Chapter 7: Creating and Conserving a Beautiful and Favorable Environment

[Combating global warming]

To achieve its goal in the Kyoto Protocol, Japan is working to curb greenhouse gas emissions from the transport sector as well as from the minsei sector (i.e., emissions from homes, offices, etc.). With the Kyoto Protocol having gone into force in February 2005, the Kyoto Protocol Goal Achievement Plan was endorsed by the Cabinet in April of the same year. MLIT, however, had already evaluated and reviewed global warming measures in 2004, compiling its measures to combat global warming in March 2005.

MLIT’s measures to combat global warming

○ Measures in the transport sector
MLIT is promoting new cross-sectional policy measures designed to reduce CO₂ emissions from the transport sector. Such measures involve: the creation of a mechanism that gives incentive for more low-emission and fuel-efficient vehicles; the Automobile Green Taxation; provisions for individual vehicles and environmentally friendly forms of driving through development of next-generation eco-friendly vehicles and similar products; achieving smooth road traffic flows through the formulation of the “Action Program for CO₂ Reduction in Road Policy” and other measures; promotion of environmental policy measures in the physical distribution sector through the holding of “Green Physical Distribution Partnership Conferences” and similar initiatives; promoting the use of public transportation by improving convenience and other measures; and supporting local efforts by applying the energy saving law to transport businesses and through the “Environmentally Sustainable Transport (EST) Model Program.”
Green Physical Distribution Partnership Conference

<table>
<thead>
<tr>
<th>Corporate shippers, distribution businesses, organizations in each industry</th>
<th>Physical distribution businesses and business organizations</th>
<th>Auditing corporations, etc. Think tanks Research institutions Researchers</th>
</tr>
</thead>
<tbody>
<tr>
<td>JILS Japan Federation of Freight Industries</td>
<td>Ministry of Economy, Trade and Industry</td>
<td>MLIT Nippon Keidanren</td>
</tr>
<tr>
<td>Local offices of the central government Local authorities Others</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Green Physical Distribution Model Program

- Support through subsidies (Ministry of Economy, Trade and Industry / MLIT)

Creation of methods for calculating CO₂ emissions

- Formulate and standardize calculation methods to accommodate diverse efforts

Promotion and publicizing

- Selection and publicizing of excellent case examples
- Publicizing for the purpose of dissemination

Increasing trucking efficiency

International intermodal transport

Modal shift using multiple shippers

Optimizing physical distribution through 3PL programs

Main-line transport and partnership for many shippers through effective use of different racks for different shippers and larger sized tracks

Making use of flat rack containers and conducting international intermodal transport with JR’s 12-foot multi-purpose containers.

Implementation of large-scale modal shift through the participation of multiple shippers

Optimizing physical distribution systems by comprehensively making storage, transport, and distribution more efficient through the development of physical distribution centers

Environmentally Sustainable Transport (EST) Model Program

- Recruit pioneering regions that are aiming to achieve EST and provide them with intensive support through the coordination of concerned ministries, agencies, and departments
- For model programs, require assurance of the setting and verification of environmental goals as well as the lasting effects of efforts, ensuring the effectiveness of policy from the environmental standpoint
- A wide range of local entities participate to advance the program, including local municipalities, local business circles, corporate shippers, distribution businesses, etc.
- Japan Federation of Freight Industries, Ministry of Economy, Trade and Industry, MLIT

Menu example for the model program

<table>
<thead>
<tr>
<th>Promoting the use of public transportation</th>
<th>Environmental Improvement</th>
<th>Provisions for pedestrians and bicycles</th>
<th>Introducing eco-friendly vehicles</th>
<th>Promotion and awareness-raising activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commuter traffic management</td>
<td>Developing LRT and making more effective use of railroads, etc.</td>
<td>Developing sidewalks and bicycle lanes</td>
<td>Developing the implementation of CNG buses, etc.</td>
<td>Launching information drives, holding symposiums and other events</td>
</tr>
<tr>
<td>Employees voluntarily refraining from driving to work, etc. Park-and-ride</td>
<td>Advancing LRT projects Implementing IC cards Improving traffic nodes</td>
<td>Exclusive lanes and priority lanes for buses</td>
<td>Promoting the implementation of CNG buses etc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Omni-taxis Improving services Introducing IC cards</td>
<td>Improving road construction Eliminating bottlenecks, highway-railroad grade crossings</td>
<td>Developing sidewalks, bicycle lanes, bicycle parking lots, etc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reducing road construction</td>
<td>Introducing transit malls based on local agreement</td>
<td></td>
</tr>
</tbody>
</table>

Setting environmental improvement goals (reduction of CO₂ emissions, etc.)

Ensuring continuing and independent efforts by those organizations involved (businesses, etc.)

Propagate pioneering case examples of local environmental transport improvements to the whole country
Measures concerning homes, buildings, sewerage, and urban greening (planting)

In accordance with the revision of the "Law concerning the Rational Use of Energy," MLIT has made notification of energy-saving measures mandatory for houses over a certain size, as well as upon new construction, extensions, large-scale renovations, and similar work.

The ministry is also promoting the reduction of the environmental burden from government facilities, advancing the popularization of symbiosis housing, taking steps to reduce global warming effects from sewerage systems, and promoting urban greening (planting) and other provisions for carbon sinks, among other environmental measures.

[Promoting a recycling-oriented society]

Construction materials recycling

MLIT is committed to promoting recycling construction waste, which accounts for about 20 percent of waste discharged from all industries. To that end, the ministry is taking measures to ensure the performance of the Law for the Recycling of Construction Materials and developing a joint mobile collection system for small-lot construction byproducts. It is also making efforts to reduce and recycle sewage sludge and promoting solid waste management in the housing and construction fields.

<table>
<thead>
<tr>
<th>Recycling rates of construction waste by item</th>
<th>FY2002</th>
<th>Goal for FY2005</th>
<th>Goal for FY2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recycling (R) and volume reduction (VR) rate</td>
<td>92%</td>
<td>Achieved</td>
<td>88% Achieved</td>
</tr>
<tr>
<td>(R) rate for asphalt concrete blocks</td>
<td>99%</td>
<td>Achieved</td>
<td>98% and more Achieved</td>
</tr>
<tr>
<td>(R) rate for concrete blocks</td>
<td>98%</td>
<td>Achieved</td>
<td>96% and more Achieved</td>
</tr>
<tr>
<td>(R) &amp; (VR) rate for construction sludge</td>
<td>69%</td>
<td>Achieved</td>
<td>60% Not achieved</td>
</tr>
<tr>
<td>(R) &amp; (VR) rate for construction-derived wood chips</td>
<td>89%</td>
<td>Not achieved</td>
<td>90% Not achieved</td>
</tr>
<tr>
<td>(R) rate for construction-derived wood chips</td>
<td>61%</td>
<td>Achieved</td>
<td>60% Not achieved</td>
</tr>
<tr>
<td>Reduction in mixed construction waste emissions from FY2000 (%)</td>
<td>30% reduction</td>
<td>Achieved</td>
<td>25% reduction Not achieved</td>
</tr>
</tbody>
</table>

Note: The targets are according to Construction Recycling Promotion Plan 2002.
Source: MLIT, 2002 survey on the state of construction byproducts.

Developing recyclable resources logistics systems

MLIT is committed to developing an appropriate and efficient venous logistics networks. To this end, the ministry has recently designated Recycle Ports (integrated recyclable resources logistics hub ports).

Recycling of vehicles and FRP boats

MLIT is working to promote appropriate treatment of end-of-life vehicles and thus prevent illegal dumping with the implementation of the new vehicle recycling system and the enforcement of the amended Road Transport Vehicle Law. The ministry is also working for the development of a recycling system for FRP (Fiberglass Reinforced Plastics) boats.

Promoting procurement of eco-friendly goods

MLIT is promoting procurement of eco-friendly goods and services and wider use of wood in public works projects.
Conserving and regenerating an affluent and beautiful natural environment

MLIT is promoting "renaturalization of rivers" and working to conserve, regenerate and even create waterfront environments in cooperation with local communities and NPOs. The ministry is also working on other initiatives such as making port administration more environmentally friendly and developing roads with full of shade.

**Maintaining continuity regarding rivers**

Developing and conserving forests that contribute to stable supply of water and organic matters and the prevention of sediment runoffs

Performining the functions of adjusting rainfall runoffs and conserving the soil

Preventing the occurrence of hillside failures or carry out rehabilitation after such occurrence

Developing and conserving riparian forests

Nurturing diverse living organisms in forests and ravines and conserving their habitats

Performing the functions of adjusting rainfall runoffs and conserving the soil

Preventing the occurace of hillside failure or carry out rehabiliation after such occurace

Appropriate management of riparian forests

Creating and monitoring the habitats of fish populations with nature-friendly river banks, etc.

Appropriate control of gravel quarrying

Establishing and managing fishpasses

Benthos

Nutrients

Nutrients

Nutrients

Nutrients

Nutrients

Nutrients

Nutrients

Nutrients

Nutrients

Nutrients

Nutrients

Nutrients

Nutrients

Promoting Sound Hydrological Cycles

MLIT is working on Promoting Sound Hydrological Cycles in association with other ministries and agencies concerned. The ministry is also implementing the phase II emergency action plan for improvement of water environment called "Clear Water Renaissance II". Other efforts by MLIT include improving the water environment in closed sea areas and developing sewerages designed to improve the water environment.

**Promoting Sound Hydrological Cycles**

Promoting Sound Hydrological Cycles

Water supply tanks

Waste water tanks

Evaporation

Recycling treatment

Plantation

Purification plant

Agricultural use

Industrial use

Domestic use

Water supply tanks

Water supply

Recycling treatment

Fountains, car washing

Evaporation

Securing of water surface

Development of green space

Infiltration plant

Infiltration plant

Precipitation

Storage

Normalization of groundwater pumping

Percolation

River runoff

Water use

Water treatment
**Management of the marine environment**

MLIT’s efforts in this field include: averting large-scale oil pollution and control of harmful aquatic organisms in ballast water.

**Improving the living environment through measures against air and noise pollution**

- **Addressing environmental degradation associated with road transport**
  
  With regard to vehicles themselves, MLIT is promoting strict auto emission standards and other environment-related measures. The ministry is also focusing on: traffic flow management through TDM; road use that is less harmful to the environment with the introduction of various and flexible toll-charge policies; and the improvement of the roadside environment by modifying the road structure.

- **Airports and its vicinity**
  
  MLIT is taking steps to eliminate or reduce aircraft noise, as well as making efforts to preserve and create more favorable environments in airports and surrounding areas.

- **Addressing heat-island issues**
  
  MLIT is focusing on specific countermeasures identified in the policy statement of the Outline of the Policy Framework to Reduce Urban Heat Island Effects formulated in March 2004 by the Inter-Ministry Coordination Committee to Mitigate Urban Heat Island.

  ![Addressing heat-island effects](image)

**Observation, monitoring, and projection of the global environment**

MLIT’s efforts in this field include: observing and monitoring climate change, oceans, the ozone layer, and other environmental factors; conducting global environment projections, including research on global warming; and developing global maps and the global geodetic observation network.