



IGES



Japan's Policies Related to the Green Economy and Sustainable Development Goals



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Green Economy and Specific SDGs

Main Economy-related SDGs

8. Sustainable economic growth, employment
9. Infrastructure, industrialization, innovation
12. Sustainable Consumption & Production

Resources

6. Water
7. Energy
13. Climate
14. Oceans, marine
15. Land, ecosystems, forests

Sectors

2. Agriculture (hunger, food)
3. Health
11. Transport, housing (cities)

General Economic Issues

1. Poverty
4. Education
5. Gender
10. Inequality

Means of Implementation

- Trade
- Finance
- Technology
- Capacity building

SDGs & Green Economy in Japan: Overview

- Japan has many existing policies which can be considered related to green economy & SDGs, in a broad sense.
- Japan is not likely to create new policies or rename existing policies specifically based on green economy or SDGs.
- The concepts of SDGs and green economy are not well known in Japan.
- SDGs are mainly perceived in Japan as being about assisting developing countries, not about Japan's domestic policies or actions.
- Jurisdictional boundaries between ministries are a major barrier to an integrated and coordinated approach to SDGs. There are no plans to enhance cooperation among ministries in Japan.

Overview of Laws & Policies Related to Green Economy & Environmental Business

Laws

- Basic Environment Law
- Global Warming Law
- Energy Policy Basic Law
- Energy Conservation Law
- Renewable Portfolio Standard Law
- Sound Material Cycle Society Law
- Waste Treatment Law
- Resource Efficiency Utilization Law
- Package Recycling Law
- Construction Recycling Law
- Food Recycling Law
- Green Purchasing Law
- Green Contracting Law
- Biodiversity Law
- Nature Revitalization Law
- Ecotourism Promotion Law

Others

- Regulations
- Standards
- Voluntary measures
- Economic and tax incentives
- “Strategies”



Japan has many laws and policies relating to environment and economy/ business.

Outline of Discussion of Specific Policies

2 Parts:

1. General
2. Action Plan
(specific sectors)

Overall Economic Strategy (Cabinet)

(Japan Revitalization Strategy)

Ministry of the Environment

Ministry of Economy Trade and Industry

Ministry of Land Infrastructure and Transport

Other ministries, etc.
(not discussed here)

Ministries contribute to the Cabinet's overall plan

Recent Historical Overview of Environment and Economy in Japan in Overall Strategies

- Roughly between 2000-2010
 - Japan's overall economic strategies included major sections related to various environment & energy related industries, including energy efficiency & new energy.
 - These could be considered related to green economy or low carbon society.
- After 2012 (e.g. Japan Revitalization Strategy)
 - Less emphasis on environmental aspects.
 - Major focus on traditional macroeconomic policies, economic growth.
 - New focuses on innovation (venture capital, new industries, internet of things), corporate governance reform
 - Major focus on socio-economic issues such as ageing society, role of women, regional revitalization, small & medium enterprises, etc.
 - Post Fukushima issues, radiation cleanup
 - Energy policy focused on promoting nuclear energy, efficient fossil fuels. Renewable energy still promoted, but more modestly.
 - Electricity market reform isn't directly focused on environmental aspects
 - Can be considered more related to social and economic aspects of SDGs rather than "green" environmental aspects



Environment & Japan Revitalization Strategy (Overall Part)

- Corporate governance
 - MOEJ is promoting the importance of environmental information disclosure and environmental management
- Innovation
 - Could include environment, but most emphasis is on IT, promotion of venture capital, university reform.
 - Energy is one focus
- Reducing energy consumption
 - Smart meters, IT, etc.
- Trans Pacific Partnership (TPP)
 - Highlights the importance of enforcing environmental laws, implementing multilateral environment agreements, and environmental cooperation
 - But doesn't directly promote environmental issues
 - No environmental impact assessment
 - Environmental effects of more competitive agriculture not clear

Source: Based on GOJ 2015a, and the released text of TPP by USTR.

Japan Revitalization Strategy (Action Plan -- Environment & Energy Part)

- Energy demand & supply outlook; GHG reduction targets
- Reform electric power, gas, and fuel supply systems to save cost & reduce GHG emissions
- High efficiency coal & LNG power generation, cogeneration, energy storage, other new technologies
- Revise feed in tariff
- Energy conservation
 - Internet of things, energy management systems
 - Reform “top runner” criteria for machinery & appliances
 - “Negawatt trading”
- Fuel cell development
- Nuclear reactor restarting
- Oil field development in Abu Dhabi
- New criteria for optimizing oil combinat
- Strengthen domestic oil and LPG supply distribution system

Japan Revitalization Strategy (Action Plan -- Clean & Economic Energy Part)

- Mandatory energy efficiency standards for large scale buildings (proposed new law)
- Exploration of methane hydrates (in ocean) & promote its development
- Promote low GHG emission hydrogen society
- Renewable energy and energy conservation measures to be showcased at the Tokyo Olympics
- There should be an appropriate balance between different types of renewable energy, also considering baseload power.
- Promote overseas technology transfer of clean energy & energy conservation (incl. JCM)

Ministry of the Environment of Japan (MOEJ), SDGs, & Green Economy

- Many areas of SDGs and green economy are not in MOEJ's jurisdiction.
- In general, cooperation between ministries in Japan is difficult (but not impossible).
- MOEJ has a shortage of human and financial resources. Existing human resources are generally not very familiar with business.
- MOEJ's links to business and industry are not strong, with a few exceptions.



Basic Elements of Environmental Policy in Japan (Implemented by MOEJ)

Low Carbon Society

Sound Material Cycle Society

Conservation of Biodiversity

Air, Water, & Land Environment Protection

Chemical Risk Evaluation and Management

Disaster Recovery and Building Sustainable Regions

MOEJ Areas Related to Green Economy

- Basic focus on tax issues
- Carbon pricing
- Market mechanisms (CDM, JCM)
- Consumption/ lifestyles

Global Environment Bureau

Nuclear regulation after Fukushima

Environmental Policy Bureau

Waste & Recycling Department

- Sound Material Cycle Society
- Recycling
- Waste Management

Environmental Management Bureau

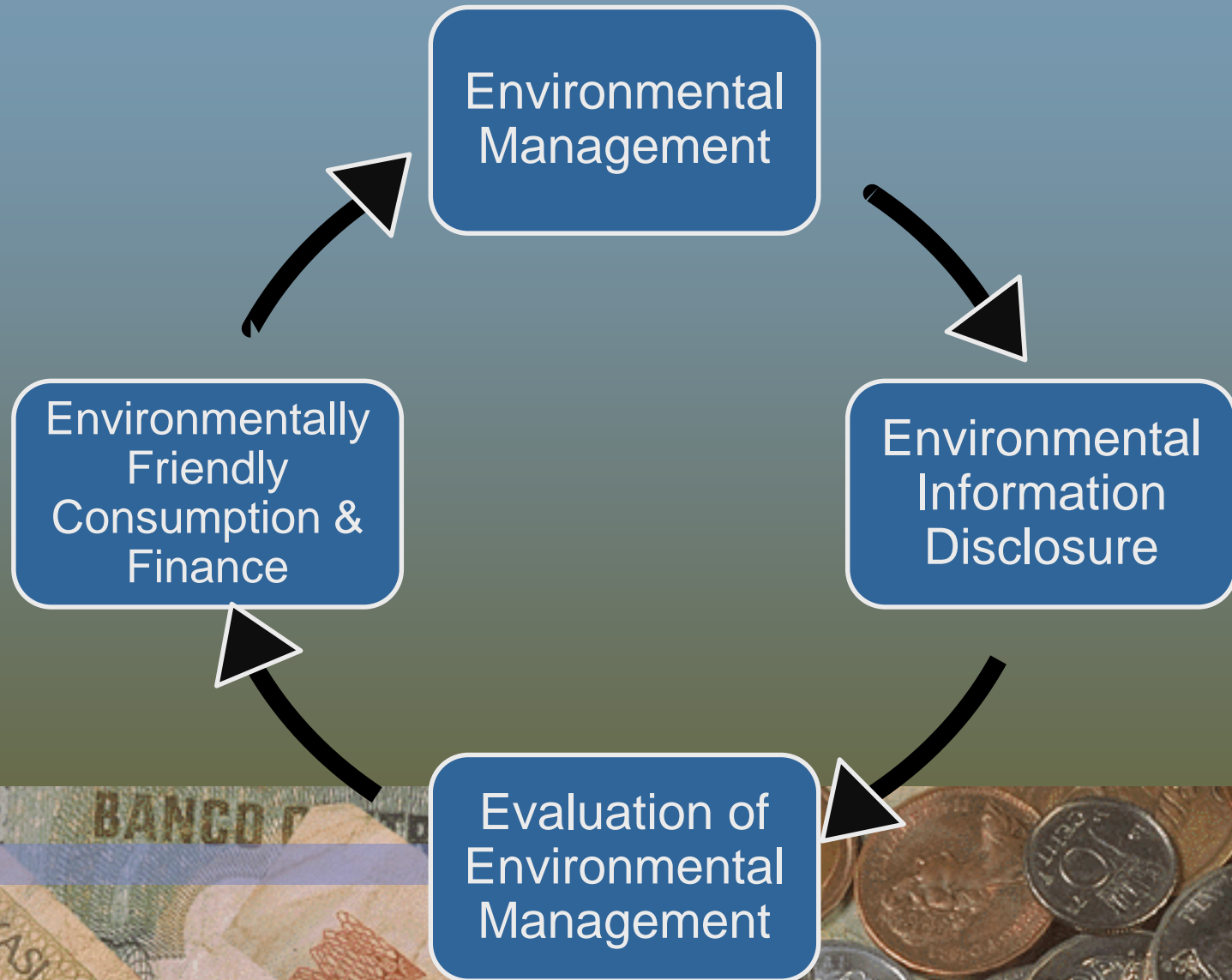
- Environment & Economy Division
- Taxes – carbon tax implementation
- Basic Environment Plan
- Env. impact assessment
- Chemicals

- Automobiles

Promoting environmental goods & services & company activities

- Green purchasing
- Environmental labelling
- Environmental standards
- Environmental management systems
- Environmental accounting
- Environmental reporting
- Companies should appoint certified pollution prevention managers

MOEJ Strategy for Companies



EcoAction 21

- Environmental management & certification system for small and medium enterprises
- Established in 1996 by Environment Agency (now MOEJ). IGES launched a certification & registration system in 2004. Revised guidelines in 2009.
- Simplified approach
- Specified activities & targets
- Specified information disclosure
- Reasonable fee for certification
- 7554 participating organizations in 2014
- 90% are organizations with less than 100 employees

Promoting Low Carbon Investment

- Central Environment Council in 2012 estimated additional investment of 135-163 trillion yen to enhance renewable energy
- Low social responsible investment in Asia/Japan:
 - Japan \$10b, Asia ex-Japan \$64b out of global \$13,568b.*
- Japan's Stewardship Code will promote more long term investing
- Principles for Financial Action towards a Sustainable Society
 - Established 2011 as a platform for expanding Japan's environmental finance through sharing information & collaboration
 - 193 financial institutions have signed
 - Award of Environment Minister started in 2014

- Japan's Government Pension Investment Fund signed the UN Principles for Responsible investment in Sept. 2015
- Action Plan:
http://www.gpif.go.jp/en/topics/pdf/20150928_signatory_UN_PRI.pdf

Main Source: MOEJ

*Global Sustainable Investment Alliance

Promoting Information Disclosure

- MOEJ is developing a new platform for environmental information disclosure
 - Established systems for ordinary financial information, but not SRI
 - Trial since 2013
 - 103 companies, 27 financial institutions



Source: MOEJ

Financial Initiative to Establish a Low Carbon Society

- Launched in 2013
- Foster regional low carbon projects through mobilizing private finance
- Regional banks, private finance contribute

| Type | Commitment Amount (Yen) (approx.) | No. |
|--------------|-----------------------------------|-----------|
| Solar | 200 mil. | 3 |
| Wind | 600 mil. | 2 |
| Small hydro | 759 mil. | 3 |
| Bioenergy | 1.7 bil. | 5 |
| Geothermal | 300 mil. | 1 |
| Total | 3.5 bil. | 14 |

| Program | Amount (billion yen, FY 2015) |
|---|-------------------------------|
| • The fund to promote local low-carbon investment (Japanese Green Fund) | 46 |
| Interest subsidy for expanding environmental financing | 22.24 |
| • Promotion of Eco-lease | 18 |

Source:
MOEJ

Japan's Carbon Tax

| Object of Taxation | Initial tax rate | From Oct. 1, 2012 Additional carbon tax | From Apr. 1, 2014 Additional carbon tax | From April 1, 2016 Additional carbon tax | Total carbon tax | Total tax (carbon + initial) |
|---|------------------|--|--|---|------------------|------------------------------|
| Crude oil & petroleum products (per kl) | 2040 | 250 | 250 | 260 | 760 | 2800 |
| Gaseous Hydrocarbon (per ton) | 1080 | 260 | 260 | 260 | 780 | 1860 |
| Coal (per ton) | 700 | 220 | 220 | 230 | 670 | 1370 |

Unit: JPY

Source: MOE 2012

Expected Tax Revenue

- JPY 29.1 billion for the 1st year
- JPY 262.3 billion for normal years

MOEJ Policies/ Activities in Specific Sectors

- Agriculture: Eco-farmer (reduce fertilizer use)
- Transportation: measures to reduce NOx & PM
- Low polluting vehicle technology development: hybrid, biodiesel, fuel cell forklifts, hydrogen infrastructure
- New transportation management system, transport pollution reduction system, road traffic information system
- Measures to promote public transportation, eco-commuting

Other MOEJ Policies

- Ecotourism promotion
- Valuation of ecosystem services
- Carbon offsets

Source:環境省 2015

Ministry of Economy, Trade and Industry (METI)

- Has several divisions related to environment & environmental business, including safety issues.
- Has primary jurisdiction over energy (Agency for Natural Resources & Energy – ANRE) – significant influence over climate change issues
- In charge of promoting renewable energy, energy efficiency, environmental industries.
- But main emphasis is on nuclear; environmental industries are relatively small.
- 2014 White Paper on trade doesn't focus on environment.



Ministry of Land, Infrastructure & Transport (MLIT)

- Climate change
 - Low carbon cities, vehicle mileage, eco-driving, traffic flow, green logistics, building energy efficiency, renewable energy
- Construction recycling, recycling logistics
- Biodiversity initiatives
- Greening ports & harbors, coastal environments
- Greening roads, next generation vehicles
- Building a healthy water circulation system
- Marine environment
 - Controlling large scale oil pollution, pollution from ships, invasive species
- Environmental monitoring
 - Japan Meteorological Agency
- Others
 - Airports, heat island, sick buildings, asbestos

(Source: Ministry of Land Infrastructure and Transport 2013)

Joint Crediting Mechanism: Example of International Cooperation

- Bilateral GHG crediting mechanism (non-tradeable, trading is under discussion)
- 15 Partner countries:
 - Mongolia, Bangladesh, Ethiopia, Kenya, Maldives, Vietnam, Laos, Indonesia, Costa Rica, Palau, Cambodia, Mexico, Saudi Arabia, Chile, Myanmar
- Joint Committee includes representatives from both governments
- Streamlined procedures
 - Extensive use of conservative default values for parameters
 - Eligibility criteria clearly specified in the methodology
 - Premade spreadsheets
- 15 approved methodologies
- JCM Financing by MOEJ: 12 countries, 41 projects, FY2013-2015

Source:
GOJ 2015c

| Type | In charge | FY2015 JPY | Other years |
|---|---------------|---------------|------------------------|
| JCM Demonstration Projects | METI/ NEDO | 3 bn. | |
| JCM Model Projects | MOEJ | 2.4 bn. | Continue in 2016, 2017 |
| Leapfrog: Collaborative Financing Programme | ADB/JICA/MOEJ | 1.8 bn. | Up to 2018 |
| Leapfrog: ADB Trust Fund | ADB/MOEJ | 1.8 bn. | Also FY2014 |

IGES Green Economy Area: Green Economy Related Policy Studies – Overview

- **Aim:** To support informed decision making on the transition to a green and low-carbon economy by providing evidence-based policy research using modelling and quantitative approaches.

| | |
|---|---|
| <i>Transition to Green Economy</i> (Task 1) | <i>R&D on Quantitative Methodologies and tools</i> (Task 2) |
| <i>Business Roles and Initiatives</i> (Task 3) | <i>Knowledge Platform for Facilitating Sustainable and Low-carbon Societies</i> (Task 4) |

Methodologies: CGE, IO/MRIO, SAM, Social Network Analysis, GIS and remote sensing, energy system modelling, and econometrics, etc.

IGES Green Economy Area: Research Focus

- Green economy: Green investment & green jobs impact assessment (UNEP, ILO);
- Sustainable development goals: Indicators for measuring SDGs in Asia-Pacific Region;
- Low carbon society: Japan 2050 Low Carbon Navigator (energy simulation tool development);
- Water-Energy-Food nexus: Integrated assessment for the Ganges River Basin in South Asia;
- Ecosystem services: Quantification and valuation for Japan;
- Trade and environment: Carbon footprints & resource flow analysis;
- Land use & land use change: Urban planning, climate change & impacts on LULUC.
- Climate change: policy impact assessment of carbon tax, border carbon adjustment and INDC, etc.

IGES Kansai Research Centre: Green Economy Related Policy Studies

- Proactive business environmental management (China, India & Thailand)
 - Environmental information disclosure
 - Green supply chain management
- Carbon pricing policy research in Northeast Asia (Japan, China and Korea)
 - Progress in carbon pricing policies and comparative analysis
 - Barriers to carbon pricing from a business standpoint
 - Estimation of carbon price levels acceptable for businesses
 - Policy design options relatively preferable for businesses
 - Effectiveness of carbon pricing in enhancing the diffusion of low carbon technologies
 - Policy recommendations based on empirical research
- Analysis of embodied carbon emissions in international trade

Possible Ideas for Cooperation Among Research Institutes in Northeast Asia

- Carbon pricing, carbon tax
 - Including how to use the revenue
- Decoupling economic growth from energy & resource use
- Implementation of SDGs & green economy in NE Asia
- Green jobs
- Green economy and biodiversity
- Green economy and cities
- Coordinate environmental standards, eco-labeling
- Trade & environment (revitalized CJK trade negotiations)
 - How to strengthen environment in trade agreements
 - Environmental assessment of trade agreements
- Others?



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