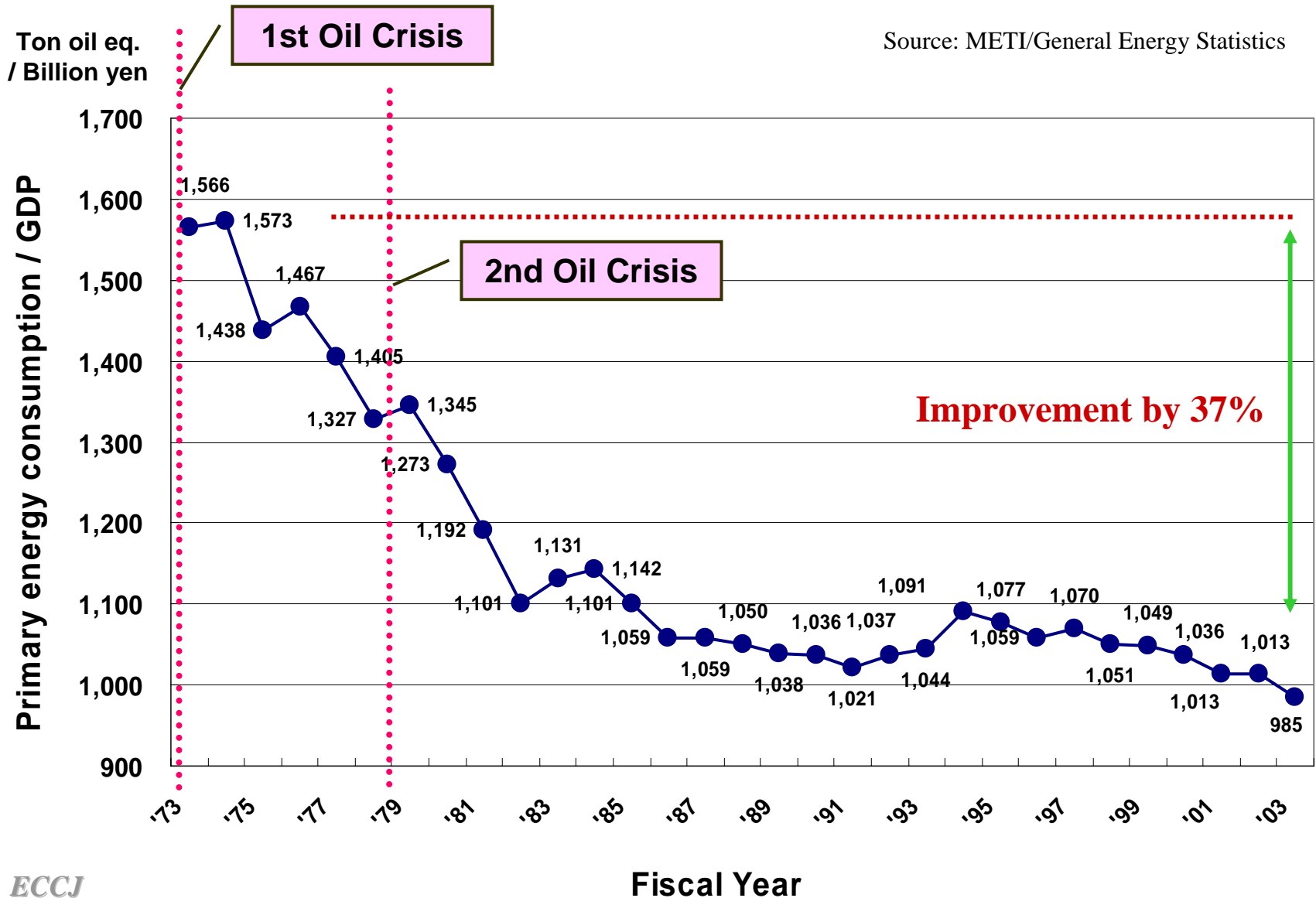


Energy Consumption and Conservation Effort in Japan



Japan International Cooperation Agency (JICA)

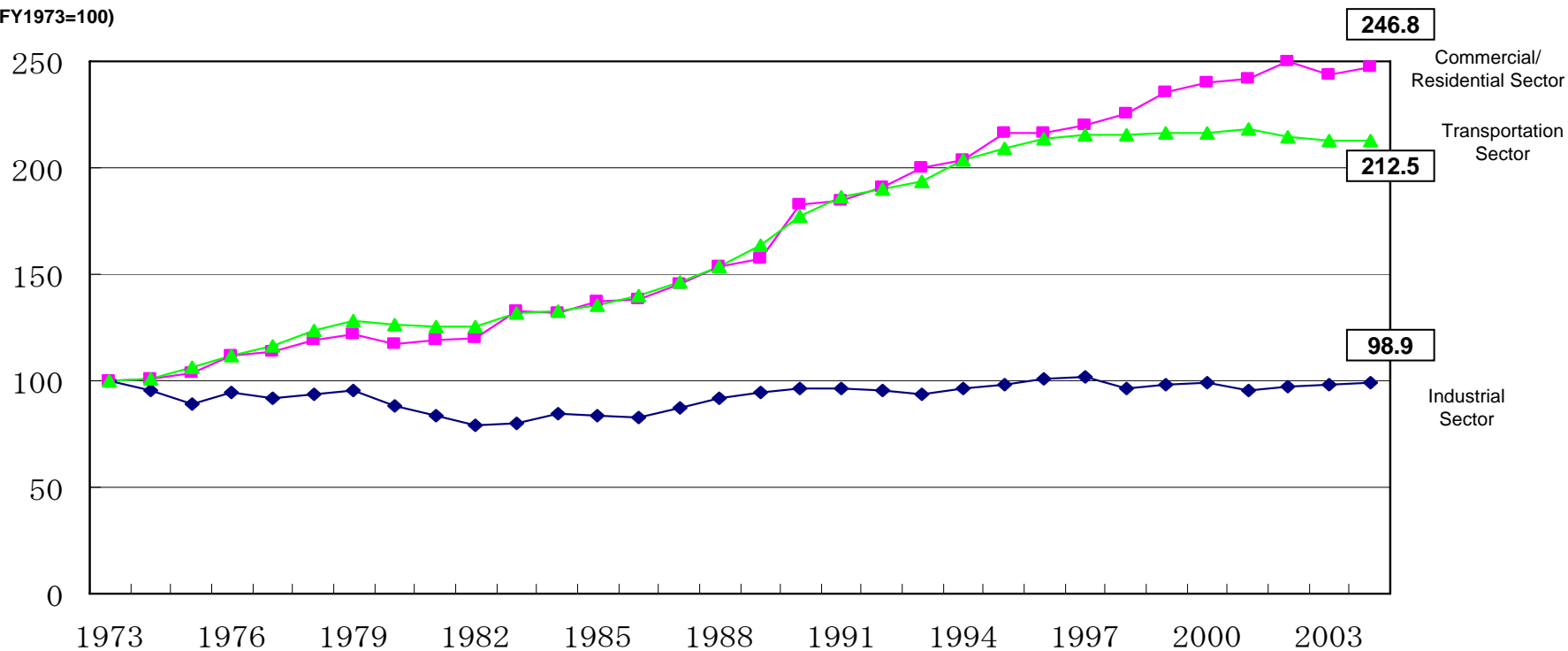
Changes in Primary Energy Intensity per GDP in Japan



Transition of Final Energy Consumption by Sector

- Final energy consumption in the industrial sector has remained generally steady since the oil crisis.
- On the other hand, those of the commercial/residential and transportation sectors have increased significantly.

Index (FY1973=100)

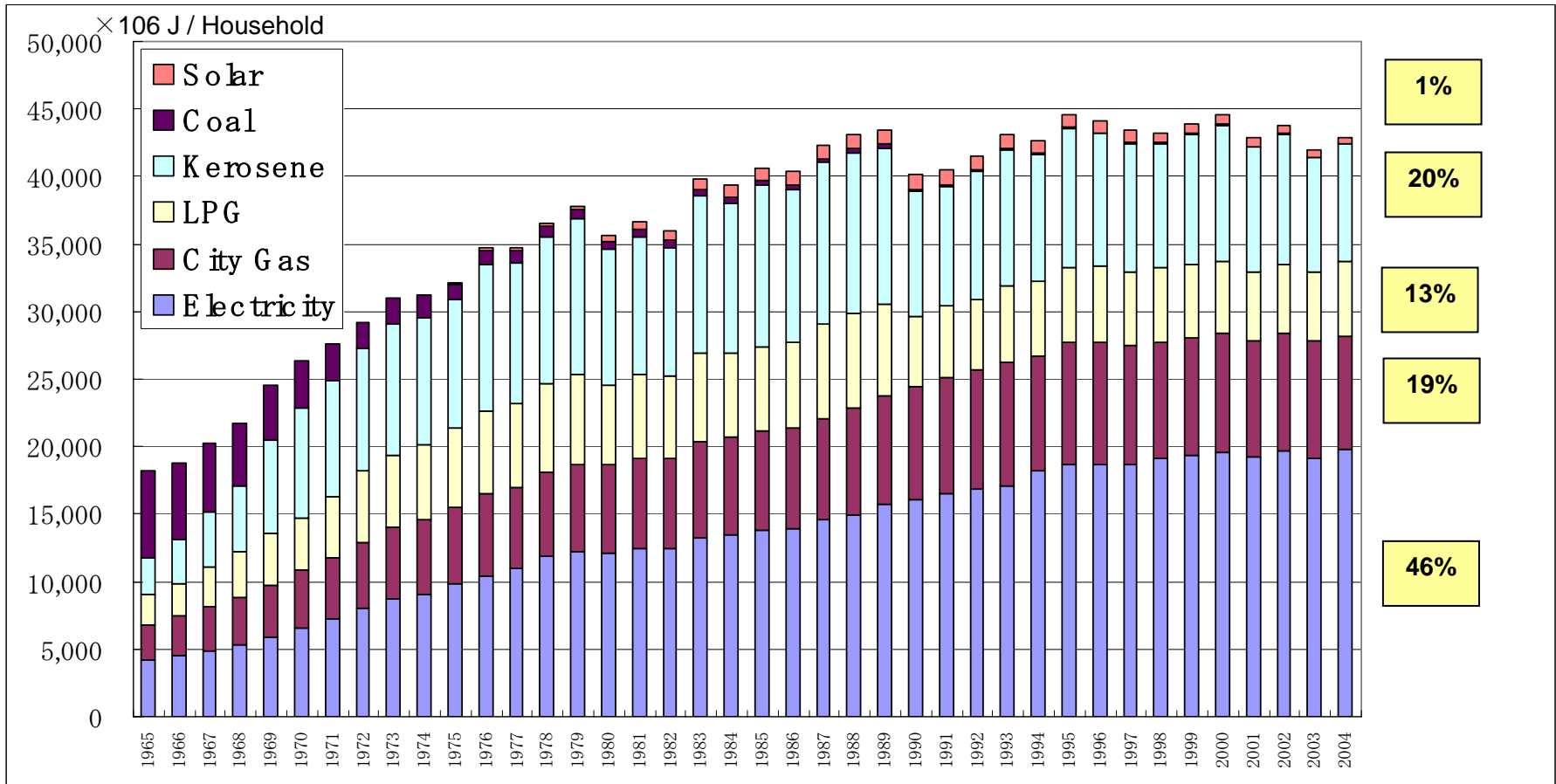


Fiscal Year

Source: Compiled by the Agency for National Resources and Energy based on Energy Balance Tables in Japan data
(Note) Note that, due to revision of the aggregation method in Energy Balance Tables in Japan, values for FY1990 onwards and values for preceding years are the results of utilizing different methods.

Transition of Household Energy Consumption by Source

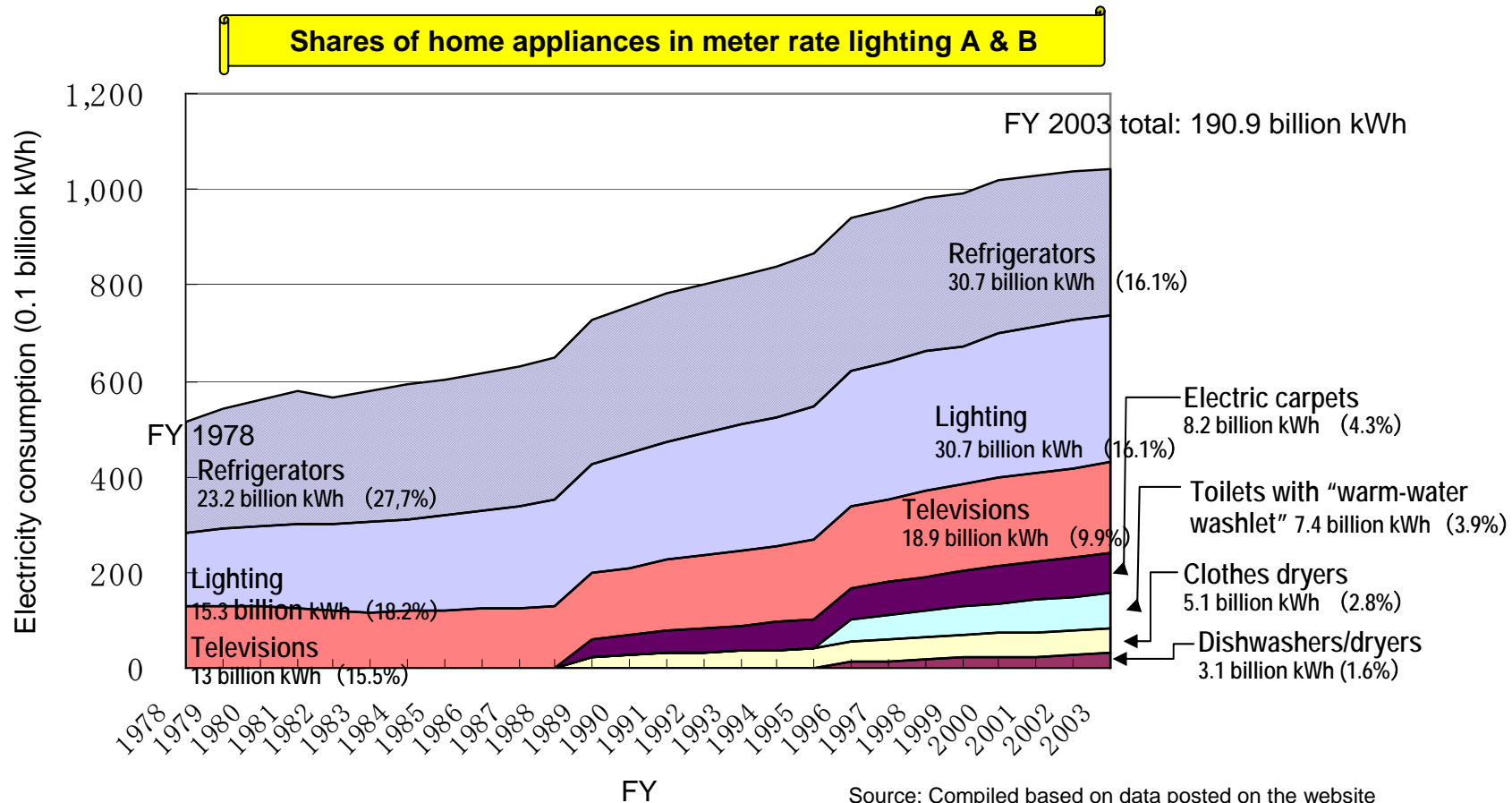
- Major energy source has been shifted from coal to kerosene, and electricity now.
- Energy consumption in residential sector has increased due to the following reasons;
 - (1) Total Number of home appliances owned has increased,
 - (2) Newly developed home appliances have widely been introduced.



Source: Compiled by the Agency for National Resources and Energy based on Energy Balance Tables in METI

Transition of Energy Consumption for Home Appliances

- Refrigerators, lighting and televisions account for a large portion of electricity consumption in the residential sector.
- Consumption for new equipment, such as toilets with “warm-water washlet” and dishwashers/dryers, has increased, although the percentage in total electricity consumption is not large at present.



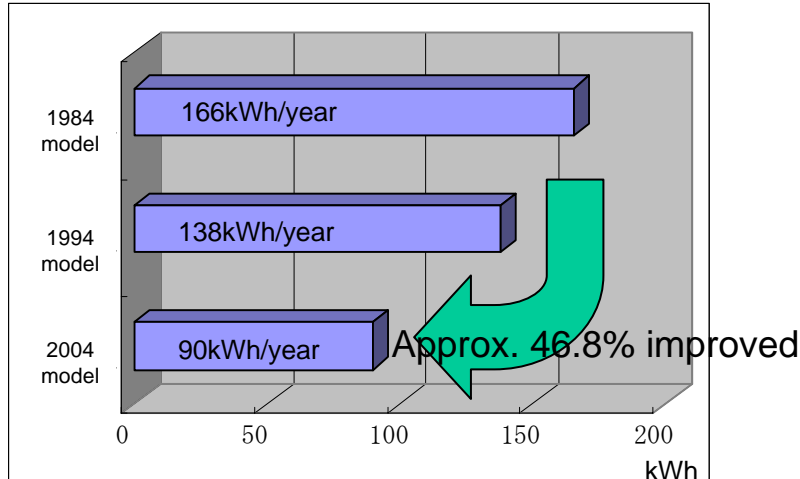
Source: Compiled based on data posted on the website of the Agency for Natural Resources and Energy

Example of Energy Efficiency Improvement

○ Energy efficiency of home appliances has been improved due to the introduction of Top-Runner Program and continuous effort by manufacturers.

○ Transition of the energy-saving performance of CRT television

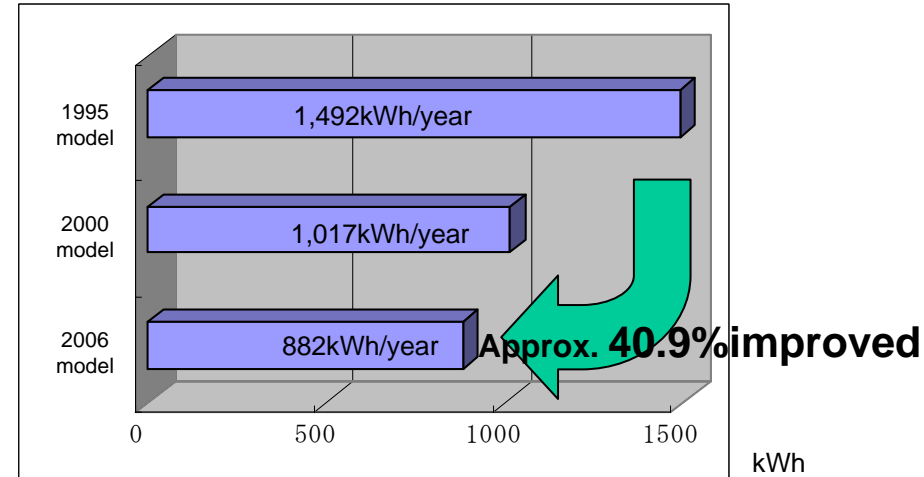
Transition of the performance of 21 inch CRT television



Source: Japan Electronics and Information Technology Industries Association

○ Transition of the energy-saving performance of air conditioner

Transition of the performance of heating-and-cooling type wall-mounted air conditioner with a cooling capacity of 2.8 kW (for a 10 tatami-mat room)

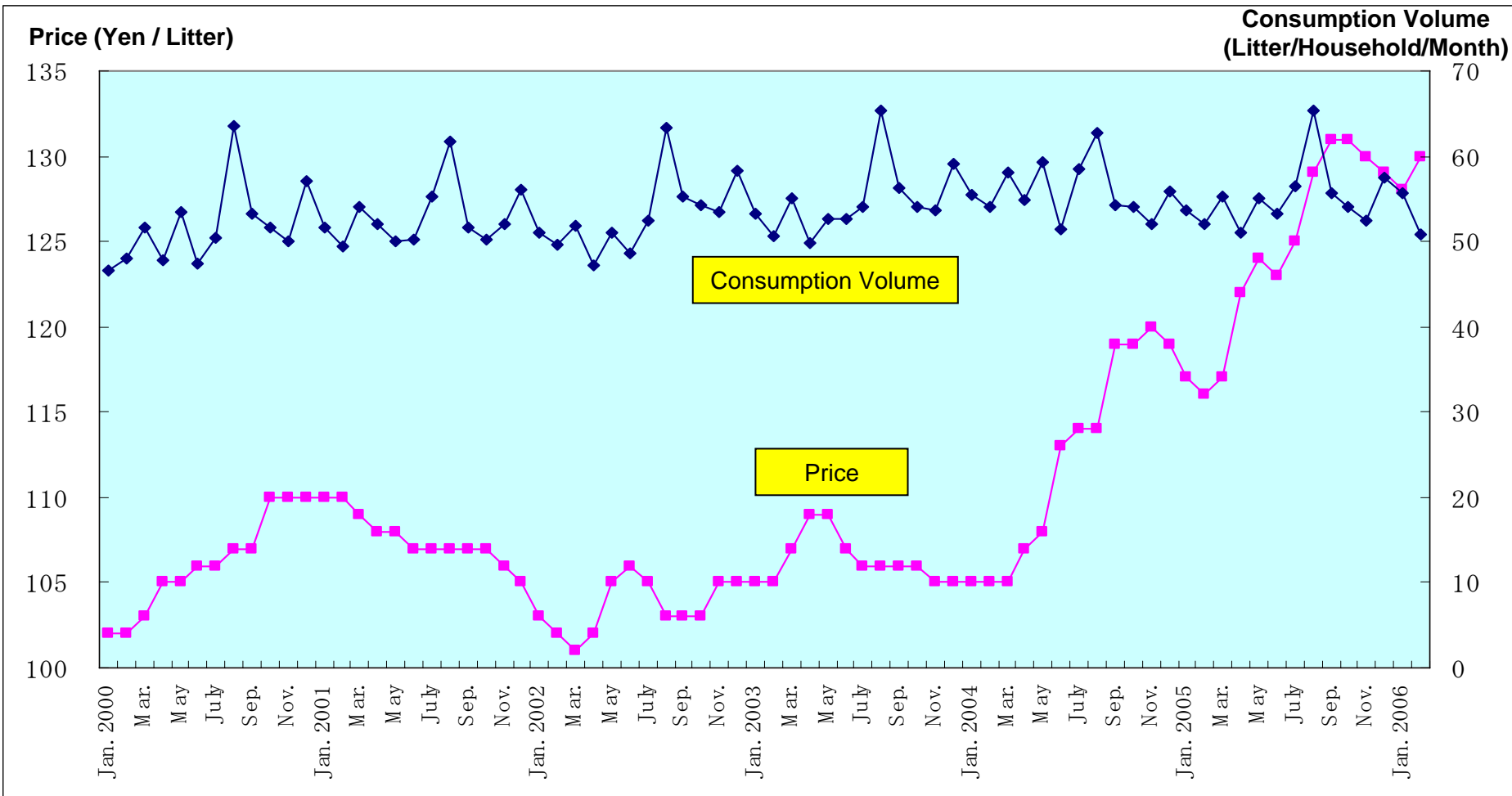


Standard of Japan Refrigeration and Air Conditioning Industry Association

Source: JRA4046 (Standard for the calculation of periodic power consumption of room air conditioners)

Gasoline Price and Consumption Volume

- Consumption volume of gasoline has been steady regardless of the price hike.
- Although fuel efficiency has been improved, total number of registered vehicle has been increasing in Japan.



Source: The Oil Information Center, and Ministry of Internal Affairs and Communications, Japan

Why did the manufacturing industry of Japan succeed in the energy conservation after the Oil Crisis?

1. Cost reduction incentive (enforcement of international competitiveness) and **self-help efforts by enterprises**
--- *Energy management, investment and technological innovation.*
QC activity, Kaizen by small group activities, TQC and TQM.
2. Regulation measures by Government (**Energy Conservation Law**)
3. Support and subsidy system by Government (**finance, tax, subsidiary aid**)

Mutual effect, synergy effect

Japan became the first class country in **energy conservation technology.**

< Energy Conservation Philosophy >

- Energy Conservation should be **achieved at site.**
- Energy Conservation is **practical** and **steady** activities.
- **Base** of Energy Conservation is “**Energy Management**”

Major Amendment of Energy Conservation Law (Enforced in April 2006)

◆ Civil and Commercial Sector



- Strengthening energy conservation measures for large-scaled **retrofits** of the existing residence and buildings, as well as new buildings
(in cooperation with Ministry of Land, Infrastructure and Transport)
- **Information** offering from energy suppliers and appliance-retailers

◆ Transportation Sector



- < Additional regulation for the transportation sector > for **cargo owners** and **carrier companies**:
Submission of Periodical Reports
Submission of mid- and long-term plans
(in cooperation with Ministry of Land, Infrastructure and Transport)

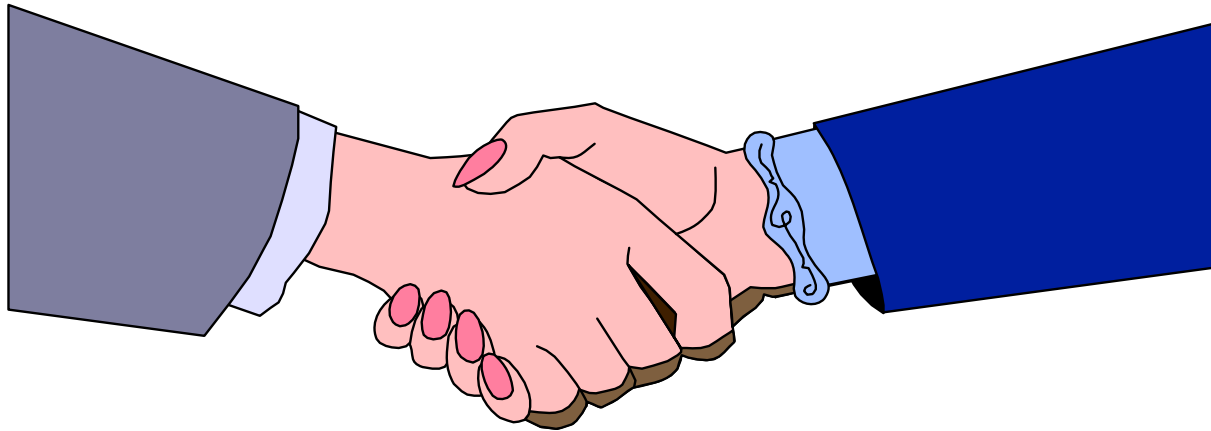
◆ Industrial Sector



- Strengthening energy conservation measures in factories and workplaces by managing the **combined** annual consumption of **heat** and **electricity**
(the number of designated factories and workplaces will increase from 10,000 to 13,000)

EC Law has been amended 5 times to adjust to the latest requirements and enforce more stringent EC measures. **(Step by Step approach)**

Thank you very much!



Salamat mula sa puso!

Presentation materials are kindly provided by
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