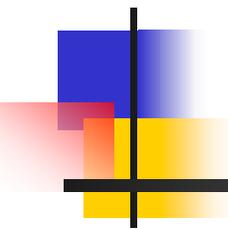


**12<sup>th</sup> Asia Pacific Seminar on Climate Change, Bangkok, Thailand**  
**30 July – 2 August 2002**

# Japan' Policy towards the Implementation of Kyoto Protocol



July 30, 2002

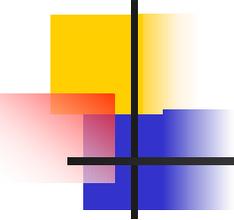
**Yasuo Takahashi**

Director

Office of International Strategy on Climate Change

Global Environment Bureau

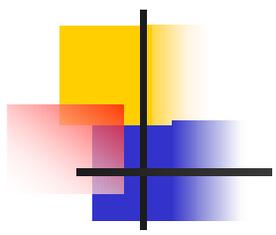
Ministry of the Environment, Japan



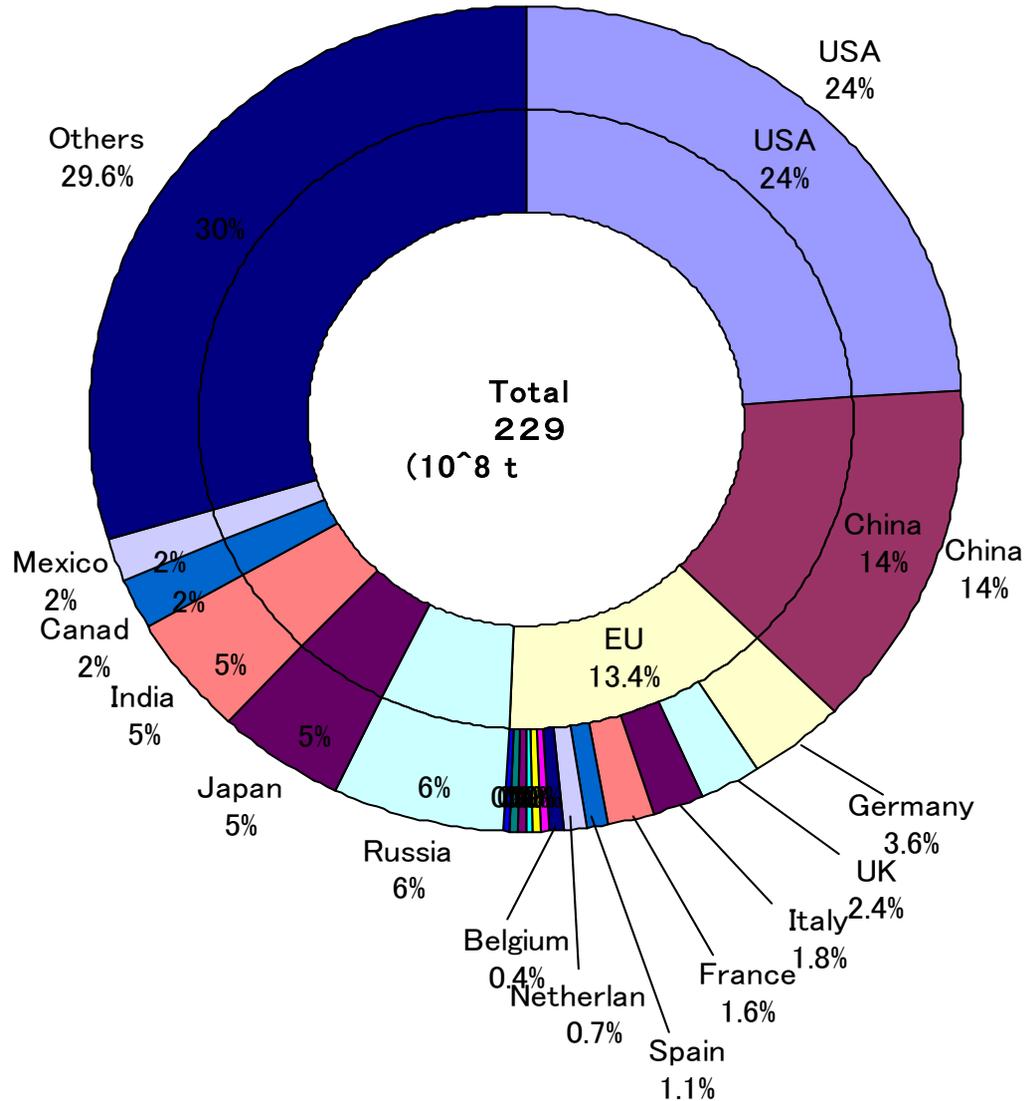
# Contents

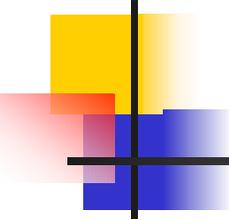
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- Ratification of the Kyoto Protocol
- Climate Change Policy Law
- Climate Change Policy Program
- International Cooperation



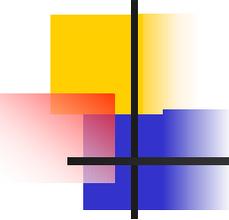
# CO<sub>2</sub> Emissions from each country (1998)





# The Kyoto Protocol (cont'd)

|                   |   |
|-------------------|---|
| Target Gases      | CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O, HFCs, PFCs, SF <sub>6</sub> |
| Base Year         | 1990 (or 1995 for HFCs, PFCs, SF <sub>6</sub> )                                   |
| Commitment Period | 2008~2012   |
| Reduction Target  | Japan - 6 %<br>USA - 7 %<br>EU - 8 %  |

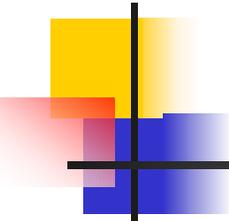


# The Kyoto Protocol (cont'd)

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The Protocol will enter into force after

- At least 55 Parties ratified  
(75 Parties ratified as of July, 2002)
- Ratified Parties include developed countries representing at least 55% of the total 1990 CO<sub>2</sub> emissions from this group

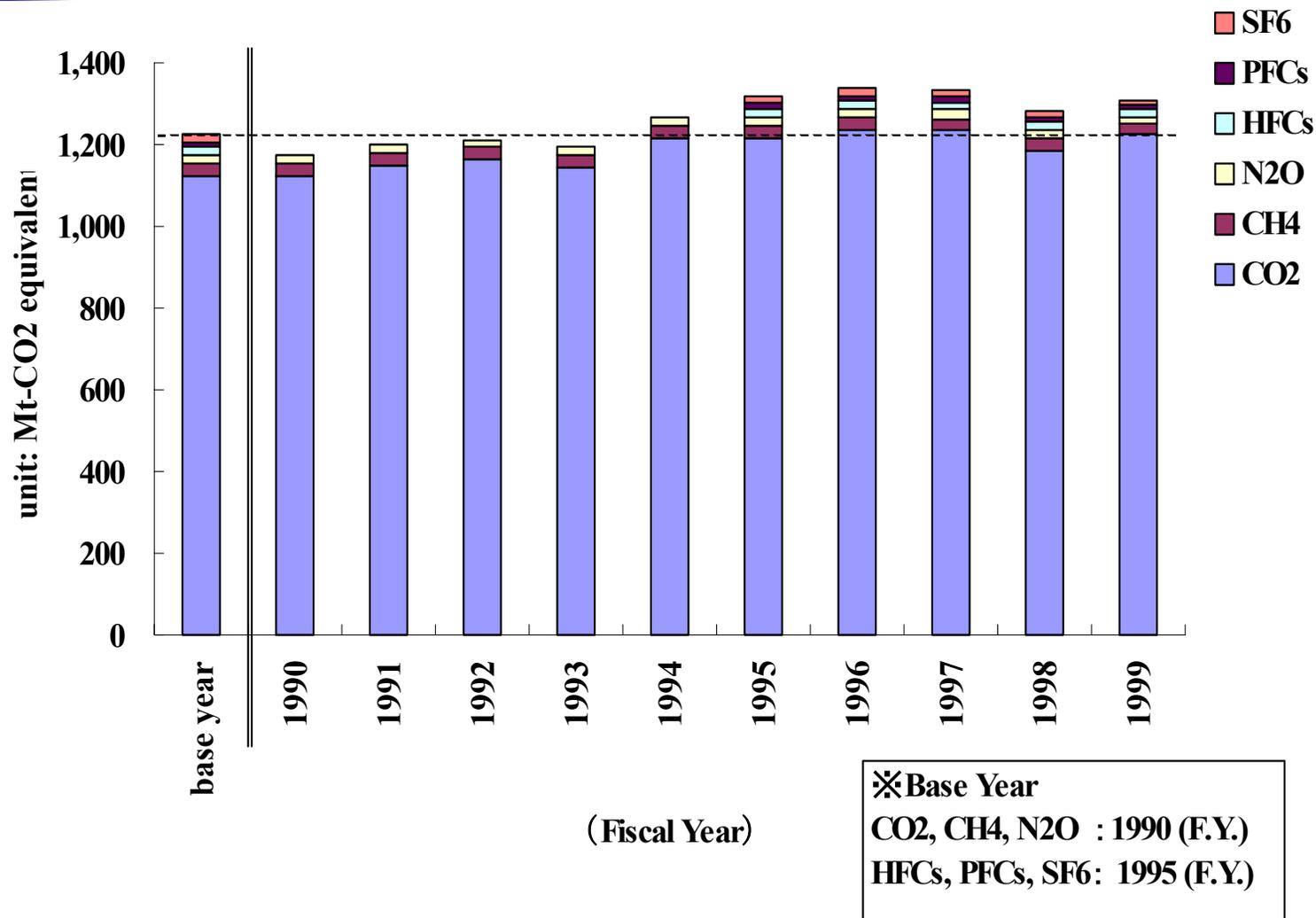


# Japan Ratified the Kyoto Protocol

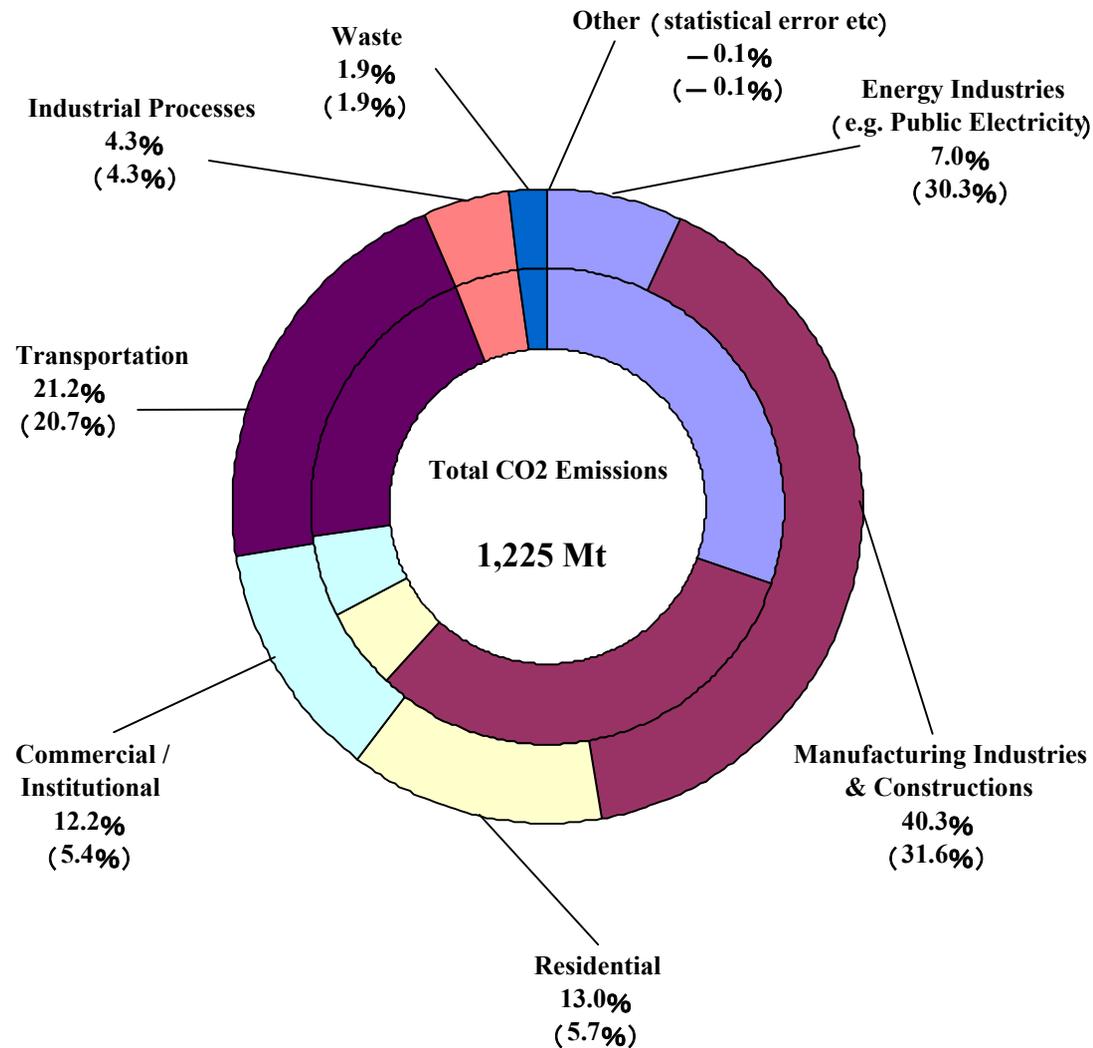
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- Process to the ratification
  - The House of Representatives approved on May 21.
  - The House of Councillors approved on May 31.
  - Cabinet made the final decision on the ratification of the Protocol on June 4.
  - Japan ratified the Protocol on June 4. (74<sup>th</sup> Party)
- The ratification is a significant milestone in Japan's environmental policy.

# Trends of GHGs Emissions in Japan

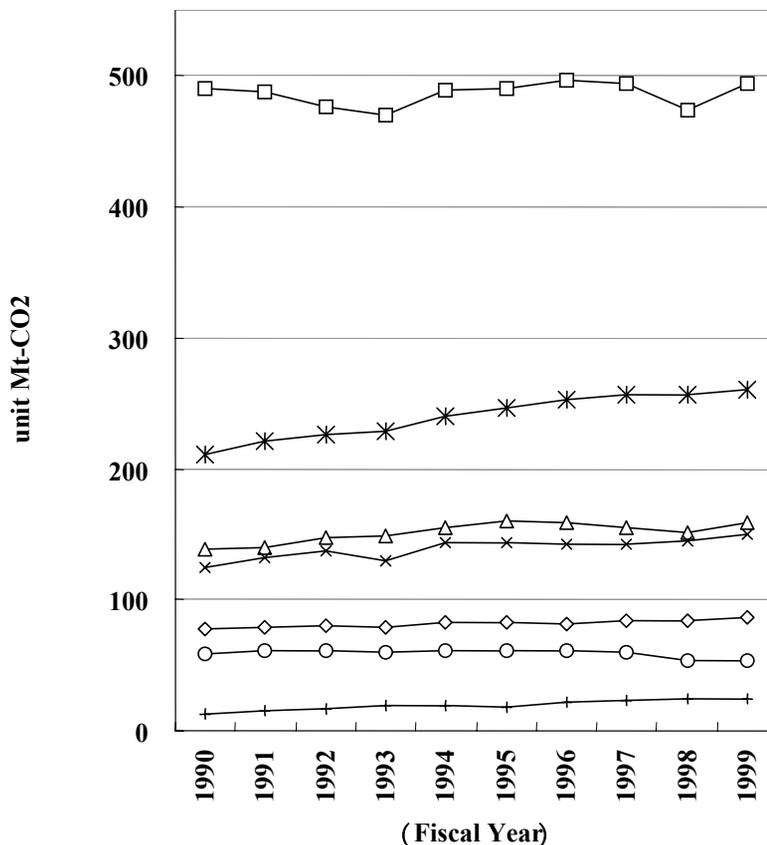


# 1999 CO<sub>2</sub> Emissions by Sectors in Japan



# Trends of CO<sub>2</sub> Emissions by Sector in Japan

CO<sub>2</sub> Emissions from 1990 to 1999  
(growth rate from 1990(F.Y.))



**Manufacturing Industries  
& Construction**  
490 Mt → 494 Mt (+0.8%)

**Transportation**  
211 Mt → 260 Mt (+23.0%)

**Residential** 138 Mt → 159 Mt (+15.0%)

**Commercial / Institutional**  
125 Mt → 150 Mt (+20.1%)

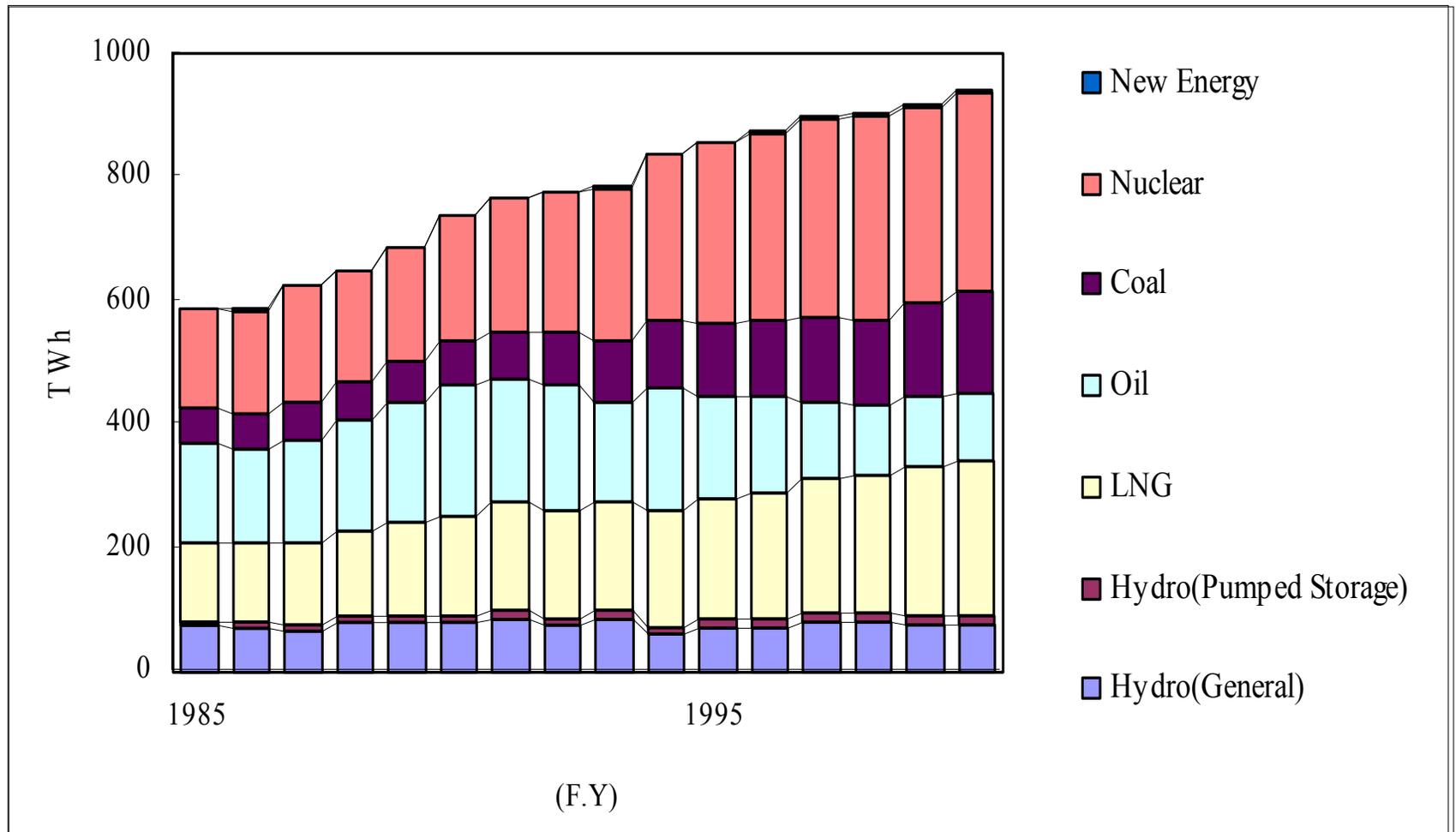
**Energy Industries** 77 Mt → 86 Mt (+11.7%)

**Industrial Processes** 59 Mt → 53 Mt (-9.5%)

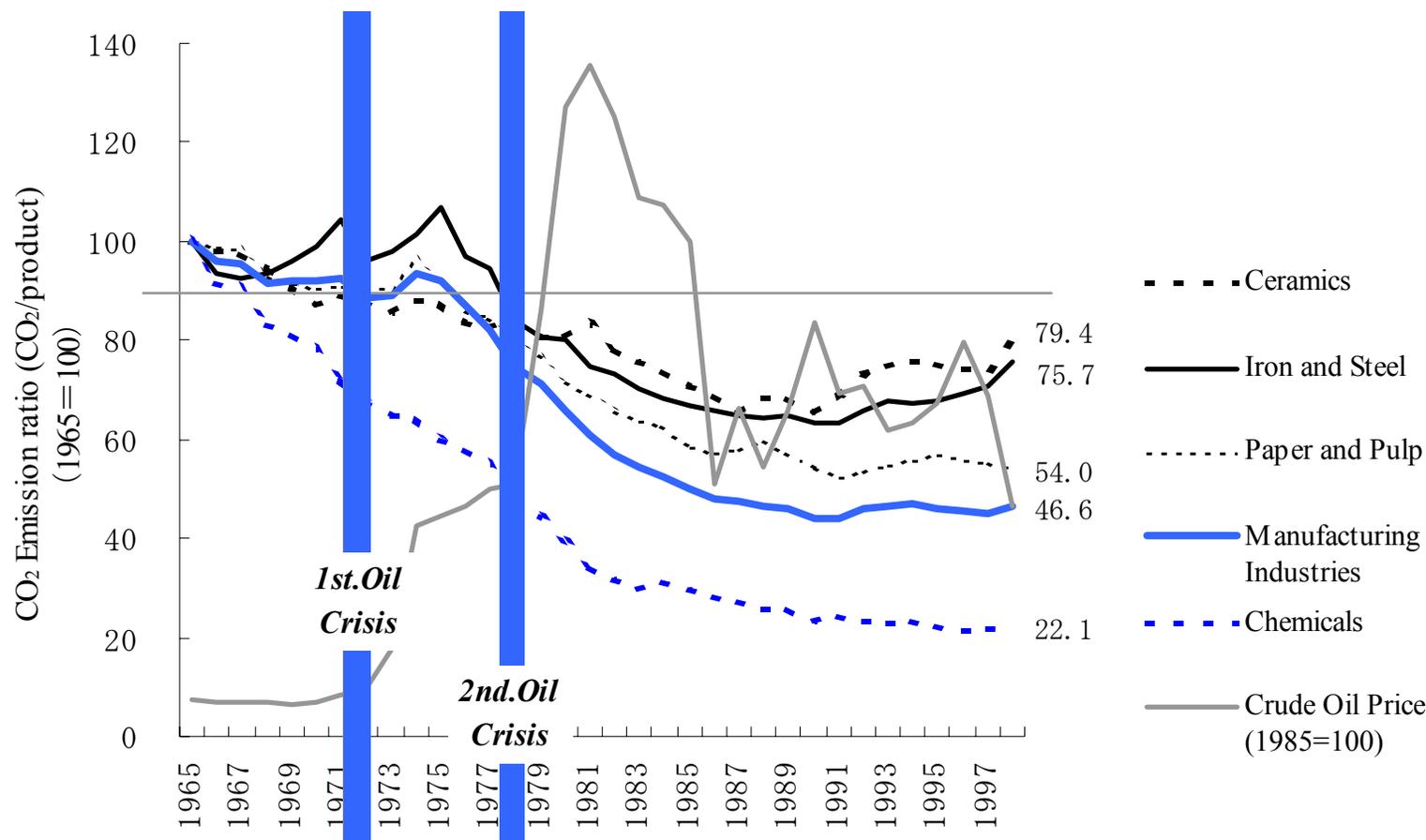
**Waste** 13 Mt → 24 Mt (+86.3%)

note: CO<sub>2</sub> Emissions from public electricity is allocated to each sector by consumption of electricity.

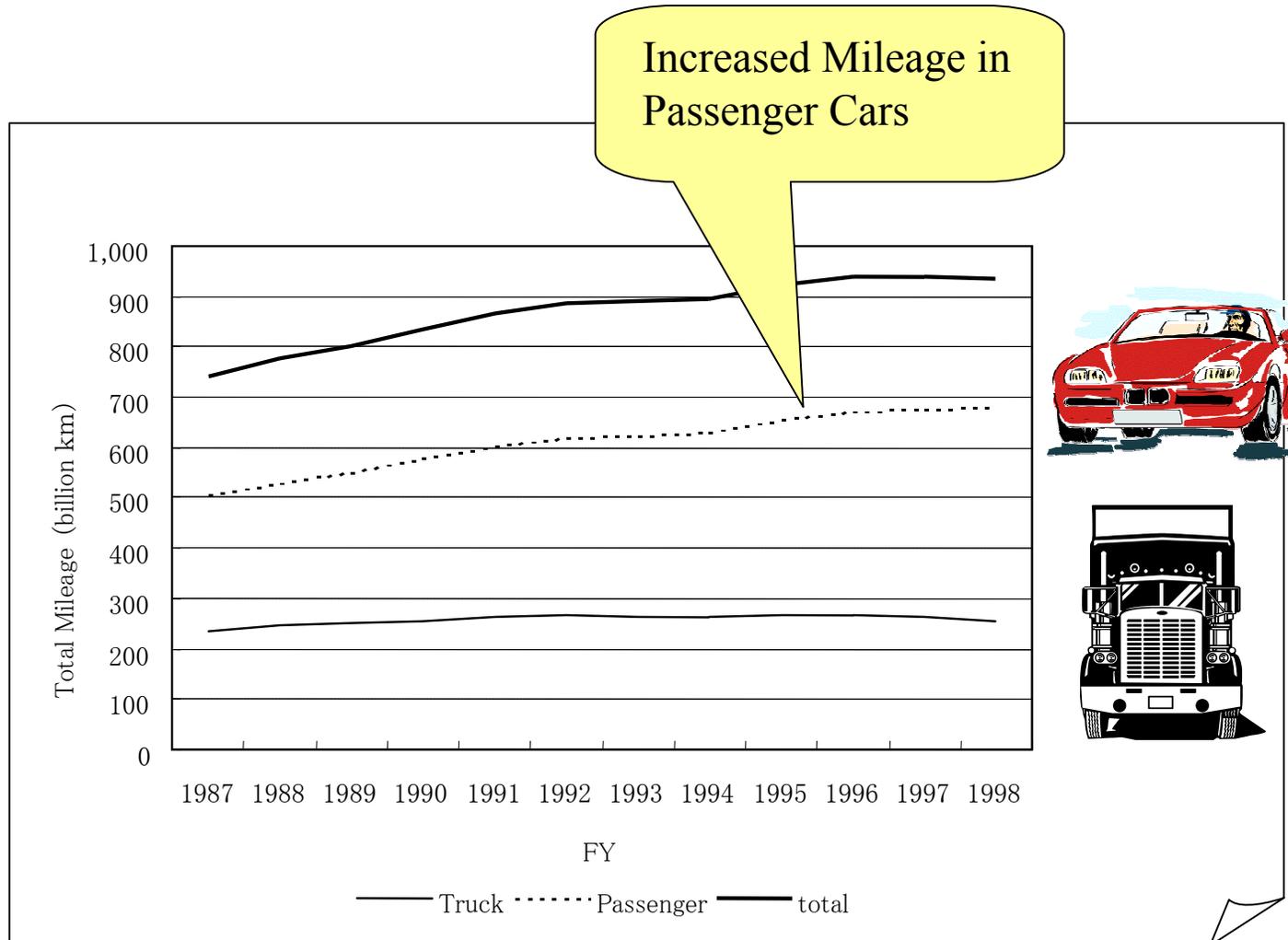
# Trends of Electric Power Generation in Japan



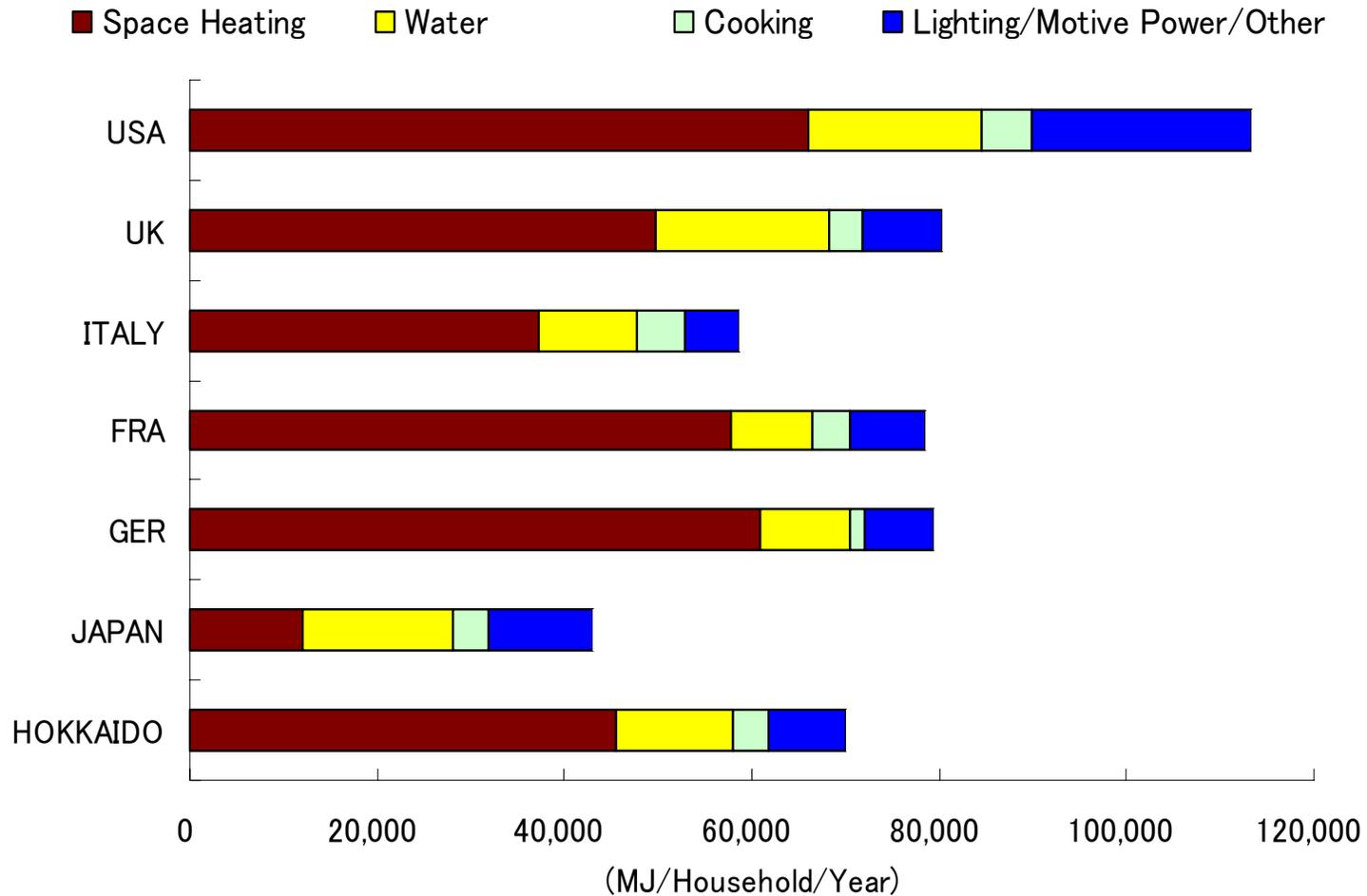
# CO<sub>2</sub> Intensity of Industries in Japan



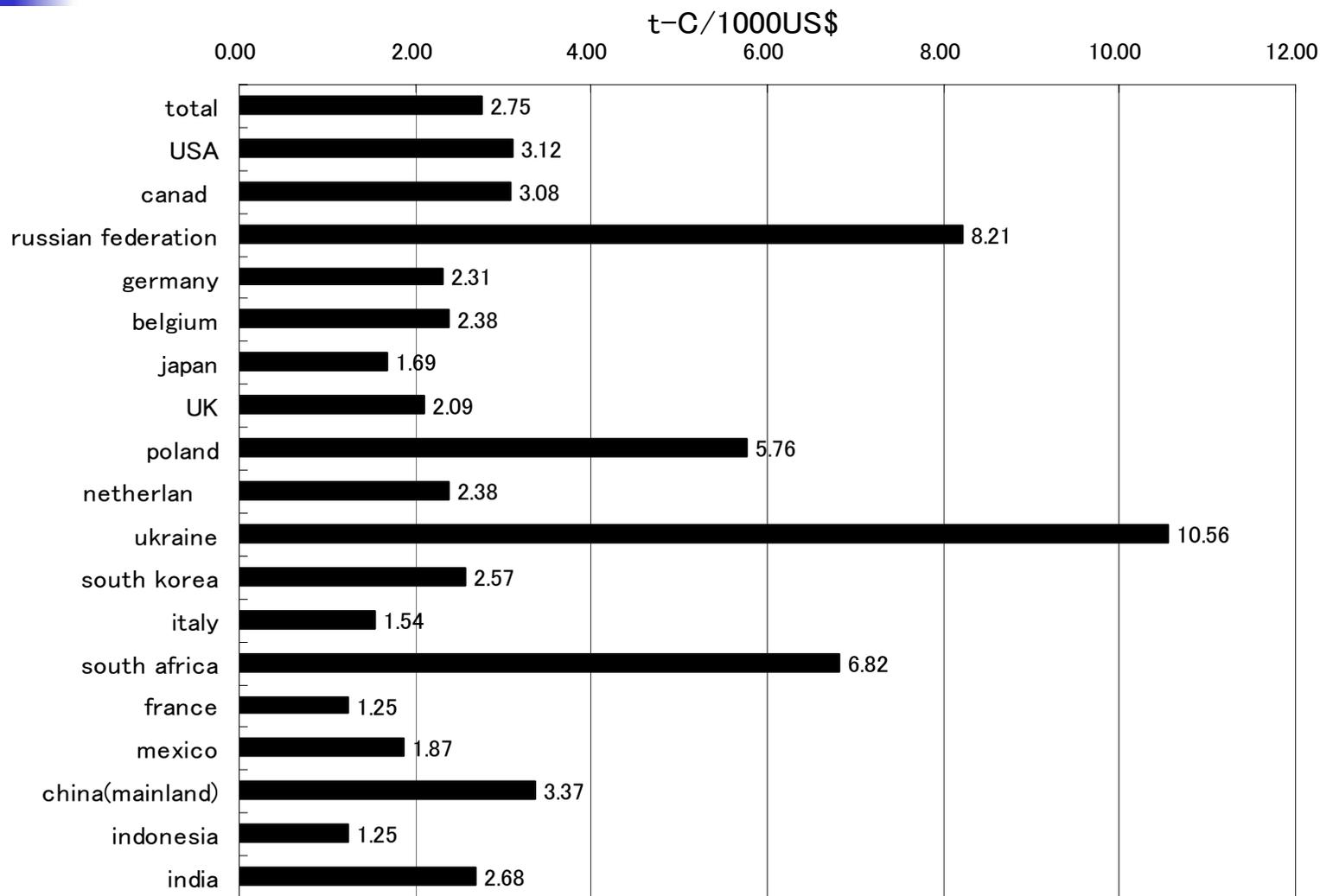
# Japan's Trends of Mileage

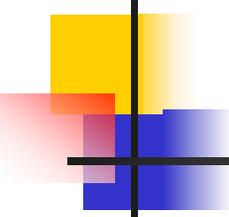


# Comparison of Energy Consumption per Household



# CO<sub>2</sub> emissions per GDP (1995)





# Analysis of Japan's Trends

**Increase:** Transport Sector ← Increase with the number of Passenger Transports  
Commercial/Institutional Sector ← Increase with the Floor Space  
Residential Sector ← Increase of Households

**Decrease:** Industry Sector ← Structural Change in the Industry Sector

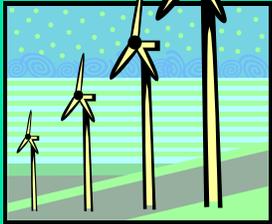
## Transsectoral Factor

**Increase:** Increase in the Energy Intensity  
Transportation (Big & Heavy Cars, and Traffic Congestion)  
Residential Sector (the Number of Electrical Appliances &  
Size Enlargement)

**Decrease:** Improvement of CO<sub>2</sub> Emission Coefficient for Electricity (For  
Industry and Residential)

# Climate Change Policy

## Renewable Energy



## Energy Industry

Improvement of Efficiency  
Energy Conversion  
(Tax on Coal)  
Environmental Assessment  
System on Trading Electricity  
Quota System



## Industry



Introduction of  
Combined Generation  
Voluntary  
Action Plan

HFC, PFC,  
SF6

Recovery,  
Destruction,  
Substitution



## Transport

Reform of Tax System

Measures  
against  
Congestion

Traffic Assessment

Introduction of  
Low-Emission-  
Vehicles



## Commercial/ Residential



Measures on  
Distribution

Modal Shift



Utilization of  
Solar Energy

Diagnosis of  
Households



ESCO



Spread of Energy-  
saving Appliances

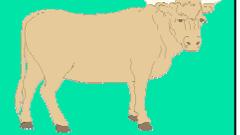


## Agriculture

Afforestation



Improvement  
of Productivity



Measures on Disposal of Excrement

## Waste

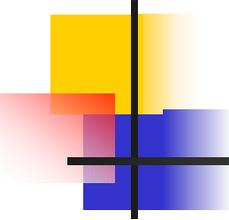
Reduction  
Measures

Utilization of Waste Plastics

Recycle

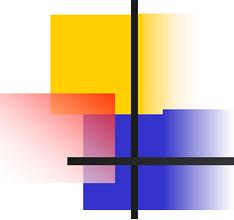
Spread of Energy-  
saving Equipment

Measures on  
Sewage Waste



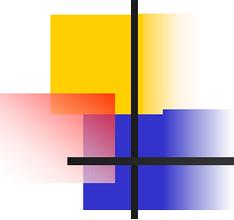
# Breakdown of 6% Target

|   | Breakdown     |                        |
|---|---------------|------------------------|
|   | Within Sector | Breakdown of 6% Target |
| Industry                                | -7%           | ± 0%                   |
| Commercial/<br>Residential              | ± 0%          |                        |
| Transport                               | +17%          |                        |
| Utilities                               | +5%           |                        |
| Others                                  | /             | -2%                    |
| CH <sub>4</sub> , N <sub>2</sub> O etc. |               | -0.5%                  |
| HFCs, PFCs, SF <sub>6</sub>             |               | 2%                     |
| Sink                                    |               | -3.9%                  |
| Kyoto Mechanism                         |               | -1.6%                  |



# Targets and Actual Emissions

|   | Targets | Actual Emissions<br>in 1999 |
|---|---------|-----------------------------|
| Industry Sector                                     | -7%     | +0.8%                       |
| Commercial, Institutional<br>and Residential Sector | ±0%     | +17.4%                      |
| Transport Sector                                    | +17%    | +23.0%                      |
| Total   | ±0%     | +9.0%                       |

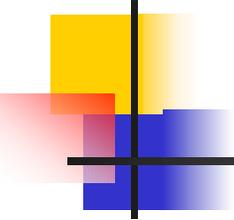


# Japan's Climate Change Policy

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## To achieve the Kyoto target

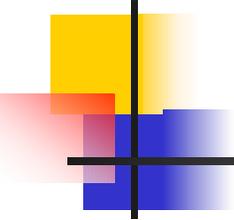
- Climate Change Policy Law
  - A framework legislation to promote measures
- Climate Change Policy Program
  - Government-wide action program to promote measures
- Energy Conservation Law
  - Mandatory energy efficiency standards under the best available technologies
  - Energy efficiency requirements in factories.



# Climate Change Policy Law

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- The Kyoto Target Achievement Plan
  - Adoption of the Plan, the review of its implementation and the revision of the Plan.
- Corporations with a great amount of emissions
  - Making a plan on measures for reducing emissions is encouraged.
- Centers for the Promotion of Activities to Prevent Global Warming
  - The establishment of Centers are stipulated.

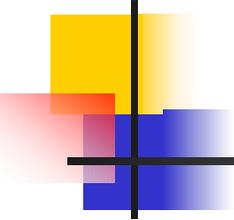


# Climate Change Policy Law (cont'd)

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- The Global Warming Prevention Headquarters
- Enhancing the national effort
  - “Climate Action Advice” for citizens.
  - “Local Partnership Council” for the promotion of actions at local level.

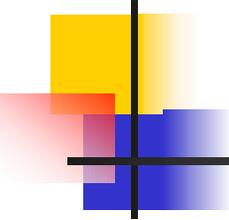
etc.



# Climate Change Policy Program

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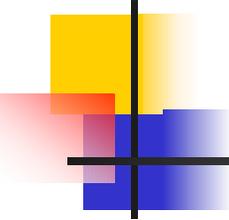
- Cabinet Headquarters decided “the New Climate Change Policy Program”. (March 19)
- Serve as the basis for implementing measures to achieve the 6% emissions reduction commitment under the Kyoto Protocol.
- Upgrading the New Climate Change Policy Program into the Kyoto Target Achievement Plan under the Climate Change Policy Law.



## Climate Change Policy Program (cont'd)

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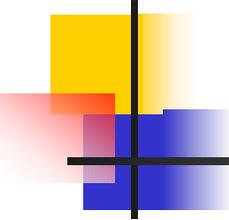
- The integration of the environment and economy
- Step by step approach (Check the progress and implement additional measures if necessary)
- All sectors (national and local governments, business and industry and civil society organizations) should make their utmost to take actions.
- International cooperation



## Climate Change Policy Program (cont'd)

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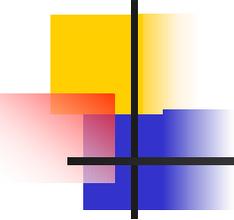
- A package of more than 100 individual measures to be taken by all relevant government agencies
- Specifies emission reduction goals by sectors
- Identifies estimated reductions by individual measures
- Include measures to enhance forest management and other sink activities, to use the Kyoto Mechanisms and to promote technological innovation



# Energy Conservation (22mt-CO<sub>2</sub>)

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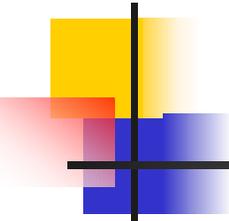
- **Industry sector**
  - Implementation of voluntary action plans by industries
  - R&D of high efficient boilers, etc.
- **Household and commercial sector**
  - Application of energy management system to large commercial buildings
  - Application of the best available technology
- **Transport sector**
  - Introduction of vehicles achieving high energy-efficient standards
  - Efficient logistics systems such as shift of transport modes



## Renewable and New Energy(34mt-CO<sub>2</sub>)

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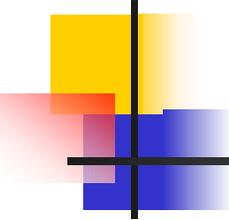
- Expansion of new markets for electricity generated from new energy
- Subsidies to promote introduction of photovoltaic power, wind power, biomass energy, etc.
- Strengthen R&D and demonstration tests on fuel cell, photovoltaic power, biomass energy, etc



# Law on Rational Use of Energy

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- Energy efficiency regulation for energy-intensive manufacturing industries
- Energy efficiency standards for some consumer products
- Energy efficiency standards for housing and buildings

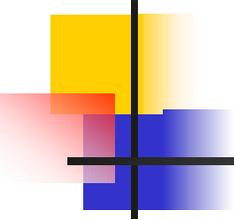


# Financial Assistance Measures

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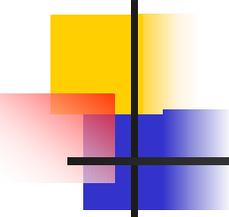
- Subsidies for the purchase of low-emissions-vehicle
- Loans at preferential interest rates for the construction of energy-efficient houses and buildings
- Subsidies to promote the development of renewable energy
- Subsidies for the purchase of home-operated photovoltaic systems



# Other Related Laws

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- Amendment of Energy Conservation Law
  - Application of energy management system to large commercial buildings etc.
  - Promote appropriate energy conservation measures for buildings at the construction stage.
- The Law Concerning the Use of New Energy by Electric Utilities
  - Mandate electric utilities to achieve the fixed level of the electric power generated from new energy.



# Use of the Kyoto Mechanisms

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- Cost-efficient measures to achieve the 6% reduction commitment
  - Supplemental to domestic action
- CDM/JI Feasibility Study (MOE, from 1999)
- Establish “The Advisory Panel on the Kyoto Mechanisms” (April 2002)
- Establish a liaison committee by relevant ministries to utilize the Kyoto Mechanisms (July 2002)

# Project Profiles of CDM/JI Feasibility Studies (2002)

## Biomass Use (JI)

### Bulgaria

OECC

「Biomass use for Regional Air-conditioning System」

## Forestation (CDM)

### Vietnam

Nissho-Iwai Research Institute

「Forestry CDM Project Utilizing Private Finance」

## Landfill Sites (CDM)

### Thailand

Obayashi Co.,Ltd.

「Power Generation Using Methane from Landfill Sites」

## Biomass Use (CDM)

### Malaysia

Tokyo-Mitsubishi Securities Co.,Ltd.

「Practical Steps in Obtaining Carbon Credits Through a Biomass(Palm Shell) Electricity Generation Project」

## Biomass Use (CDM)

### India

Japan Energy Research Center Co.,Ltd.

「Study on Production of Ethanol Gasoline from sugar cane refuse」

## Others (CDM)

### Pacific Islands

Pacific Consultants Co., Ltd

「Small Scale CDM Projects in South Pacific Island Countries」

## Biomass Use (CDM) Malaysia

EX Corporation

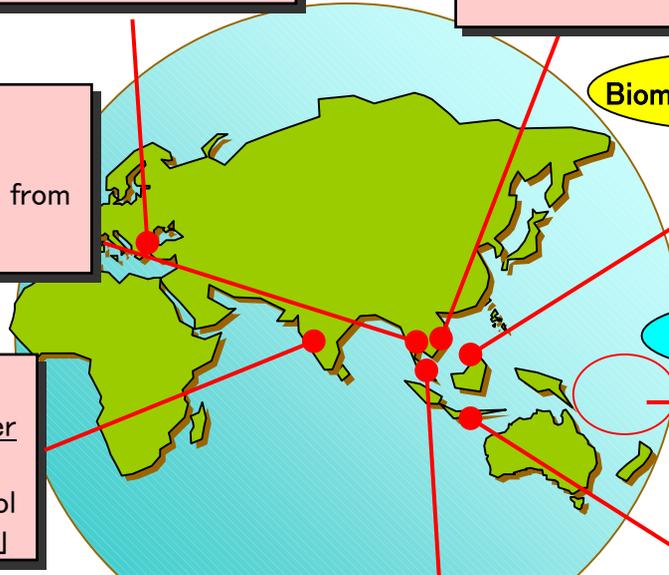
「Reducing Methane Emissions from Anaerobic Lagoons Treating Effluents from Palm Oil Production II」

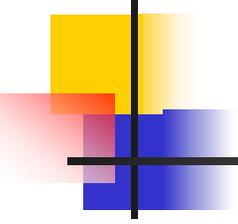
## Forestation (CDM)

### Indonesia

Sumitomo Forestry Co.,Ltd.

「Feasibility Study on Forestry CDM Project」

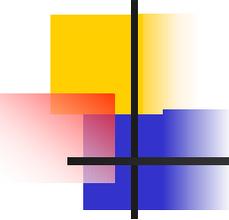




# International Cooperation

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- To be truly effective, all countries need to act under a common rule.
- With a view to eventually achieving this goal, Japan intends
  - to further continue policy dialogue with the US.
  - to work with other countries so that effective global regime will be established.



# International Cooperation(cont'd)

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- Environmental Congress for Asia and the Pacific(Eco Asia)
- Asia Pacific Seminar on Climate Change
- Asia-Pacific Network on Climate Change (APNET)
- Feasibility Study for CDM and JI
- Asia-Pacific Network for Global Change Research (APN)
- Eco-Frontier Fellowship Program