Recent Development of Environmental Policies in Japan

Ministry of the Environment,
Japan

1. The Recovery from The Great East Japan Earthquake

Actions Taken by the Ministry of the Environment in Response to the Great East Japan Earthquake

Measures to restore what was lost (recovery) and to create new value (reconstruction)

(1) Recovery

- Quick removal of debris (disaster wastes)
- Decontamination and treatment of wastes contaminated by radioactive material
- Care for affected pets

(2) Reconstruction

- Green reconstruction through establishment of a new national park – Reconstruction of local community together with the natural environment fostered in forest, satoyama, river, sea –
- Establishing the most advanced recycling industry hub in Tohoku
- Disaster-resistant and efficient energy supply system (Decentralized power sources, power savings)

(3) Nuclear power

- Separation of the administration of the responsible for the nuclear safety and regulation from the Ministry of Economic, Trade and Industry which has an objective to promote nuclear power plants.
- Efforts to restore trust in the nuclear regulatory administration and enhancement of its functions

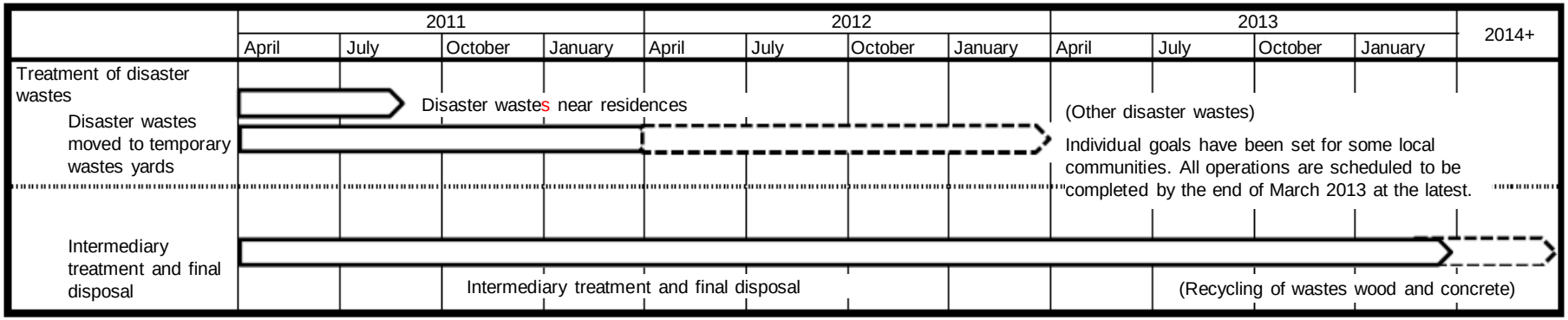
Treatment of Disaster Wastes

- Amount of disaster wastes
  Iwate: approx. 5.25million t. (municipal wastes for 12 years of this prefecture)
  Miyagi: approx. 11.54 million t. (municipal wastes for 14 years of this prefecture)
- Most disaster wastes near residences had been taken to temporary wastes yards.
- Disaster wastes in the temporary wastes yards is scheduled to be disposed of by the end of March 2014.

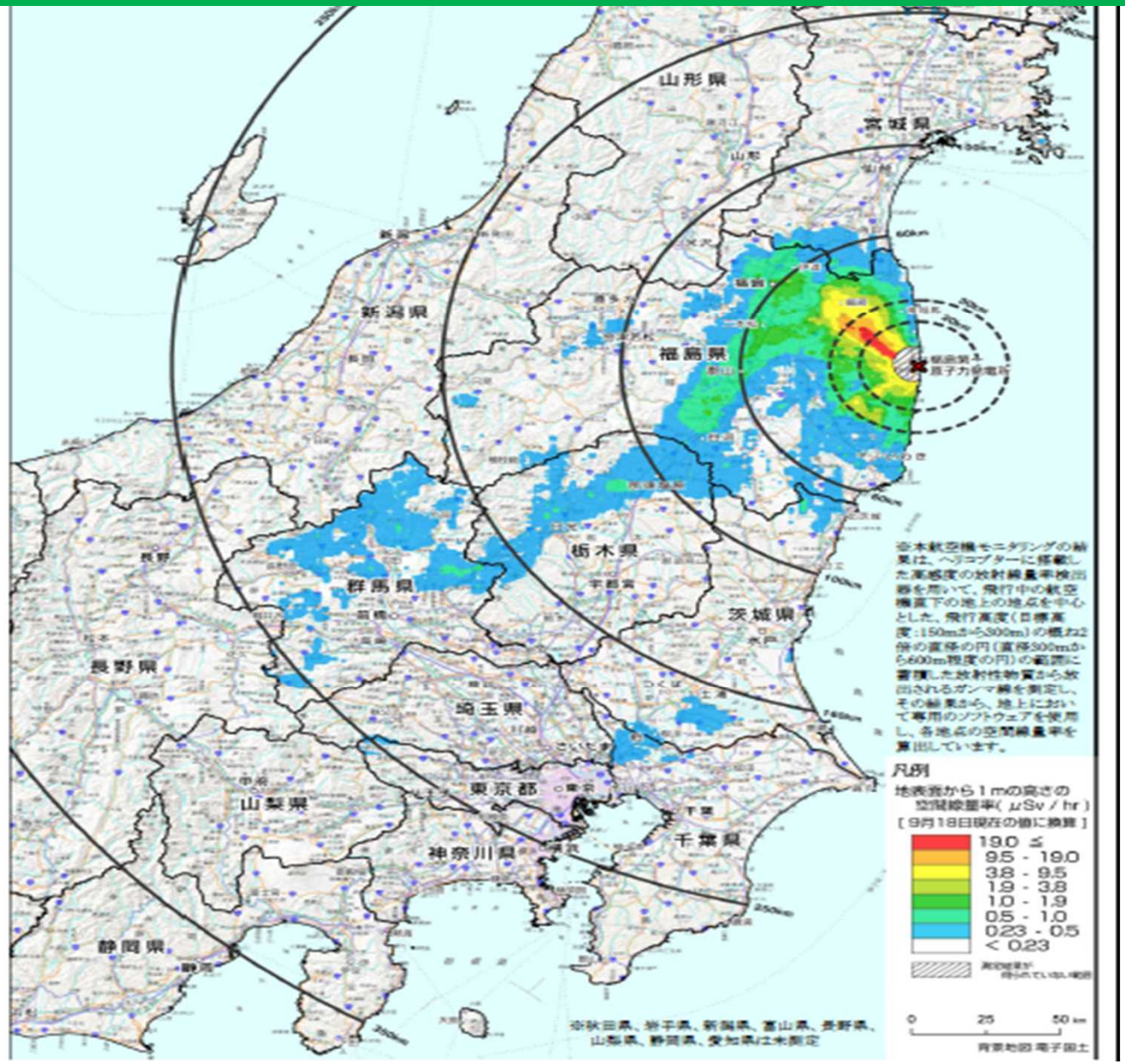
Disaster Wastes Removal (Wakabayashi District, Sendai City)

Before (March 13,2011)　　After (May 12,2011)

Overall Schedule



Measurement Results of Radiation Dose by Aircraft Monitoring



Decontamination Efforts

Cleaning the areas under eaves and rain gutters

Removing sludge from ditches

Photo courtesy of Fukushima City

Removing weeds

Photo courtesy of Date City

Approach to Restoration Utilizing the Natural Parks, etc. in the Sanriku Region

<Basic Concept>

Green restoration centered around the creation of a new national park

-Restoration that goes hand-in-hand with the nature nurtured by the woodlands, rural communities, rivers, and ocean-

<Basic Policy>

1. Utilize the blessings of nature
2. Learn about the threats of nature
3. Reinforce the connection between the woodlands, rural communities, rivers and ocean

Green Restoration Project

1. Creation of the Sanriku Restoration National Park
2. Creation of *satoyama*/*satoumi* field museums and facilities
3. Provide tours to gain a deep appreciation of nature utilizing local treasures (Restoration Ecotourism)
4. Develop a road that will help closer interaction between people by linking north and south area (Tohoku Coastal Trail)
5. Revival of the link between the woodlands, rural communities, rivers and ocean
6. Promotion of Education for Sustainable Development (ESD)
7. Understanding the impact of earthquakes and tsunamis on the natural environment (monitoring of the natural environment)

<Toward Effective Implementation>

- Coordinate with local restoration plans
- Cooperation with the measures of other government agencies and initiatives such as geoparks
- Putting out information internationally
- Formation of a platform for various actors to take part and cooperate

2. Regulation of Nuclear Power

Background of the Reform of Nuclear Safety Administration (1)

- A public trust of nuclear safety policy has completely lost as a result of the accident at Tokyo Electric Power Company's the First Fukushima Nuclear Power Stations.

- The overconfidence of the government and the licensee in their safety measures could not prevent severe accident, which causes massive discharge of radioactive materials to the environment and destroys local communities.

- The government needs to reconstruct nuclear safety regulation organisation and regulation rapidly, so as to prevent severe accident.

Recommendation from Advisory Committee for Prevention of Nuclear Accident (December 2011)

Background of the Reform of Nuclear Safety Administration (2)

- It was not clear where the primary responsibility lies in ensuring citizen's safety in an emergency.

- Also, we cannot deny that the existing organizations and structures hindered the mobilization of capabilities in promptly responding to such a large-scale nuclear accident.

Report of Japanese Government to the IAEA Ministerial Conference on Nuclear Safety (June 2011)

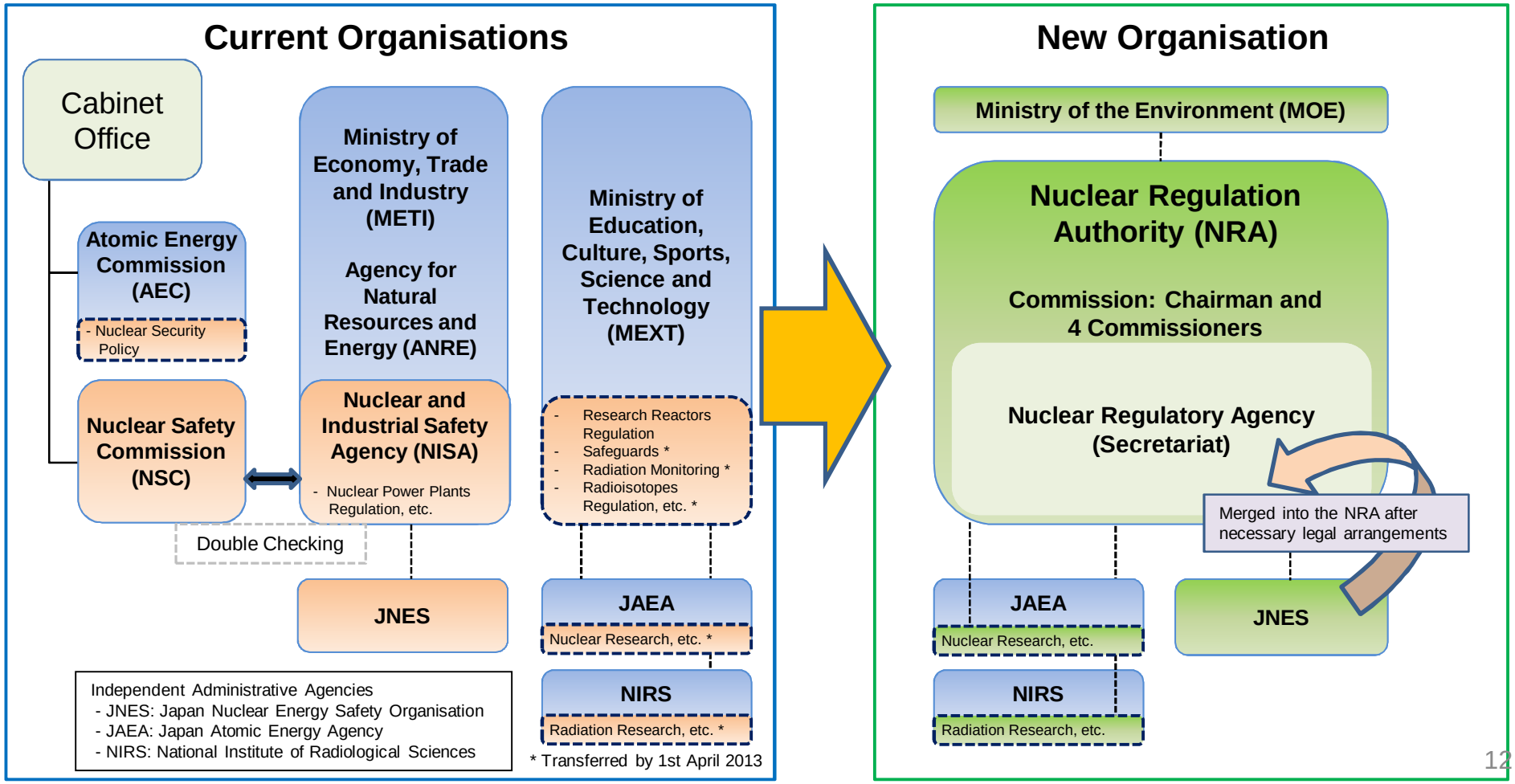
- Separating nuclear regulation and promotion function
- Integration of nuclear regulation functions
- Strengthening crisis management
- Reform nuclear regulation system

Background of the Reform of Nuclear Safety Administration (3)

- Report of Japanese Government to the IAEA Ministerial Conference on Nuclear Safety (7th June 2011)
- Cabinet Decision: Basic Policy on the Reform of an Organisation in charge of Nuclear Safety Regulation (15th August 2011)
- Recommendation from Advisory Committee for Prevention of Nuclear Accident (13th December 2011)
- The Government's Submission of the Bill to the Diet (31th January 2012)
- The Opposition Parties' Submission of the Counter-Bill to the Diet (20th April 2012)
- The Government Party and the Opposition Parties' Collaborative Submission of the Reformed Bill to the Diet (15th June 2012)
- Promulgation of the Act (27th June 2012)
- Inauguration of Japan Nuclear Regulatory Agency (19th September 2012)

Reform of Nuclear Regulatory Organisations

- **Independence**: Separate nuclear regulation function and nuclear promotion function and establish the "Nuclear Regulation Authority (NRA)", as an independent commission body affiliated to the MOE. Chairman and Commissioners are appointed by the Prime Minister after the approval of the National Diet.
- **Integration**: Integrate nuclear regulation functions, namely, nuclear safety, security, safeguards, radiation monitoring and radioisotopes regulation, into the NRA.
- **Crisis Management**: Establish "Nuclear Emergency Preparedness Commission (NEPC)" in a cabinet and implement nuclear emergency prevention measures in close cooperation with relevant organisations.



New Nuclear Safety Regulation

- Dealing with “the unexpected” - the new regulation takes severe accidents into consideration.
- Regulation based on the latest knowledge - the new regulation applies latest scientific / technical knowledge on safety issues to existing facilities (back-fitting).
- An operational limit of 40 years, in principle, will be introduced to ensure the safety of aged power reactors.
- Specified licensee’s responsibility - a licensee’s responsibility to constantly improve the safety of its facilities.
- Thorough protection of the lives and health of citizens in case of nuclear disasters.
- Unification of legislation - separation from the Electricity Business Act.

3. The Fourth Basic environment Plan

Basic Environmental Plan

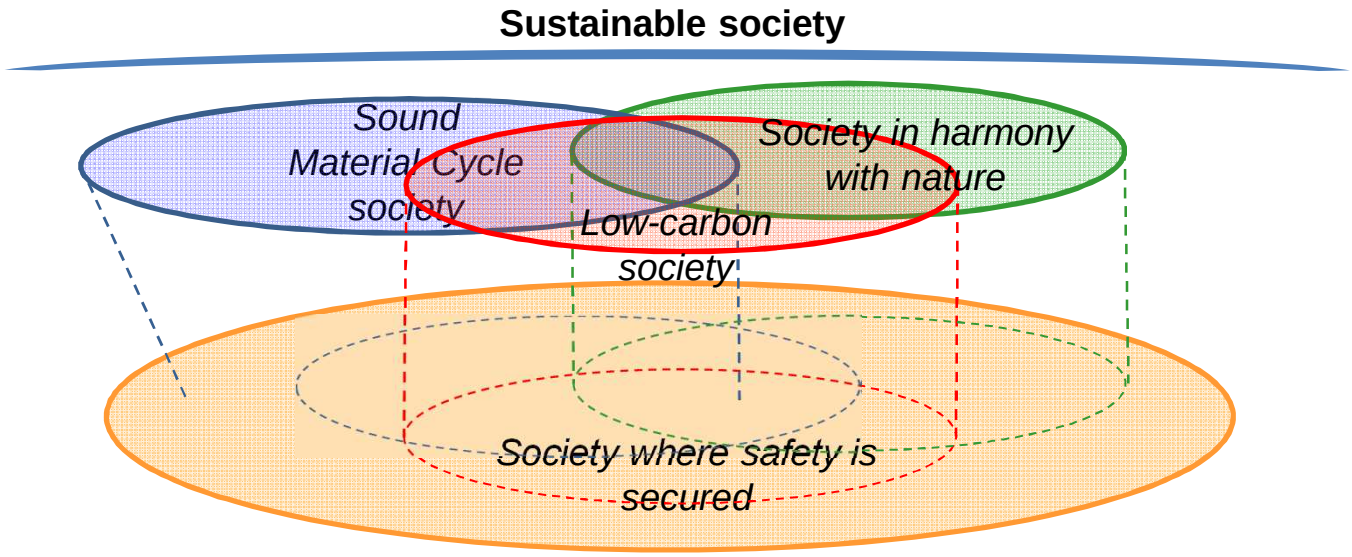
- A plan for advancing environmental policies with the whole government, in a comprehensive manner and from a long-term perspective

- The 4th Basic Environmental Plan was decided on 27 April 2012 by the Cabinet. The 1st Plan was established in 1994 and revised in 2000 and 2006 before.

Fourth Basic Environmental Plan (Established in April 2012)

Ideal design of sustainable society

A society that has realized a low-carbon, Sound Material-Cycle and society in harmony with nature in an integrated manner with the securement of safety as the foundation



Greening economy and society, and Green innovation

- ✓ Greening Economy and Society by promoting environment-conscious activities, and environment-friendly products and services
- ✓ Promote Green Innovation that includes technology innovation, creation of new value, and social system change
- ✓ Create over JPY 50 trillion in new environment-related markets and 1.4 million new environment sector jobs by 2020

- Providing information on environment related to products and services
- Prevailing environmental management system
- Promoting environment-related business and finance
- Promoting integrated policy research for desired society in mid and long term
- Promoting cross cutting research and development

Strategic Policies in Accordance with International Situation

- ✓ Support developing countries in reducing the emerging environmental pressure by providing Japan's experiences and technologies
- ✓ Promote Strategic policy measure to develop fair and effective international frameworks and promoting international cooperation in order to ensure national interests and global environmental interests

- International cooperation in light of "Green Economy"
- International cooperation in focused areas such as Asia (East Asia, South East Asia and South Asia)
- Playing a leading role in establishing international frameworks
- Utilizing private/multi-national funds
- Promoting global environment conservation

Local Environmental Development, Capacity Building and Foundation Building

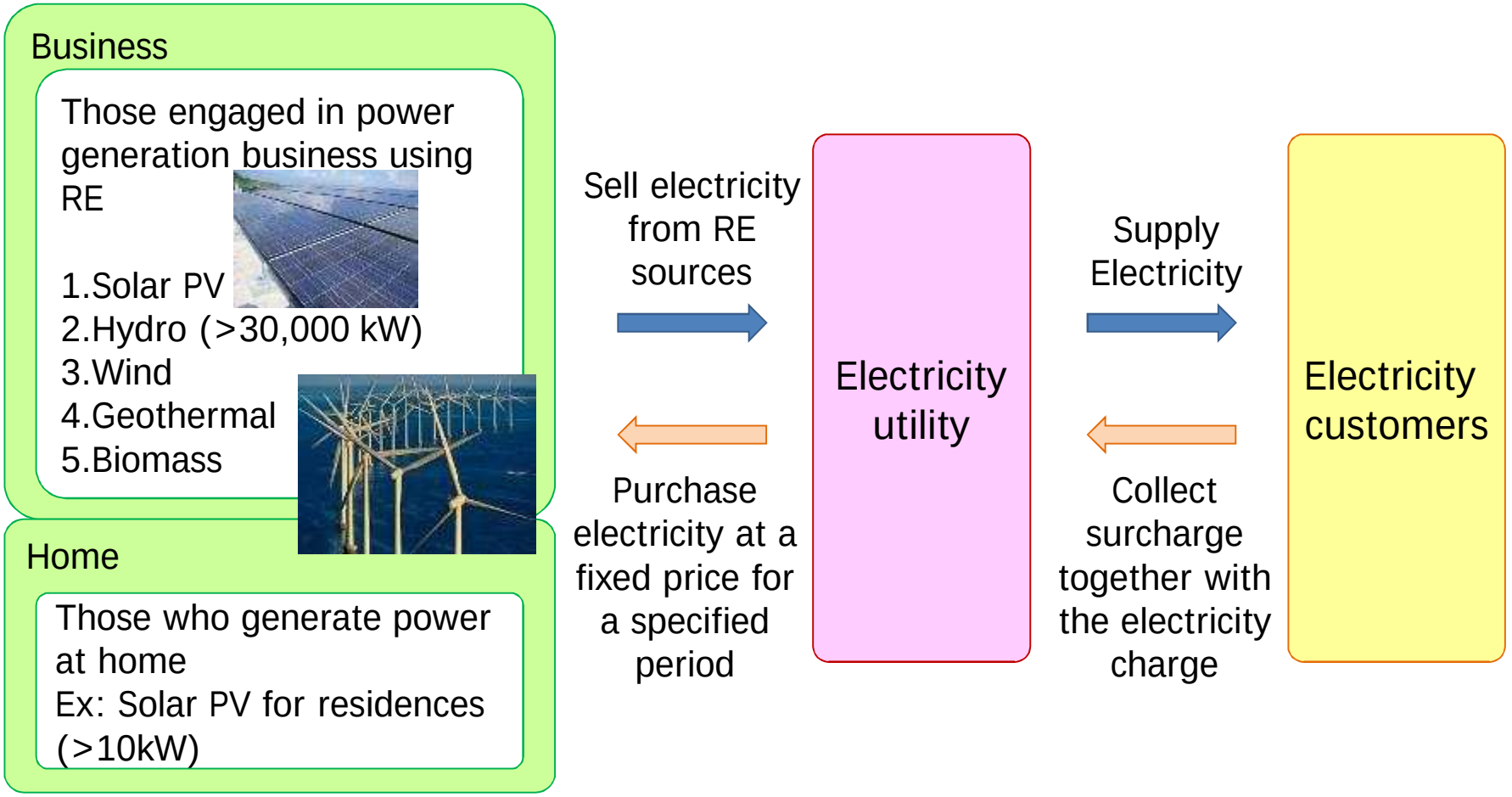
- ✓ Develop a society where all citizens share a philosophy to maintain and increase values of national land, such as forest, farm land, river and city, and carry them over into future generation
- ✓ Utilize local resources including culture, human resources and community, promote capacity building, and develop and strengthen network among various actors in order to develop sustainable society
- ✓ Enhance environmental information which contributes to development of environmental policy and Environmental Impact Assessment (EIA) system

- Appropriate maintenance of national land
- Development and maintenance of transport networks, housing, etc. with high environmental functions
- Promoting environmental education
- Collecting and providing environmental information
- Considering strategic environmental assessment at earlier stage

4. Climate Change Countermeasures

Feed-in tariff (FIT) for renewable energy (1/3)

The bill for introducing FIT scheme for RE was adopted by the Diet in July 2011. All of generated renewable electricity (excess electricity by residential RE equipment) shall be purchased at a fixed price.



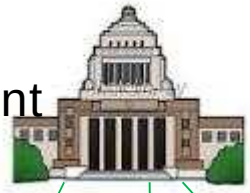
Source: “Feed-in Tariff Scheme for Renewable Energy” (MITI, October 2011)

FIT: Purchase price period (2/3)

Purchase rate and period shall be decided every year corresponding to the type, form of installation and scale of RE sources.

How to decide purchase price/period

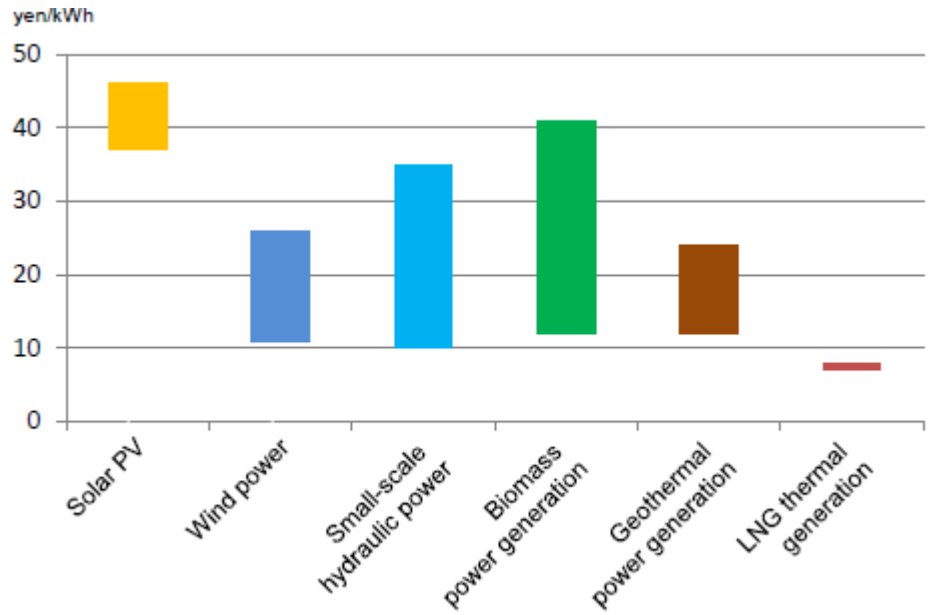
Appointment requires consent by the Diet



After open examination at the third party committee, the purchase price and the purchase period shall be decided.

While considering:
- Power generation cost
- Profit to be received by those who installed facilities
- Services life
- Premium price for three years from the launch of the scheme

[Reference]: Comparison examples of current power generation costs



Source: Geothermal Generation Workshop (June 2009)
LNG: Subcommittee to Study Costs and Other Issues, Electricity Industry Committee (January, 2004)

Source: "Feed-in Tariff Scheme for Renewable Energy" (MITI, October 2011)

Feed-in tariff rate and period (3/3)

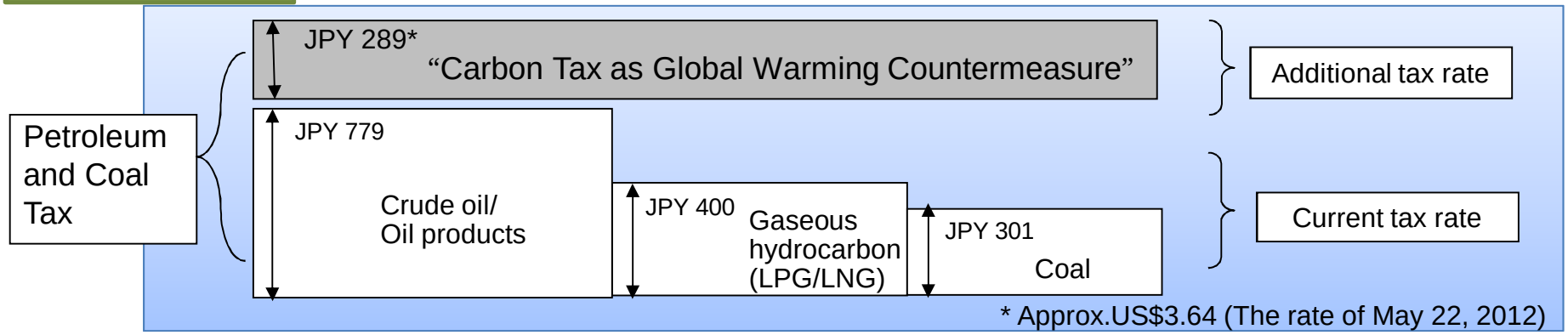
Source	Capacity or Category	Rate, tax incl. (JPY per kWh)	Period (year)
PV	≥ 10 kW	42.00 yen	20
	< 10 kW	42.00 yen	10
Wind	≥ 20 kW	23.10 yen	20
	< 20 kW	57.75 yen	
Geothermal	≥ 15000 kW	27.30 yen	15
	< 15000 kW	42.00 yen	
Hydropower	1000 - 30000 kW	25.20 yen	20
	200 - 1000 kW	30.45 yen	
	< 200 kW	35.70 yen	
Biomass	Biogas	40.95 yen	20
	Lumber, unused	33.60 yen	
	Lumber, general	25.20 yen	
	Waste biomass	17.85 yen	
	Lumber, recycled	13.65 yen	

Carbon Tax (Tax for Measures to Cope with Global Warming)

- Tax rate corresponding to the amount of CO2 emissions for all fossil fuels (JPY 289/t-CO2)
- Enforced from Oct. 2012 and increases in the tax rate gradually over 3 and a half years
- All the tax revenue will be allocated for curbing energy-oriented CO2 emissions

Tax Rate

Tax Rate per t-CO2 of "Carbon Tax as Climate Change Countermeasure"



Enforcement Stage

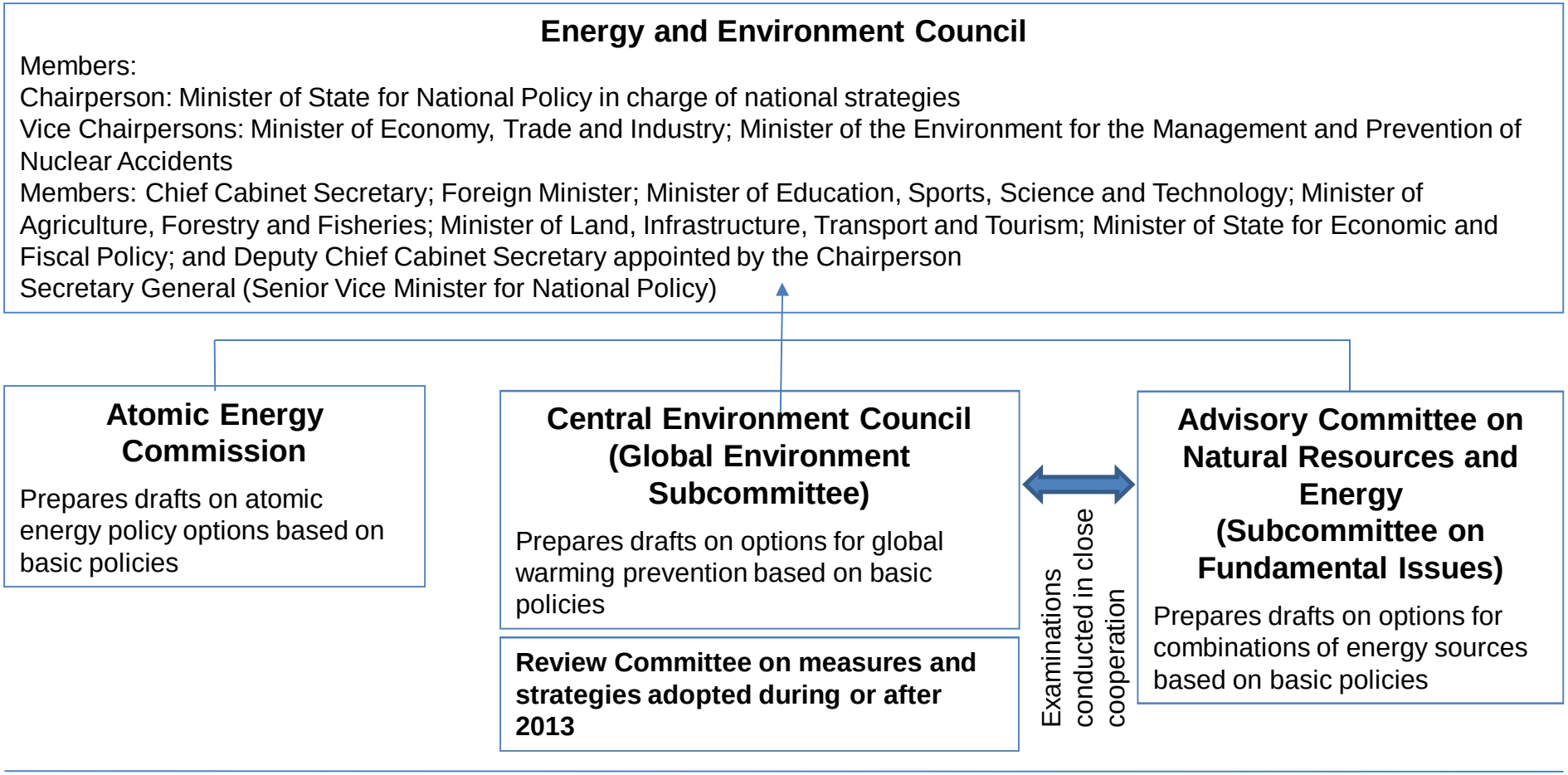
Object of Taxation	Current Tax Rate	From Oct. 1, 2012	From Apr. 1, 2014	From Apr. 1, 2016
Crude oil/Oil products [per 1 kl]	(JPY 2,040)	+ JPY 250	+ JPY 250	+ JPY 260
		(JPY 2,290)	(JPY 2,540)	(JPY 2,800)
Gaseous hydrocarbon [per 1 t]	(JPY 1,080)	+ JPY 260	+ JPY 260	+ JPY 260
		(JPY 1,340)	(JPY 1,600)	(JPY 1,860)
Coal [per 1 t]	(JPY 700)	+ JPY 220	+ JPY 220	+ JPY 230
		(JPY 920)	(JPY 1,140)	(JPY 1,370)

Tax Revenue

[1st year] **JPY 39.1 billion** ; [Normal year] **JPY 262.3 billion** (about US$3.31 billion)

To be used for introduction of renewable energy and enhancement of energy-saving measures, etc.

Reviewing Energy and Environmental Strategies



19th September 2012: Cabinet has decided to conduct future energy and environmental policies based on the new "innovative energy and environmental strategy" that was adopted at an Energy and Environment Council meeting.

Points for Discussions on Global Warming Prevention from 2013 onward

1. Consider long-term goals shared worldwide.

- Limit any global temperature increase to within **2°C**.
- Achieve a **50% reduction worldwide and an 80% reduction in developed countries** by 2050.
- Present goals for **2020 and 2030** without preconditions.

2. Be first among all countries to present a clear vision for realizing a low-carbon society for the future.

(1) The world's best **energy conservation technologies** unrivaled by those of any other country
  - Set global standards for low-carbon manufacturing processes and low-carbon products
  - Develop the most efficient energy-saving technologies for residences and lifestyles

(2) Catch up to other countries in developing **renewable energy technologies** and achieve the highest level of performance

(3) Contribute to reducing CO_2 emissions **worldwide** using energy conservation and renewable energy technologies

3. Be first among all countries to present programs necessary for realizing a low-carbon society for the future.

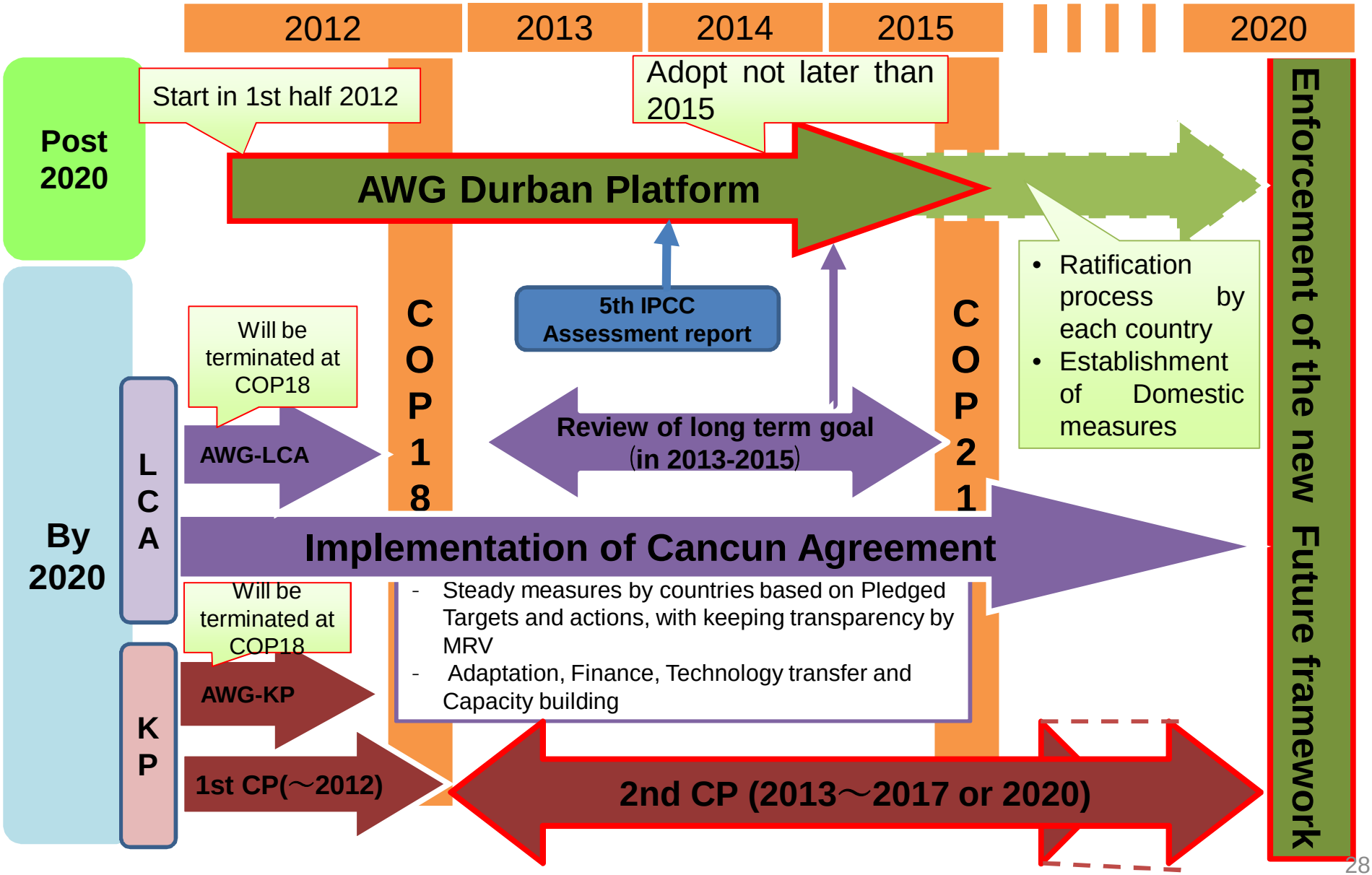
- Present specific measures that support policies.

Creation of a Green-Growth Nation That Leads the World

Japan's Future Options on Energy and Environment

	2010	2030			
Option		Basic Energy Plan (2010)	Scenario 1	Scenario 2	Scenario 3
Nuclear Power	26%	45%	0%	15%	20~25%
Renewable Energy	10%	20%	35%	30%	25~30%
Amount of Electricity	1.1 PWh	1.2 PWh (+9%)	1 PWh (-10%)	1 PWh (-10%)	1 PWh (-10%)
Total Energy Consumption	390 GI		300 GI (-23%)	310 GI (-21%)	310 GI (-21%)
Coal : LNG	1:1.2	1:1.2	1:1.8	1:1.5	1:1.5
GHG Emission from 1990	-0.3%	-30%	-23%	-23%	-25%
(2020)			(0~-7%)	(-9%)	(-10~-11%)
GDP(trillonJPY) (from BAU)	511		563~628 (-7.6~-1.3%)	579~634 (-4.9~-0.3%)	581~634 (-4.6~-0.3%)

Outcome of COP17：Path towards future framework

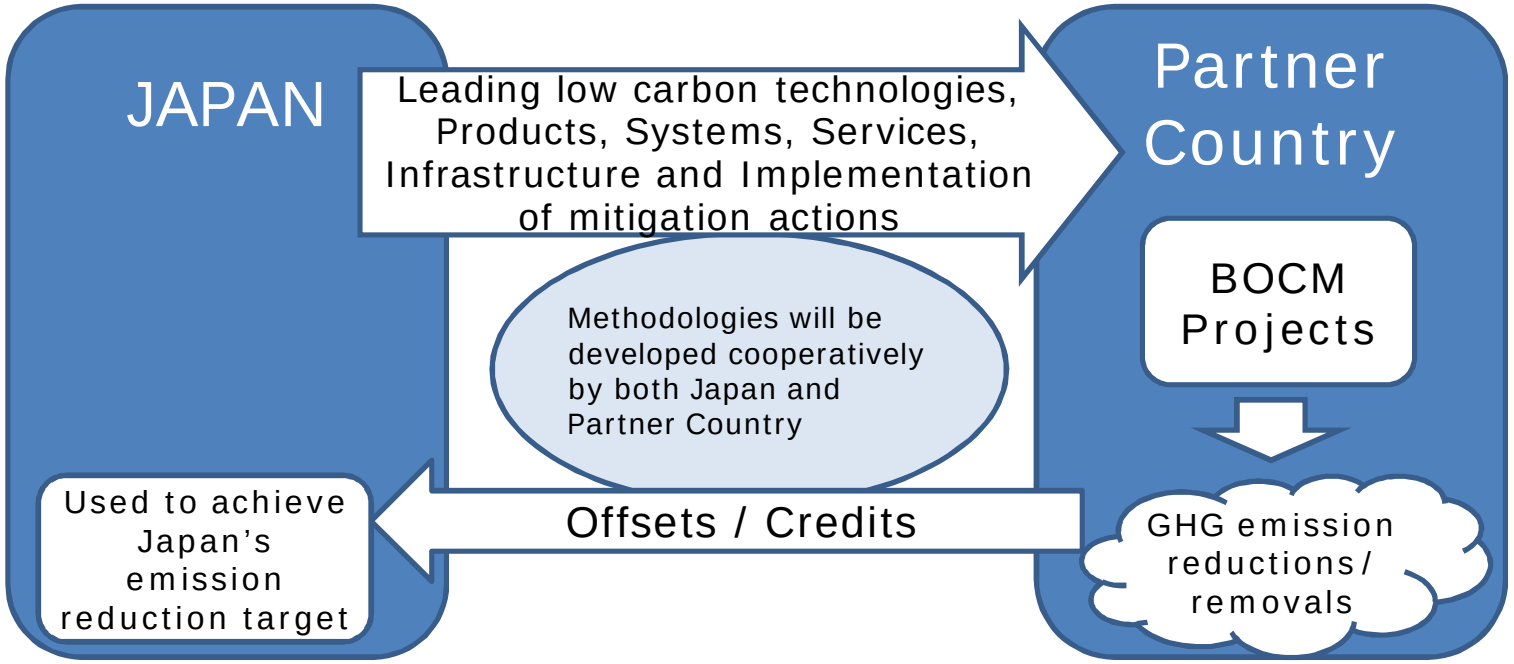


How to proceed on ADP

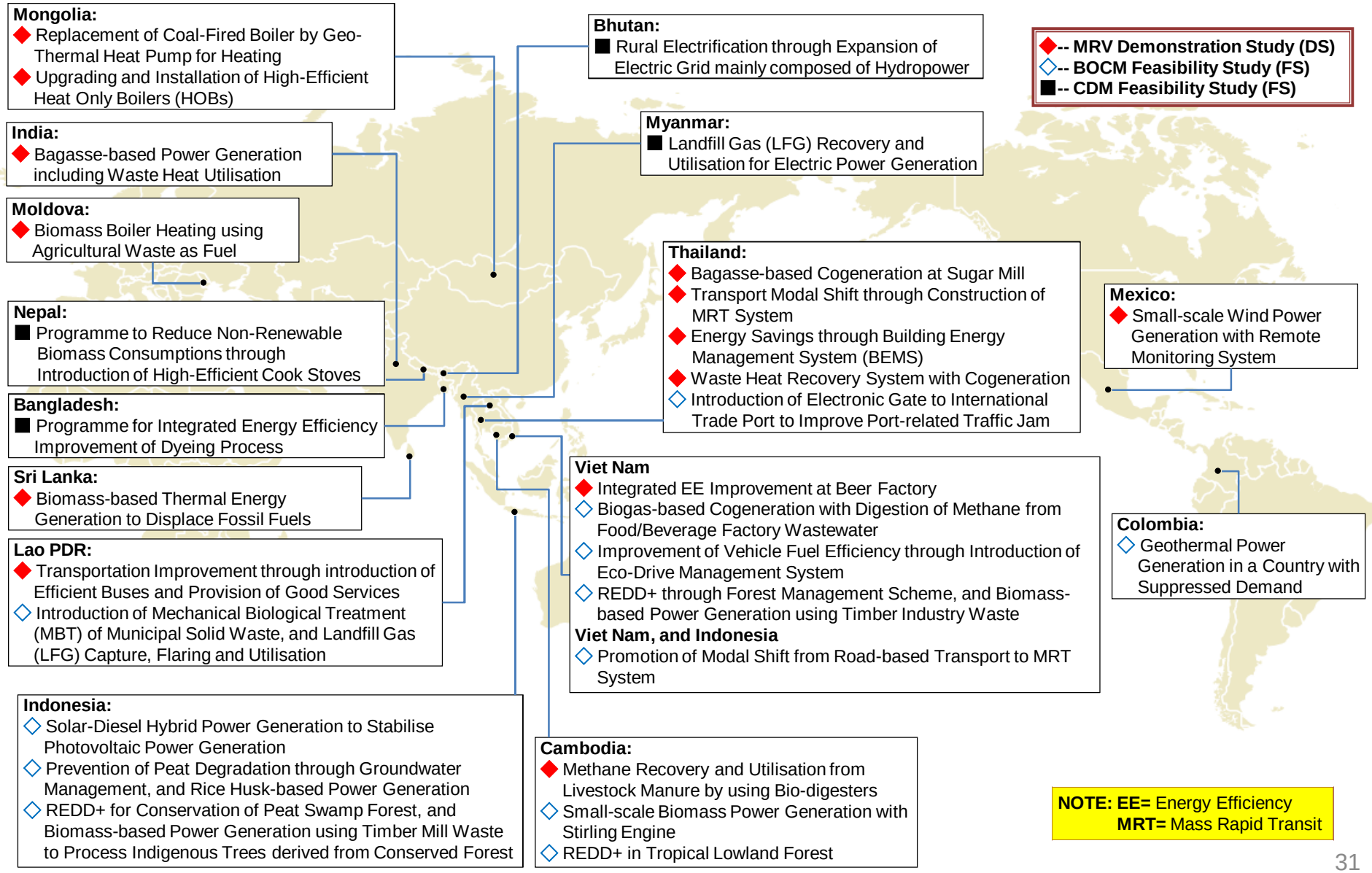
- Substantive and meaningful discussions concerning the vision for the ADP and enhancing ambition were conducted in roundtable format during the ADP Bangkok session. Such free and open brainstorming should be continued at COP 18. Japan suggests holding a series of workshops involving various stakeholders and/or ministerial roundtables to this end.
- Contact groups for the two workstreams (vision for the ADP, ambition) should be created at COP18 in order to agree on the ADP workplan and prepare for more concrete discussion in the coming year.

Purpose of the Bilateral Offset Credit Mechanism

- To facilitate diffusion of leading low carbon technologies, products, systems, services, and infrastructure as well as implementation of mitigation actions, and contributing to sustainable development of developing countries.
- To appropriately evaluate contributions to GHG emission reductions or removals from developed countries in a quantitative manner, through mitigation actions implemented in developing countries and use those emission reductions or removals to achieve emission reduction targets of the developed countries.
- To contribute to the ultimate objective of the UNFCCC by facilitating global actions for emission reductions or removals.

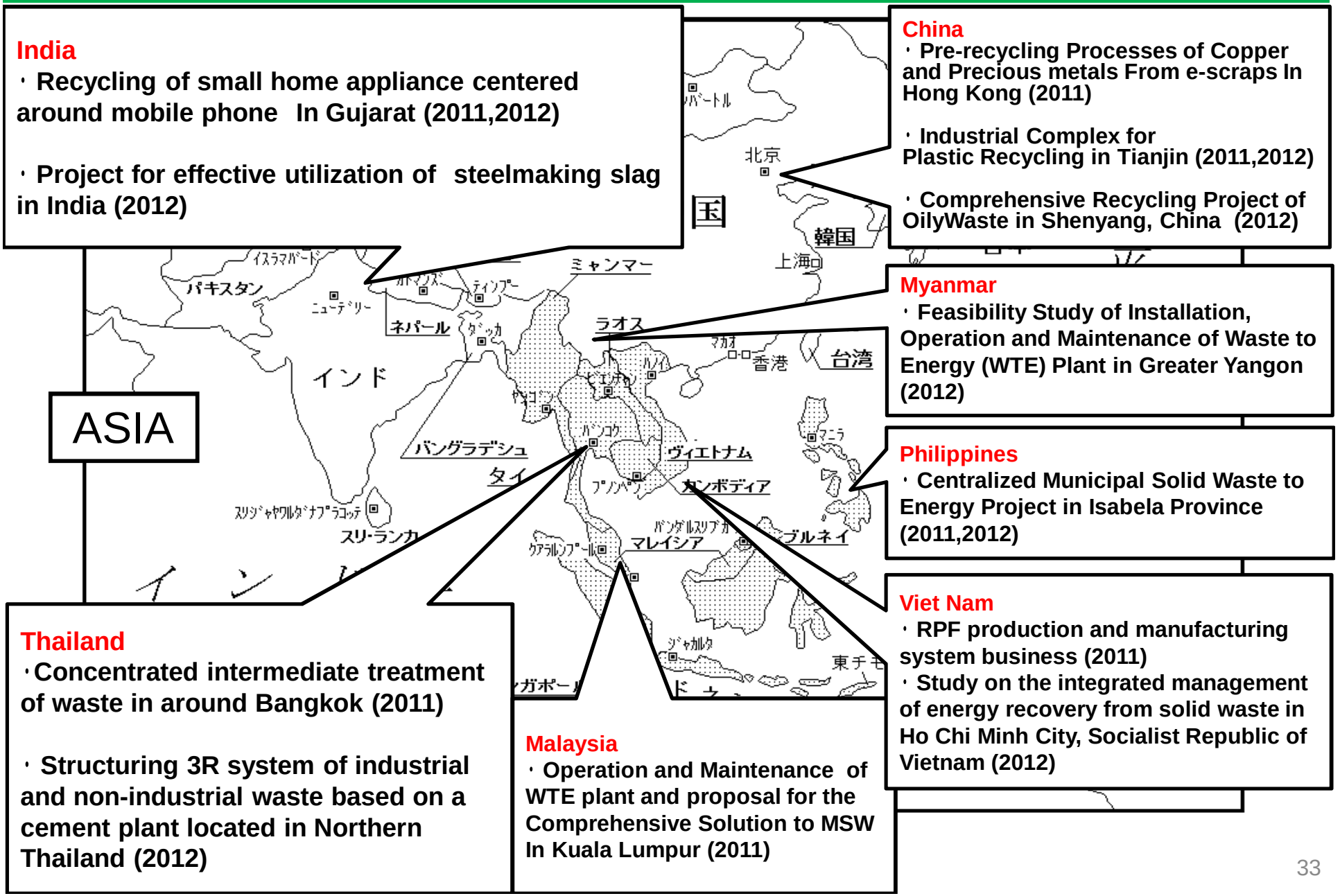


MRV DS using Model Projects, BOCM FS, and CDM FS in FY2012



5. International Environmental Cooperation Activities

Programme for Supporting Feasibility Studies on Overseas Waste Management and Recycling Businesses by Japanese Companies



India

・Recycling of small home appliance centered around mobile phone In Gujarat (2011,2012)

・Project for effective utilization of steelmaking slag in India (2012)

China

・Pre-recycling Processes of Copper and Precious metals From e-scraps In Hong Kong (2011)

・Industrial Complex for Plastic Recycling in Tianjin (2011,2012)

・Comprehensive Recycling Project of OilyWaste in Shenyang, China (2012)

Myanmar

・Feasibility Study of Installation, Operation and Maintenance of Waste to Energy (WTE) Plant in Greater Yangon (2012)

Philippines

・Centralized Municipal Solid Waste to Energy Project in Isabela Province (2011,2012)

Viet Nam

・RPF production and manufacturing system business (2011)

・Study on the integrated management of energy recovery from solid waste in Ho Chi Minh City, Socialist Republic of Vietnam (2012)

Thailand

・Concentrated intermediate treatment of waste in around Bangkok (2011)

・Structuring 3R system of industrial and non-industrial waste based on a cement plant located in Northern Thailand (2012)

Malaysia

・Operation and Maintenance of WTE plant and proposal for the Comprehensive Solution to MSW In Kuala Lumpur (2011)

Environmentally Sustainable Cities : ESC

East Asia Summit Environment Ministers Meeting (EAS-EMM)

Oct. 2008 1st EAS-EMM

"ESC should be an immediate priority area"

High Level Seminar on Environmentally Sustainable Cities (HLS-ESC)

HLS	Date	Venue	Co-organisers
1st	March, 2010	Jakarta, Indonesia	Japan, Indonesia, Australia, Singapore
2nd	March, 2011	Kitakyusyu, Japan	Japan, Australia, Cambodia, Malaysia, Thailand
3rd	March, 2012	Siem Reap, Cambodia	Japan, Cambodia, Australia, Thailand

Co-Benefits Approach

Measures to alleviate environmental pollution

Co-benefits

Measures to reduce GHG emissions

Examples:

- Improvement in efficiency of thermal power plants
- Improvement in public transportation networks
- Methane recovery and electricity generation in wastewater treatment

Examples of supported Activities under the CDM scheme

Case1: Waste Heat Recovery from Cement Plant

By recovering waste heat from a dry rotary kiln in a cement plant and using the heat to generate electricity, this project reduces the use of electricity from the power grid, this indirectly reduces CO2 an SO2 emission from the power plants elsewhere.

Photo: Dry rotary kiln under construction (Chongqing City, China)

Case2: Biogas Recovery and Electricity Generation from Ethanol Factory Wastewater

By using a sealed anaerobic fermentation tank to treat wastewater from a ethanol factory, this project recovers emitted CH4 and uses it to generate electricity, thereby helping to improve water quality.

Photo: Anaerobic fermentation tank (Ayutthaya Province, Thailand)

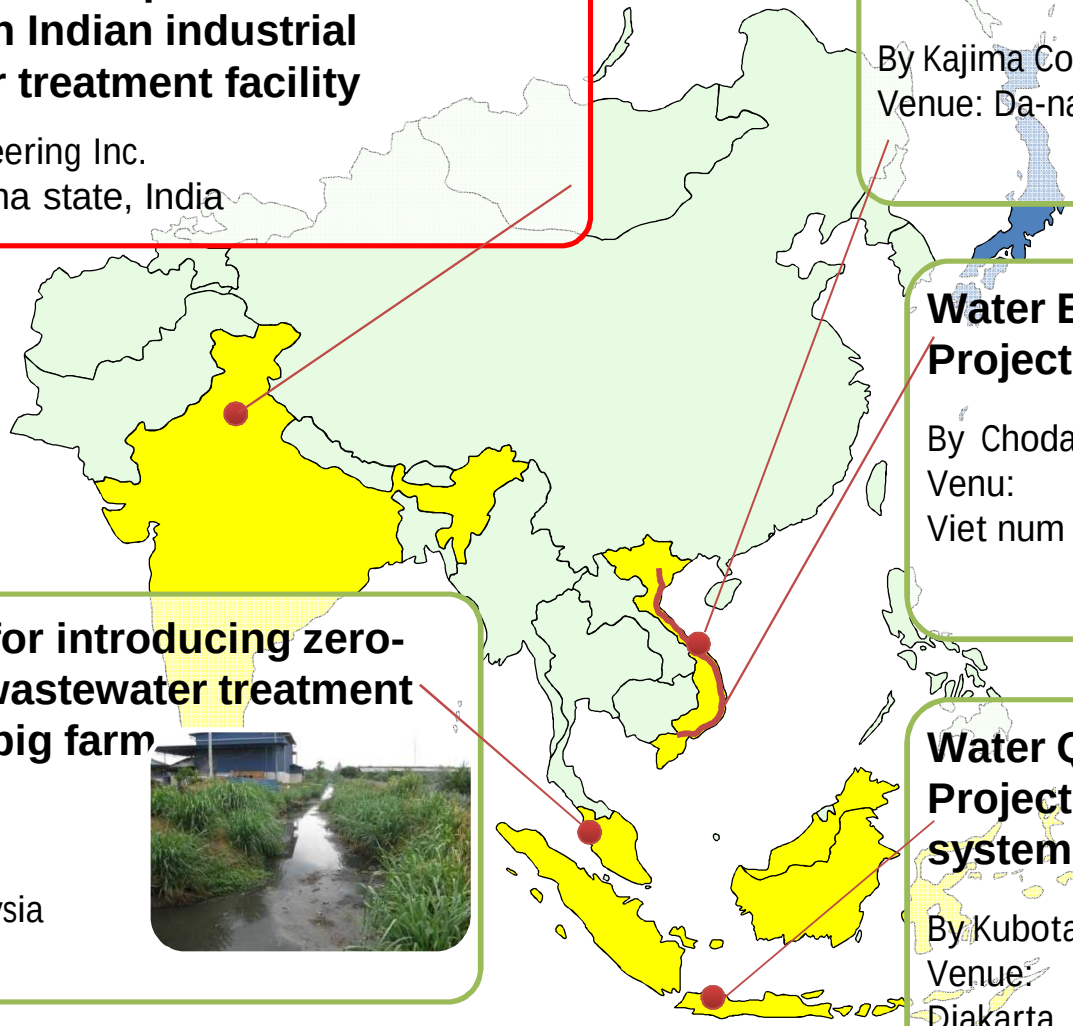
Water Environment Improvement projects in Asia

A project for comprehensive improvement and promotion of water re-use in an Indian industrial wastewater treatment facility

By Toyo Engineering Inc.
Venue: Haryana state, India

A project of wastewater treatment for an industrial complex in Da-nang

By Kajima Cooperation etc.
Venue: Da-nang, Viet Nam



Water Environment Improvement Project by introducing Bio-toilet

By Chodai Inc.
Venu:
Viet num national railway

A project for introducing zero-emission wastewater treatment system in pig farm

By Aqua Inc.
Venue:
Penang, Malaysia

Water Quality Improvement Project by introducing Johkasou system in Djakarta

By Kubota Cooperation
Venue:
Djakarta, Indonesia

6. Biodiversity

National Biodiversity Strategy of Japan

1993:The Convention on Biological Diversity entry into force

○The Convention on Biological Diversity: Article 6

"Develop national strategies, plans or programs for the conservation and sustainable use of biological diversity …"

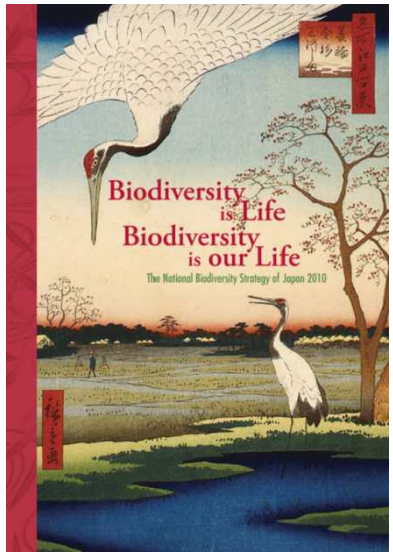
1995: 1st National Biodiversity Strategy

2002: 2nd National Biodiversity Strategy

2007: 3rd National Biodiversity Strategy

2008: Basic Act on Biodiversity

2010: 4th National Biodiversity Strategy
(Statutory strategy)



2010: Adoption of Aichi Biodiversity Targets at COP10

Revision of NBSAP based on COP10 outcomes

By COP11

Key issues for consideration of next NBSAP

■ A roadmap for achieving the Aichi Targets

- Setting national targets according to the status of biodiversity and priorities
- Developing indicators to access the achievement of national targets

■ Development of a guidance for local Biodiversity Strategy

- According to the Basic Act for Biodiversity, the local governments are encouraged to develop their local Biodiversity Strategy
- To take bottom-up approach and promote actions on the ground, the revised NBSAP will include a guidance on development of local BSAPs

■ Easily understandable and readable contents

- Revise the contents to make it more understandable and readable