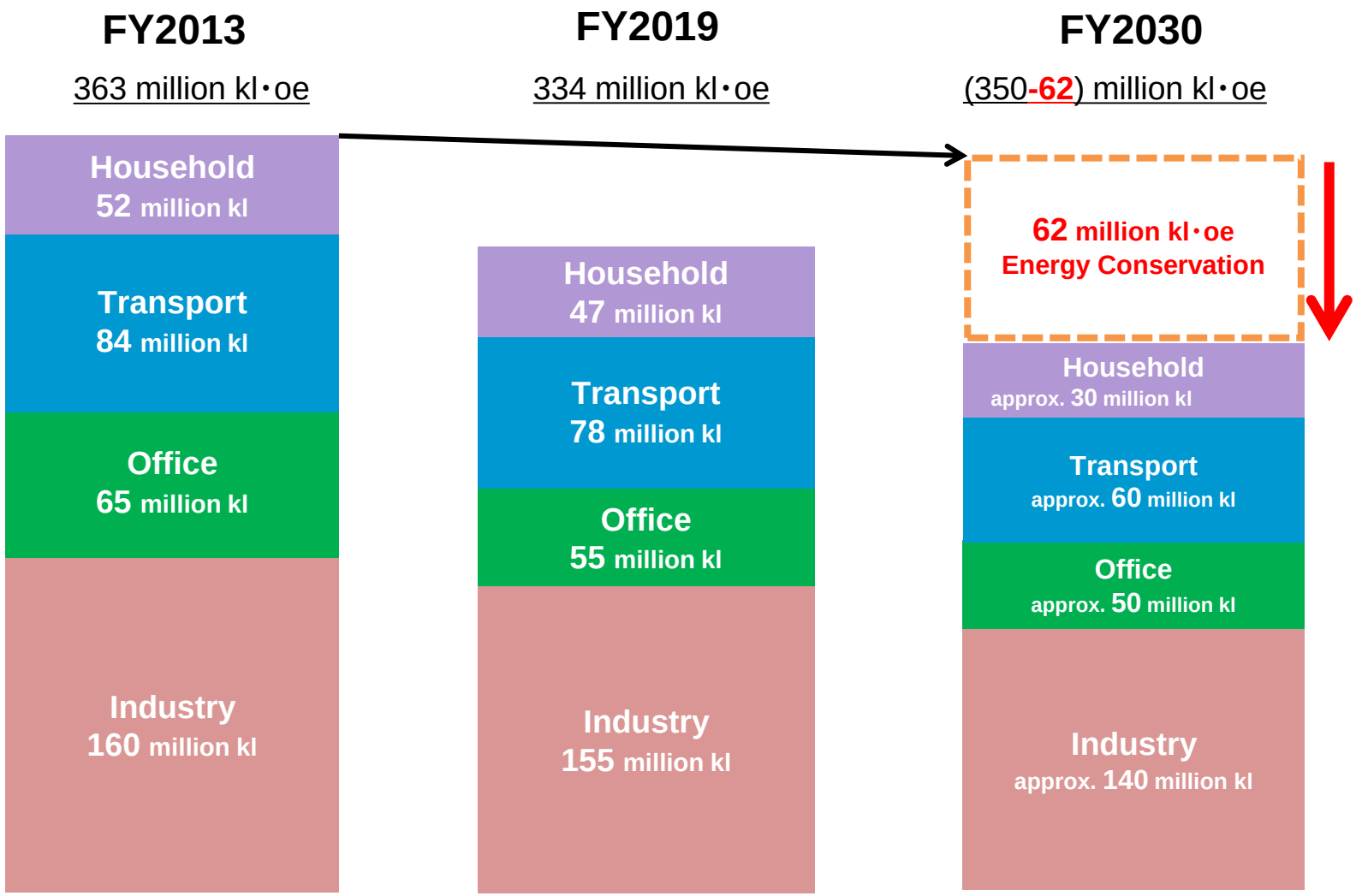
(top priority)

Green Transformation (GX)

- Government of Japan announced **the Basic Policy for the Realization of GX** in February 2023. Relevant bills passed the Diet session in May.
- Green Transformation (GX) delivers both emission reduction and economic growth. Successful GX initiatives enhance competitiveness of companies and nations.



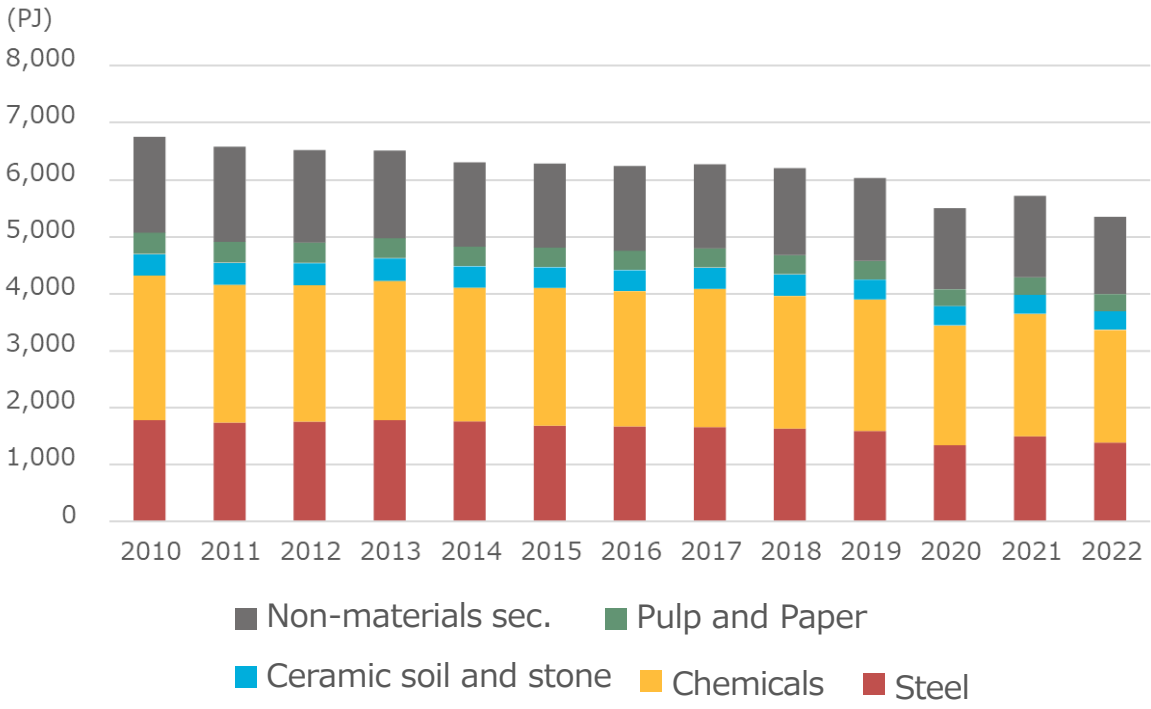
The policy target of energy conservation



Energy consumption and measures in industrial sec.

- The energy conservation target measures for FY2030 in the industrial sector is **low-carbon industrial furnaces** and **motors/inverters**, which account for **about 50%** of efficiency measures in industry sec.

Final energy consumption in the industrial sector



Source: The Institute of Energy Economics, Japan

Energy conservation target measures in the industrial sector for FY2030

① Low-carbon industrial furnaces
② Motors and Inverters
③ Energy-saving process technology in chemistry
④ Industrial Lighting
⑤ Industrial Heat Pumps
⑥ Energy Management
⑦ Others

Source: Agency for Natural Resources and Energy, Cabinet Secretariat in Japan

The Overview of Demand-side Policies: Regulation and Incentives

Regulation

Energy Conservation Act

- Reporting obligation for large-scale enterprises
- Requirement to achieve energy efficiency criteria for manufacturers (called “Top Runner Program”)

Buildings Energy Conservation Act

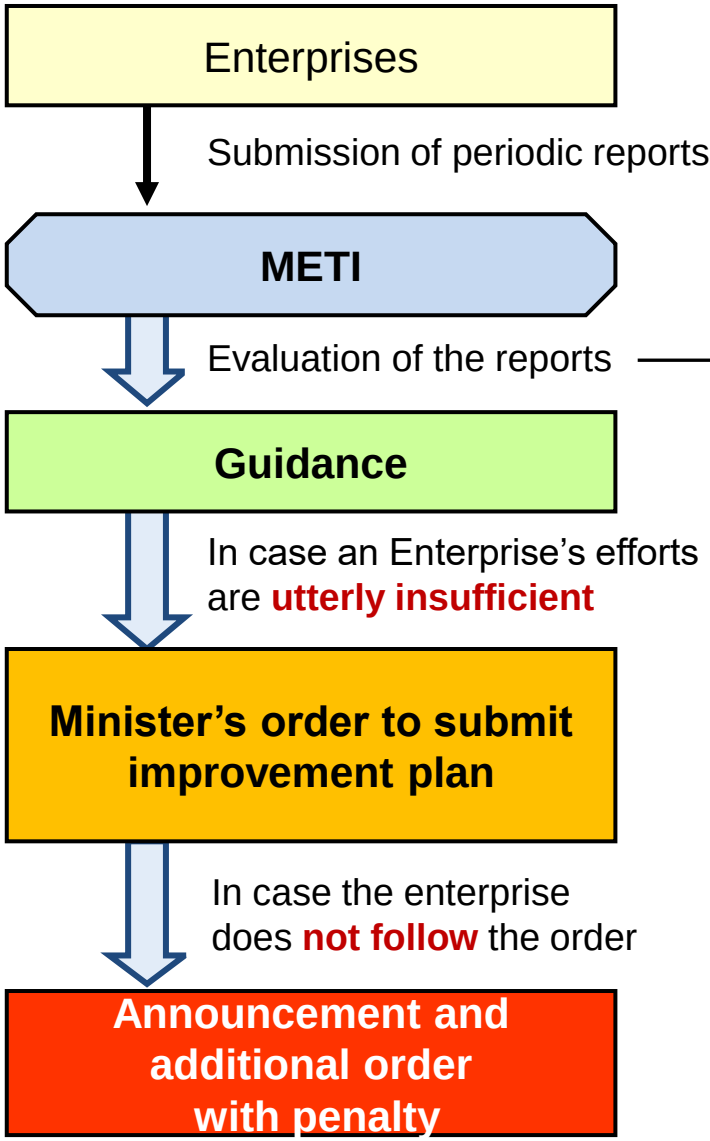
- Requirement to comply with the energy performance standard(EPC)

Incentives

Energy Conservation Subsidies Package (2022/2023)

- Replacing inefficient facilities
- Experts’ advice for SMEs
- Insulation retrofitting and residential water heater (heat pumps)

Energy Conservation Act: (1) Reporting obligation for large-scale enterprises



○The amount of fossil energy consumption
○The amount of **non-fossil energy consumption**
○The plan of energy conservation and **shift to non-fossil energy**

Evaluation

○**Non-binding target**
- Reduction of specific energy consumption by 1% or more on an annual average basis, etc.

○**Benchmark index/Target levels**
(only for applicable sectors*)
Target level: Level met by the best operators in each industry

* Manufacture of steel, power supply, manufacture of cement, manufacture of paper, petroleum refinery, and manufacture of chemicals

○As the result,
- Achievers are evaluated as **excellent (S-class) businesses**.
- For large companies, **the acquisition of S-Class is required for subsidies.**

The Obligations to comply with to construct a new building

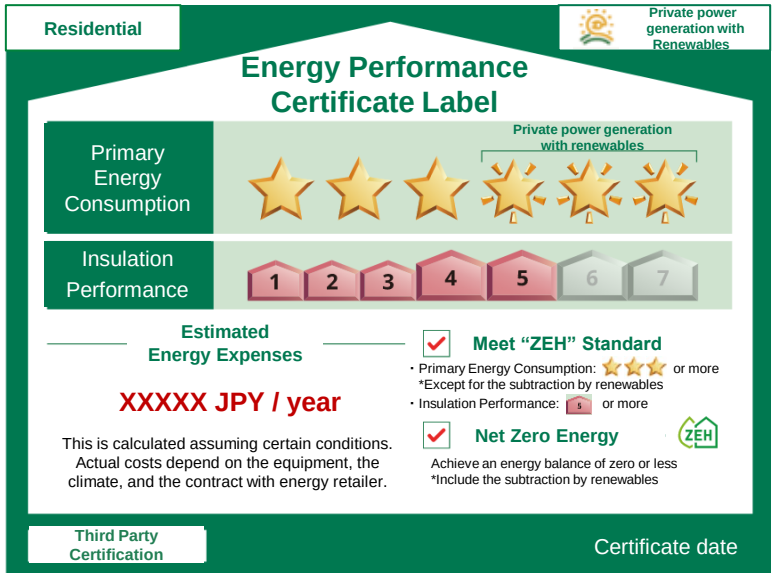
	Non-Residential Buildings	Residential Buildings
2,000m^2～	**Comply with the EPC standard** (since April 2017)	**Self-check + Report to the government**
300m^2~2,000m^2	**Comply with the EPC standard** (since April 2021)	**Self-check + Report to the government**
~300m^2	**Self-check + Give the information to buildings' owner**	

Since April 2025

	Non-Residential Buildings	Residential Buildings
2,000m^2～	**Comply with the EPC standard**	
300m^2~2,000m^2	**Comply with the EPC standard**	
~300m^2	**Comply with the EPC standard**	

*EPC: Energy Performance Certificate

Energy Performance Certificate Labeling



1 Primary Energy Consumption

- The index represents the total energy consumption of space heating, space cooling, ventilation, light, water heater, elevator, and other equipment. The amount of energy supply from private power generation can be subtracted.
- The number of stars represents how much energy is conserved from the EPC standard.
(e.g. ★:0% ~ 10%, ★★ :10% ~ 20%)

  ⇒ EPC Standard: ★

2 Insulation Performance

Only for Residential

- The index represents the insulation efficiency of building envelops. In the warmer area, the index of solar radiation penetration is also evaluated.
- EPC Standard: 4

➡ **Labeling Obligation will be enforced in April 2024**

Incentives: Energy Conservation Subsidies Package

		Dec. 2022	Dec. 2023
Businesses	Replacing inefficient facilities	500 billion JPY = **3.2 billion USD** (the amount of next 3 years)	700 billion JPY = **4.5 billion USD** (the amount of next 3 years)
	Experts' advice for SMEs	2 billion JPY = **12.8 million USD**	2.1 billion JPY = **13.5 million USD**
Households	Insulation Retrofitting	280 billion JPY = **1.8 billion USD**	420 billion JPY = **2.7 billion USD**
	Residential Water Heater		

*Exchange rate: 1 USD = 156 JPY (as of May. 9, 2024)

Incentives for businesses : Replacing inefficient facilities

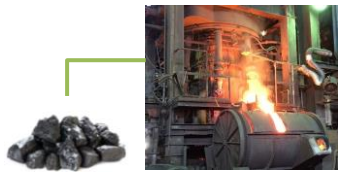
Type 1: Energy efficiency improvement throughout the plant or building

Improvement Rate: **10%** or Reduction of Energy Consumption **700kloe**

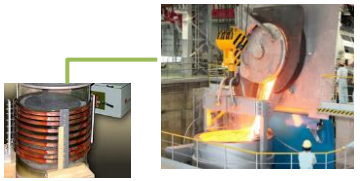
New

Type 2: Select facilities from the list
***Specialized for Electrification and Fuel Switching**

Coal Furnace



Electric Furnace



*Facilities example

Type 3: Select facilities from the list

Heat Pumps

Air Conditioner

Motors

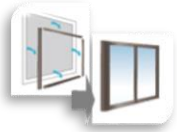
*Facilities example

Incentives for existing residential buildings in 2024

Renovation Subsidy

- Support up to 300,000 JPY for home renovations, including heat insulation of windows, floors, and other house envelops.

250* billion JPY



Window insulation Subsidy

- Support up to 2 million JPY for window insulation retrofitting by adding interior windows or replacing glasses.
- Eligible models must meet the criteria of the Top Runner Program.

135 billion JPY

Water heater Subsidy

- Support of approximately 100,000 to 200,000 JPY for installation of heat pump water heaters, household fuel cells, and hybrid (gas + heat pump) water heaters
- Eligible models must meet the criteria of the Top Runner Program.

58 billion JPY

Water heater Subsidy
(specialized for rental apartment buildings)

- Support of up to 70,000 JPY for the installation of a high energy consumption efficiency gas water heater with latent heat recycling in rental housing complexes where it is difficult to install a heat pump water heater due to the small size of the dwelling unit, etc.
- Eligible models must meet the criteria of the Top Runner Program.

18.5 billion JPY

*Total amount of support for home renovation and for the acquisition of new energy-efficient homes.

Experts' advice for SMEs

3- diagnostic menus are prepared according to the situation of each business.

Energy Conservation Quick Diagnosis	Energy Conservation Optimization Diagnosis	Energy Conservation Helpers Diagnosis
・To perform diagnostics on a single facility in factory/building at low cost and in a short period of time. ・Receive effective energy conservation advice on operational and investment improvements at a low cost.	・To check energy wastage in entire factories and buildings. ・More detailed diagnosis based on data is available through "IoT diagnosis.	・To provide comprehensive support for equipment installation, introduction of financial institutions, and introduction of support measures by local governments. ・Consultation is available for business management.
		
https://shoeneshindan.jp/	https://www.shindan-net.jp/	https://www.shoene-portal.jp/

Experts' advice for SMEs

We have added "IT diagnostics," in which detailed improvement proposals are made using data acquired by digital measurement equipment loaned by the diagnostic organization.

ウォークスルー診断 Walk-through Diagnosis

1日

①事前アンケート・面談

- 専門家が、工場のエネルギー管理者等と面談。設備の仕様や、普段の設備の使い方を確認。

②ウォークスルー

- 工場内をまわり、エネルギーの使い方を確認。

数週間後

③提案

- 同日中に、省エネ運用改善を提案。
- 後日、専門家が、工場でできる省エネの余地をまとめた資料を作成し、中小企業に提案・説明を実施。

新設 NEW!

ＩＴ診断 IT Diagnosis

数時間～半日

①事前調査 ①Pre-Survey

- 専門家が、工場のエネルギー管理者等と面談。
- 事業者の希望や課題等を確認し、計測の規模や、期間等を決定。

1週間～数か月

②機器設置・計測 ②Install Measuring Equipment

- 事前調査に基づき計測機器を設置。
- 計測機器は診断機関から受診者に貸出。

③見える化・分析 ③Visualization Analysis

- エネルギー使用状況を可視化し、省エネポイント特定。
- 計測データをもとに、専門家が改善方法を検討。

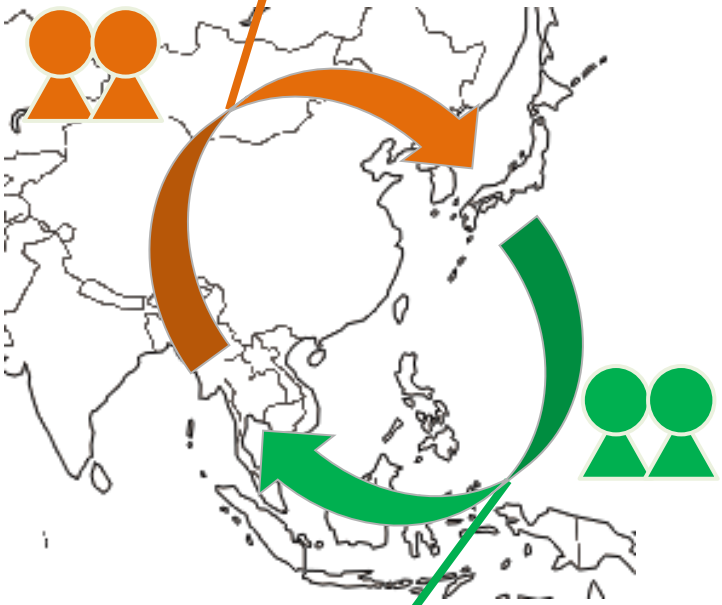
数週間後

④提案 ④Proposal

- データに基づく提案をまとめた資料作成。
- よりきめ細やかな省エネ提案を実施。

International Cooperation in Asia

Accepting trainees:
3,563 / total(2004-2022)



Sending energy management experts:
1,372 / total(2004-2022)

1. Giving advise to drafting Energy Efficiency Act

- Indonesia(2009), Vietnam(2011), Malaysia(2024)

2. Giving advise to implementing MEPS

- **Air Conditioner MEPS**: India(2015), ASEAN, Brazil(2020)

➡ **Inverter* installation ratio**:
2009: 12% → 2018: **39%**

*inverter: adjusting motor output appropriately for temperature

3. Human resource development

- **Mini plant** (Thailand,2002~, JICA)

➢ A training facility that accepts **approx. 1,000 trainees** annually from ASEAN countries.

➢ Energy management experts from Japan visits the facility and conduct training.

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