



Japan's Environmental Policy

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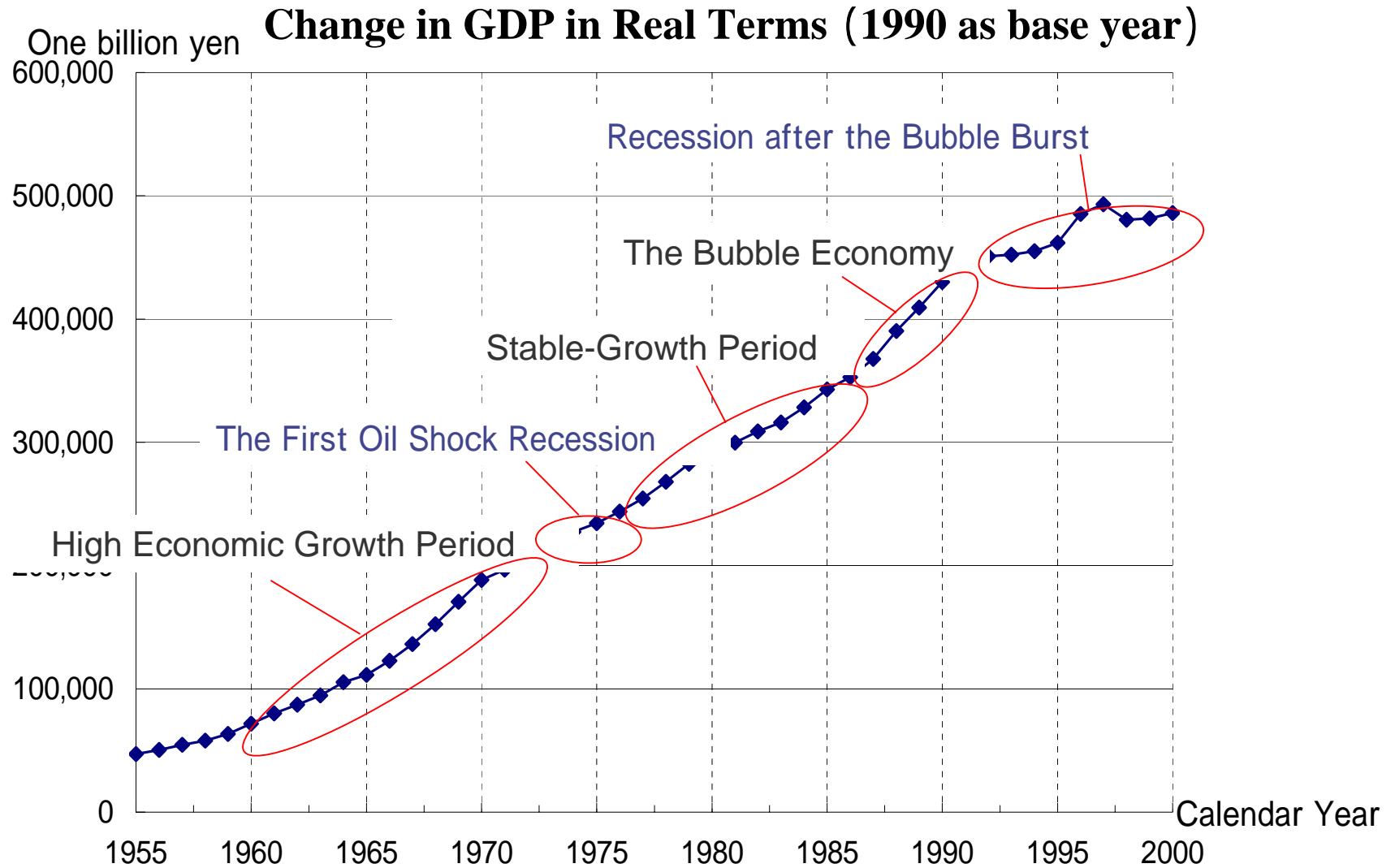
1. UNFCCC and the Kyoto Protocol
2. Domestic Policies
3. Climate Change Policies (International)



The Environmental Policy of Japan

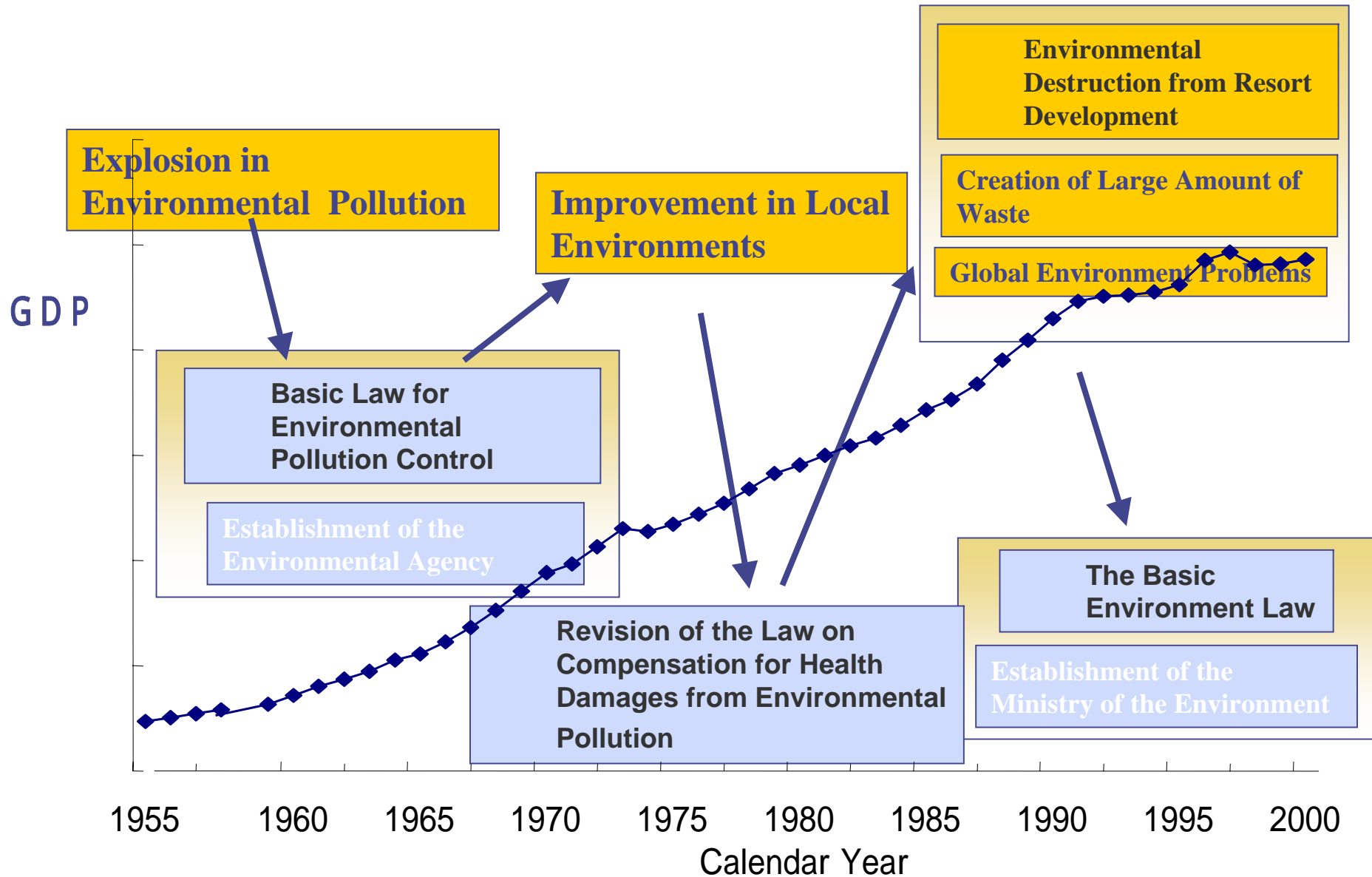
- Historical Development -
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Change in GDP (Japanese Yen Basis)



(source) Cabinet Office "Former 68SNA-1990 as base GDP Reference Series
(Period: Jan-Mar 2001)"

Overview of Environmental Problems and Measures





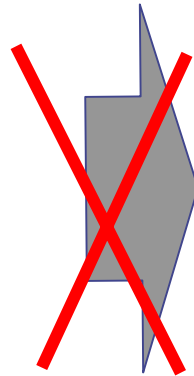
Environmental Policy during the Recession after the Oil Shocks

- Economic Policy Once Again Receives High Priority
- No Notable Developments in Environmental Policy

The Failure of New Developments in Environmental Policy

The State of Environmental Policy

- 1) “Environmental Pollution” Countermeasures Not Adopted Unless People are Born Sick
- 2) Recession (Lack of Investment)
- 3) Downgrading of Environmental Pollution Countermeasures by Business



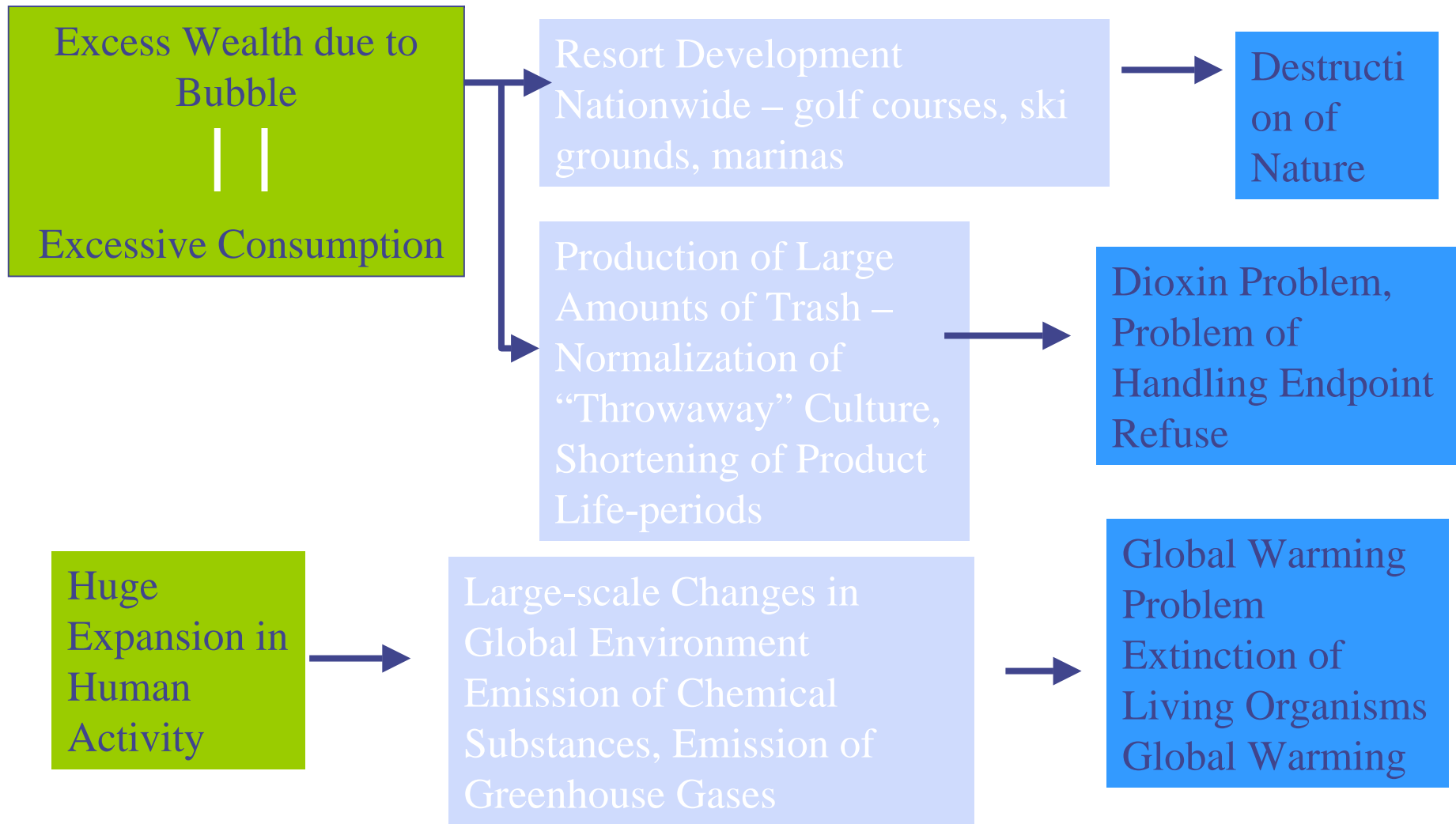
New Developments in Environmental Policy

- 1) Preventative Approach (Prevention)
- 2) Expansion of focus from humans to living organisms and the ecosystem
- 3) Environmental Health



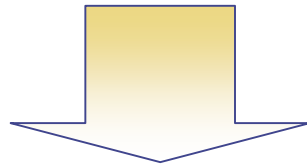
E.g.: Failure to pass the Environmental Assessment Law

Environmental Problems during the Bubble Period



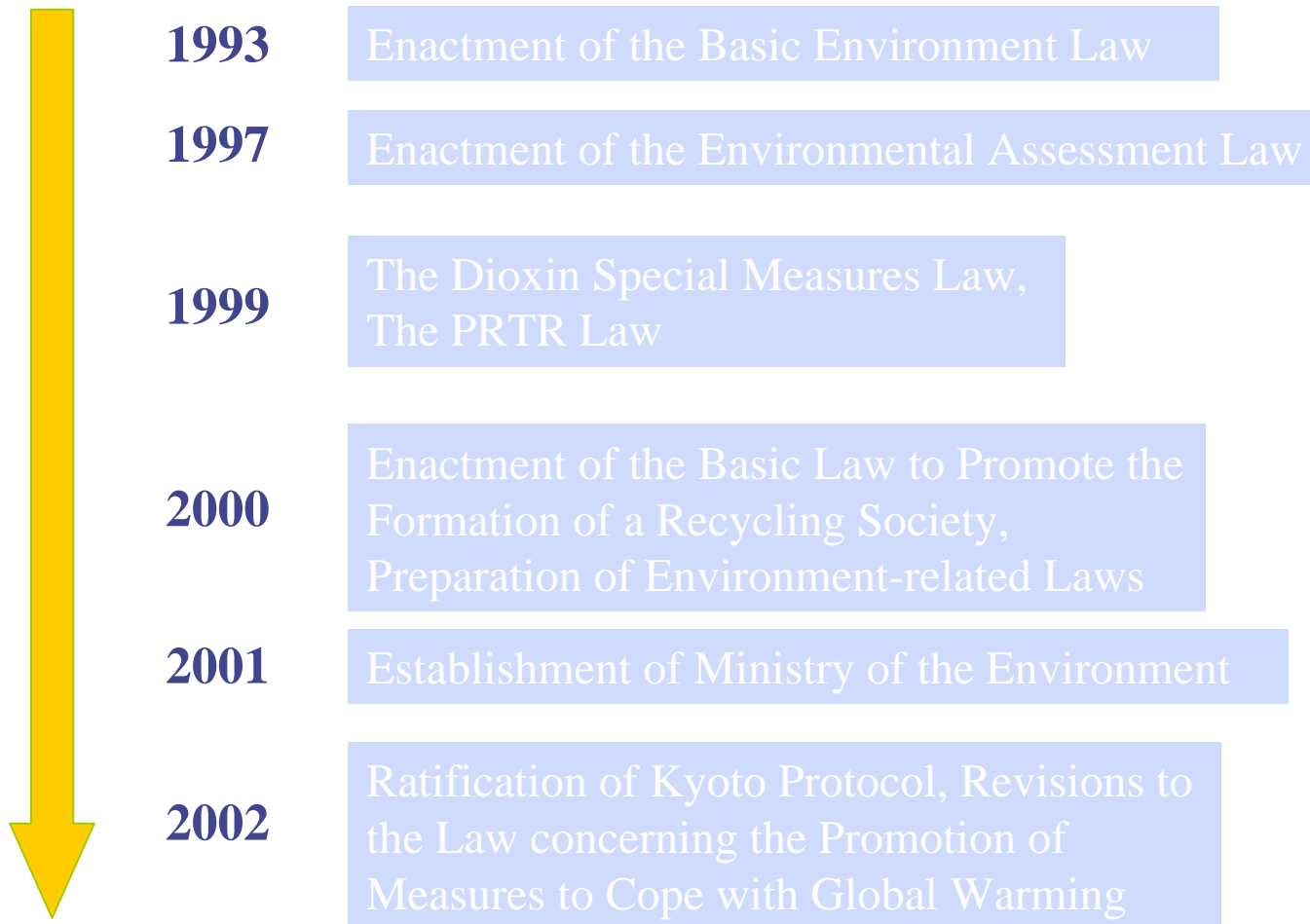
Environmental Policy During the Recession Following the Burst of the Economic Bubble

- The Japanese Economy enters the “Lost 10 Years.” Economic Revitalization and Employment Countermeasures Receive High Priority
- Realization of a “Great Transition – 10 Years of Development” in Environmental Policy



Simultaneous Propulsion of Economic
and Environmental Policies

Important Developments in Environmental Policy After the Rio Summit



Change in Political Conditions as a Result of Rio Summit

Global Environmental Problems become International Political Issues (e.g. at G8 Summits)

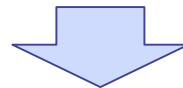


Environmental Problems

Mainly Policy Issue for
Opposition Parties



Policy Issue for
Government / Non-partisan
Party Coalition

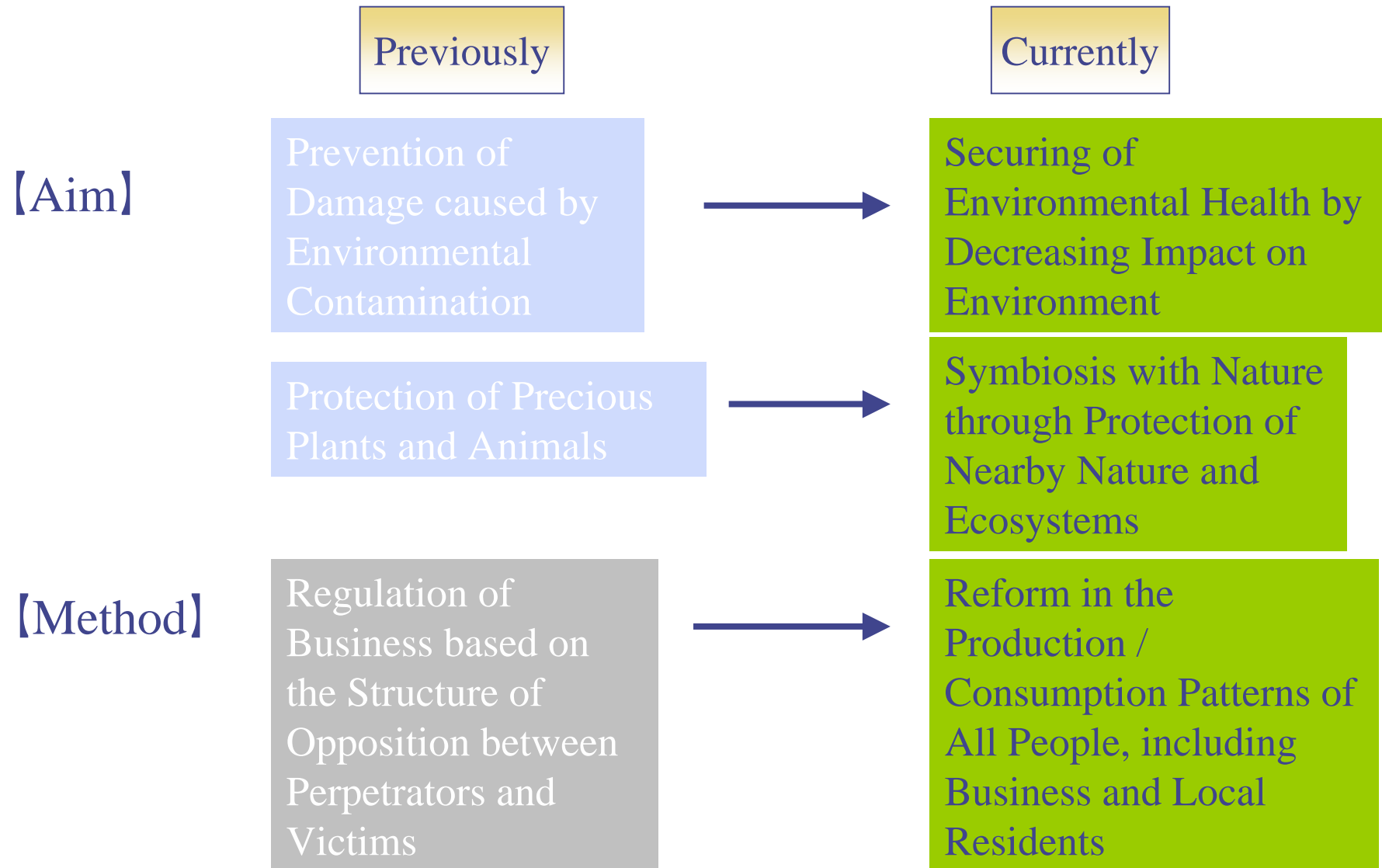


Leadership of Former Prime Minister Takeshita

LDP Discussion Group on Fundamental Environmental Problems, Non-partisan Coalition of Diet Members

GEA (Global Environment Action Committee)

Changes in Environmental Policy Stemming from the Basic Environment Law



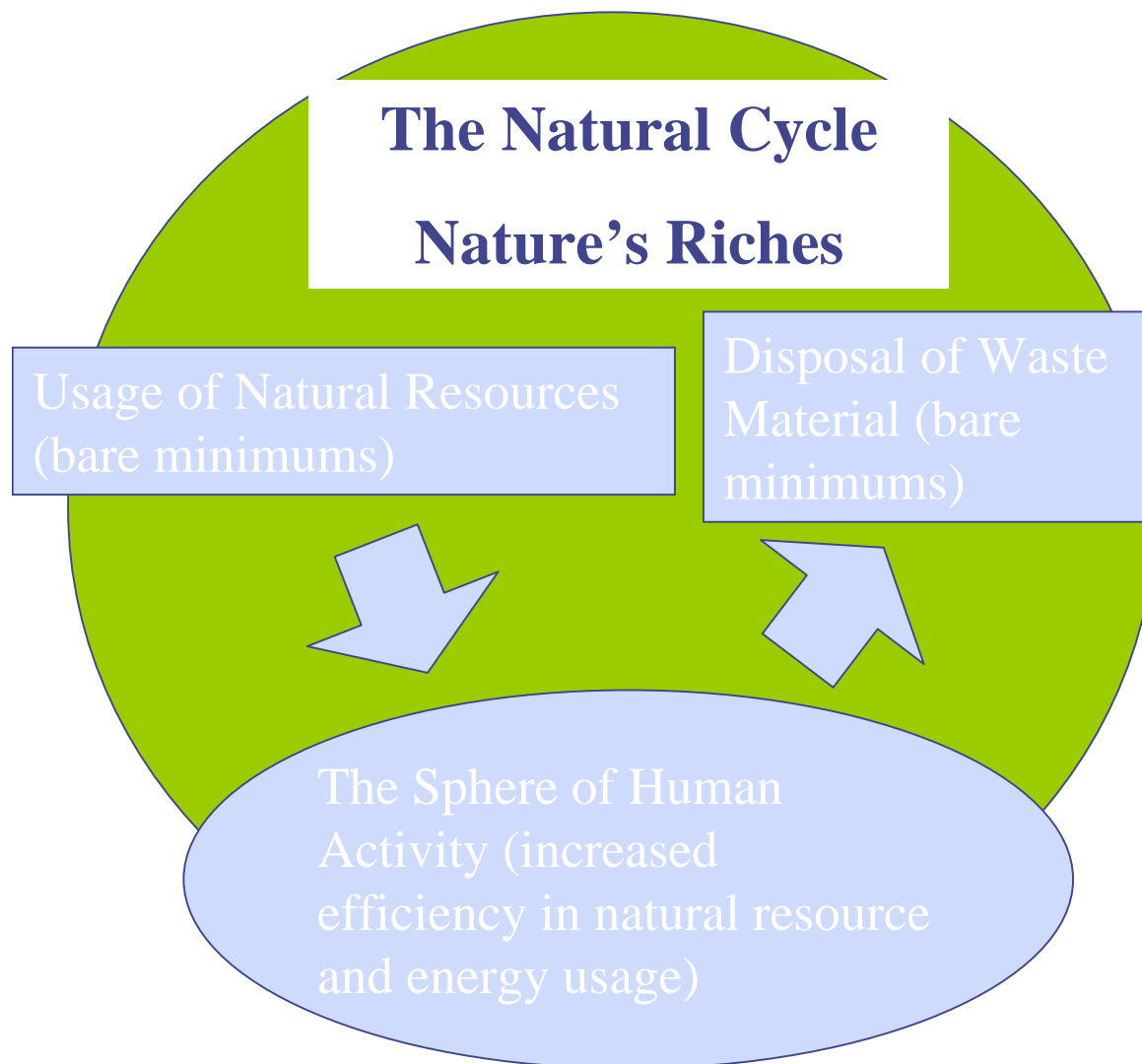
Realization of the Principles of the Basic Environment Law

Three Principles

1 Enjoyment and Passing on of Environmental Riches

2 Prevention together with the Construction of a Sustainable Social Structure Based on Low Environmental Impact

3 Conservation of the Global Environment through International Cooperation



Measures Laid Down by the Basic Environment Law

- (New) Basic Environmental Plan
- Environmental Standards
- Environmental Sensitivity in National Facilities
- (New) Environmental Impact Assessments
- Regulatory Measures
- (New) Economic Measures
- (Expansion) Creation of Facilities
- (New) Promoting Usage of Products with Lower Environmental Impact
- (New) Environmental Education / Study
- (New) Support for Voluntary Private Sector Activity
- (New) Provision of Information
- Implementation of Research Studies
- Organizational Preparedness (Watchdog Activities)
- Promotion of Scientific Technology
- Resolution of Environmental Disputes and Relief for Damages
- (New) International Cooperation such as Global Environmental Conservation
- Polluters to Bear Responsibility
- Beneficiaries to Bear Responsibility
- Financial Measures for Local Administrations



Climate Change Policy

1 UNFCCC and the Kyoto Protocol



IPCC Third Assessment Report

World's scientists are telling us:

- There is new and stronger evidence that most of the warming observed over the last 50 years is attributable to human activities.
- The globally averaged surface temperature is projected to increase by 1.4 to 5.8 °C over the period 1990 to 2100.

Greenhouse Gases

- ◆ Carbon Dioxide (CO₂)
 - produced from burning fossil fuels and cutting down forests
- ◆ Methane (CH₄)
 - emitted from agricultural activities and changes in land use etc.
- ◆ Nitrous Oxide (N₂O)
 - emitted from agricultural activities and industrial processes etc.

Greenhouse Gases (cont'd)

- ◆ Hydrofluorocarbons (HFCs)
- ◆ Perfluorocarbons (PFCs)
- ◆ Sulphur Hexafluoride (SF₆)
 - artificial and long-lived chemicals

- ◆ Chlorofluorocarbons (CFC)
 - controlled under the Montreal Protocol

Global Warming Potential (GWP)

CO ₂	1
CH ₄	21
N ₂ O	310
HFCs	140~11700
PFCs	6500~9200
SF ₆	23900

Quiz (GHGs Inventory)

	GWP	Gg	Gg-CO ₂ eq
CO ₂	1	20,000	
CH ₄	21	200	
N ₂ O	310	10	
HFC-134a	1300	1	
Total	---	---	



Climate Change Convention

- ◆ The UN Framework Convention on Climate Change (UNFCCC) is the foundation of global efforts to combat global warming.
- ◆ Opened for signature in 1992 at the Rio Earth Summit
 - 186 Parties ratified the Convention



Climate Change Convention (Cont'd)

Its ultimate objective is

Stabilization of GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system



Climate Change Convention (Cont'd)

- ◆ All Parties will develop and submit “national communications” containing inventories of GHG emissions.
- ◆ Industrialized countries committed themselves to adopting policies and measures aimed at returning GHG emissions to 1990 levels by the year 2000.

The Kyoto Protocol

- ◆ Historic Agreement in Kyoto in 1997
 - industrialized countries to reduce greenhouse gas emissions by about 5% below their 1990 levels
- ◆ An important first step towards mitigating global climate change
- ◆ Kyoto Mechanism
 - cost-efficient reductions in GHG emissions
 - CDM: contribution to sustainable development in developing countries

The Kyoto Protocol (cont'd)

The Protocol will enter into force after

- ◆ At least 55 Parties ratified
 - 122 Parties ratified as of April 2004

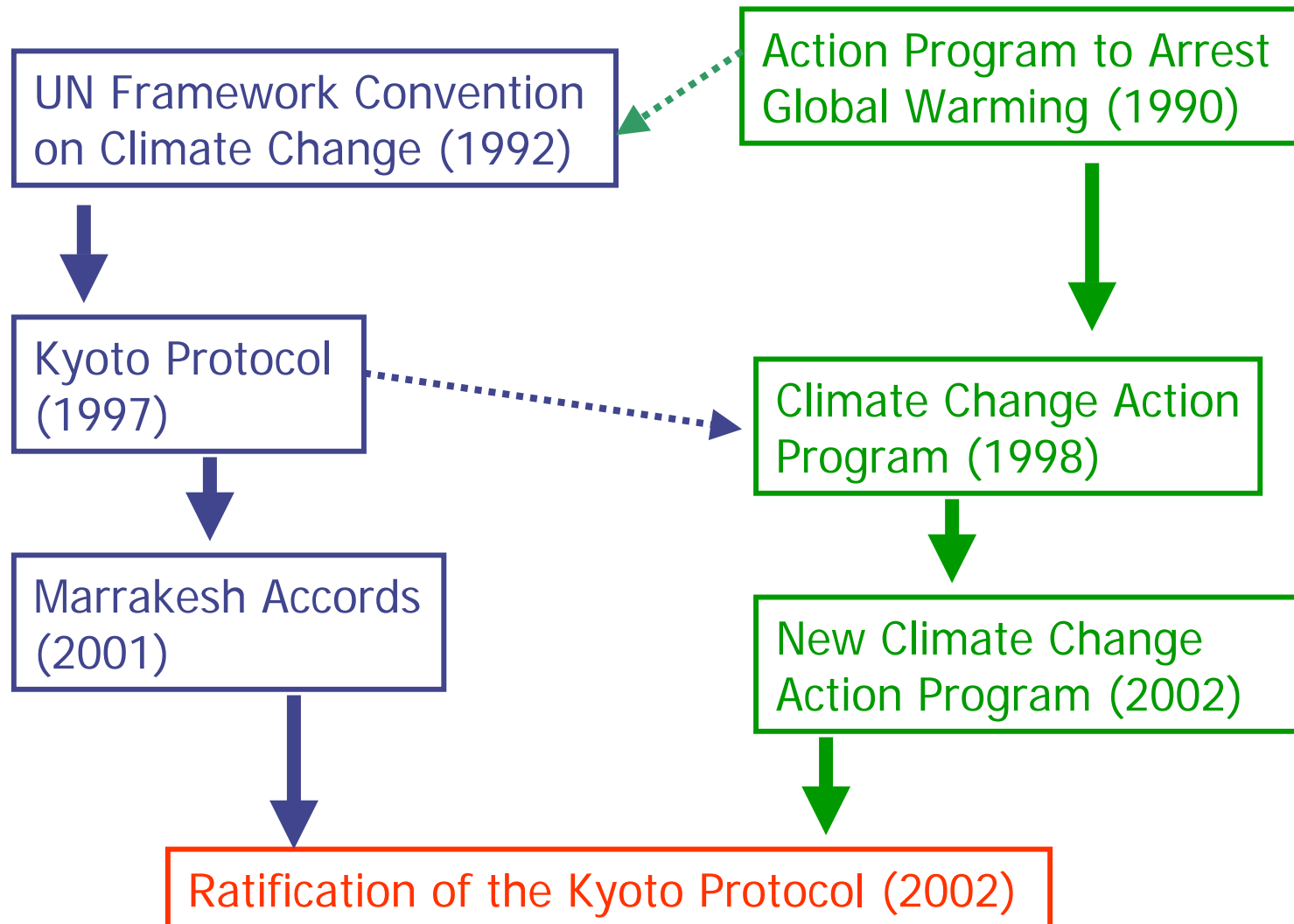
- ◆ Ratified Parties include developed countries representing at least 55% of the total 1990 CO₂ emissions from this group
 - Russia's ratification will meet this criterion.



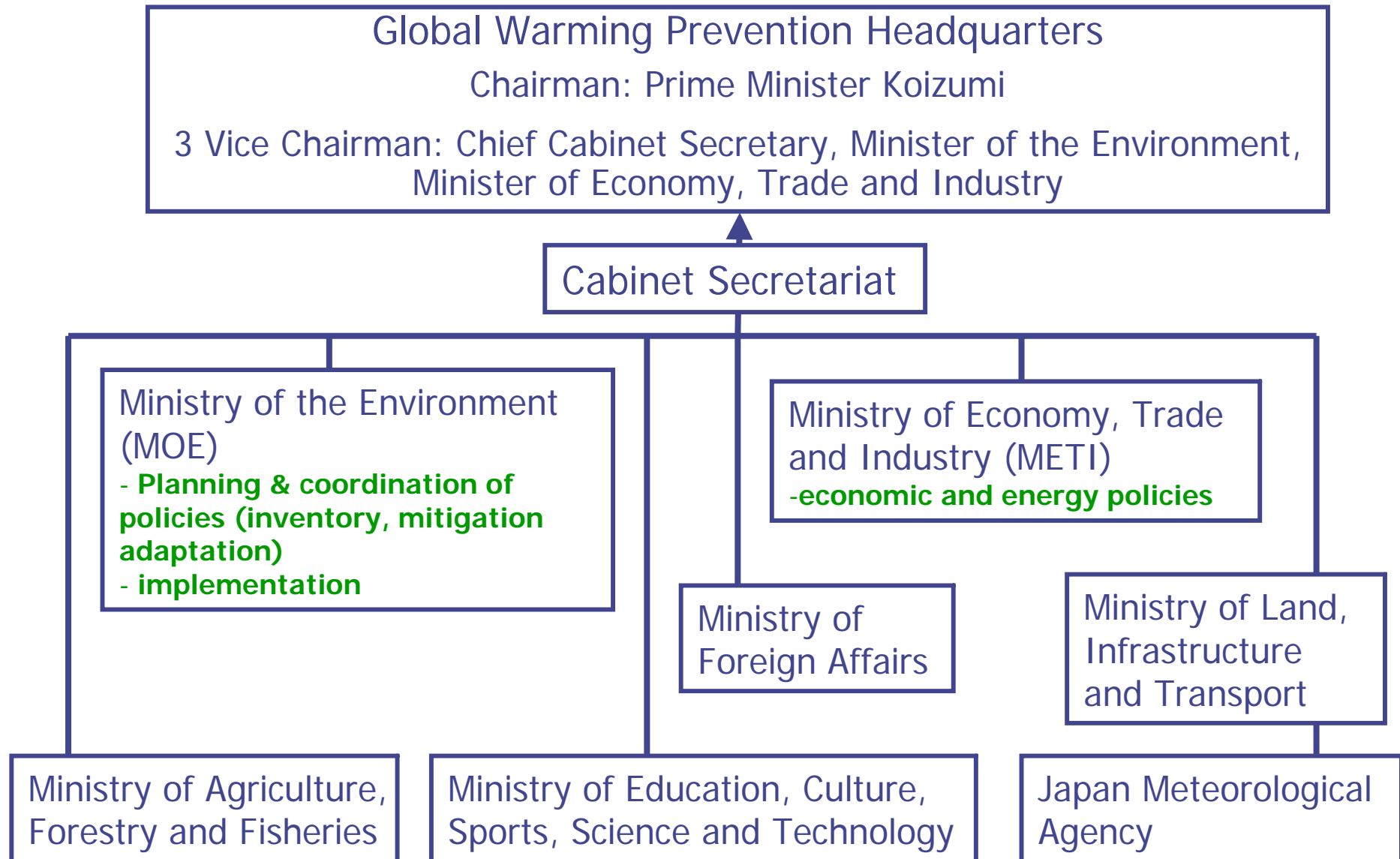
Climate Change Policy

2 Domestic Policies

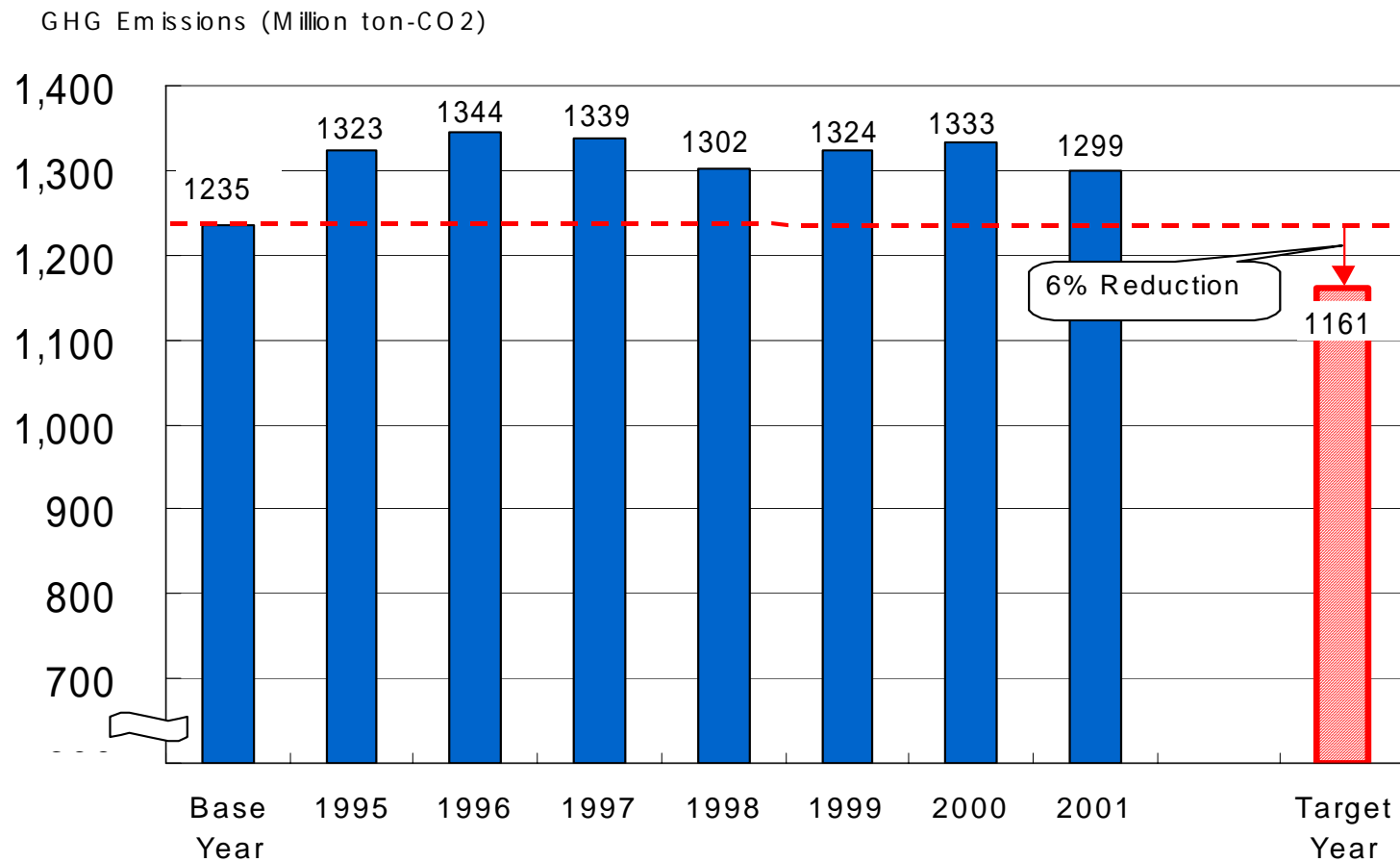
History of Japan's Climate Change Policy



Japan's Administration for Climate Change Policy

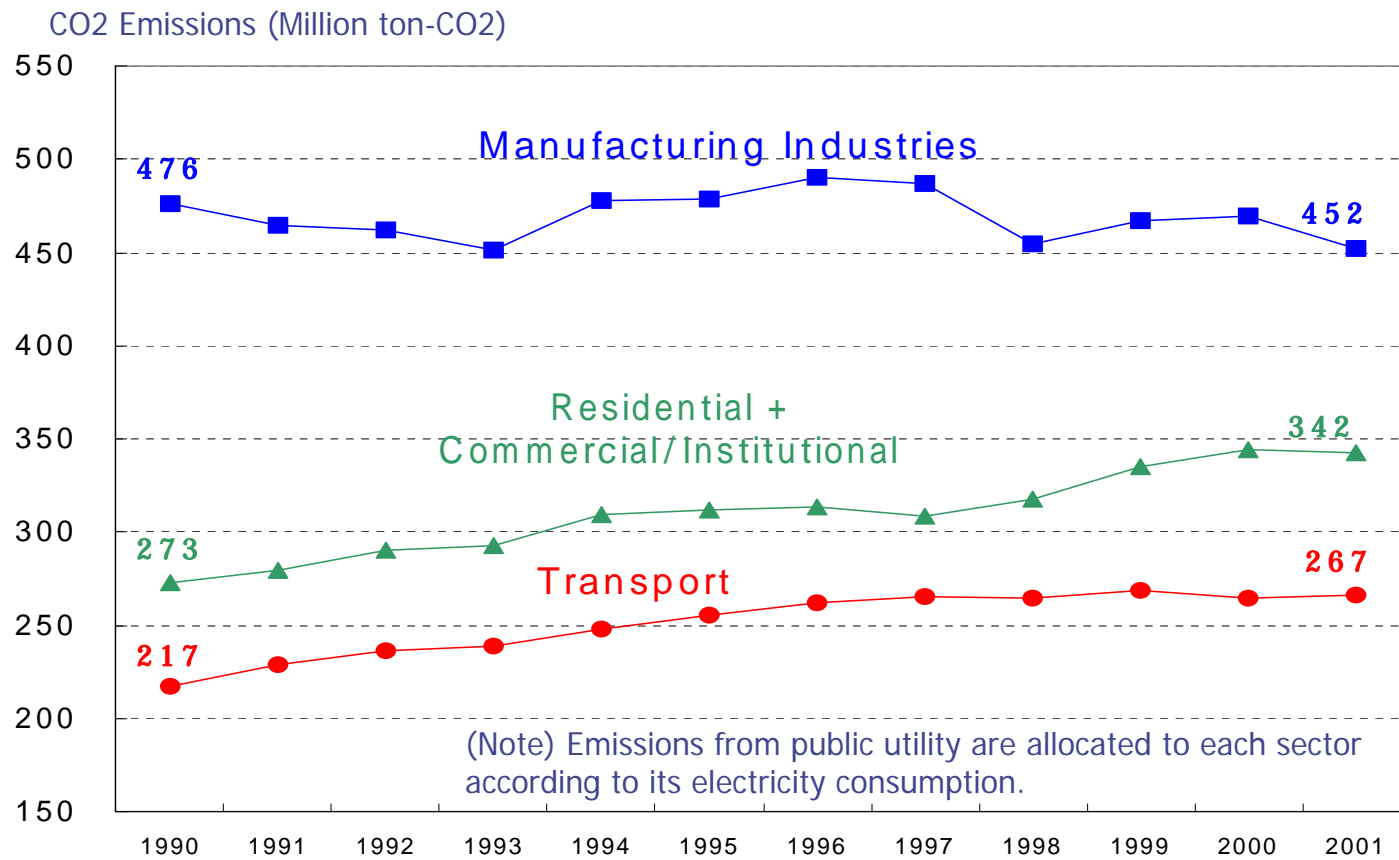


Challenges Ahead: Our Kyoto Target



(Source) Ministry of the Environment, Japan

Japan's CO₂ Emissions by Sectors



(Source) Ministry of the Environment, Japan

Breakdown of the 6% Reduction Targets

Total Emissions as a Percentage of Base Year

Sector	Target
CO ₂ from energy sources	± 0.0%
CO ₂ from non-energy sources, CH ₄ , N ₂ O	0.5%
Development of innovative technology and further extensive efforts by public	2.0%
HFCs, PFCs, SF ₆	+2.0%
Sinks by forests management	3.9%

(Note)

- 1 . In attaining these targets, the Government shall continue its emission reduction efforts beyond these targets where possible.
- 2 . The Government shall also study the way to use the Kyoto Mechanisms.



Climate Change Policy Program

adopted in March 2002, by headquarters (cabinet)

4 basic ideas

1. Integration of the environment and economy
2. Step by step approach
3. Involvement of all sectors
4. International cooperation for global participation



GHG Reduction in Energy Supply and Demand Sides

Supply side

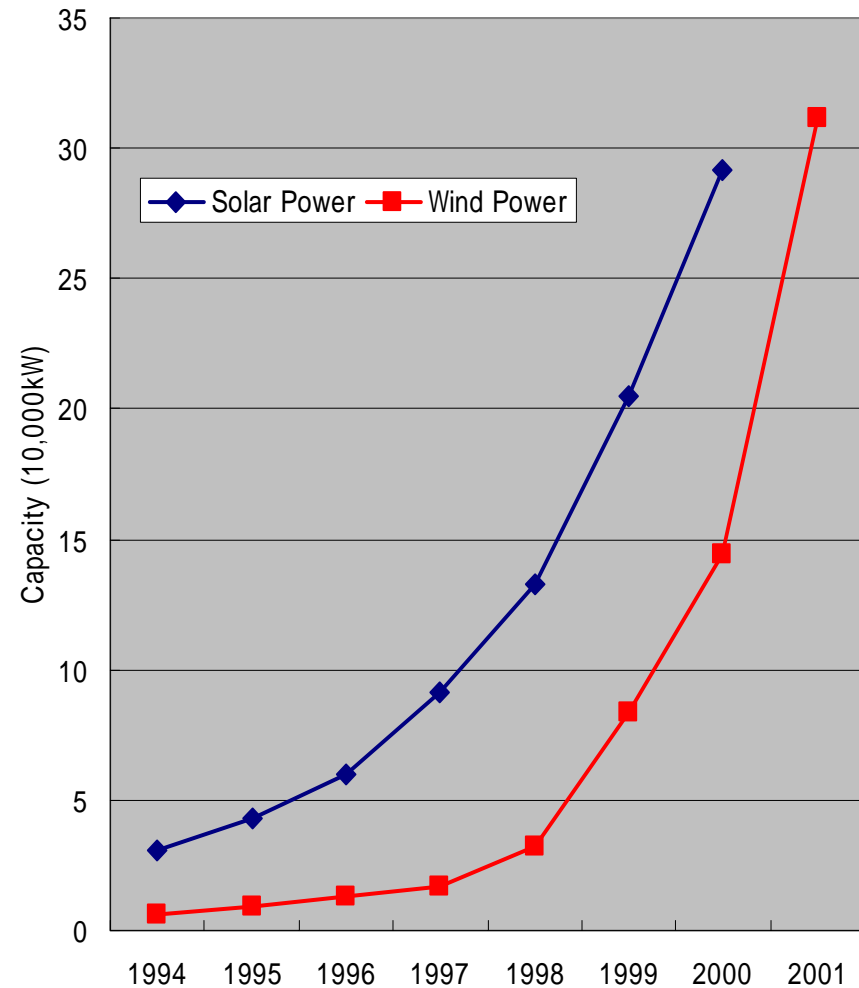
- Assistance of **fuel switching** from coal to natural gas for old power generation
- Promotion of **nuclear power** under assurance of safety

Demand side

- Amendment of Energy Conservation Law in 2002
 - ◆ Application of energy management system to **large commercial buildings** etc.
 - ◆ Promote appropriate energy conservation measures for buildings at the construction stage.

Renewable Energy Policies

- ◆ Subsidies to promote introduction of solar power, wind power and biomass generation etc.
- ◆ Renewable Portfolio Standard Law in 2002
 - Mandate electric utilities to achieve the fixed level of the electric power generated from new energy directly or indirectly



GHG Reduction through Economic Incentives

- ◆ Tax Benefits for Environmentally-friendly Cars
 - In FY 2001, 2 million environmentally-friendly cars were purchased under reduced taxation.
- ◆ Reform of Existing Energy Tax Scheme
 - Taxation on coal
 - Expenditures focusing on GHG reduction measures



Stakeholders' Involvement in GHG Reduction Measures

◆ National and Local Government Initiatives

- Green procurement
- Official vehicles will be switched entirely to low-emission vehicles, such as hybrid cars, no later than FY 2004

◆ Voluntary Action Plan by Nippon Keidanren

- Voluntary commitment to limit CO₂ emissions in 2010 below its 1990 level
- Checked up on by the government

◆ Promotion of Public Involvement

- A unique conference to discuss environmentally-friendly lifestyles (“*Wa-no-Kuni Kurashi Kaigi*”)
- Environmental Education Law

Development of Technology

- ◆ The first fuel-cell vehicles sold on the market at large were made in Japan.



A Fuel-cell Vehicle Leased to the Ministry of the Environment



Other related initiatives

◆ Biomass Nippon Strategy

- Nationwide utilization targets: 80% or higher for waste biomass; 25% or higher for unused biomass

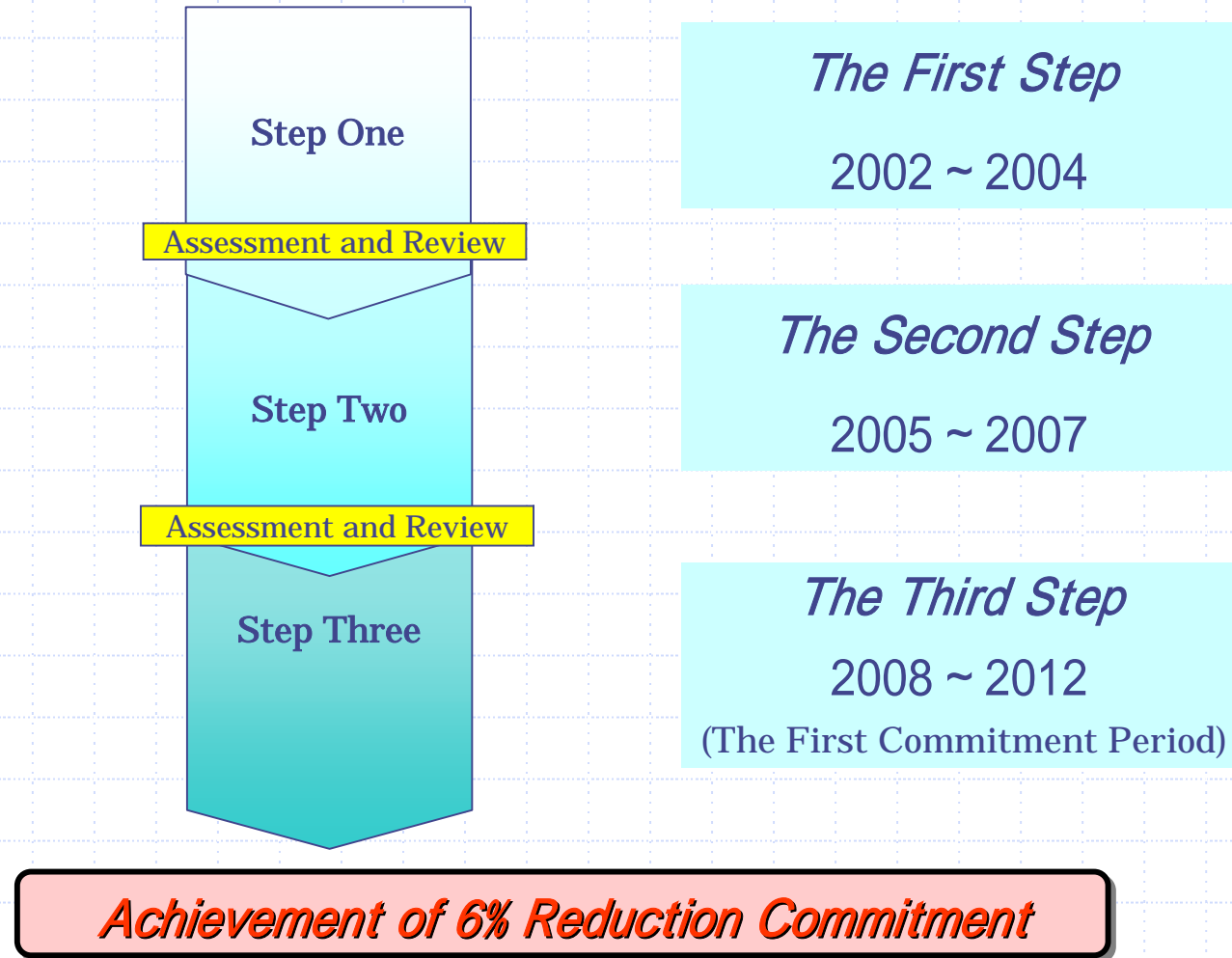
◆ Ten-year Forest Sink Measures to Prevent Global Warming

- Strong and systematic promotion of forest management based on the Basic Plan on Forest and Forestry

◆ Basic Plan for Establishing a Recycling-based Society

- Target: By FY 2010, 40% improvement in Resource Productivity (GDP divided by Direct Material Input) compared with FY 2000

Step-by-Step Approach





Assessment and Review of Policies and Measures in 2004

- ◆ The headquarters should make assessment and review on implementation, and should revise the program if necessary in 2004.
- ◆ Checking on.....
 - projection of social and economic frame
 - progress of current policies and measures
 - the achievement of the Kyoto target under current policies and measures
 - If gap exists, what kind of new policies and measures are needed?



Climate Change Policy

3 International Policies



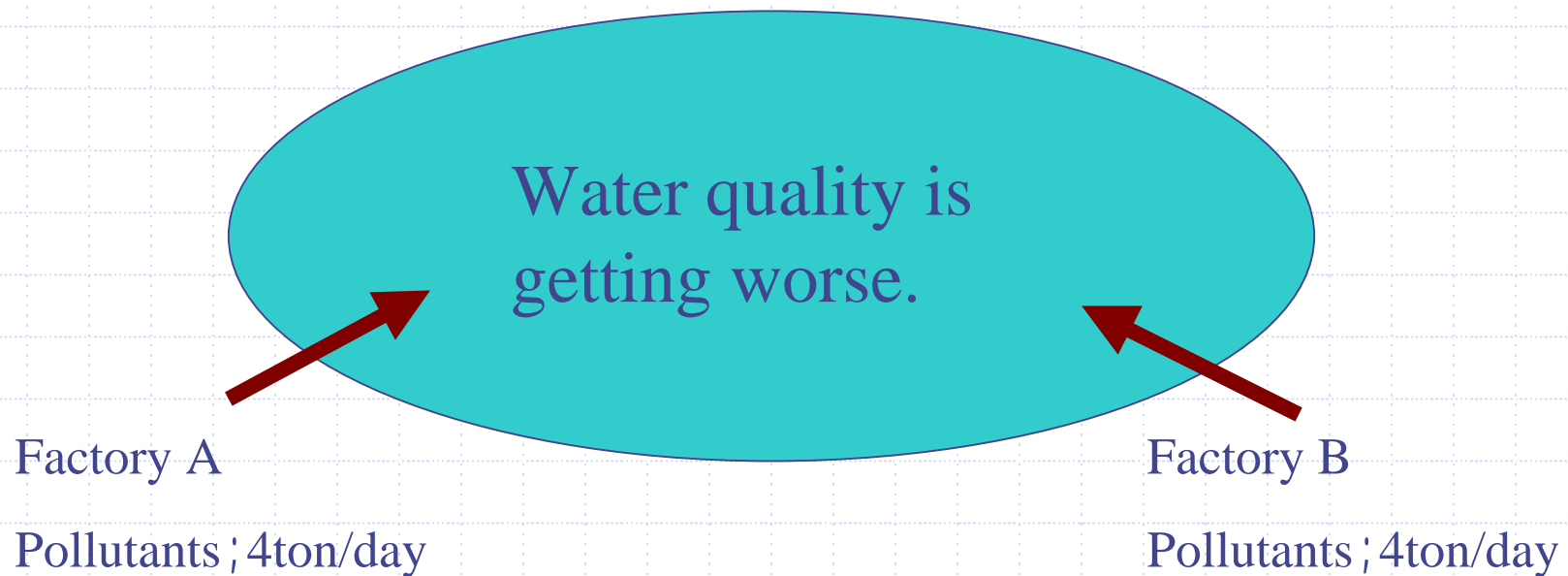
The Kyoto Mechanisms

The Kyoto Protocol allows Parties to use the Kyoto mechanisms.

- ◆ Joint Implementation (JI)
- ◆ Clean Development Mechanism (CDM)
- ◆ International Emissions Trading

The objective of the Kyoto mechanisms is to reduce GHGs emissions cost-efficiently.

How can you reduce pollutants cost-efficiently?



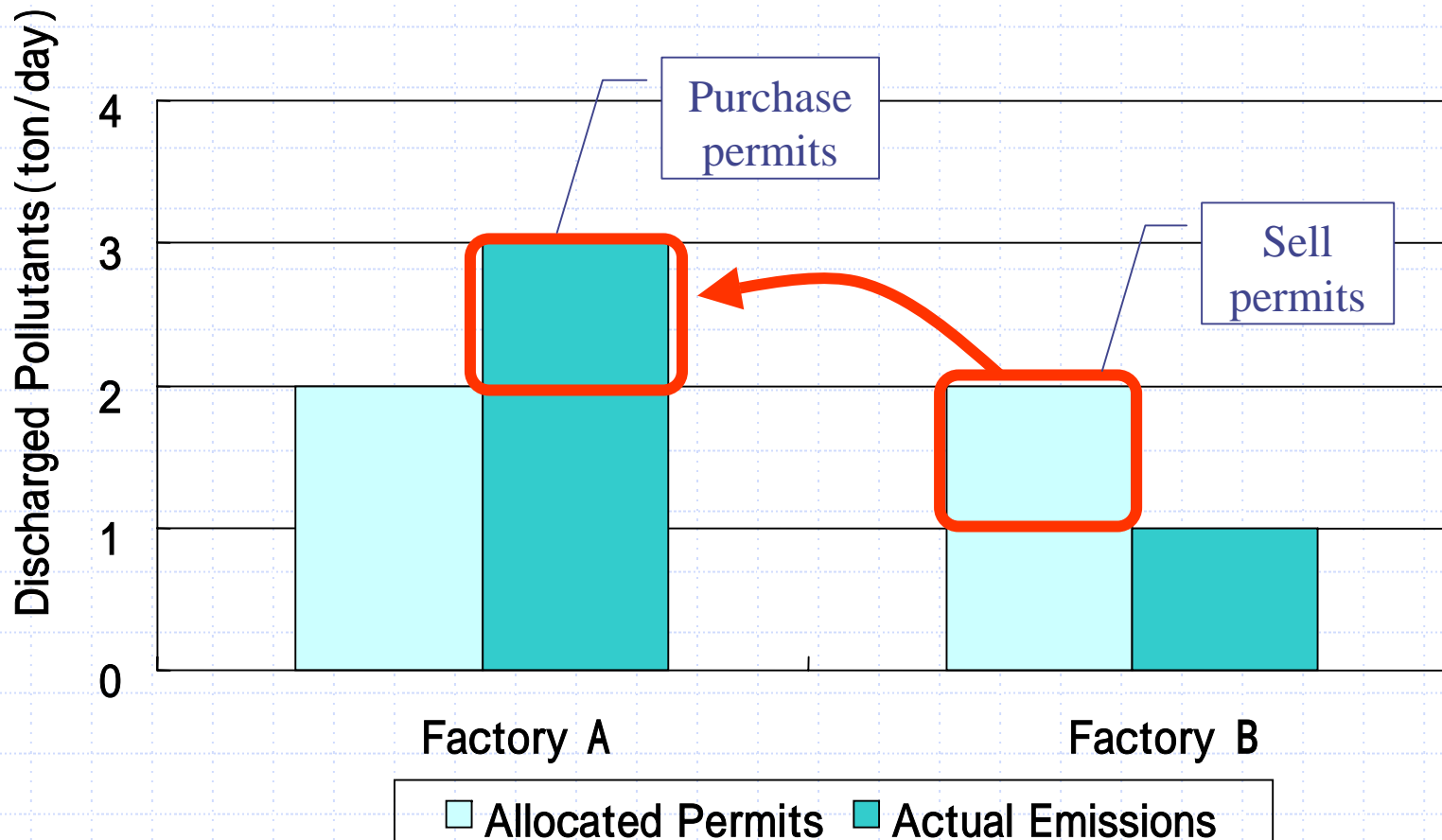
To improve the water quality, Half of the pollutants should be reduced (8 \rightarrow 4 ton/day)

How can you reduce pollutants cost-efficiently?

	Discharged Pollutants (ton/day)				
	4	3	2	1	0
Cost at Factory A (100\$)	1000	1900	6000	12000	20000
Cost at Factory B (100\$)	500	800	1400	2300	3250

Which allocation is the most cost-efficient?

Cost-Efficient Allocation



Principle of cost-efficient allocation

- ◆ Factories that can reduce pollutants less costly should reduce more pollutants.
- ◆ The cost-efficient allocation can be realized through transferring emission permits or credits.



The Kyoto Mechanisms (2)

◆ International Emissions Trading

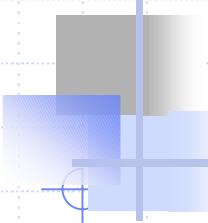
- Buy and sell emissions credits amongst developed countries

◆ Joint Implementation

- Acquire credits by financing emissions-reduction projects in other developed countries

◆ Clean Development Mechanism

- Acquire credits by financing emissions-reduction projects in other developing countries



Clean Development Mechanism

Purpose of CDM

- Assist Non-Annex I Parties in achieving sustainable development and in contributing to the ultimate objective of the UNFCCC
- Assist Annex I Parties in achieving their Kyoto commitments

Principles of CDM

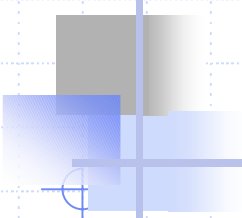
- Voluntary Participation
- Real, measurable, and long-term benefits
- Being additional to any that would occur in the absence of the projects



Japan's CDM Policy

While keeping in mind that the use of Kyoto Mechanism shall be supplemental to domestic measures, Japan is going to use the mechanism

- To contribute sustainable development in host countries
- To achieve its Kyoto commitment in a cost-effective manner



Japan's framework to utilize the Kyoto Mechanism

Established the Liaison Committee for
Utilization of Kyoto Mechanism (Cabinet Secretariat,
MoE, METI, MOFA, MAFF, MLIT)

The Liaison Committee will approve CDM/JI
projects as a party to the Convention

- Guideline for CDM/JI projects approval made on
Oct, 2002
- Six projects have been approved so far



Japan's framework to utilize the Kyoto Mechanism (cont'd)

The Ministry in charge of the project supports the project participants.

MoE and METI has been working jointly to establish and maintain the Japanese National Registry since 2002.

CDM/JI Projects Approved by the Government of Japan

APPROVED DATE	CDM/JI	APPLICANT	HOST COUNTRY	PROJECT	SUMMARY	EXPECTED CER/ERU
2002/12/12	JI	NEDO	Kazakhstan	The Model Project for Increasing the Efficient Use of Energy Using a Gas Turbine Cogeneration System	Demonstration of the energy conservation effectiveness of a Gas Turbine Cogeneration System, which is already in practical use in Japan, at Heat Power Station	62,000t-CO ₂ /year
2002/12/12	CDM	Toyota Tsusho Corporation	Brasil	V&M Tubes do Brasil Fuel Switch Project	Production of steel utilizing biomass	1,130,000t-CO ₂ /year
2003/5/22	CDM	Electric Power Development Co., Ltd.	Thailand	Rubber Wood Residue Power Plant Project in Yala, Thailand	Biomass power plant utilizing rubber wood residue	60,000t-CO ₂ /year
2003/7/15	CDM	INEOS Fluor Japan Limited	South Korea	HFC Decomposition Project in Ulsan	Decomposition of HFC23 as by-product from HCFC22	1,400,000t-CO ₂ /year
2003/7/29	CDM	The Kansai Electric Power Co., Inc. (on behalf of e7Fund)	Bhutan	e7 Bhutan Micro Hydro Power CDM Project	Construction of a micro hydropower station in the non-electricity village	500t-CO ₂ /year
2003/12/3	CDM	Japan Vietnam Petroleum Company	Vietnam	Rang Dong Oil Field Associated Gas Recovery and Utilization Project	Efficient use of associated gas which would otherwise been flared at the offshore rig	680,000-1,200,000 t-CO ₂ /year

MOE's Initiatives to put CDM into place

1. Project Formation and Information Service

1-1 CDM/JI Feasibility Studies (since 1999)

Feasibility studies have been done to find promising CDM/JI projects to be carried out by private companies. These studies include on-site examination, emission reduction calculation and drafting of PDDs.

1-2 Domestic Kyoto Mechanism Support Center (since 2003)

The center gathers information on promising CDM/JI projects and provides it to private companies. The center also disseminates information on rules of the Mechanism, how to draft PDDs, situations of host countries etc.



MOE's Initiatives to put CDM into place (cont'd)

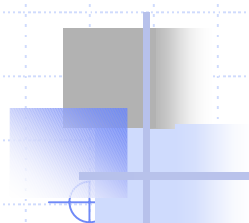
2. Financial Support

2-1 Subsidies for CDM/JI Projects (since 2003)

Subsidies are provided to highly feasible and economically efficient CDM/JI projects. Those subsidies are for 1/3 of the cost of construction of facilities (e.g. facilities to convert waste into fuel, wind turbines).

2-2 Establishment of the Japan Carbon Fund

DBJ (Development Bank of Japan) and JBIC (Japan Bank for International Cooperation) is establishing the Japan Carbon Fund to invest in CDM/JI projects and acquire credits. Private companies are expected to participate in the Fund.



MOE's Initiatives to put CDM into place (cont'd)

3. Capacity Building and collaboration

3-1 Capacity Building Program for Operational Entities (since 2002)

To foster the ability of OEs, MOE selects several draft PDDs and commissions several AEs (Applicant Entities) to validate the PDDs on a trial basis.

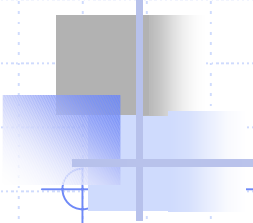
3-2 CDM/JI Capacity Building Program in host countries (since 2003)

MoE enhances CDM/JI capacity building for stakeholders in host countries through holding workshops, sending experts and so on.



CDM/JI Feasibility Studies

- ◆ Feasibility studies have been conducted since 1999. The Studies are managed by the Global Environment Center Foundation (GEC).
- ◆ Types of studies are mainly afforestation/ reforestation, utilization of biomass and waste management.
- ◆ In FY2003, 20 projects are being implemented.



Other MOE Initiatives

- ◆ Environmental Congress for Asia and the Pacific (Eco Asia)
- ◆ Asia Pacific Seminar on Climate Change
- ◆ Asia-Pacific Network on Climate Change (AP-NET)
- ◆ Asia-Pacific Network for Global Change Research (APN)

Asia-Pacific Network on Climate Change

Internet programs

e-Learning

**Document
Library**

**Climate Change
Data Center**

CDM Project-info

<http://www.ap-net.org/>



Post-Kyoto Regime

Japan's Central Environment Council

- Top-level governmental advisory body on environment policy, comprised of a variety of advisors including lawyers, scientists, economists, former government officials and advisors from industries, NGOs and local communities
- Discussed what considerations Japan should bear in mind as a basis for international negotiations on the climate regime beyond 2012
- Issued an interim report, incorporating comments from inside and outside Japan.

Basic Considerations in Approaching the Climate Regime beyond 2012

1. Maintaining Progress towards Meeting the Ultimate Objective of the UNFCCC
2. Bringing the Kyoto Protocol into Effect and Achieving the Commitments
3. Achieving Global Participation
4. Ensuring Equity Based on the Principle of Common but Differentiated Responsibilities
5. Negotiations Building on Existing International Agreements
6. International Consensus Building Process by National Governments with the Participation of Various Actors
7. Making the Environment and Economy Mutually Reinforcing



Conclusions

- ◆ Japan has developed its environmental policies so far.
- ◆ Japan is taking actions towards the achievement of its Kyoto commitment.
- ◆ Global problems such as climate change require global actions.