Workshop on mitigation potentials, comparability of efforts and sectoral approaches in Bonn, Germany in March 24th-25th, 2009.

Sectoral Approach of the Road Transport Sector in the Future Framework

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The Objective and Methodology

- Objective

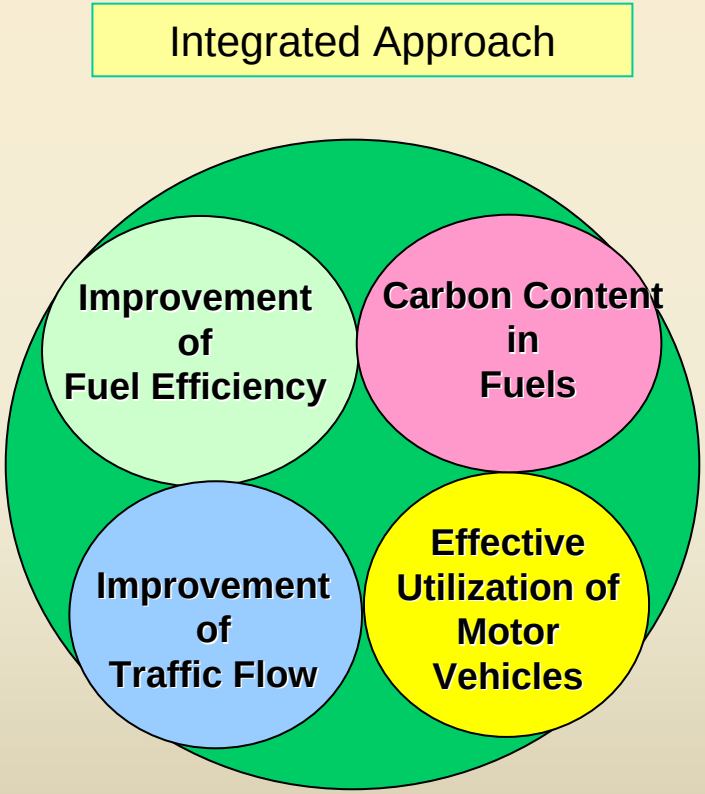
- To promote penetration of environmentally sound technologies and implementation of policies & measures

- Methodology

(1) Specifying indicators to break down CO2 in transport sector

(2) Grasping country specific circumstances (Data collection)

(3) Learning by sharing best practices in each area of the integrated approach



(1) Specifying Indicators in the Road Transportation Sector

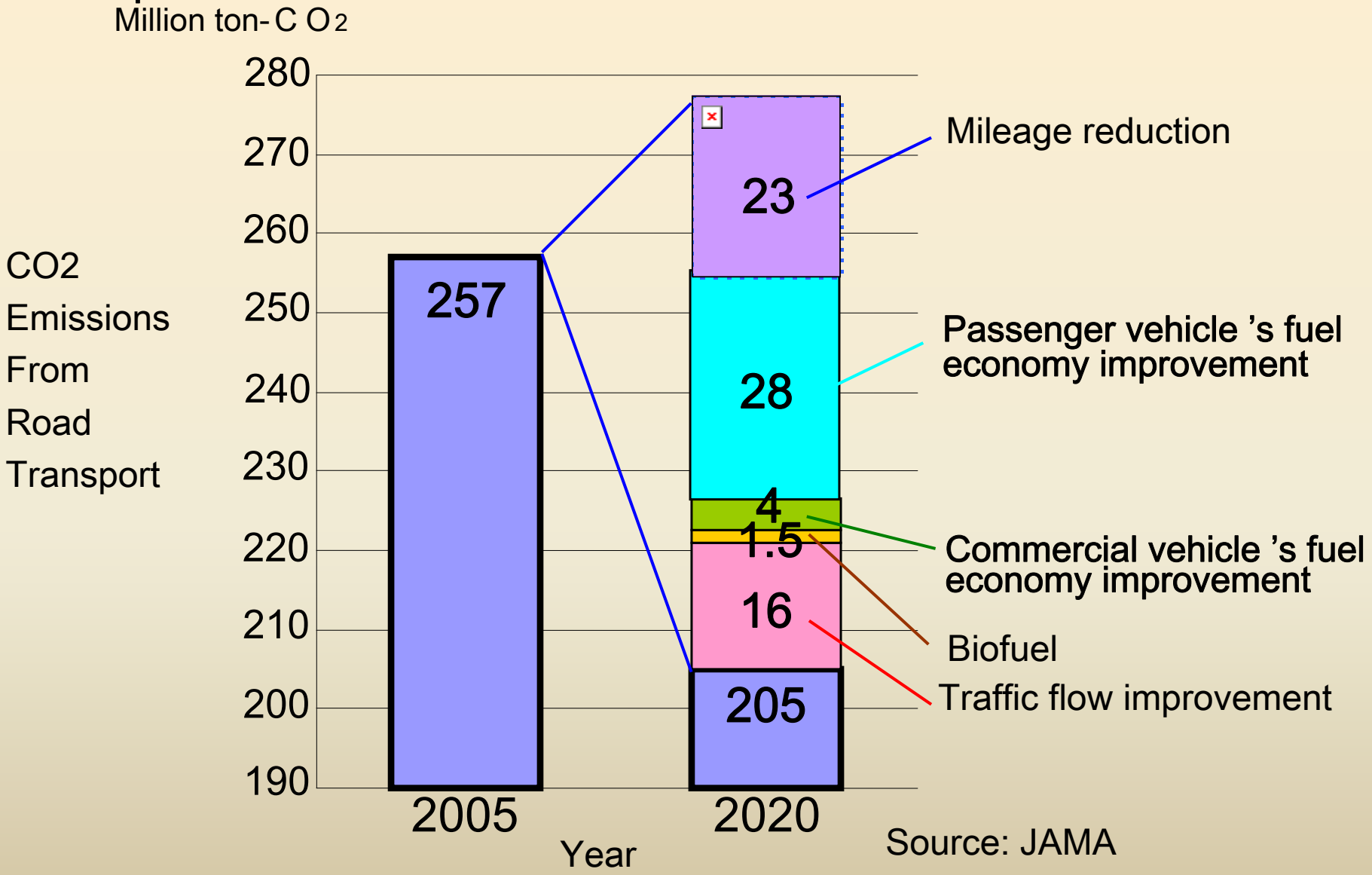
CO_2 emissions = Emissions intensity × Activity volume

= On-road fuel efficiency × CO_2 emissions coefficient × Run Volume

= Certified fuel efficiency $(km/L)^{-1}$ × Traveling Coefficient (%) × CO_2 emissions coefficient (gCO_2/L) × Run Volume (veh.km)

- Certified fuel efficiency: To be increased by automobile manufacturers
- Traveling Coefficient: To be reduced through congestion mitigation and eco-driving
- CO_2 emissions coefficient: Lower coefficient in the case of biofuels
- Run Volume: To be reduced through modal shifts

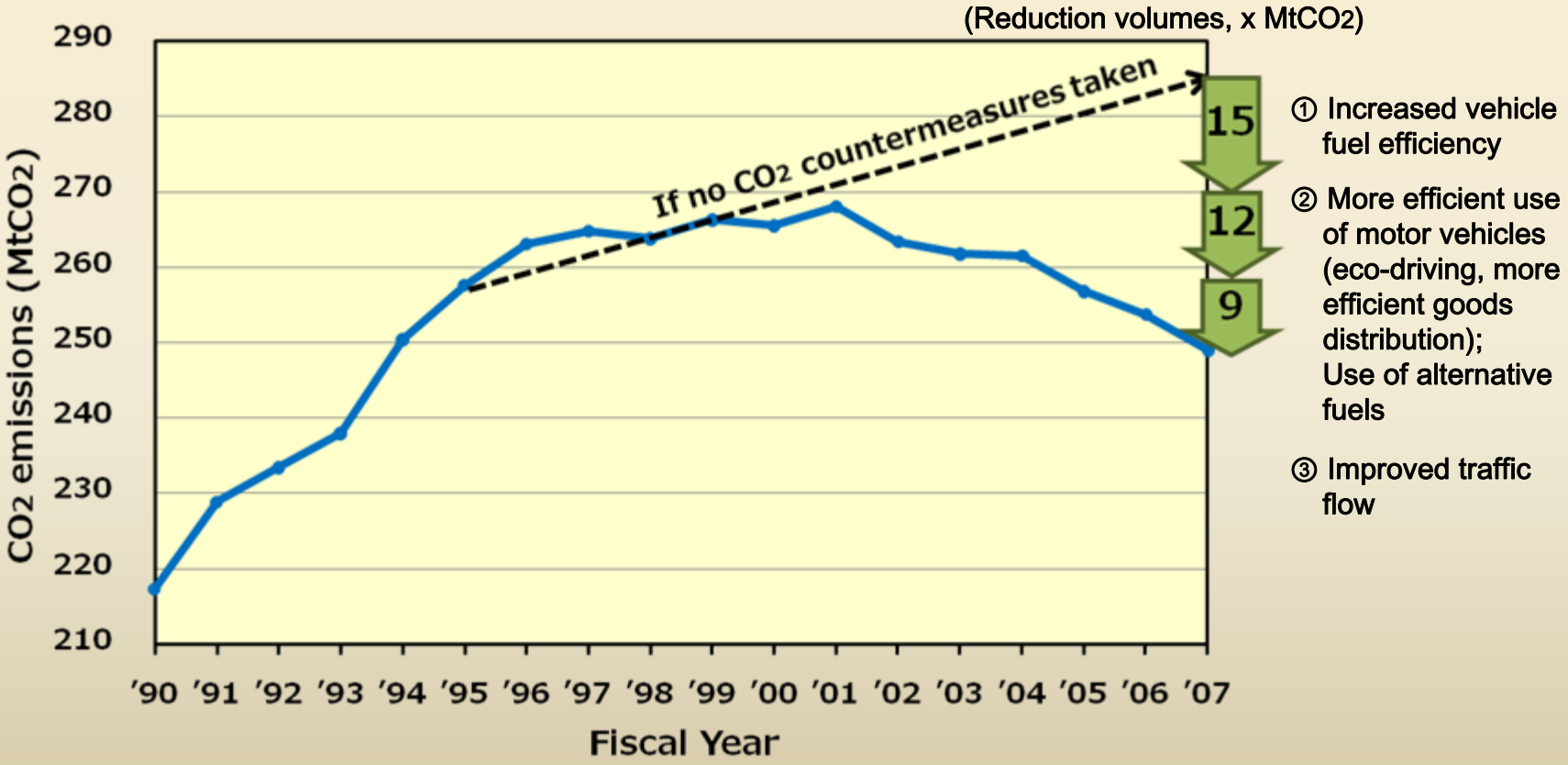
Case study:CO2 Reduction Potential in Road Transport Sector In Japan



Source: JAMA

CO_2 Emissions Reduction in Japan's Transport Sector

- CO_2 reduction in Japan's transport sector to date is attributable to the three factors indicated below.



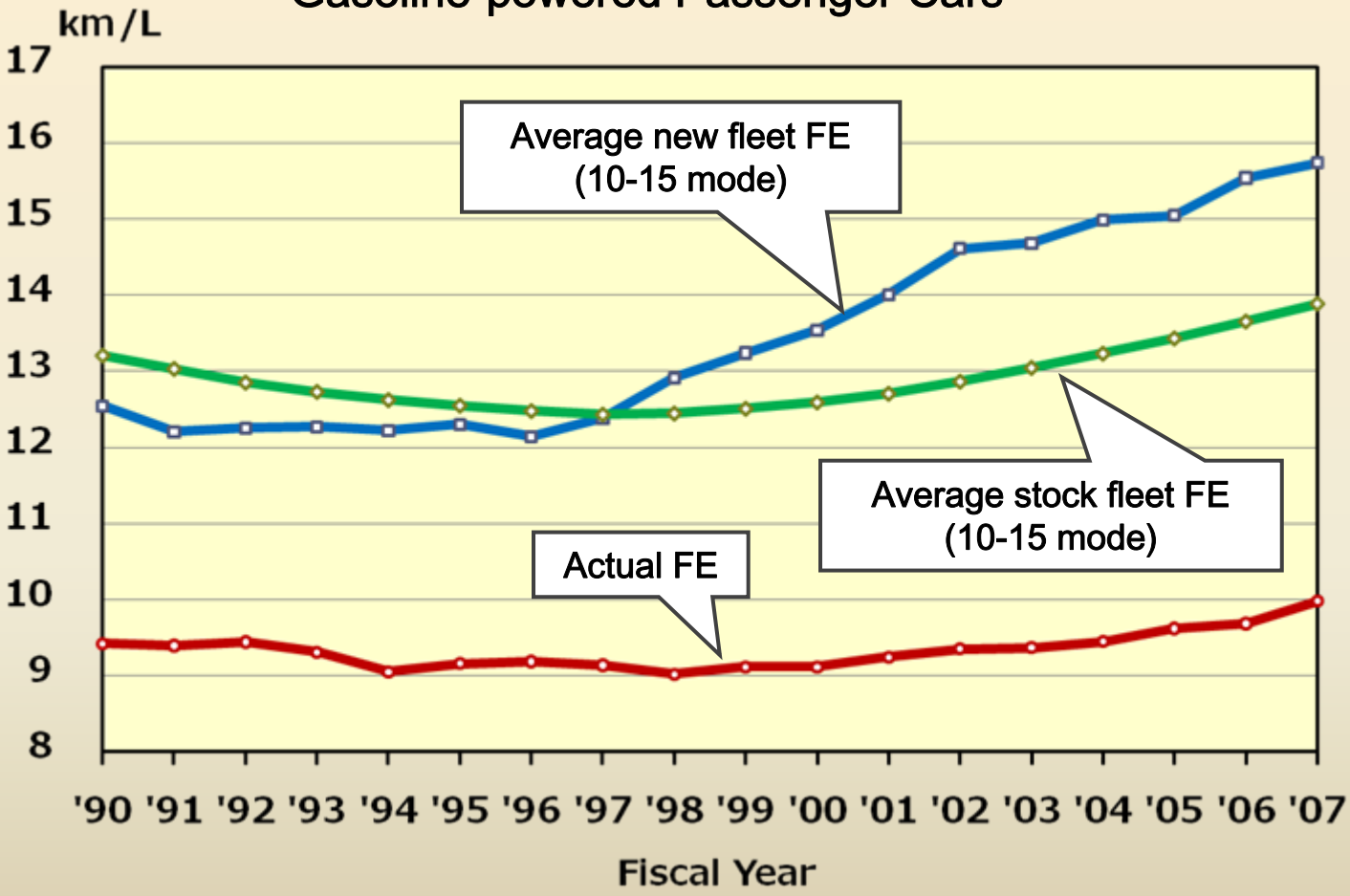
Source: Japan Automobile Manufacturers Association, Inc. (JAMA)

(2) Grasping Circumstances (Data Collection)

				Japan	US	Europe	China	India
Fuel Economy (efficiency)	①New fleet fuel economy (efficiency)	km/L mpg gCO2/km etc.	Certified fuel economy (efficiency) (Ref. ; Definition 1)	JAMA	NHTSA	ACEA/ JAMA	NDRC	SIAM
	②Stock fleet fuel economy (efficiency)	km/L mpg gCO2/km etc.	Certified fuel economy (efficiency) (Ref. ; Definition 2)	JAMA	JAMA	JAMA	N/A	N/A
	③Actual (on-road) fuel economy (efficiency)	km/L mpg gCO2/km etc.	③ = ⑩ / ⑦	JAMA	JAMA	JAMA	N/A	N/A
Amount of Car	④Sales amount of new car	vehicle unit	Required for ①, ②	JAMA, JAIA, JMVA	JAMA	JAMA	NBSC	SIAM
	⑤Stock amount of car	vehicle unit	Required for ②	MLIT	JAMA	JAMA	NBSC	MSRTH JAMA
	⑥Scrappage (residual) rate of car	%	Required for ②	AIRIA, JAMA	N/A	N/A	N/A	N/A
Mileage Traveled	⑦Run volume	vehicle-km	Annual value	MLIT	OECD	OECD	N/A	N/A
	⑧Traffic volume	passenger-km ton-km	⑦ = ⑧ / ⑨ (if ⑦ is ND)	MLIT	RITA	EEA	N/A	N/A
	⑨Traffic efficiency	passenger/vehicle unit ton/vehicle unit		JAMA			N/A	N/A
Fuel consumption	⑩Amount of fuel consumption	L	gasoline, diesel oil, LPG, NG, etc.	ANRE/METI IEA/OECD	IEA/OECD	IEA/OECD	IEA/OECD	IEA/OECD
Vehicle speed	⑪Average travel velocity of vehicles on road	km/h	by category of vehicle by category of road	MLIT	N/A	N/A	N/A	N/A

Example: Outcome from data collection
Analysis of Fuel economy

- Gasoline-powered Passenger Cars -



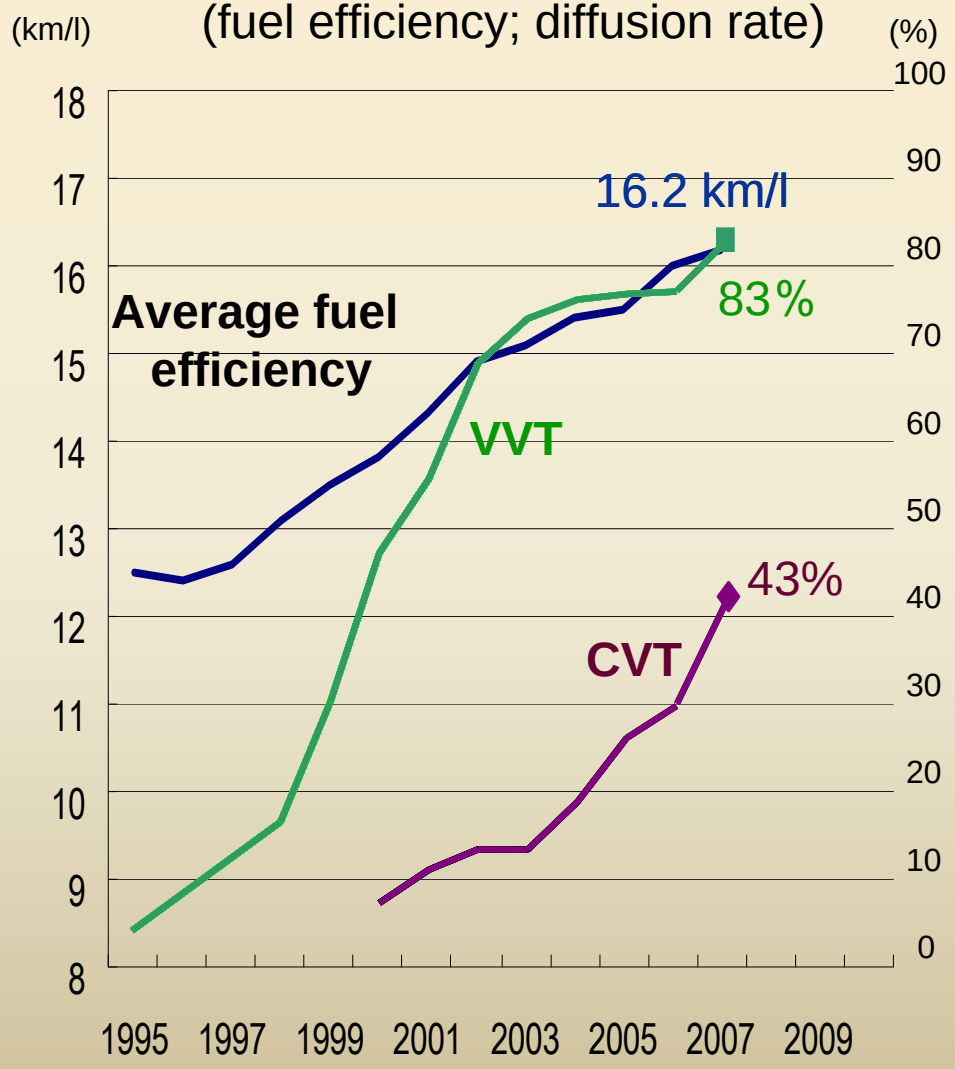
Source: Japan Automobile Manufacturers Association, Inc. (JAMA)

(3) –1 Learning by Sharing Best Practices

Example:Fuel efficiency and diffusion of technology (Variable Valve Timing and Continuous Valve Timing)

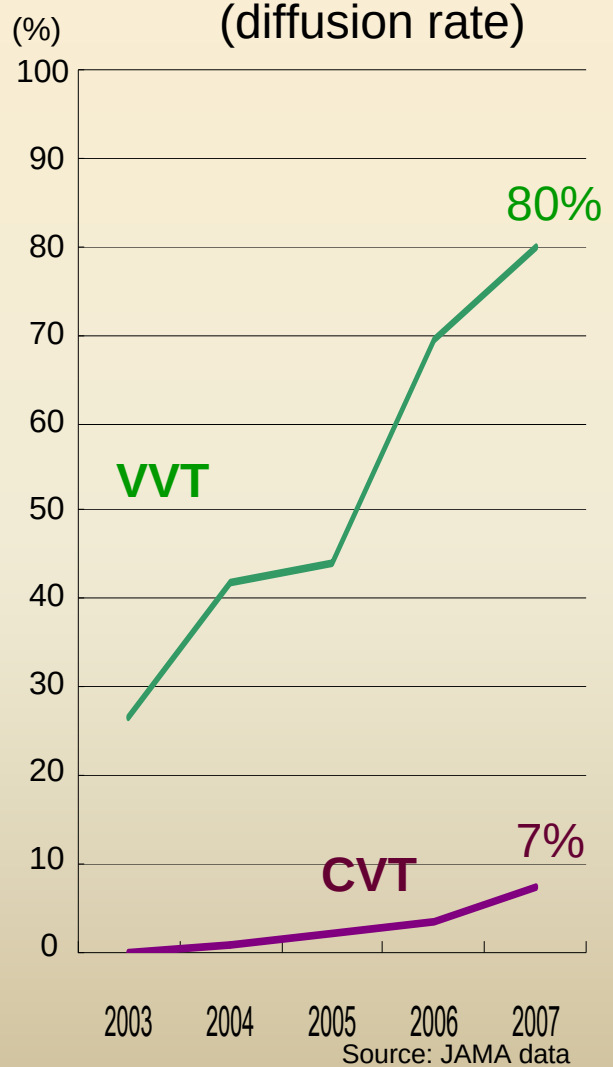
Japan

(fuel efficiency; diffusion rate)



China

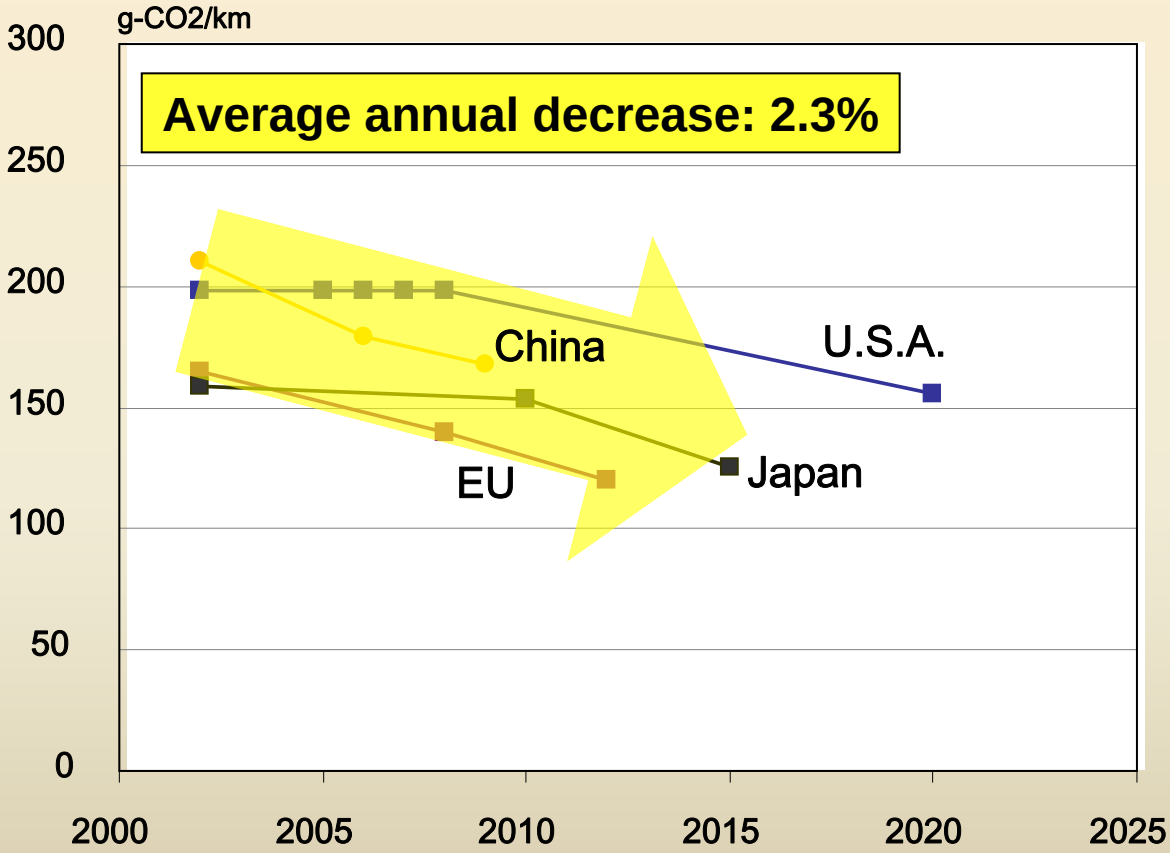
(diffusion rate)



Source: JAMA data

(3)-2 Learning by Sharing Best Practices

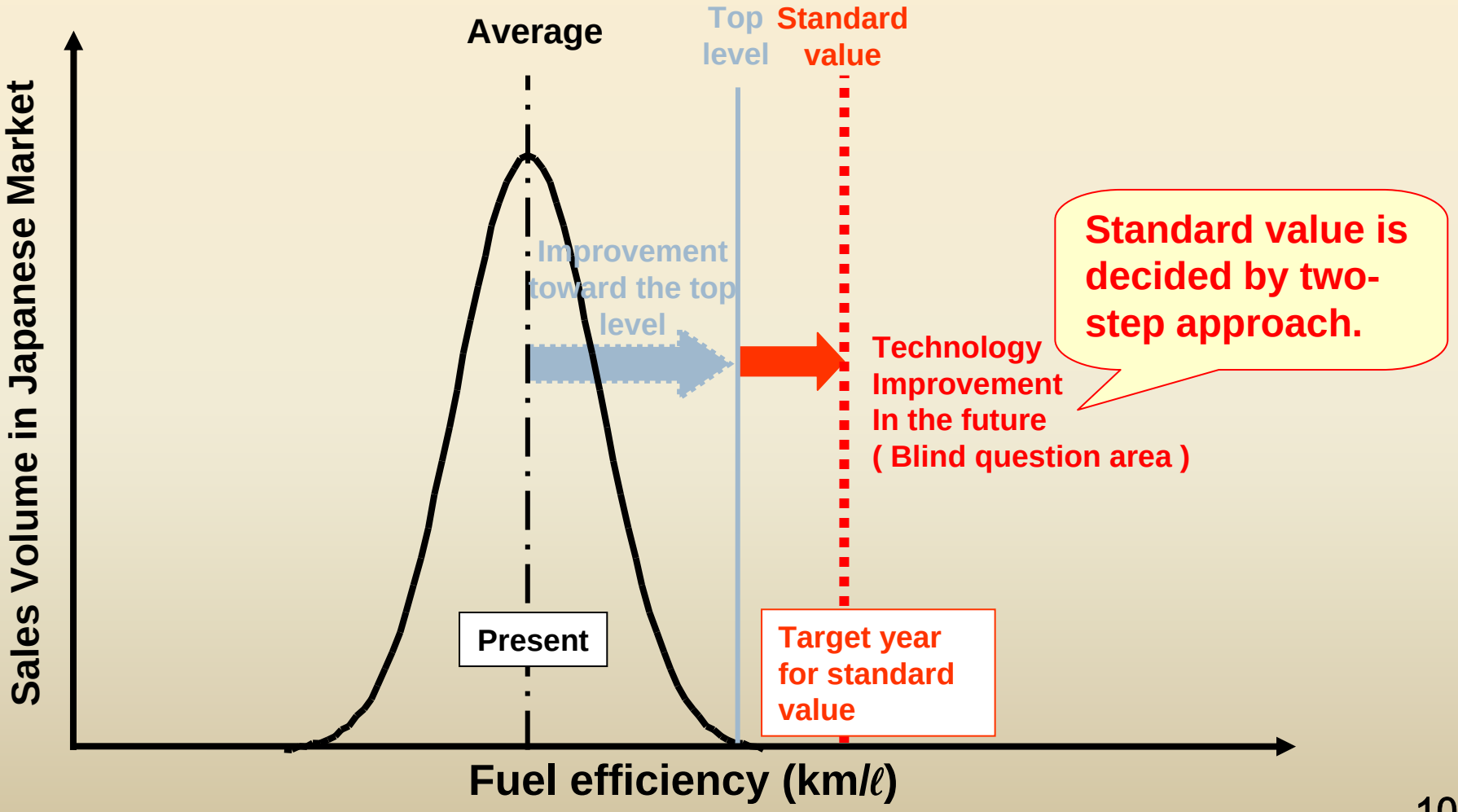
Example:
Projected CO2 Emissions for New Passenger Cars in Selected Countries/Regions



Source: Adapted from Comparison of Passenger Vehicle Fuel Economy and Greenhouse Gas Emission Standards Around the World *by Feng An and A. Sauer, Pew Center on Global Climate Change (2004)*

(3)-3 Learning by Sharing Best Practices

Example: Top-runner fuel efficiency standard
(**classed by weight**)

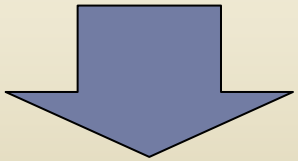


Conclusion

(1) Specifying indicators to break down CO2 in transport sector

(2) Grasping country specific circumstances (Data collection)

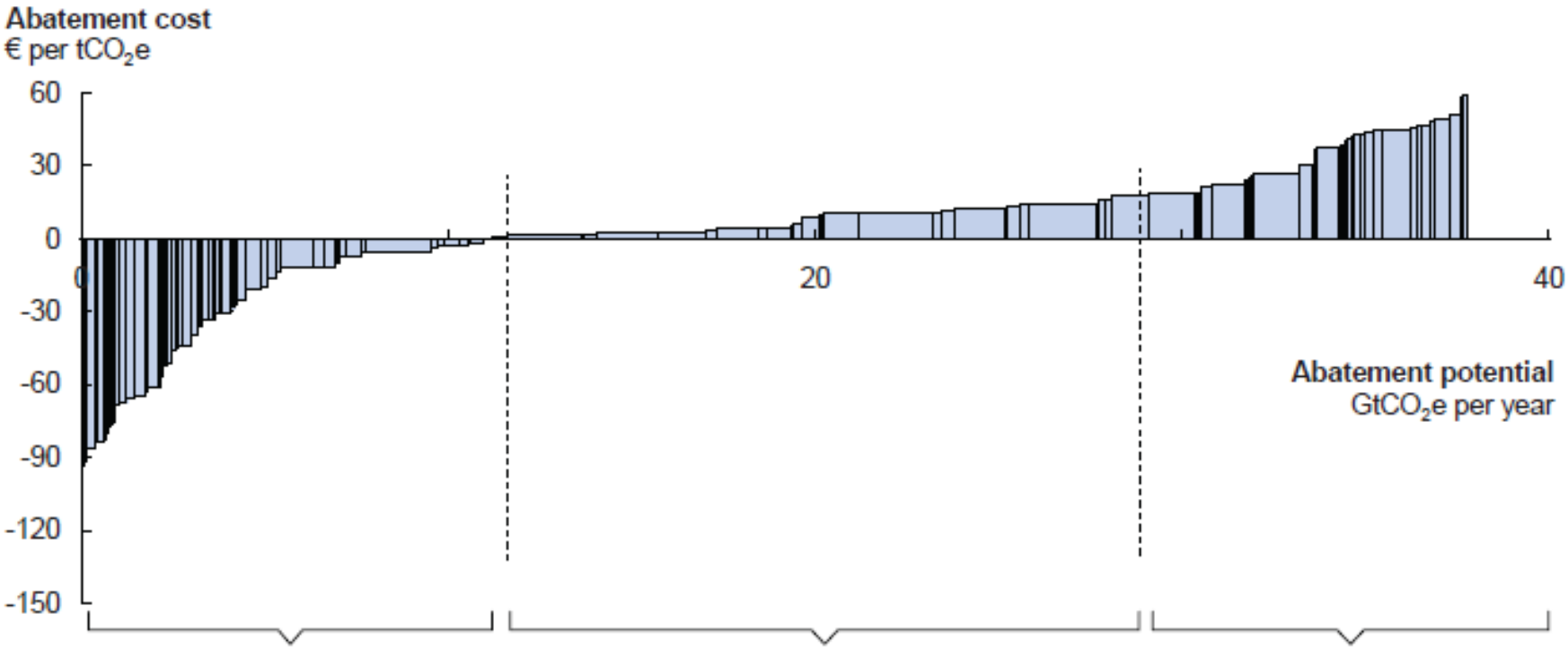
(3) Learning by sharing best practices in each area of the integrated approach



International review process will be needed under a public/private partnership.

Appendix 1 for discussion

Key areas of regulation



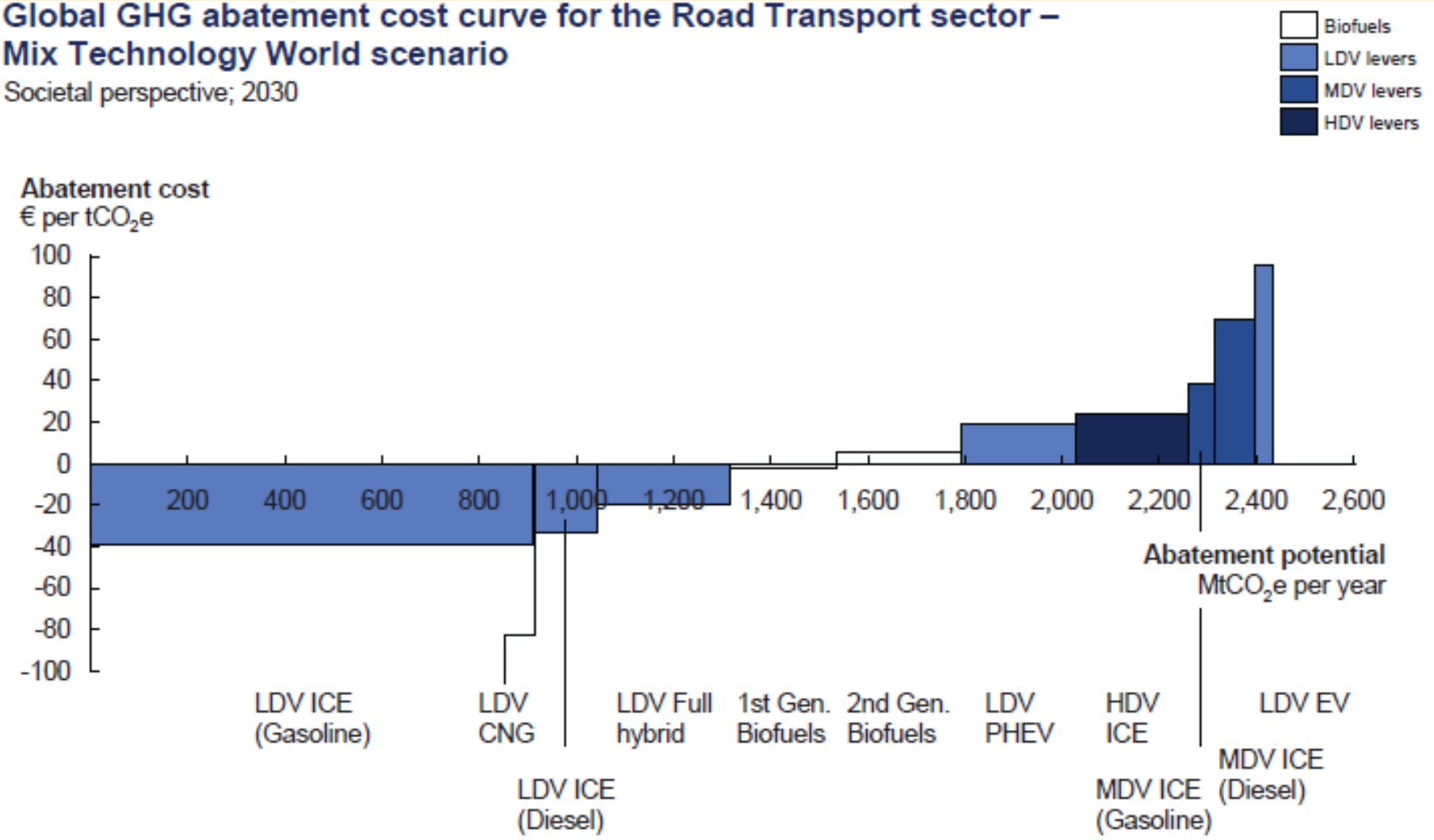
1. Energy efficiency regulation, e.g., technical standards for buildings and transportation
2. Long-term stable international system for power and industry
3. Mechanism to drive selected key technologies down the learning curve
4. Targeted systems for agriculture and deforestation linked to national development agendas

Source: Global GHG Abatement Cost Curve v2.0

Appendix 2 for discussion

Global GHG abatement cost curve for the Road Transport sector – Mix Technology World scenario

Societal perspective; 2030



Note: The curve presents an estimate of the maximum potential of all technical GHG abatement measures below €100 per tCO_2e in a penetration scenario if each lever was pursued aggressively. It is not a forecast of what role different abatement measures and technologies will play.

Source: Global GHG Abatement Cost Curve v2.0

Appendix 3 for discussion