

Regional Workshop on Transport Sector Inspection and  
Maintenance Policy 10th-12th December 2001, Bangkok

I/M system from a point of  
environmental policy in Japan  
-Aspect of non-technical measures-

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# Overview

- ✧ Target of environmental policy
- ✧ Environmental policy in I/M system
- ✧ Air quality and emission standard
- ✧ Economic incentive of new technology
- ✧ Conclusion: lesson for Asian countries

# Environmental Policy Target

## ✧ Emission reduction

Emission level reduction to 1/10 from Standard 2000 by 2020

## ✧ Promotion of alternative energy

Development of 2 liter vehicle by 2025

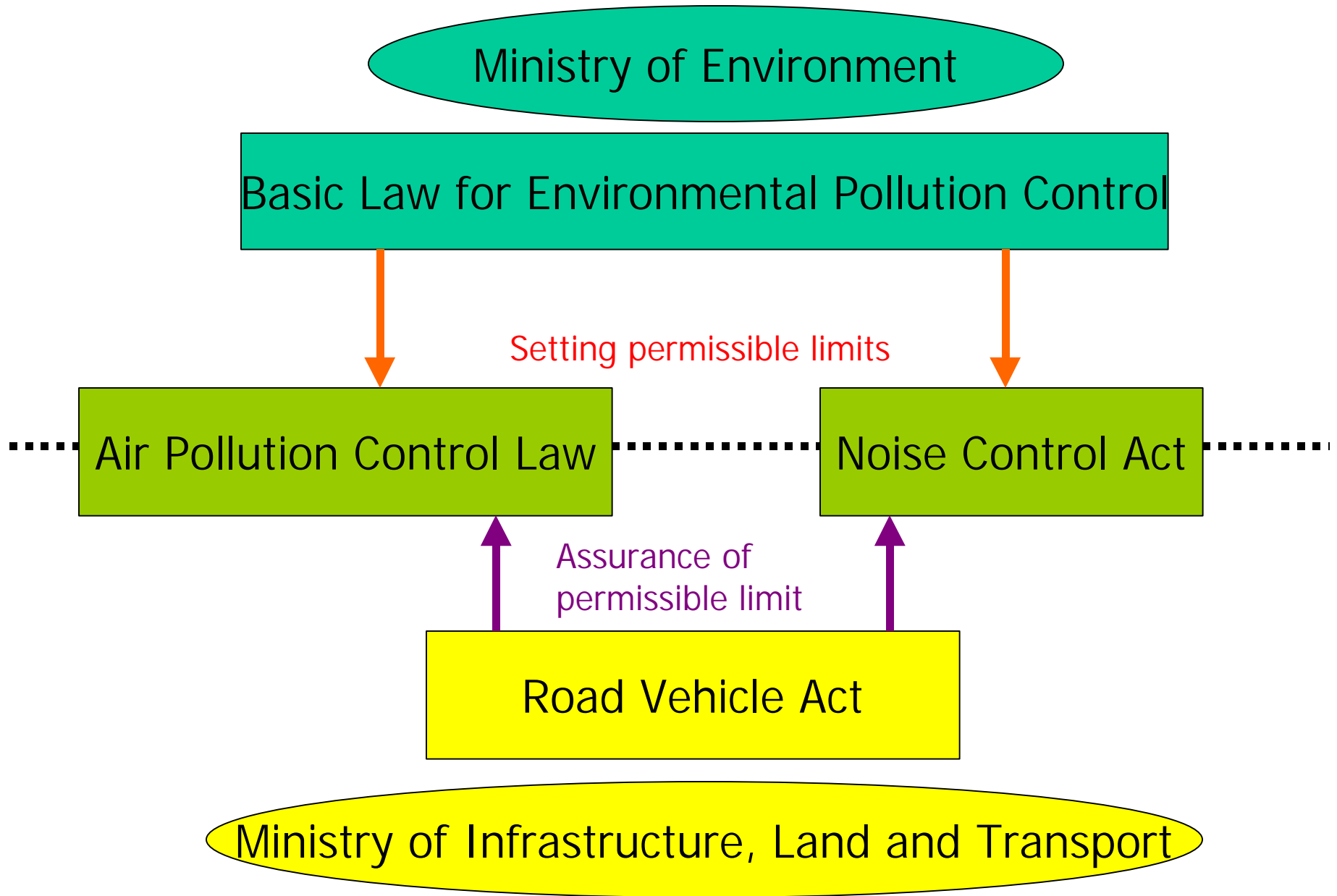
## ✧ Fuel saving

Fuel economy standard will be tightened in 2010

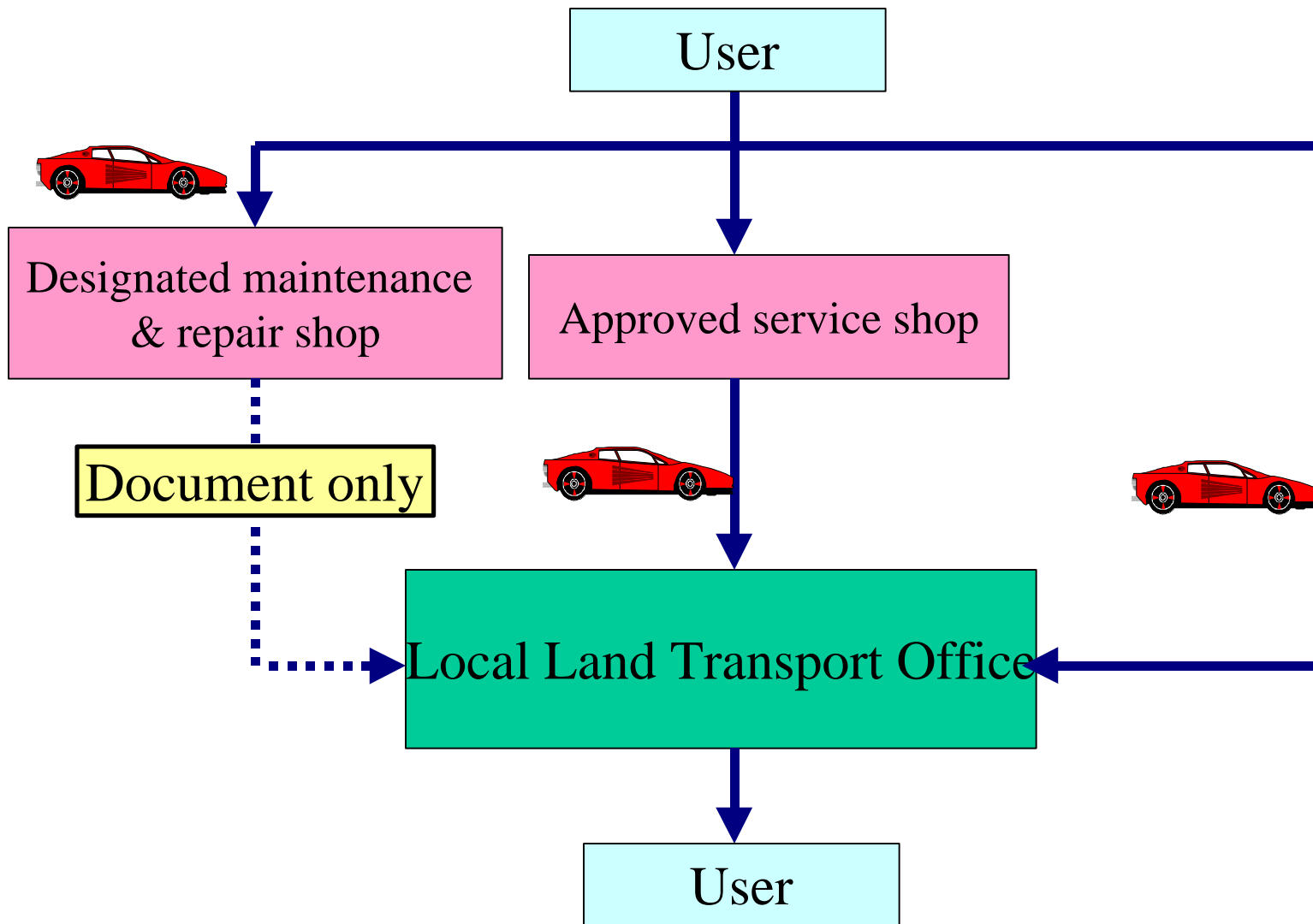
Economic incentive

Harmonization

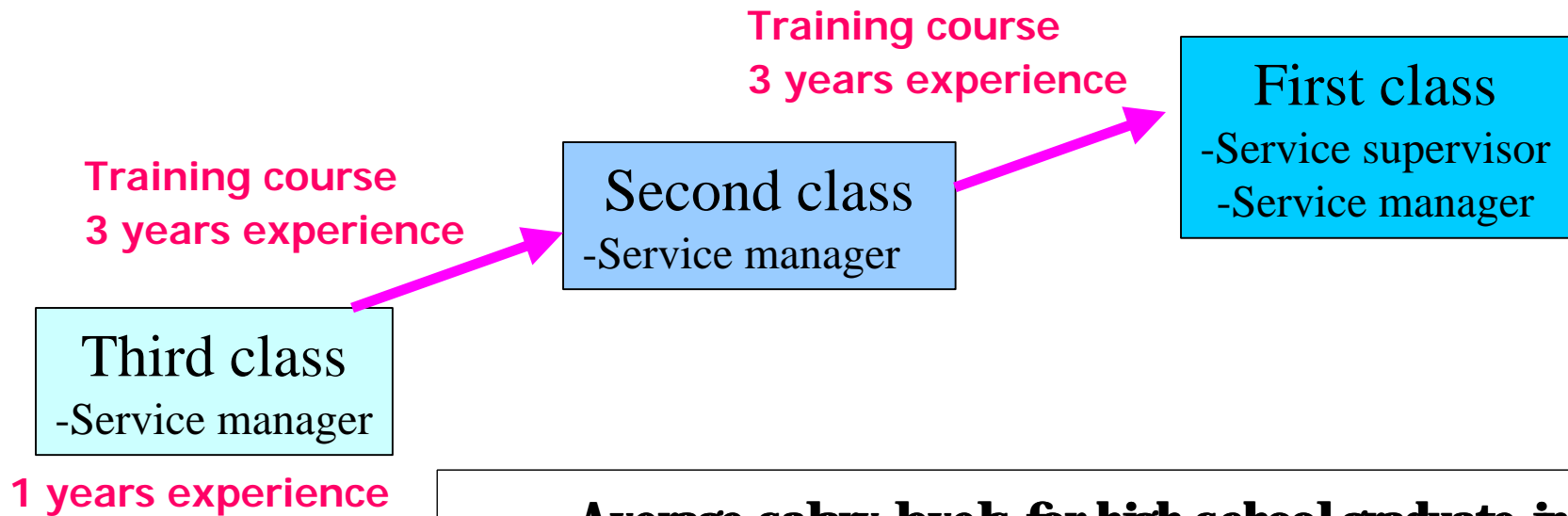
# Air Pollution control and motor vehicle



# Renewal Inspection flow chart

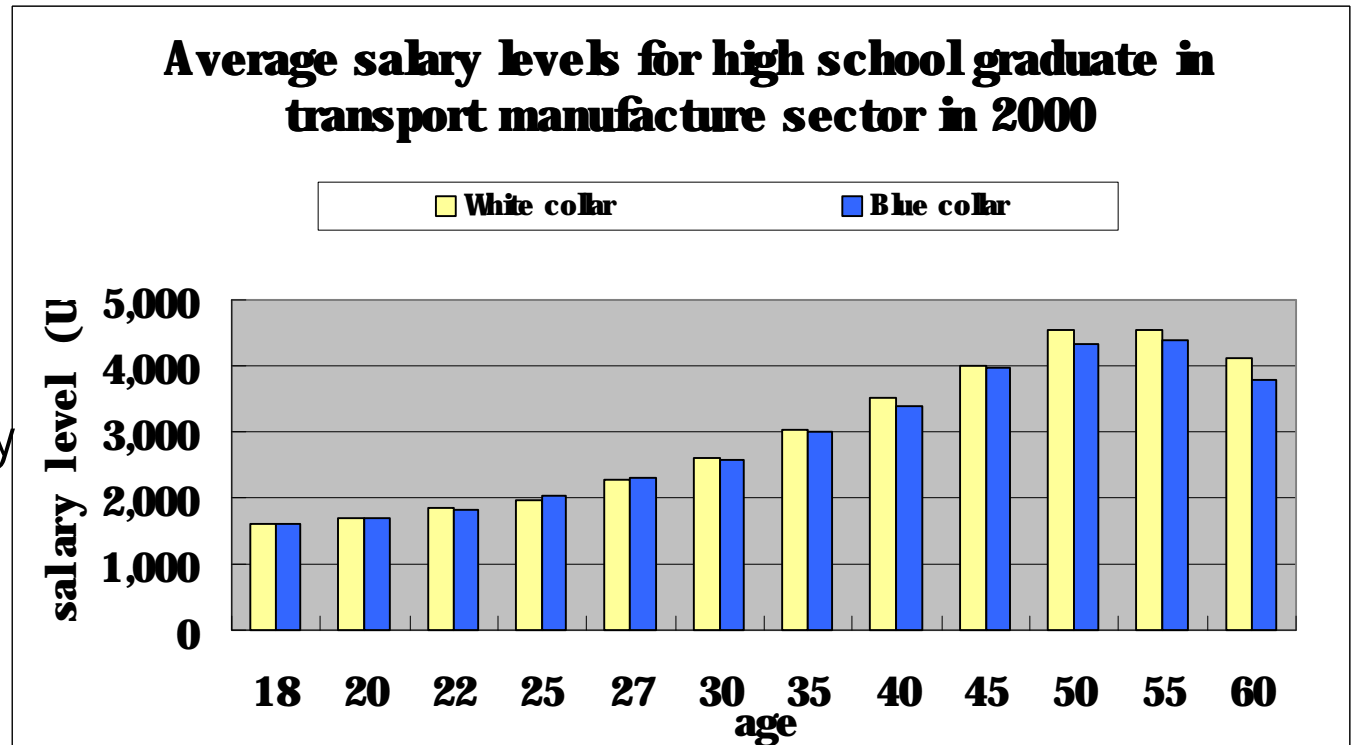


# Motor vehicle mechanics skill certificate system



Effects:

- Maintain technology
- Create job opportunity
- by skill qualification



Original objects of registration and I/M

Additional Legislation (Check point)

**Official endorsement of ownership**

Simplicity

Registration

Protection of ownership  
Smooth distribution of car  
Against Theft

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Certification of parking space

Statistics of car stock  
Smoother recall

Systemization

**Administrative registration**

Tonnage tax payment  
Mandatory car insurance

I/M system

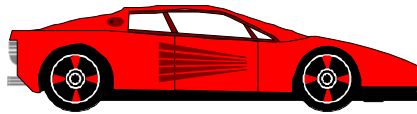
Ensure security  
Pollution control



Vehicle tax payment

Trace crimes involving vehicles

# Tonnage tax reform (proposed) and energy saving by National Government



✧ By fuel economy standard 2010

\1000 reduction /0.5 t vehicle weight

✧ By emission standard 2000

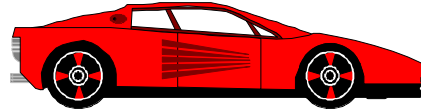
EV, HEV,NGV etc 30% reduction

Low emission vehicle 10% reduction

✧ By emission standard 1976

110 % tax payment

# *Vehicle taxes reform by local government*



## Example of Tokyo Metropolitan government

### ✧ FY 2000

- EV, NGV, Methanol, Hybrid->50% reduction
- Low emission vehicles->30% tax reduction

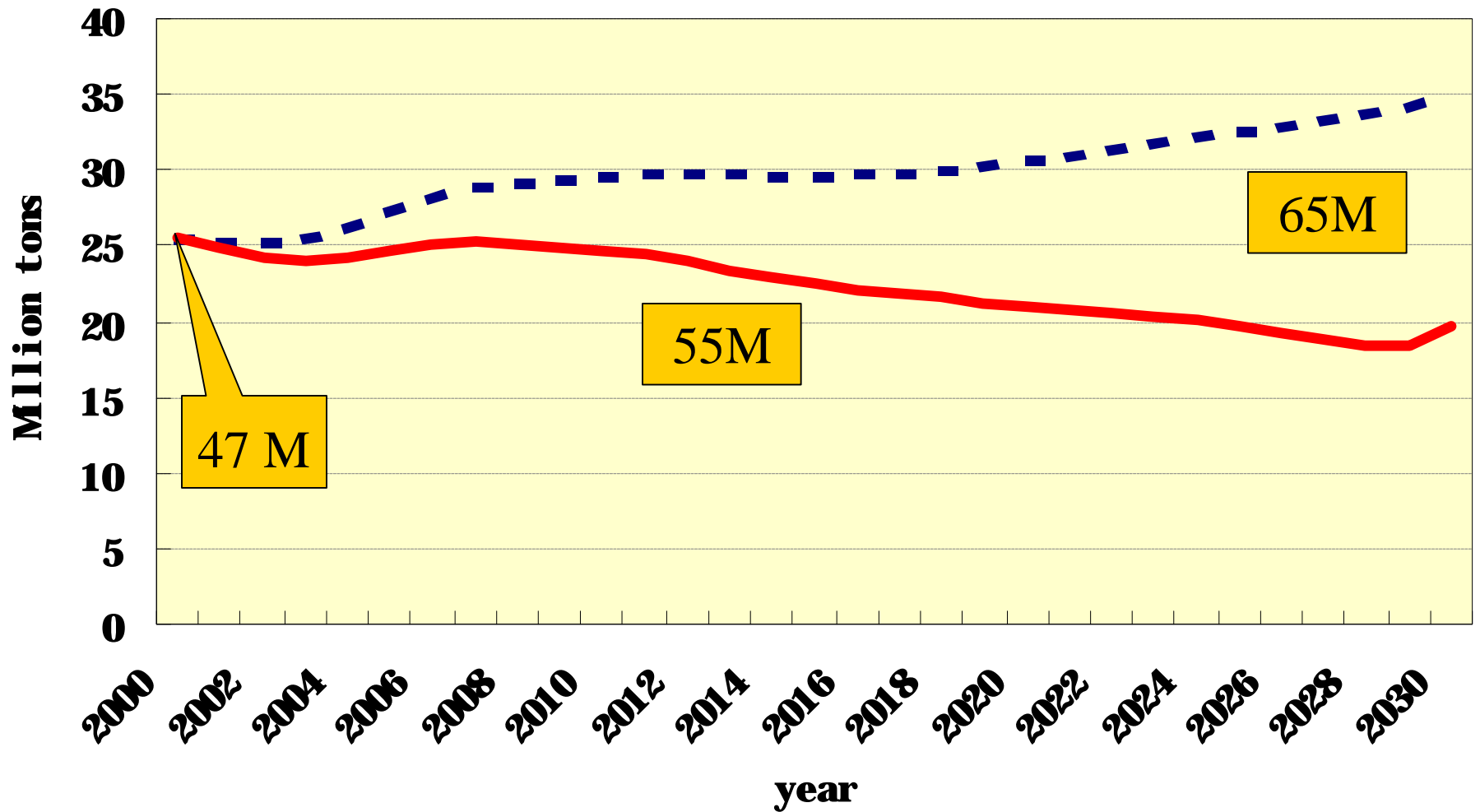
### ✧ FY2001-2004

- All vehicles->110% tax payment
- EV, NGV, Methanol, Hybrid->50% reduction
- Low emission vehicles->30% tax reduction
- Car age <10 years 100% tax payment

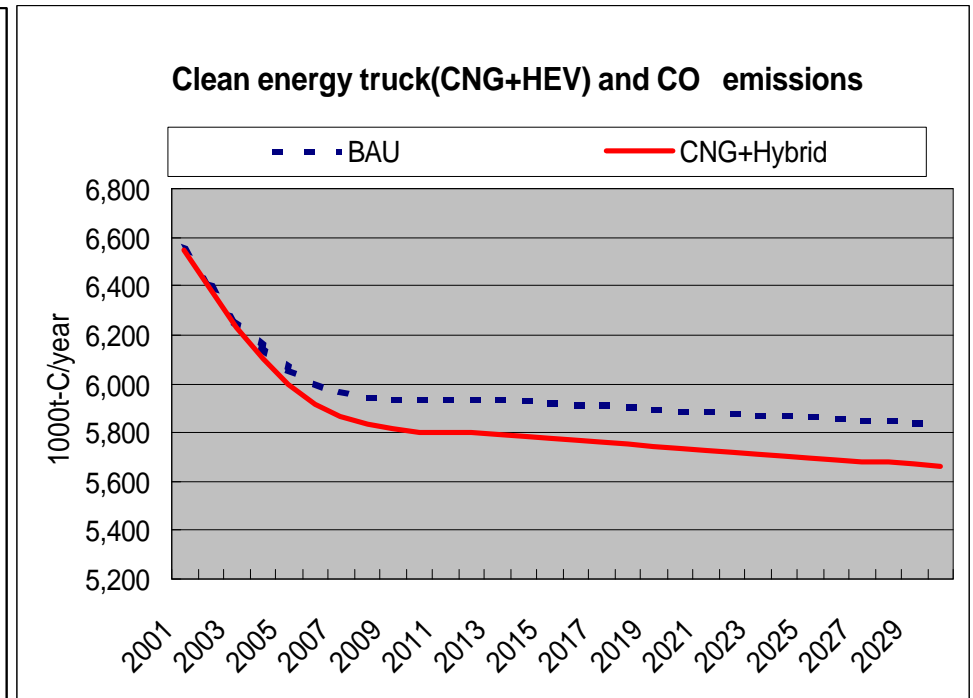
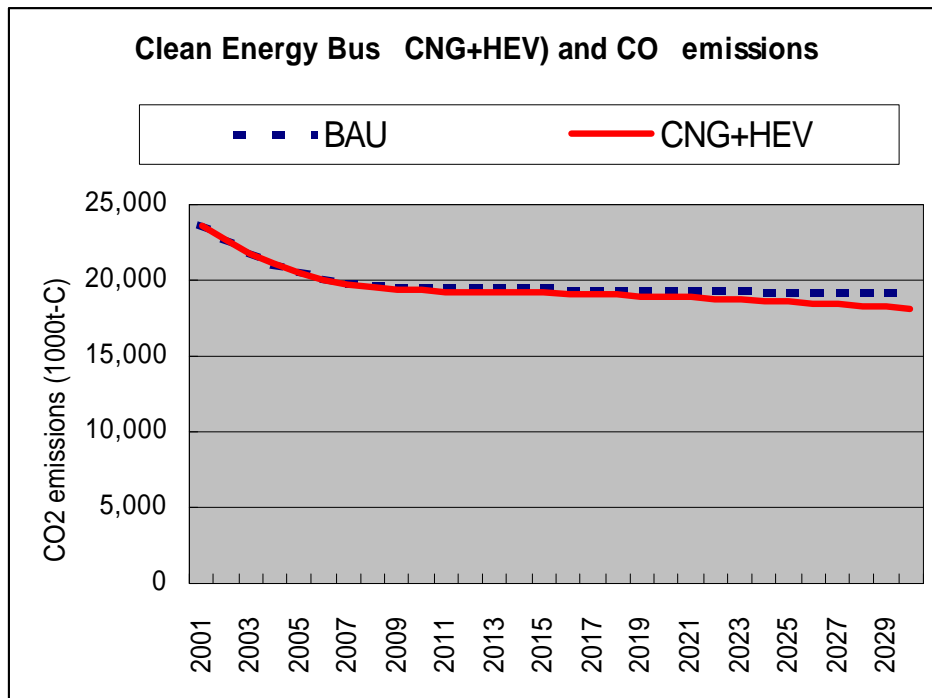
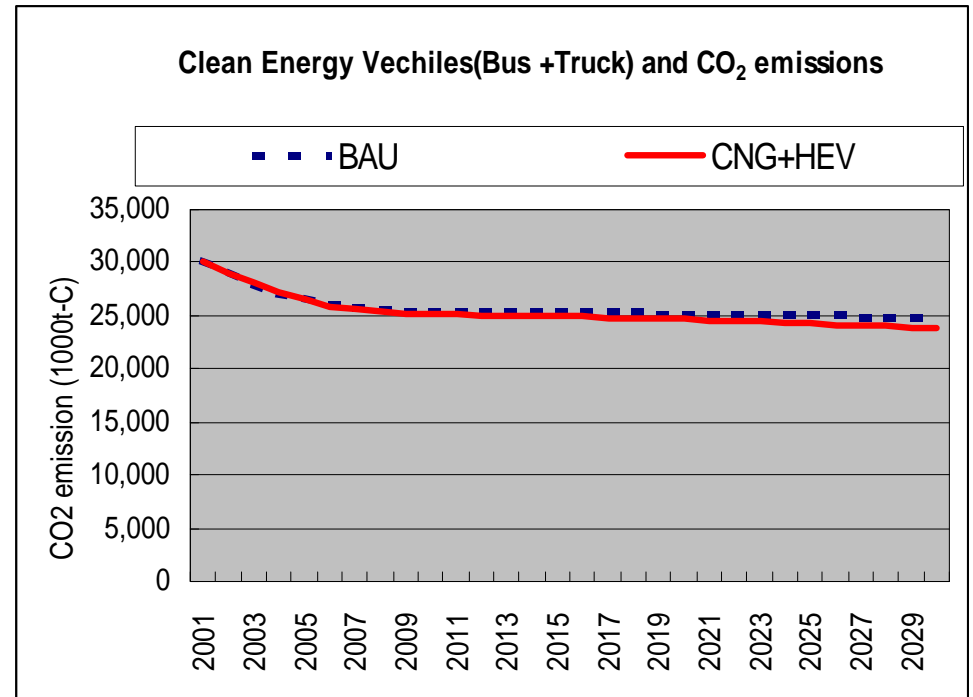
# CO<sub>2</sub> emission from passenger cars in Japan (2000-2030)

Number of passenger car estimated

--- BaU — FCV 31%+hybrid 10%



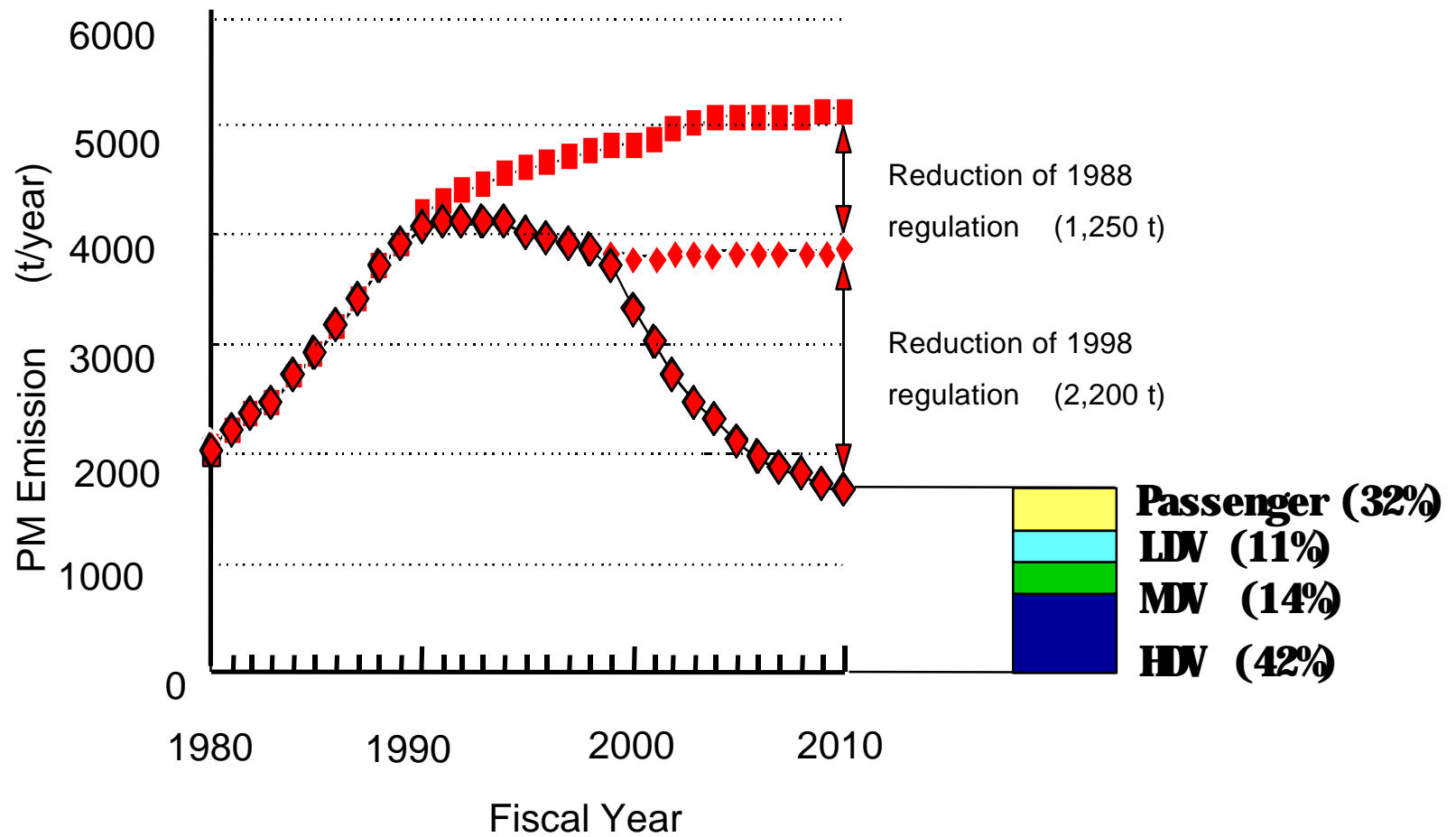
# Introduction of CNG and Hybrid cars and Evaluation by CO<sub>2</sub> emissions



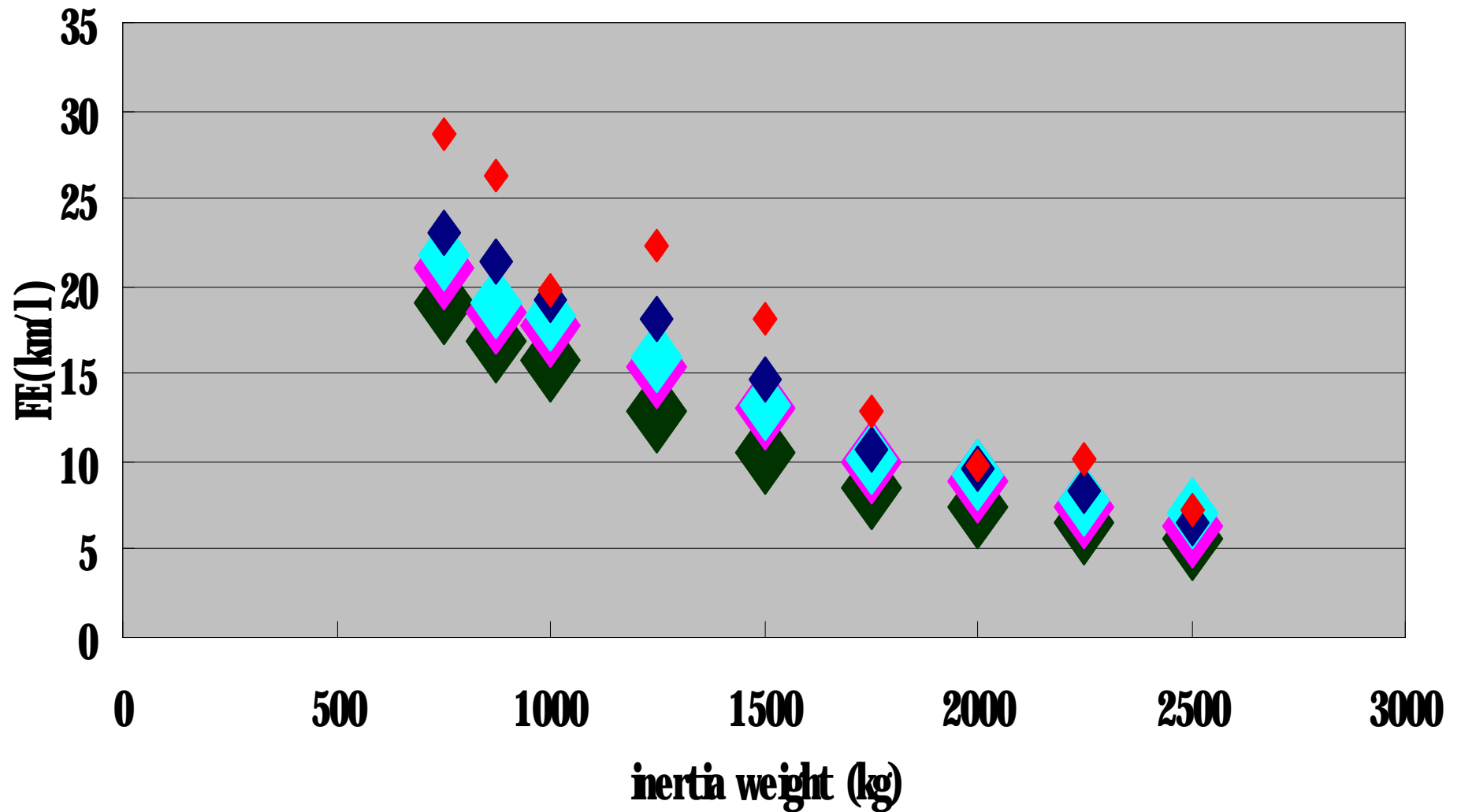
# The results of simulation

|           | Clean Energy Vehicles | Car stock in 2030 | Market share in car stock (%) | CO <sub>2</sub> reduction from BaU in 2030 (%) |
|-----------|-----------------------|-------------------|-------------------------------|--|
| Passenger | HEV                   | 6 million         | 10                            | -43  |
|           | FCEV                  | 1.2 million       | 31                            |  |
| Bus       | CNG                   | 1,448             | 1.7                           | -6   |
|           | HEV                   | 3,230             | 3.8                           |  |
| Truck     | CNG                   | 835,000           | 13                            | -3   |
|           | HEV                   | 8,400             | 0.13                          |  |

# PM reduction of 98 Diesel Regulation in Tokyo

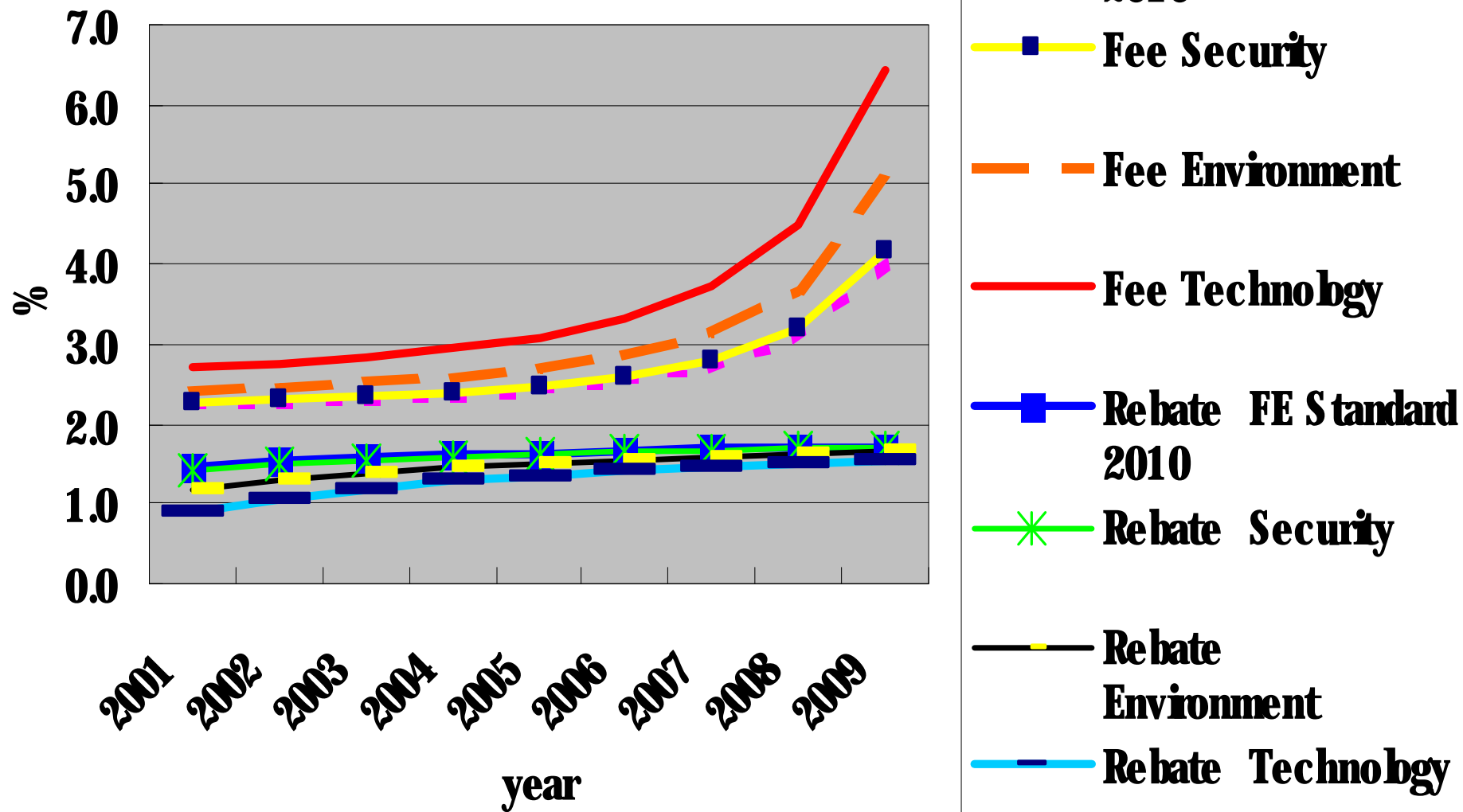


# FE standard and scenario - passenger gasoline car-



◆ 1995 FE standard ◆ 2010 FE standard ◆ Regulation ◆ Environment ◆ Technology

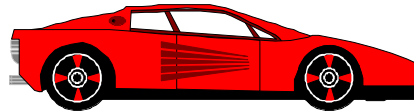
# Impact on car purchase cost in living expenditure



# Environmental policy and vehicle in OECD countries



Purchase



Ownership



Driving

*Car stock*

Control

Car *renewal*

Denmark  
Japan etc

*Emission*

reduction

German  
Sweden  
etc

*CO<sub>2</sub>*

reduction

Control

*traffic*

*volume*

Sweden  
etc

Link to *Emission* + *CO<sub>2</sub>* reduction and *energy* saving

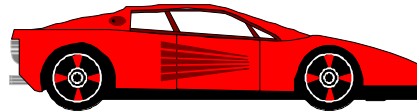
# Fiscal aspect of vehicle Life cycle



Purchase

1 2

(4)



Ownership

(3)



Driving

1 Industry promotion *local contents, import tariff, CBU import limit etc*

2 Regional trade scheme  
*Liberalization/Protection?*

(3) Consideration for income level *low L/M fee etc*

(4) *Subsidies on fuel prices*

# Conclusion: Lesson learned from Japan to Asian countries (Domestic level)

- ✧ Public consensus among automaker, ministries and consumers
- ✧ Skill certificate: job opportunity and technology maintenance/transfer
- ✧ Tax reform from acquisition to maintenance /driving
- ✧ Statistical contribution (scrap, clean energy vehicle, etc) will help new environmental policy coordination
- ✧ Tax differentiation by energy type, fuel consumption or emission level

# Conclusion: Effects of Harmonization at International level

- ✧ Standardization of auto parts
- ✧ Reduction of R&D cost and production cost
- ✧ Reduction of sales price
- ✧ Expansion of common test method
- ✧ Simplicity of I/M policy design
- ✧ Improved efficiency in type approval
- ✧ Expansion of consumer preference
- ✧ Promote intra/inter industries among Asia countries