

Leveraging Strategies: Japan's Story

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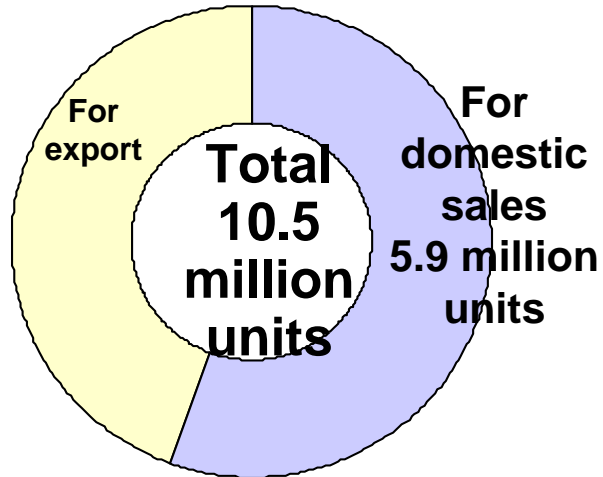


JAMA Profile

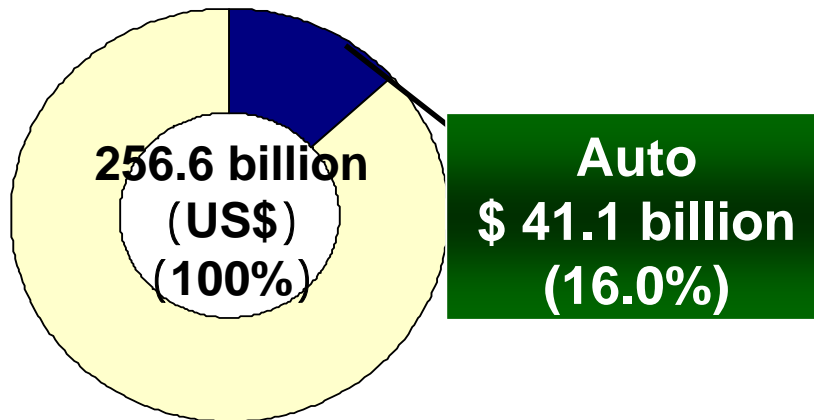
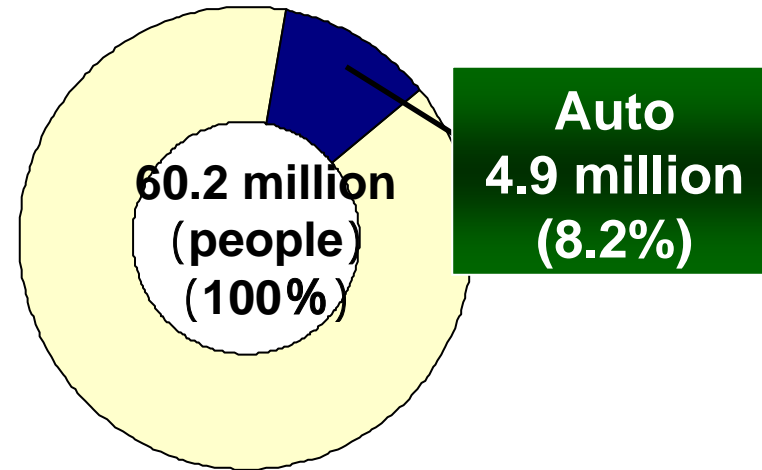
- “Japan Automobile Manufacturers Association, Inc”.
- Members: Japan’s 14 manufacturers of cars, trucks, buses, and motorcycles
- Activities :
 - Promoting increased road safety and environmental protection
 - Developing greater mutual understanding with other countries
 - Organizing the Tokyo Motor Show

Automobiles as a Core Industry in Japan

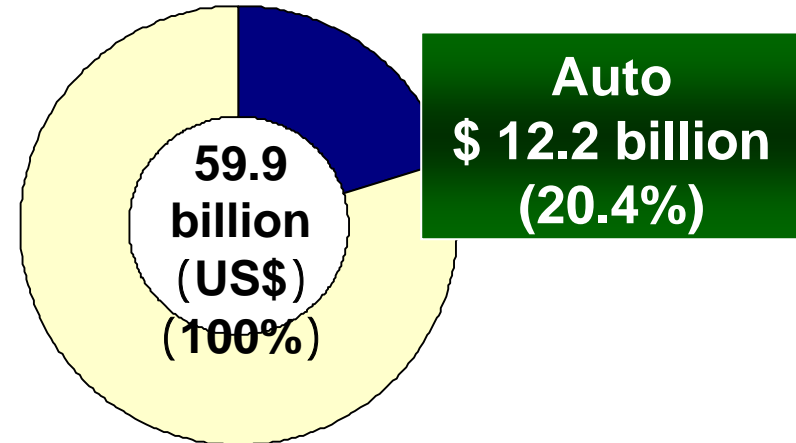
Domestic Production



Total Workforce



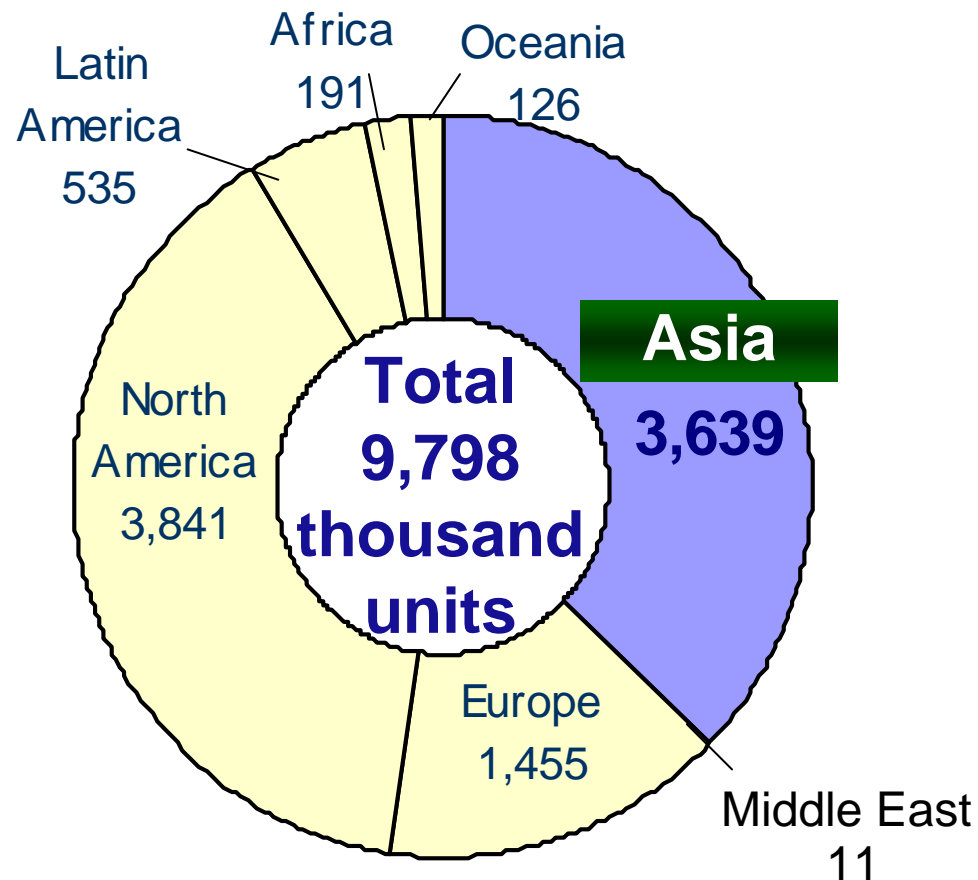
Total Manufacturing Shipments (in value terms)



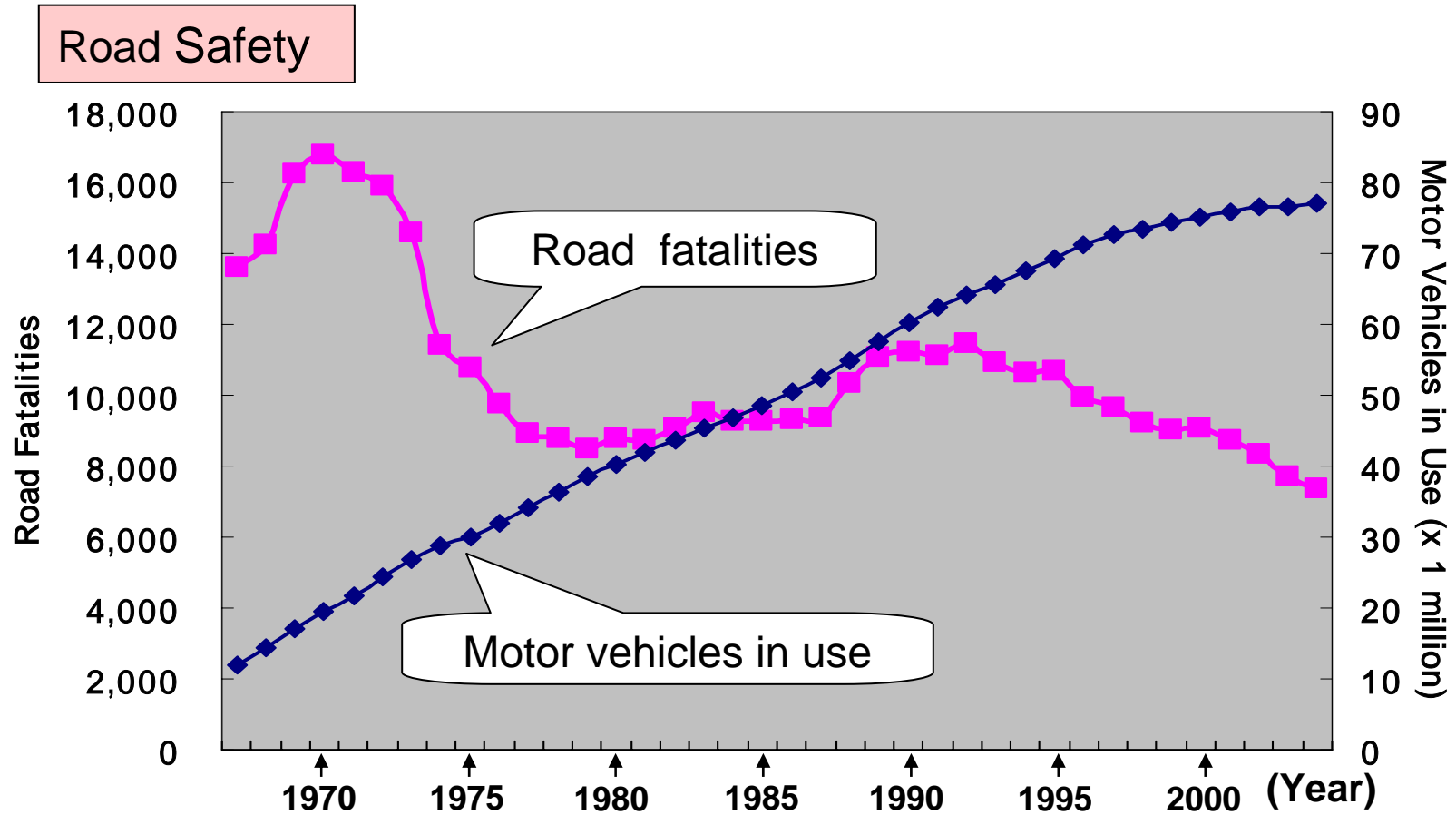
Total Exports (in FOB value terms)

Overseas Production by Japanese Automakers

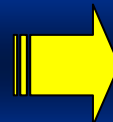
Overseas Production in 2004 (x 1,000 units)



Safety and Environmental Measures



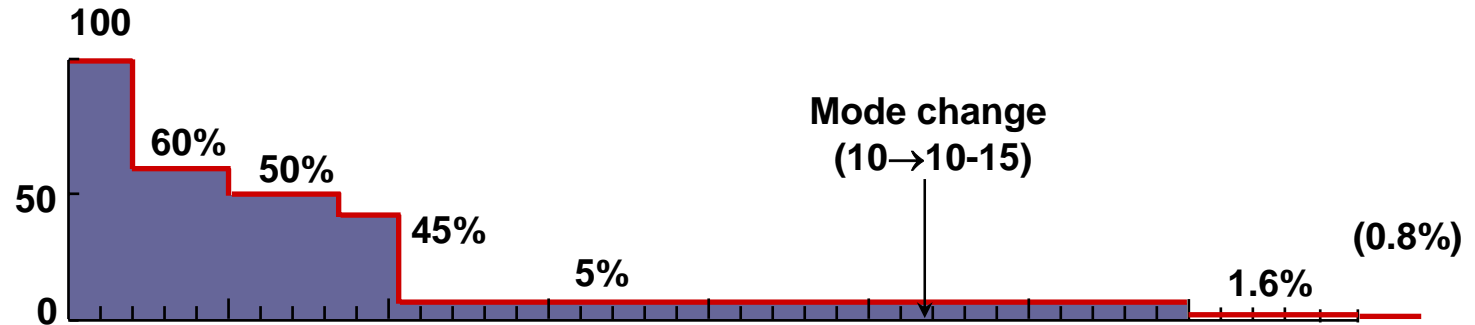
Safety & environmental technologies



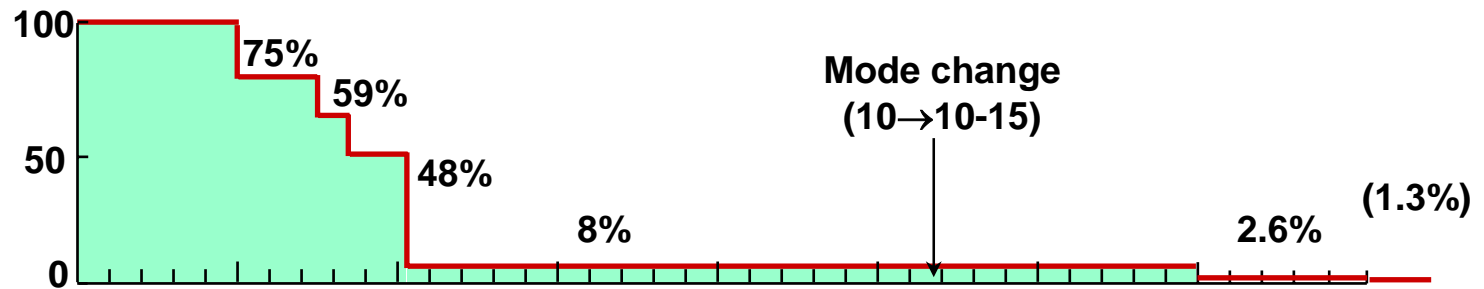
Strong competitiveness

Japan's Regulatory Requirements for CO, HC, and NOx Emissions (Gasoline Passenger Cars)

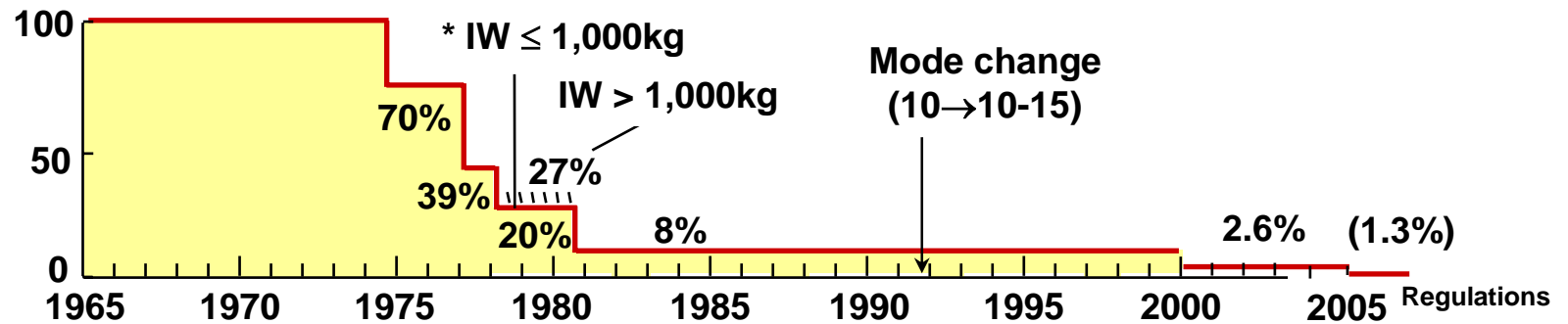
CO



HC



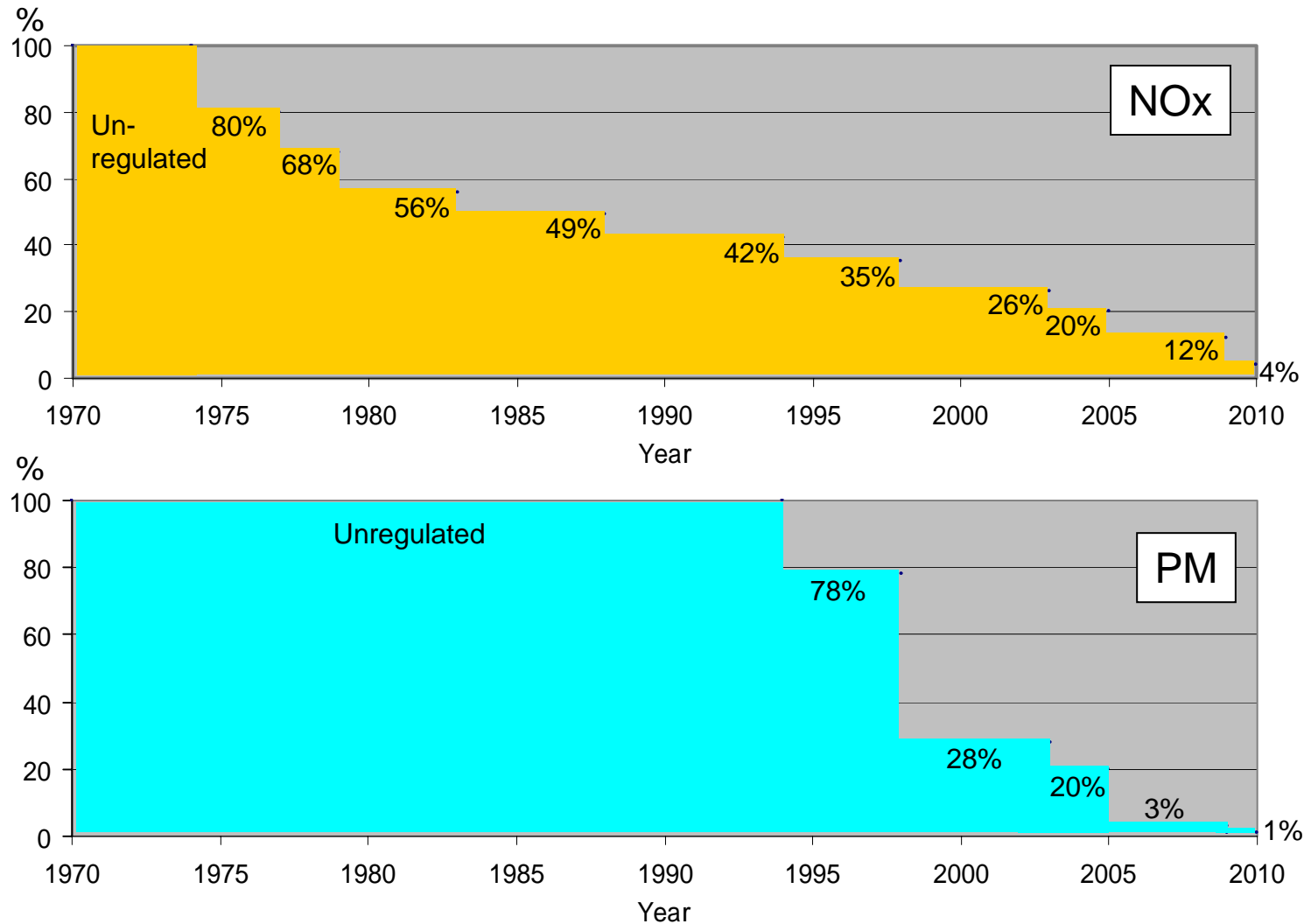
NOx



* 100% = Emission volume without regulations

* IW = Equivalent inertia mass

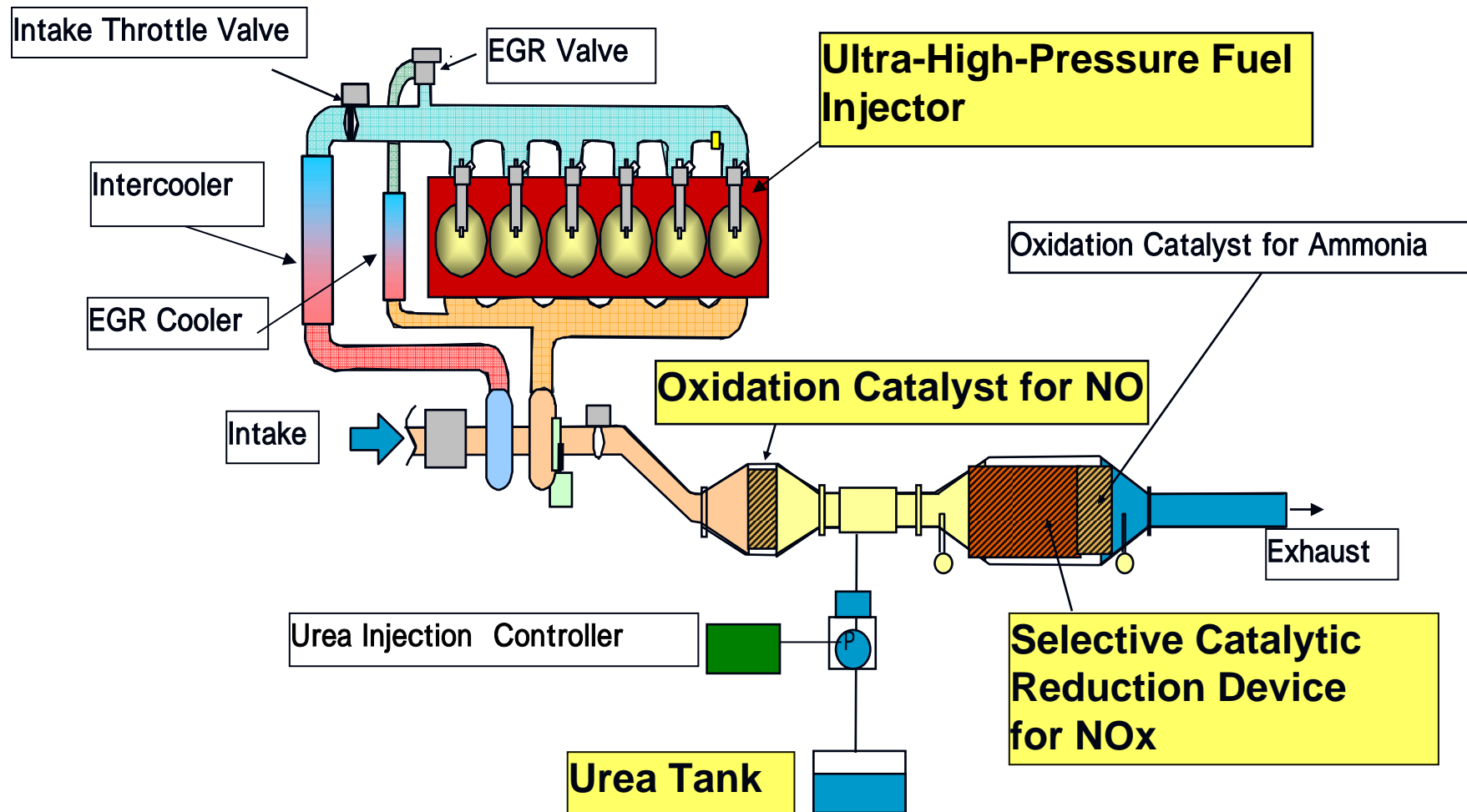
Japan's Regulatory Requirements for NOx and PM Emissions (Heavy-Duty Trucks)



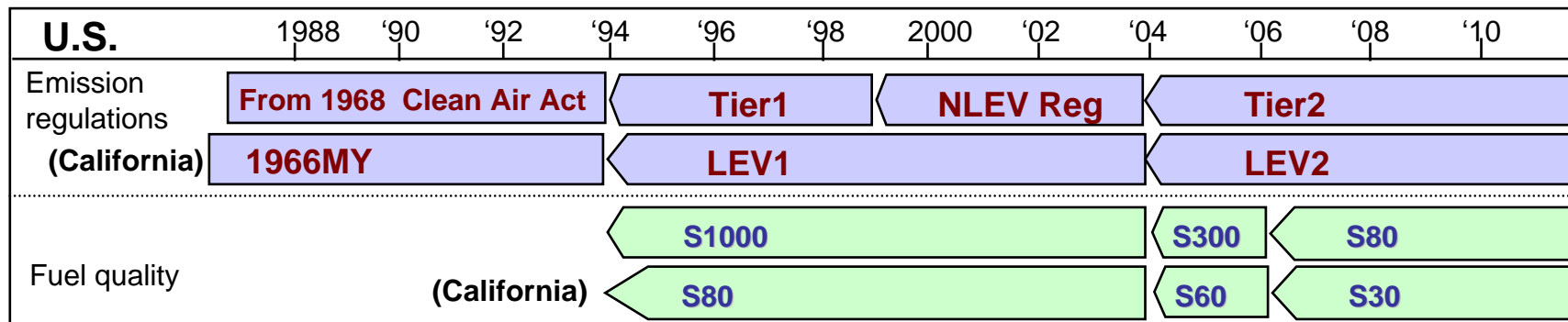
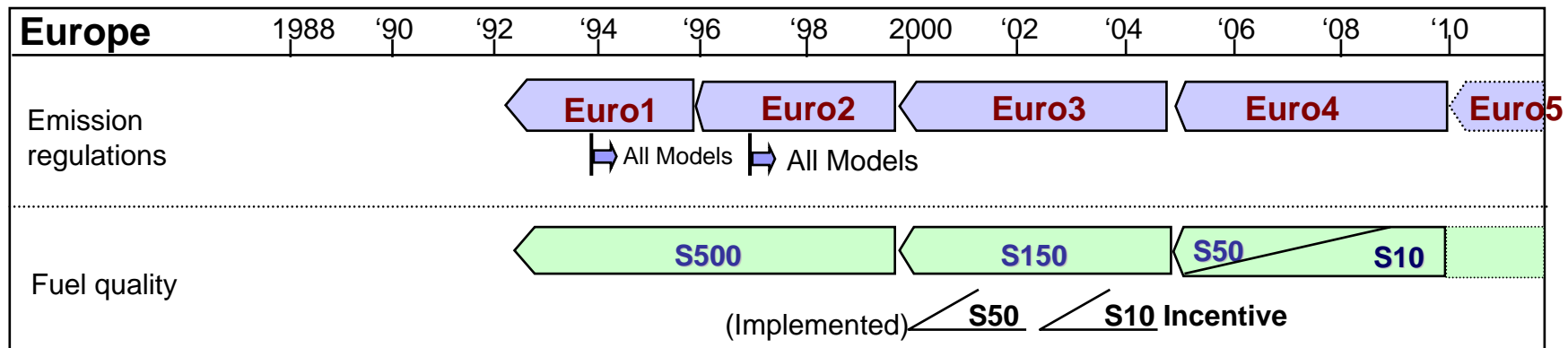
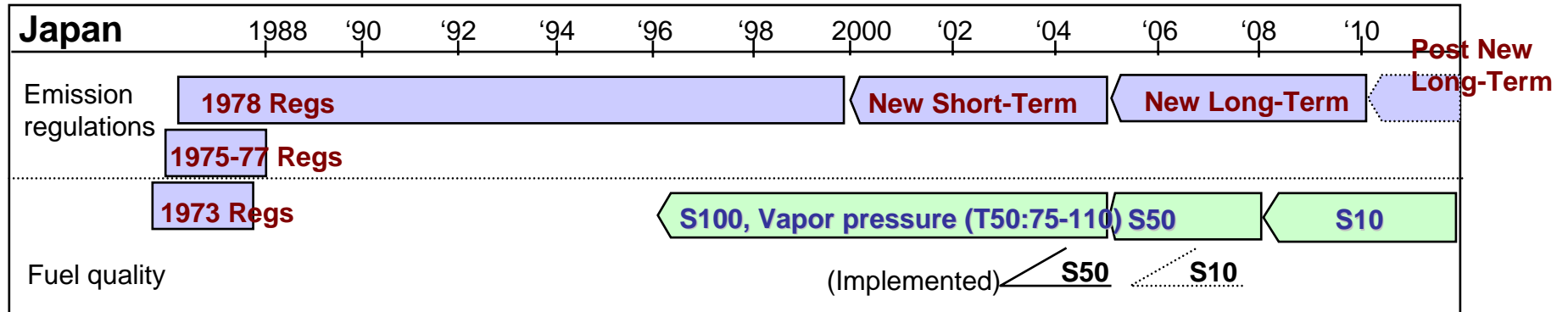
* 100% = Emission volume without regulations

Japan's New Diesel-Vehicle Catalytic Conversion Technology

Urea-Based Selective Catalytic Reduction and Ultra-High-Pressure Fuel Injection



Gasoline-Vehicle Emission Regulations & Fuel Quality Requirements in Japan, the U.S. and Europe



Diesel-Fuel Sulfur Reduction in Japan

Regulations: 50 ppm from 2005

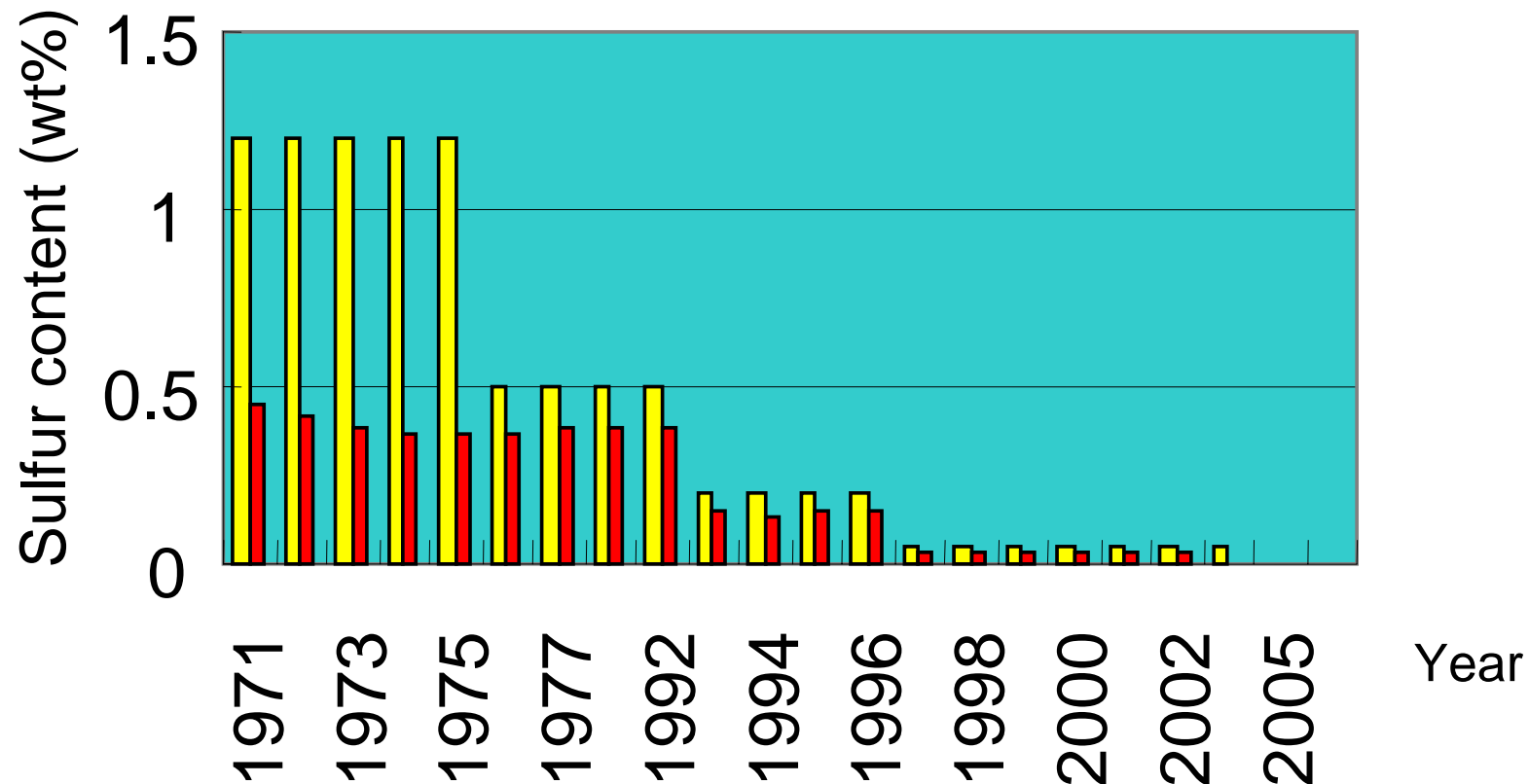
10 ppm from 2007

Reality: 10 ppm from January 2005

Regulatory level

Actual level

Regulatory & Actual Levels for Sulfur Content in Diesel Fuel

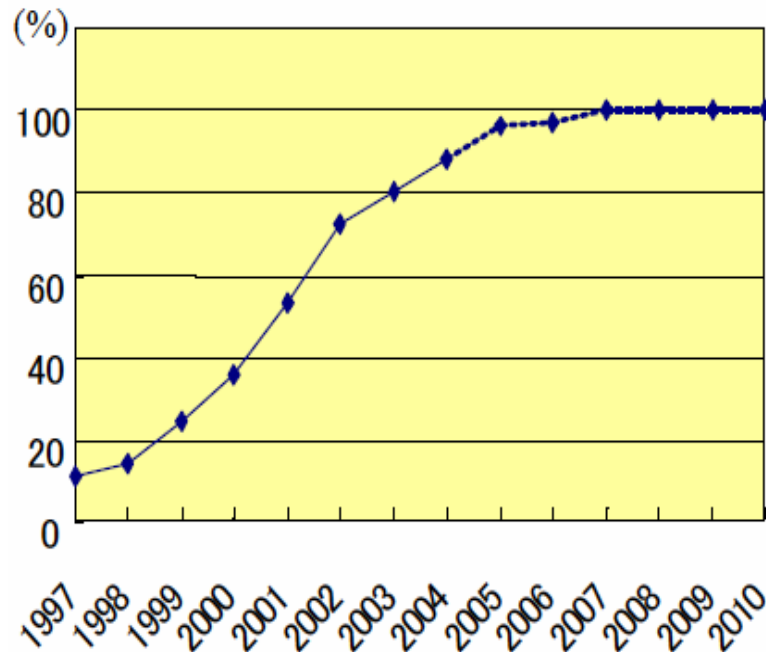


Japanese Automakers' Compliance with Japan's 2010 Fuel Economy Targets

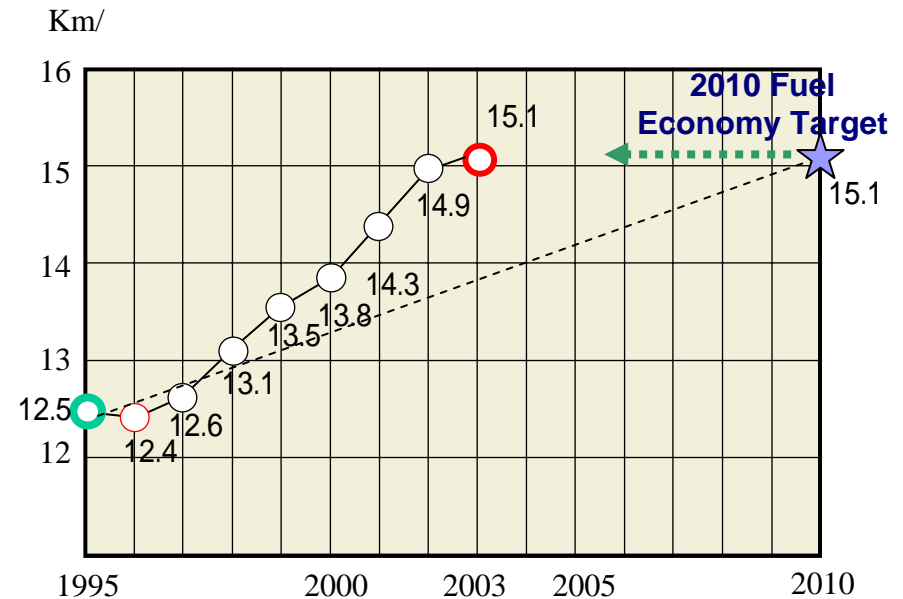
- The Japanese government has established recommended fuel economy targets for automakers to achieve by 2010.
- All the automakers will meet those targets ahead of schedule.

2010 Fuel Economy Targets

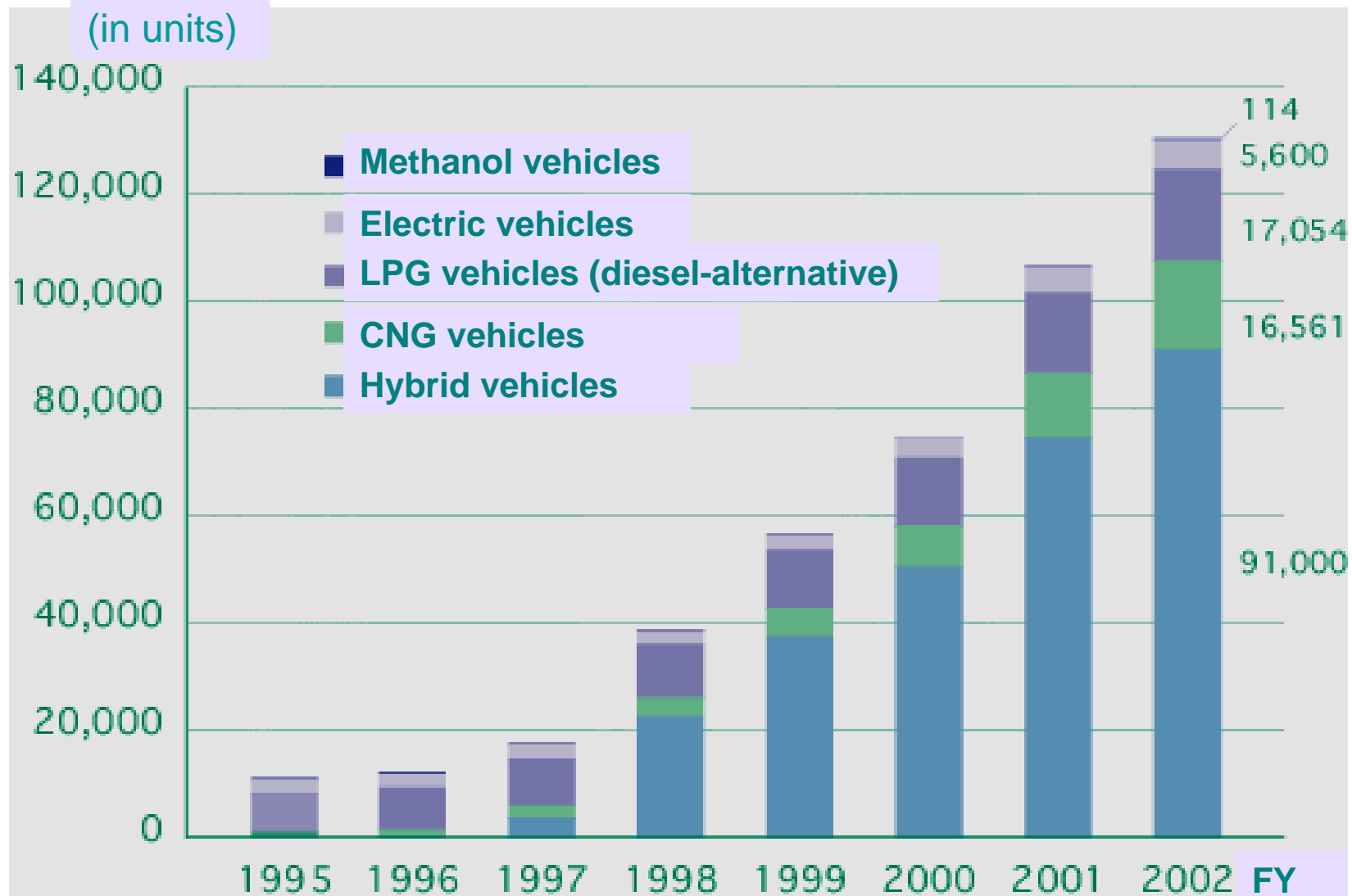
Compliance timetables:
5 automakers in 2005, all others in 2007



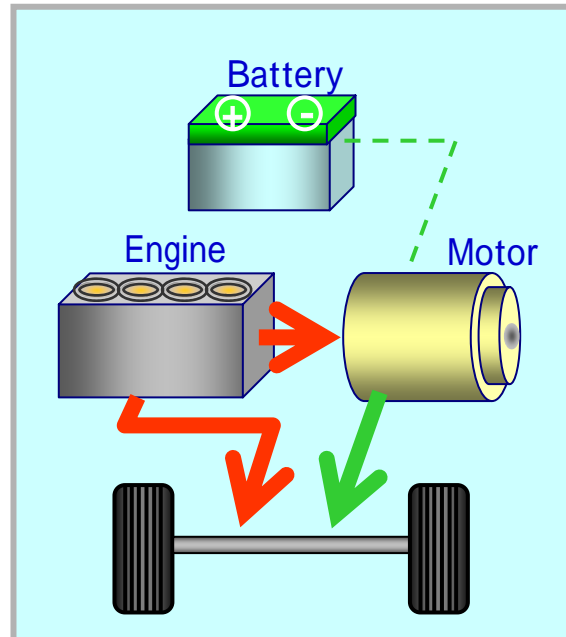
Average Fuel Economy Performance of Gasoline Passenger Cars (10·15 Mode)



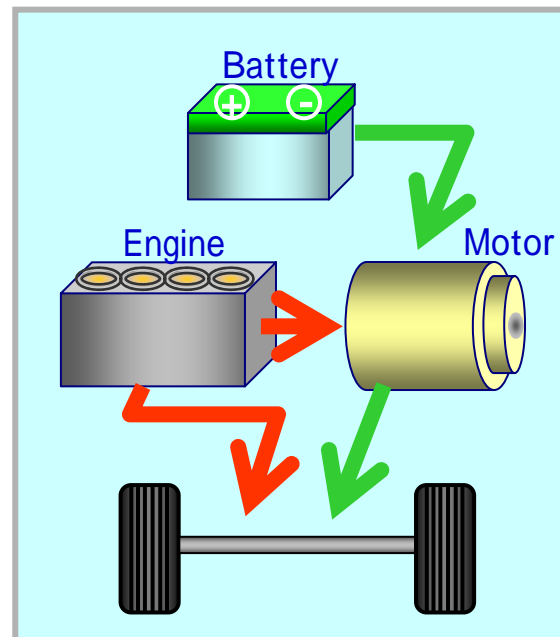
Low-Emission Vehicle Diffusion in Japan



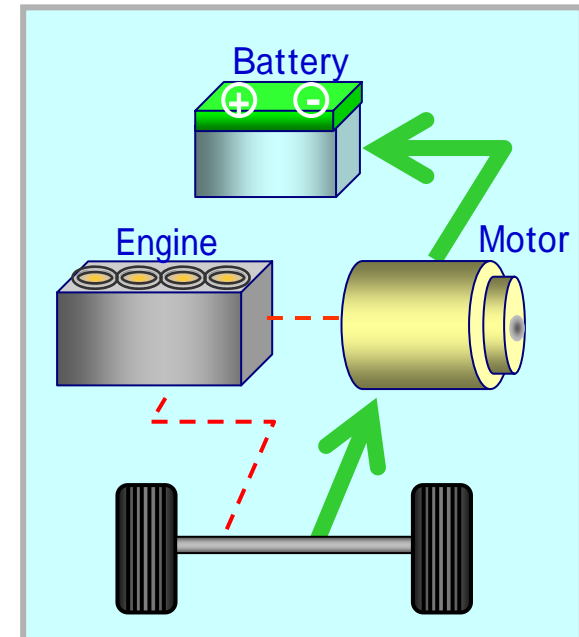
Hybrid Vehicles



Engine-Motor
Dual Operation



Battery Assists Motor



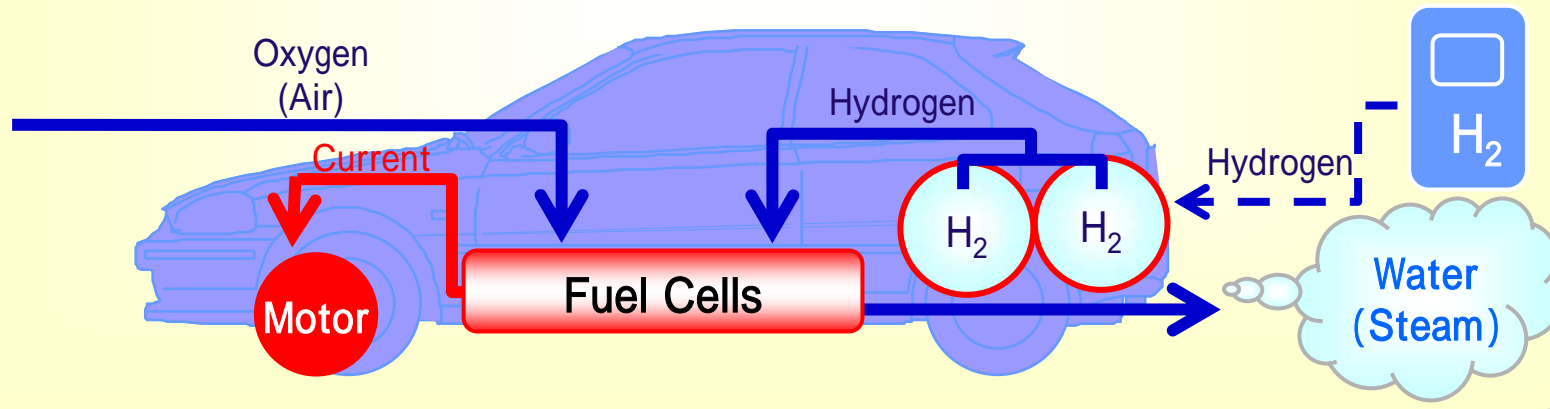
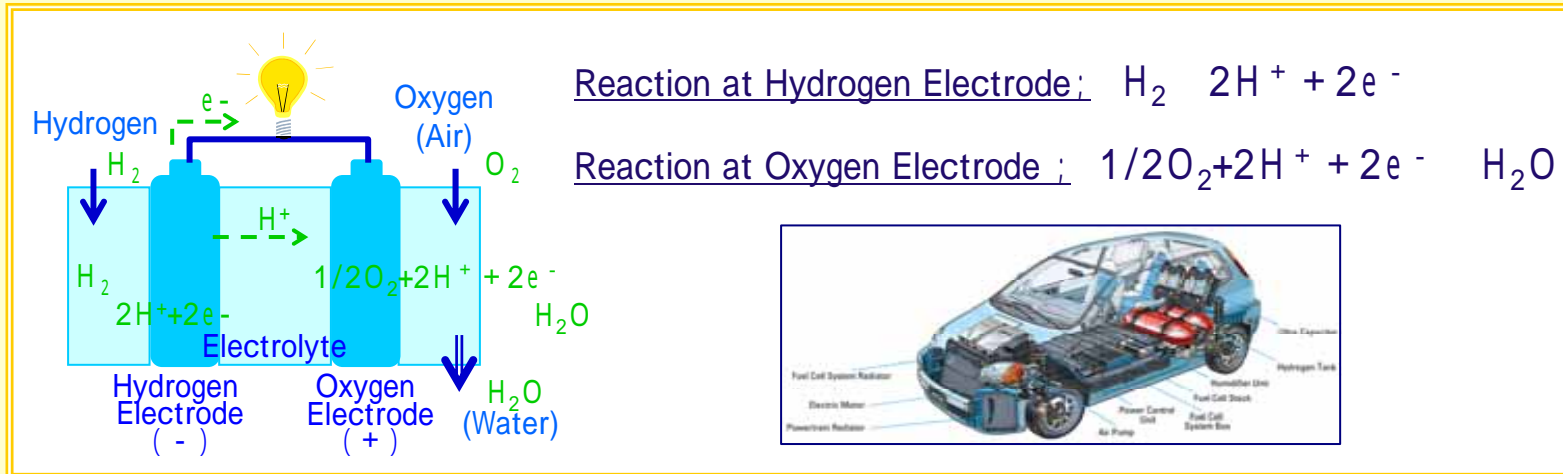
Deceleration Energy
Stored as Electric Energy
(Energy Regeneration)

Driving mode determines system operational mode.



Improved Fuel Economy / Reduced Emissions

Fuel Cell Vehicles



Motor Driven by Electric Energy from Fuel Cells

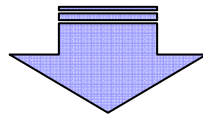


Zero Emissions / No CO_2 Exhaust

Conclusion (1/2)

- Without **harmony with society's requirements**, no sustainable mobility.
- Safety and environmental **technologies** are essential.

Automakers' voluntary efforts



Strong **technological competitiveness**

Conclusion (2/2)

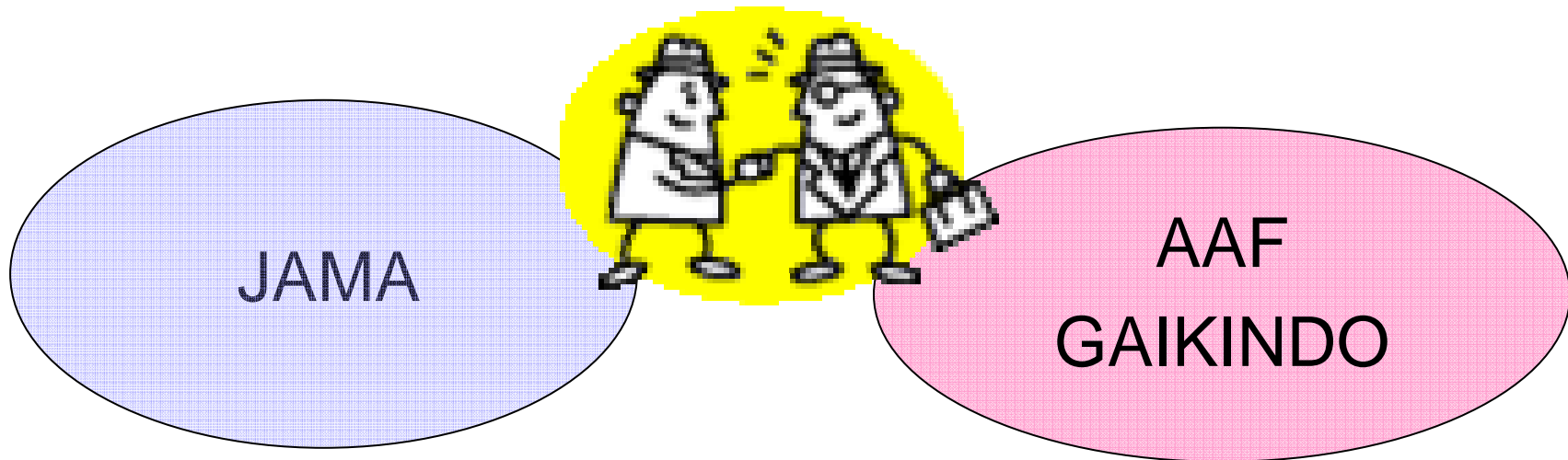
- **Comprehensive strategies** must be implemented to resolve road safety and environmental protection issues.

Environment	Improved traffic flow, improved fuel quality, greater public awareness, vehicle-focused measures
Road safety	Improved road infrastructure and maintenance, improved drivers' education, vehicle-focused measures (new & in use)

- Comprehensive policy-making and **initiatives by government**.
- **Cooperation** between public/private sectors and among all relevant industries.



For future sound motorization in Asia !



Thank you very much.