

2nd Regional EST Forum, 11-12 December 2006
Yogyakarta, Indonesia

Efforts for Environmentally Sustainable Transport in Japan

December 12th, 2006

**Ministry of Land, Infrastructure and Transport
Ministry of the Environment**

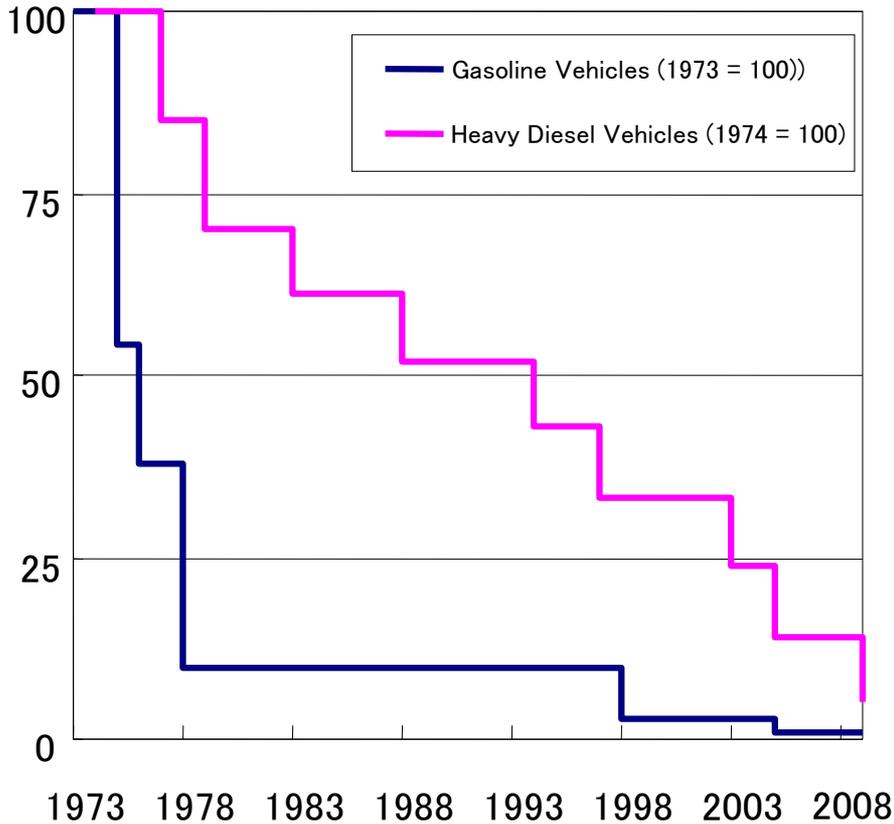
Introduction

Japan in 1960-1970

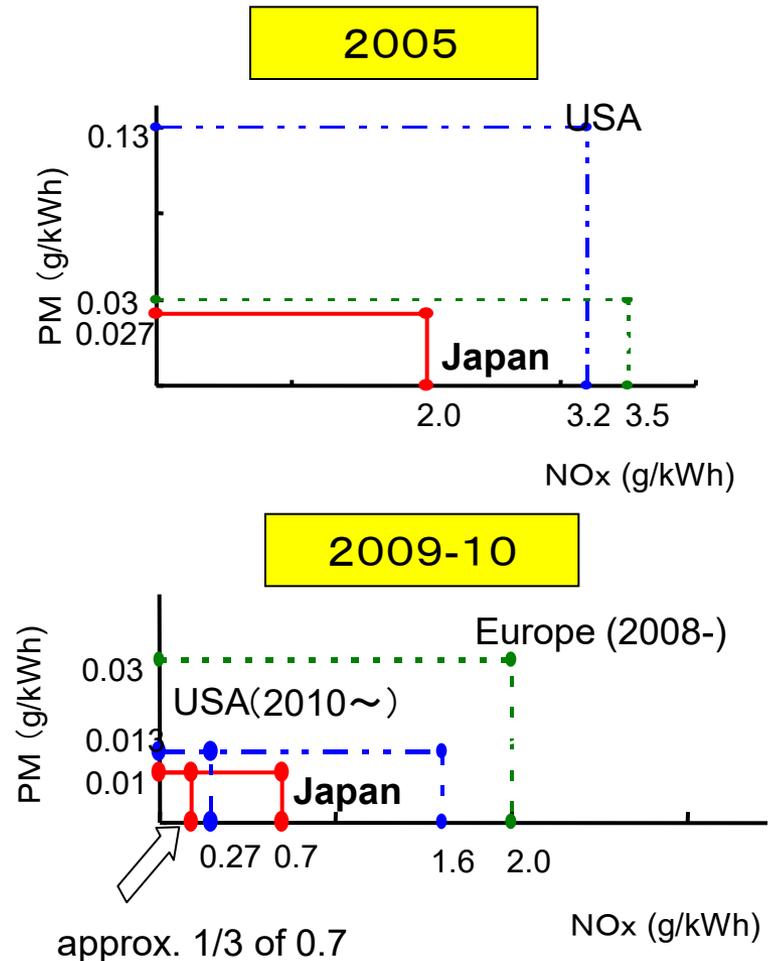


Strict regulations being implemented

Transition of emission regulation on NOx in Japan

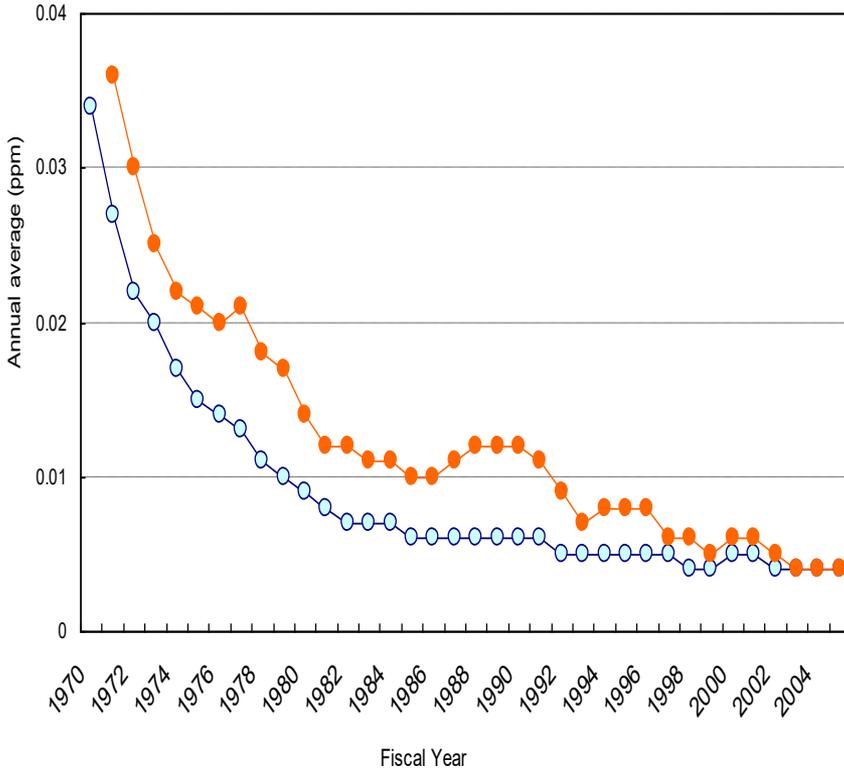


Comparison of emission regulation Japan, USA, EU



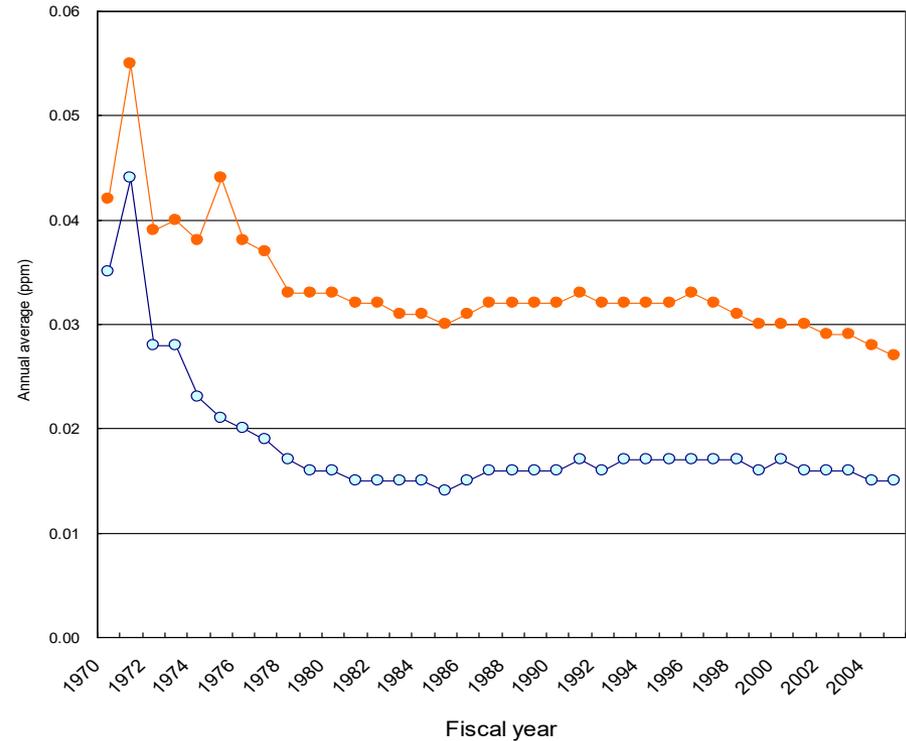
Improvement of air quality in Japan

SO₂



—○— Ambient air pollution monitoring stations
—●— Road side air pollution monitoring stations

NO₂



—○— Ambient air pollution monitoring stations
—●— Road side air pollution monitoring stations

Improvement of air quality has been realized totally, however there remains still some areas, where it should be further improved, mainly in metropolitan area.

Outline

I . Regulatory measures

- Automobile NOx/PM Law
- The Ordinance in Tokyo

II . Support to business & private sector

- Diffusion of low emission vehicle
- Promotion of public transport

III . Leading activities in Local area

- Diffusion of bio-fuel
- EST model project

IV . Regional cooperation

- Eco Action Partnership for Asia
- Transport Policy Dialogue

I . Regulatory measures

- Automobile NOx/PM Law
- The Ordinance in Tokyo

Automobile NOx/PM Law

Special measures for air pollution in metropolitan areas

➤ Target Areas

Metropolitan Area

- Tokyo metropolitan area, Nagoya, Osaka, and Kobe

➤ Goal

To comply with EQS (NO₂ & SPM) by 2010

➤ Measures

- Total Emission Reduction Master Plan by Local Governments
- Restriction of outdated vehicles' renewed registration
- Vehicles Management Plan by Enterprises

Automobile NOx/PM Law

Specified Area Selection for NOx/PM Law

(Requirement of specified area selected)

- Automobile congestion area
- Area where the achievement of environmental standards is difficult only in the Air Control Law

Framework for total volume reduction

Basic Policy of NOx's total volume reduction, as well as PM's total volume reduction

(Framework of measures)

- ① The target of total volume reduction
- ② Basic matter for establishment of planning, enterprises' decision, other measures for total volume reduction
- ③ Other important things for total volume reduction

Reduction Plan of NOx's total volume reduction, as well as PM's total volume reduction

Implementation for the total volume reduction

Automobile model restriction for NOx/PM Emission Standards

- The automobiles not applied of emission standards of NOx/PM in specified area cannot be used.
- In-use automobile are recognized to use for the reprieve period
- Automobile model restriction is mortgaged by Road Transportation Vehicle Law.

Measures for enterprises

Basic matters for enterprises' decisions

Local Government

Advices and guidance

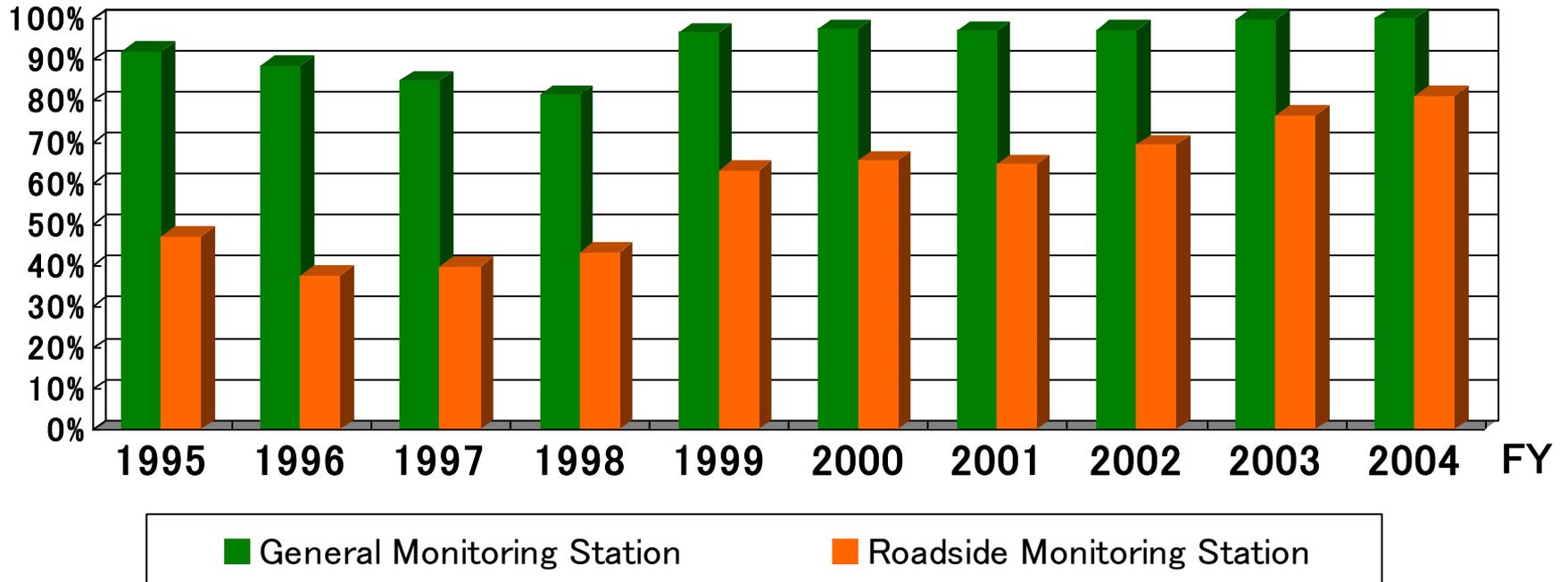
Submission of documents

Enterprises

Air Pollution in Metropolitan Area(1)

Trend in EQS Attainment of NO₂

Attainment of Environmental standards



Environmental Quality Standard

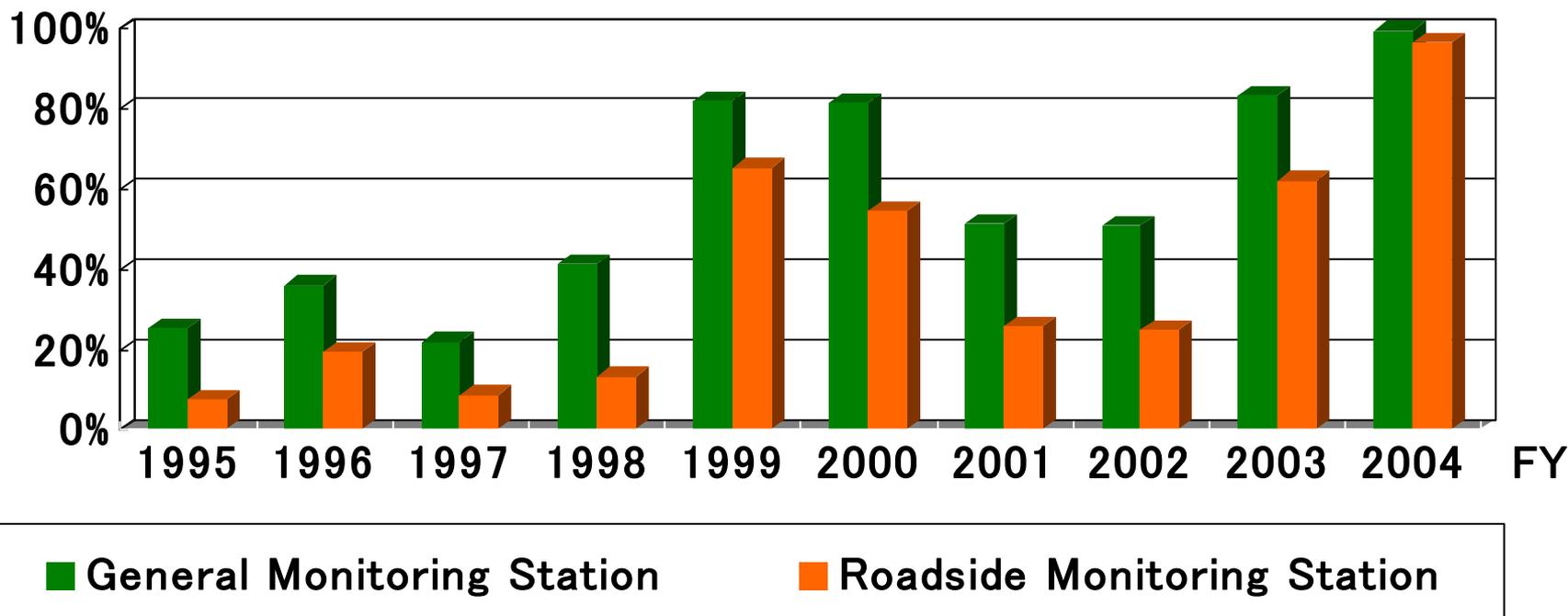
Japan Daily avg 0.04-0.06ppm
(annually 98%)
≡ Annual avg 0.02-0.03ppm

WHO/EU Annual avg 0.021ppm
USA Annual avg 0.053ppm

Air Pollution in Metropolitan Area(2)

Trend in EQS Attainment of SPM

Attainment of Environmental standards



Environmental Quality Standard

Japan (SPM) Daily avg 100 μ g/m³
(annually 2% excluded)

EU (PM10) Daily avg 50 μ g/m³

USA Daily avg 150 μ g/m³

Tokyo Metropolitan Ordinance on Environmental Preservation (1)

- Target Area Tokyo Metropolitan Area
- Goal Ensuring good environment for healthy, safe and comfortable life

Main measures against Air pollution by vehicle

1

Ban on operation of diesel-powered automobiles that fail to comply with particulate matter (PM) emission standards



Inspecting trucks on the road



Night-video footage

(measures against vehicles entering Tokyo)

*Remark) This regulation to diesel-powered automobiles has become operation together with other neighboring prefectures such as Kanagawa, Saitama and Chiba at same timing of October ,2003.

Tokyo Metropolitan Ordinance on Environmental Preservation (2)

2 Mandating enterprises to report by vehicle emissions reduction plan

3 Making auto dealers responsible to give environmental information to customers at the time of sales

4 Requiring drivers to stop idling

5 Mandating large-sized enterprises to introduce low-emission vehicle at the rate of 5% of total vehicles they own

6 Imposing ban on usage of illegally mixed light diesel oil



Idling is not only bad for environment but also waste of money !

II . Support to business & private sector

- Diffusion of low-emission vehicle**
- Promotion of public transport**

Diffusion of LEVs

2001 - Decided to use LEVs as the government's general official vehicles.

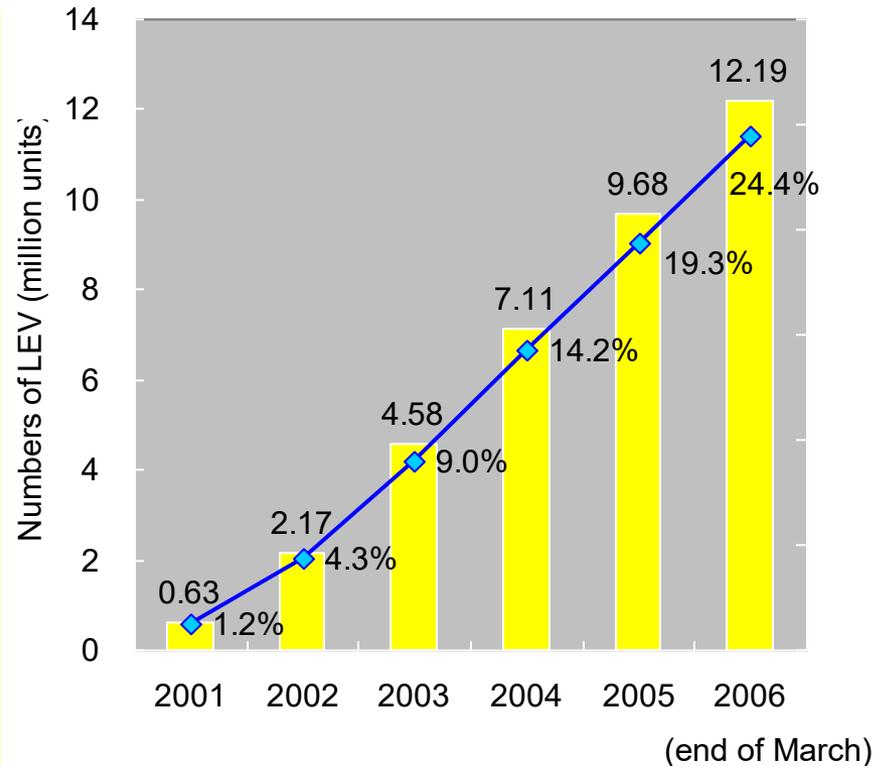
- "Action Plan for LEVs Development and Promotion."

Goal : 10 million units by 2010

2002 First FCEV was introduced for the government's use (**60** units approved by Minister as of Mar. 2006)

2005 All the government's general official vehicles (**4,236** units) converted to LEVs

Sept. 2005 Goal of **10 million** units was achieved
5 years ahead of the planned schedule



Number of LEVs — percentage of LEVs

* "LEV" means electric vehicles, natural gas vehicles, methanol vehicles, hybrid vehicles, and low-fuel-consumption, low-emission vehicles .

Next generation low- emission vehicle diffusion program

Fuel Cell Vehicles

using electricity generated by the reaction between hydrogen and oxygen as their power source



DME Vehicles

using DME (dimethyl ether) , a synthetic fuel produced from natural gas and other components



Hydrogen Vehicles

internal combustion engine vehicles using hydrogen as their fuel



Assist $\frac{1}{2}$ of leasing costs for local governments

Conference on Promotion of Public Transportation

➤ Members:

- Scholars and men of experience
- Traffic enterprise
- Industry
- Administration



➤ Activities:

- Promotion of public transportation by cooperation of traffic enterprise (supply-side) and Industry (demand side)
- Support to Mobility Management programs

Mobility Management Programs

➤ for Commuters:

To decrease commuting
by the automobile private

Promotion of ...

- Trains and Buses
- Demand Bus Services
- Bicycle Sharing



Demand Bus (Kashiwa City, Japan)

➤ for Tourists:

To decrease touring
by the automobiles

Promotion of ...

- Trains and Buses
- Demand Taxi Services



Demand Taxi (Unzen City, Japan)

Information system for transfer Buses-Trains

Information is offered at place below

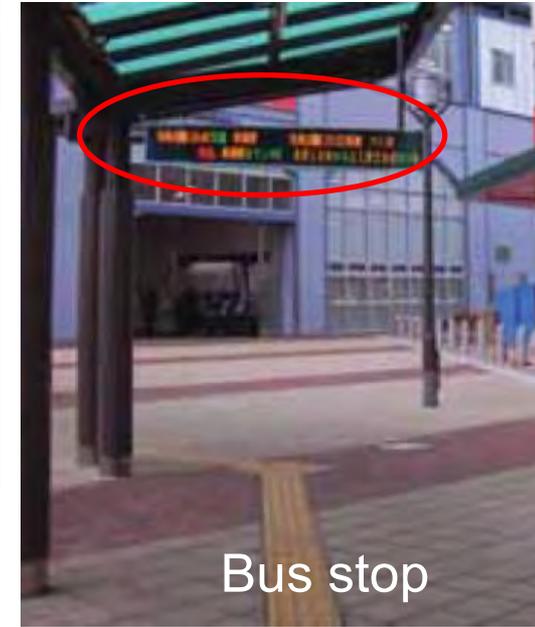
Railroad station



Place for parking bicycles



Bus stop



In a Bus



Information for example

- Next Train departure time (at Bus stop)
- Next Bus departure time (at Railroad station)
- Delay information of a railroad
- Weather forecast
- Sight-seeing guide

Improving convenience of public transportation

III. Leading activities in Local areas

- Diffusion of bio-fuel
- EST model project

Diffusion of Bio-fuel

Diffusion of Bio-fuel is important and strategic policy in Japan

Environment

Kyoto Protocol Target Achievement PLAN

Economy

Economic Growth Initiative

Energy

New National Energy Strategy

Biomass

Biomass Nippon Strategy

Current

Target 2010

**Biomass
utilization**

(crude oil equivalent)

For Transport

Nearly zero

500,000 kl

Total use

680,000 kl

3,080,000 kl

Leading Bio-fuel Projects for transportation

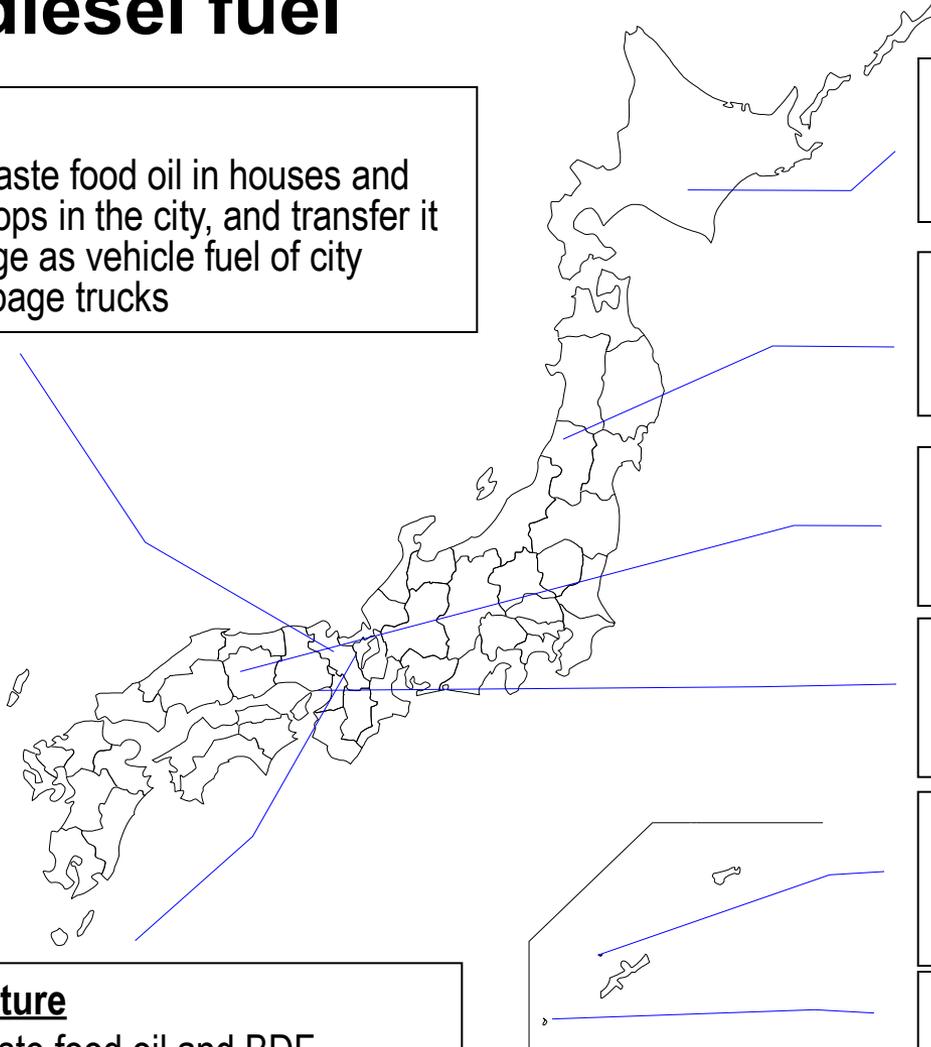
Bio-diesel fuel

1. Kyoto City

Collection of waste food oil in houses and commercial shops in the city, and transfer it to BDF, re-usage as vehicle fuel of city buses and garbage trucks

2. Shiga prefecture

Collection of waste food oil and BDF production and sales in private gas station



Bio-Ethanol fuel

1. Tokachi City

Demonstration of ethanol fuel production & E3 from non-standard wheat and corn

2. Shinjo City

Demonstration of ethanol fuel production & E3 from sorghum

3. Maniwa City

Demonstration of ethanol fuel production and E3, from unused waste-wood

4. Sakai City

Demonstration of ethanol fuel production and E3, from building waste-wood

5. Ie Island

Demonstration of ethanol fuel production and E3 from sugarcane (molasses)

6. Miyako Island

Demonstration of ethanol fuel production and E3 from sugarcane (molasses)

Model activities & projects of Bio-fuel

Kyoto City Activities

Bio-diesel from waste food oil



Production of Bio-diesel



Collection of waste food oil from houses etc



Supply to vehicle



Use by public city buses & garbage trucks

Miyako island project

Bio-ethanol from sugarcane (molasses)



Production of Bio-ethanol



Sugarcane field



Blending with gasoline and storage



Supply to vehicle

Model Projects for EST

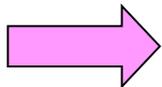
◇ Innovating communities which aim to realize environmentally sustainable transport are solicited. The concerned ministries and agencies, departments and bureaus will extend intensive supports in a cooperative manner.

◇ The model projects are required of establishment and verification of environmental targets, securing of sustainability of the measures. Securing of the effects of policy measures is required from the viewpoint of environmental conservation.

◇ Projects are promoted with participation of a wide range of concerned local parties; namely, autonomous bodies, local economic circles, traffic enterprises, road administrators, police-related people, NPOs, etc.

Setting of environmental improvement targets
(such as reduction of CO2 emission)

Securing of continual and autonomous
actions by the implementing agencies



**Nationwide extension of innovating instances of
community traffic environment improvement**

Model Projects for EST

Communities for Which EST
Model Projects Selected

Selected in Fiscal 2004

Selected in Fiscal 2005

1 Sapporo City

12 Hachinohe City

2 Sendai City

3 Kashiwa City /
Nagareyama City

15 Niigata City

5 Toyama City

16 Ishikawa Pref.

8 Kyoto Pref.

4 Misato City /
Yashio City

10 Kobe City

19 Hyogo Pref.

21 Fukuyama City

20 Hiroshima City

11 Matsuyama City

13 Kanagawa Pref.

14 Hadano City

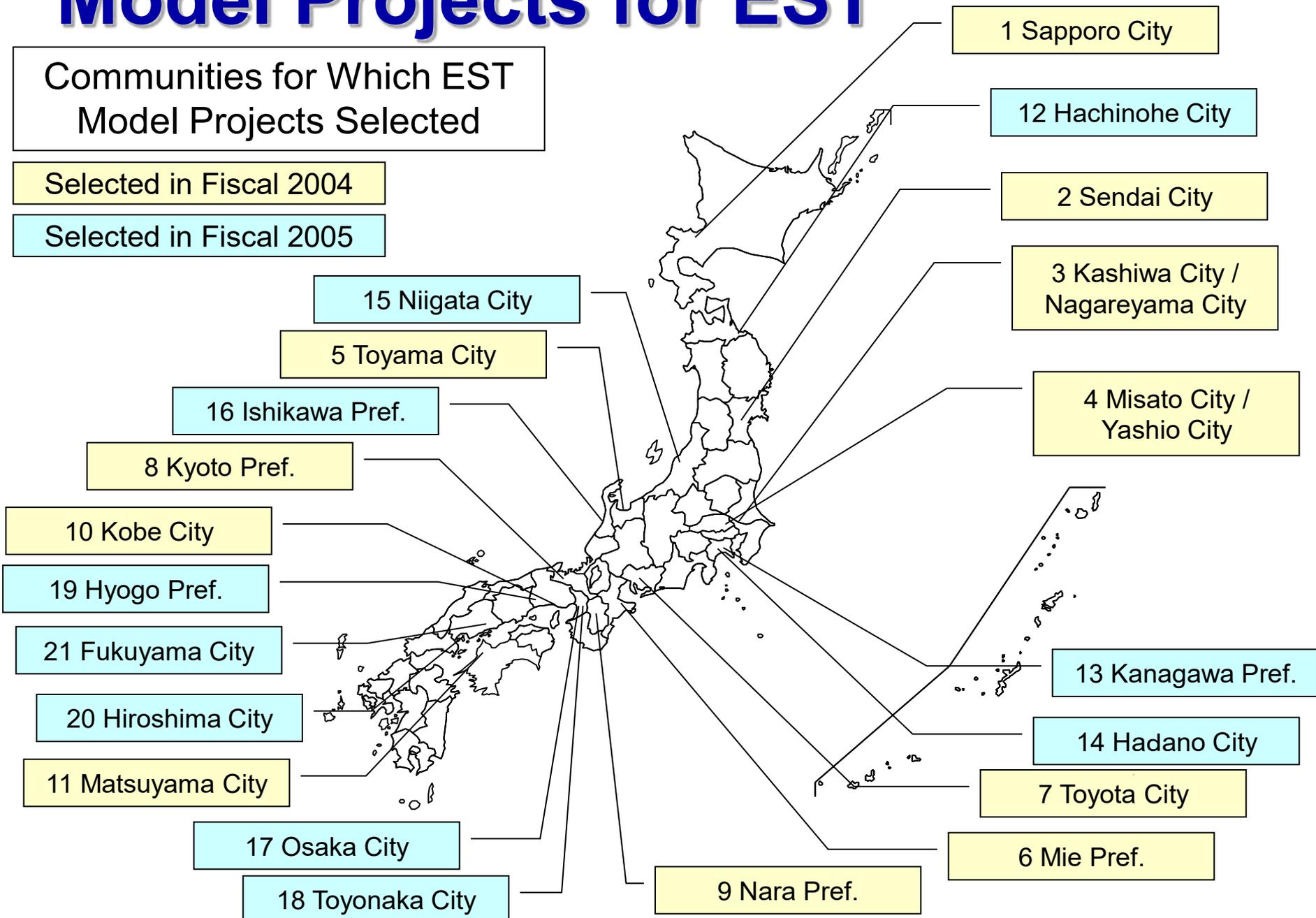
17 Osaka City

7 Toyota City

18 Toyonaka City

9 Nara Pref.

6 Mie Pref.



Model Projects for EST

Examples of model projects



Promotion of LRT projects



Bus location system



Exclusive priority lanes for buses



Construction and improvement of sidewalks, bicycle lanes



Promotion of the use of low emission vehicles such as CNG buses

IV. Regional cooperation

- Eco Action Partnership for Asia**
- Transport Policy Dialogue**

Japan's Proposal

Eco Action Partnership for Asia

- A feature of Asian traditional cultures lies in the respect for nature, i.e. harmonious coexistence with nature, since ancient times (e.g., the spirit of mottainai ['Too precious to waste'])
- As we face environmental crises at the present, it is necessary to coordinate policies as well as to create a virtuous cycle for business across Asia on the basis of the similarities among Asian cultures.
- Here at the dawn of the Era of Environment, there should be a strong push from Asia. To achieve this, Japan proposes six actions in the areas of information, technology, human development and life-style

6 actions to foster the sense of Asia being a joint environmental community



Promotion of Asian EST through Transport Policy Dialogue

Environmental Issues to be addressed in the East Asia

- Transport & Logistics Activities pulling the Economic Growth
- Easing Environmental Impacts due to the Transport & Logistics Field

ASEAN-**J**apan **T**ransport **P**artnership (**A-JTP**)



✦ Major **A-J Partnership Projects** related to EST - Activities from 2003 -

Promoting Public Transport

Reducing Emissions from Road Transport

- ✦ ASEAN Railway Revival Plan
- ✦ Urban Public Transport Policy Framework (focusing Bus)
- ✦ A-J Alternative Fuel Project for Transport Sector (focusing Bio-fuel)

Plan of Action for **China-Japan-Korea Ministerial Conference** on Transport and Logistics -Sept. 2006-



Action No.10

- ✦ Establishing environmentally less burdensome logistics policies



Thank you
for your attention!!

For more information, please visit our Website

Ministry of the Environment

<http://www.env.go.jp/en/>

Ministry of Land, Infrastructure and Transport

<http://www.mlit.go.jp/english/index.html>