



Vehicle fuel economy standards in the ASEAN: Need for harmonized approach

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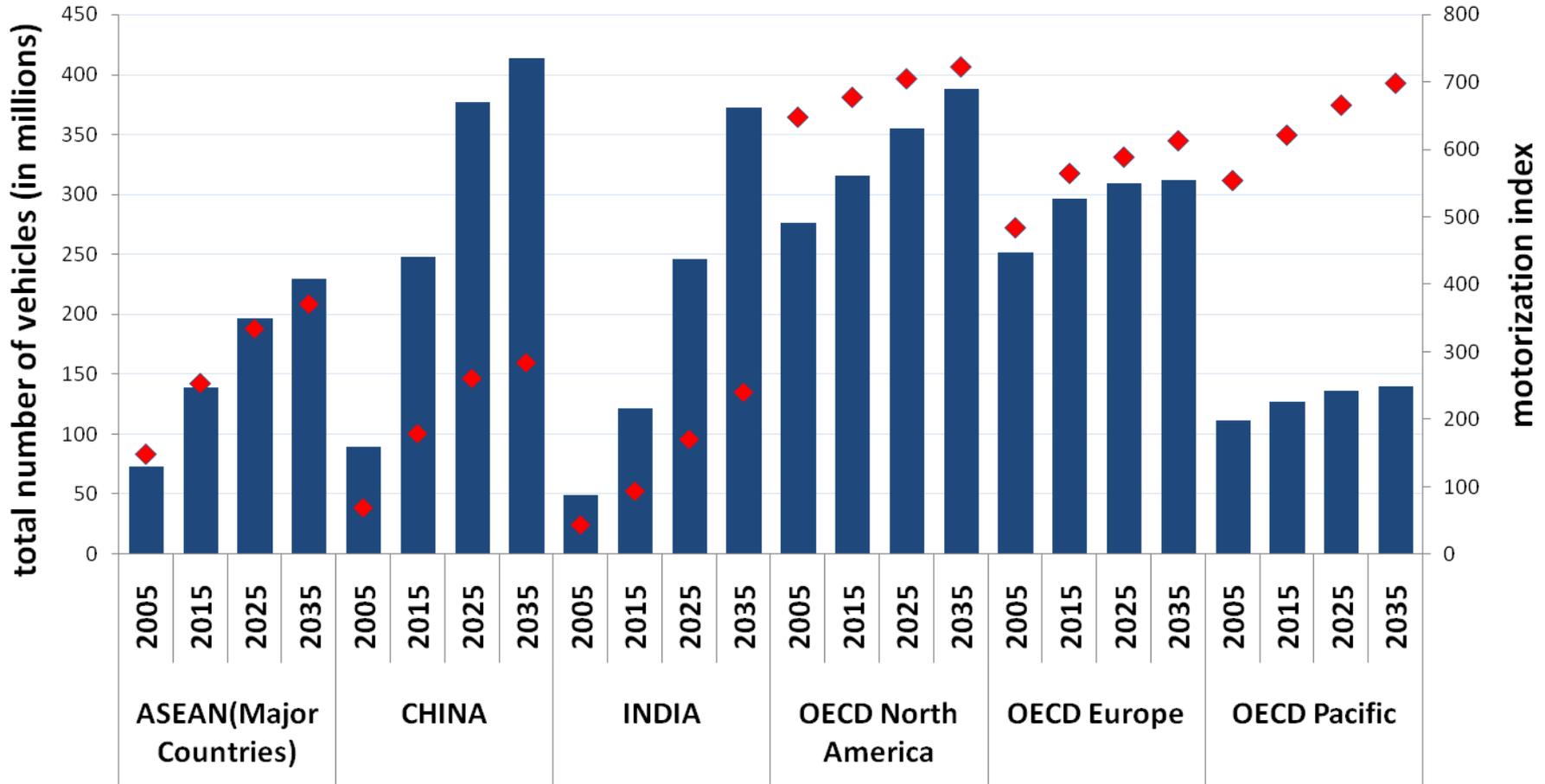
5th UNCRD EST Forum

Bangkok, Thailand

23-25 August 2010



Increasing Motorization in Asia



■ Total Vehicles (in millions)

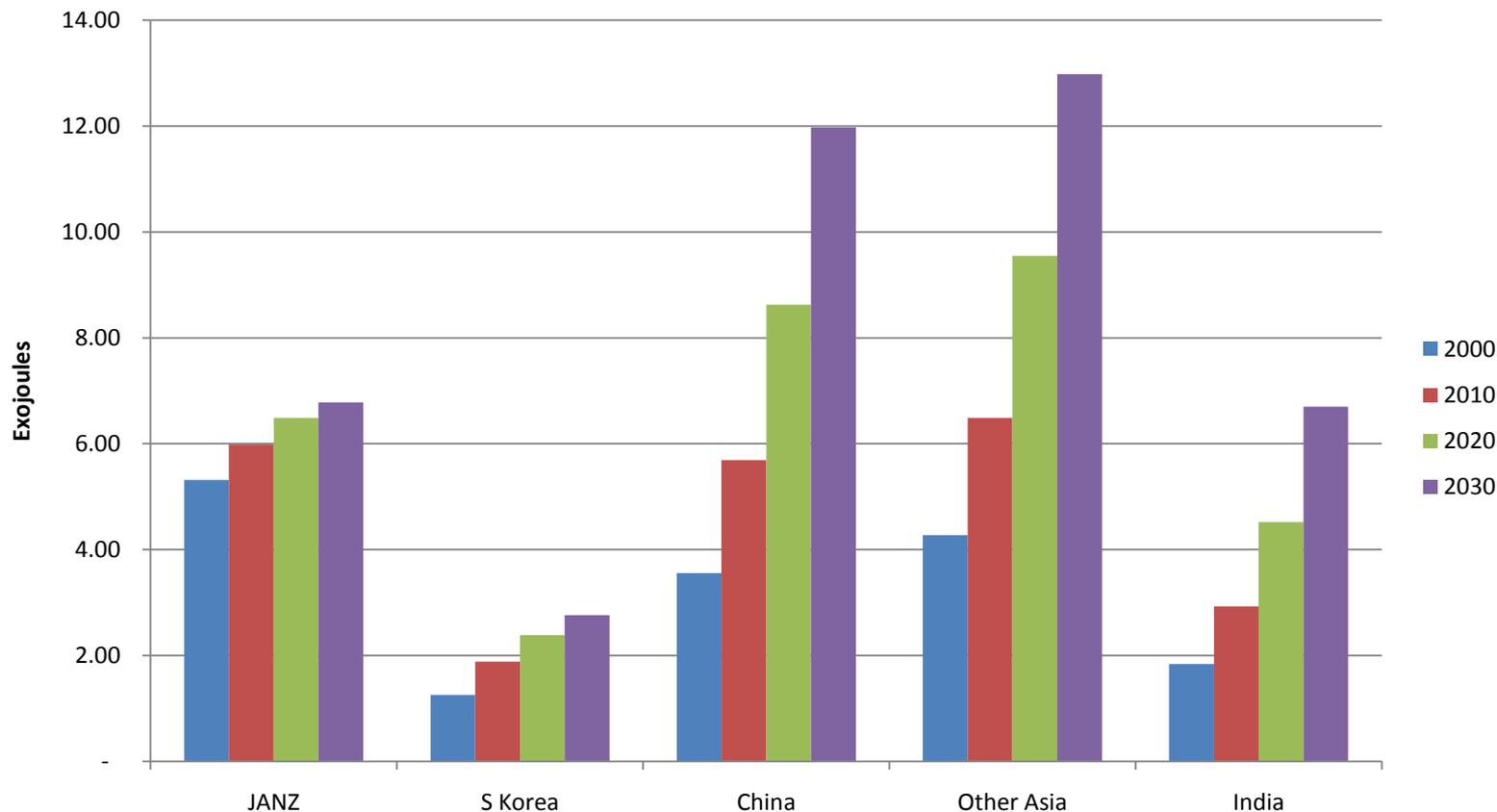
◆ Motorization Index (V/1000 P)

Source: 2009. ADB, CAI-Asia, Segment Y Ltd., and IEA



Increasing Energy Use in Transport

Total Transport Energy Use in Asia

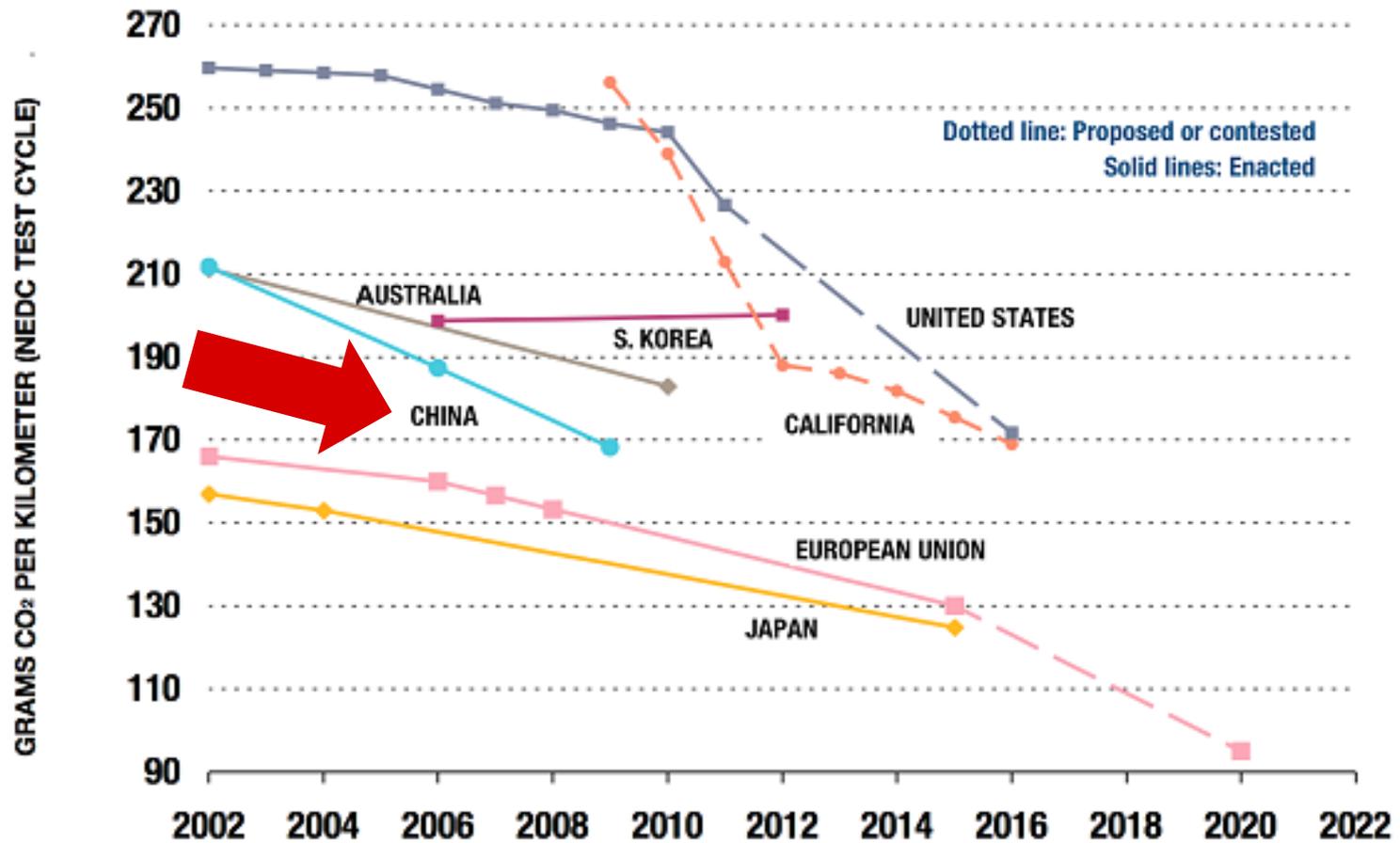


Source: IEA, WBCSD. IEA/SMP Transport Model



CO₂ Impacts of Vehicle Standards

Actual and Projected GHG Emissions for New Passenger Vehicles by Country/Region, 2002-2020



Source: Passenger Vehicle Greenhouse Gas and Fuel Economy Standards: A Global Update, ICCT. May 2009 update.



Fuel Economy Standards – South Korea

- Average Fuel Economy program and fuel economy rating identification of motor vehicles introduced in 2005
- Fuel economy standards enacted
 - Domestic cars (2006)
 - Imported cars (2009) if sales less than 10,000
 - Imported cars if sales more than 10,000 must meet US CAFÉ standards
- Reference average fuel economy standards are
 - 12.4 km/l for vehicles with engine displacement of 1 500cc or less
 - 9.6 km/l for displacement exceeding 1 500cc



Fuel Economy Standards - India

- Mandatory fuel efficiency standards and labelling scheme to be introduced in December 2011
- Main barrier is institutional arrangement: which ministry and which measures/scheme?
- Main incentive: fuel security
- The Indian Prime Minister's Office in June 2009 gave authority to
 - Bureau of Energy Efficiency to formulate the norms for auto fuel economy
 - Ministry of Shipping Road Transport and Highways (MoSRTTH) to enforce regulations.

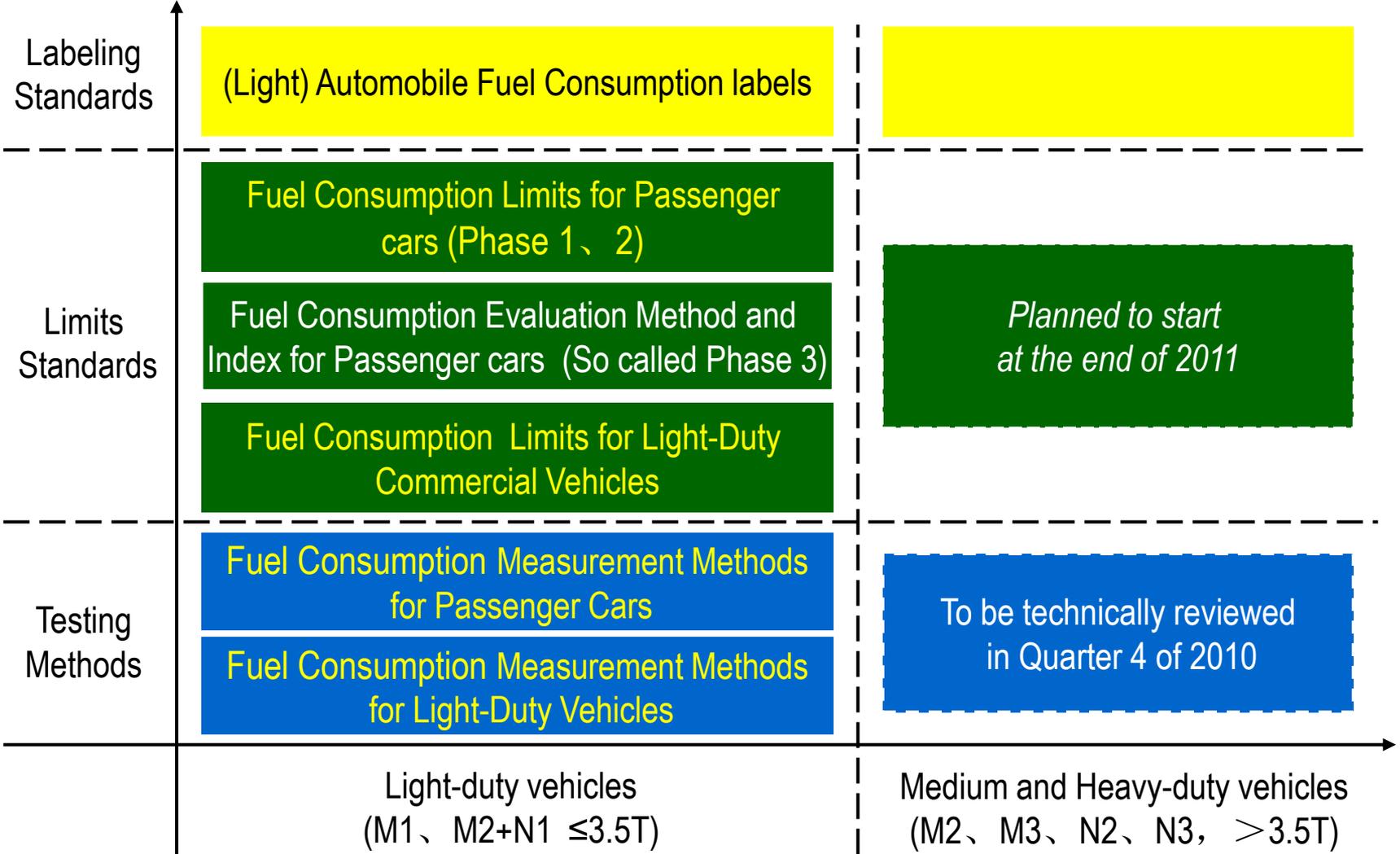


Fuel Economy Standards – China

- National Development and Reform Commission introduced fuel economy standards for new passenger vehicles in 2005
 - 16 categories based on vehicle weight
 - Standard values set for each category, and for manual and automatic transmissions
- Vehicle excise tax introduced in 2006 to stimulate sales of small-engine vehicles
- Phase I (Jul 2005): 9% fuel efficiency increase (CATARC 2007)
- China announced for 2015
 - Additional fuel economy improvement of 18%
 - Fleet wide average of 42.2 mpg (currently 36.8 mpg)
- End May 2010: stimulus plan for new energy vehicles to be released, expected to boost domestic production of energy-efficient vehicles



Status-Automotive Fuel Economy Standard System

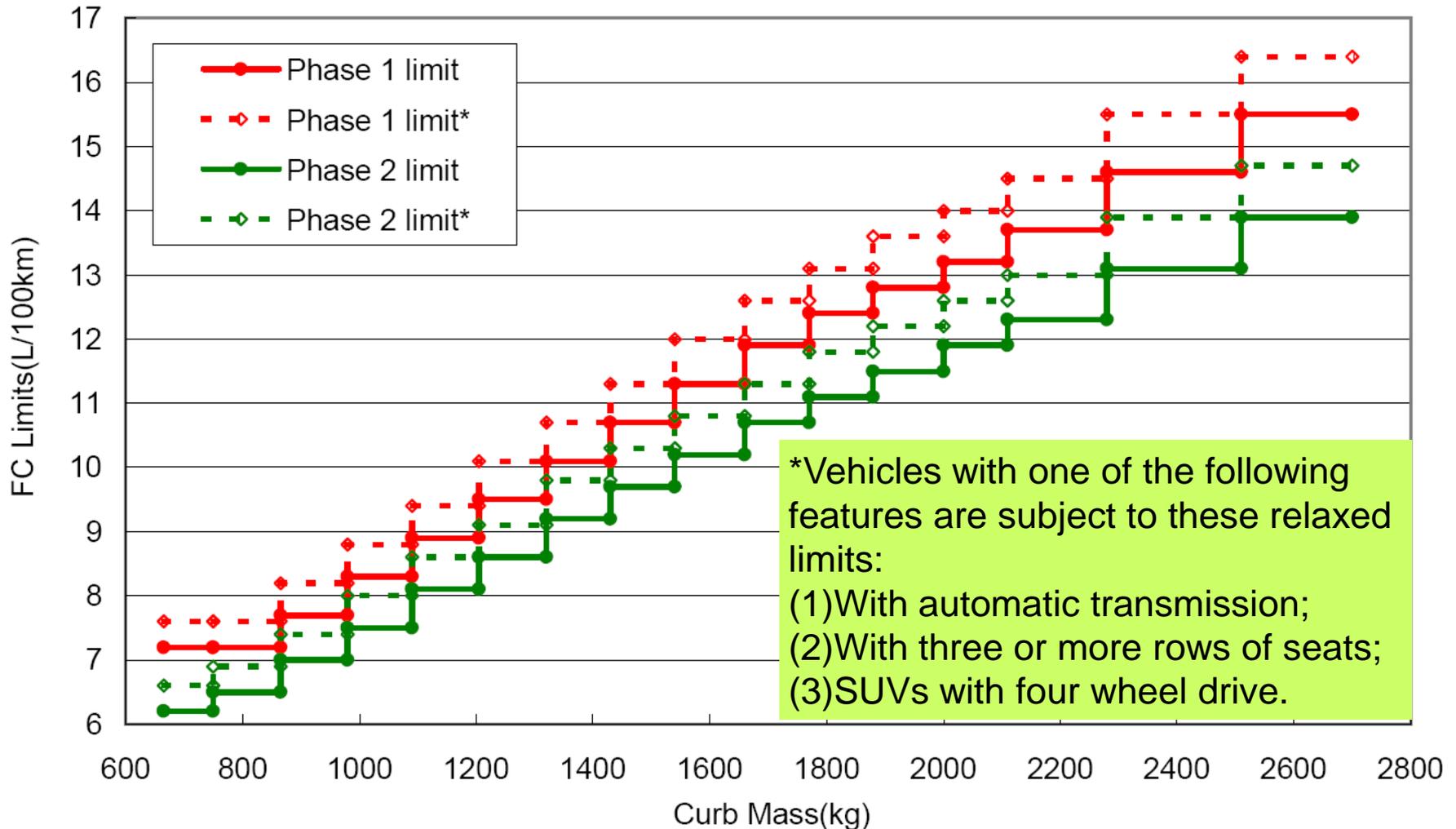


Status-FC limits for passenger cars



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Phase 1 and 2 Fuel Consumption Limits



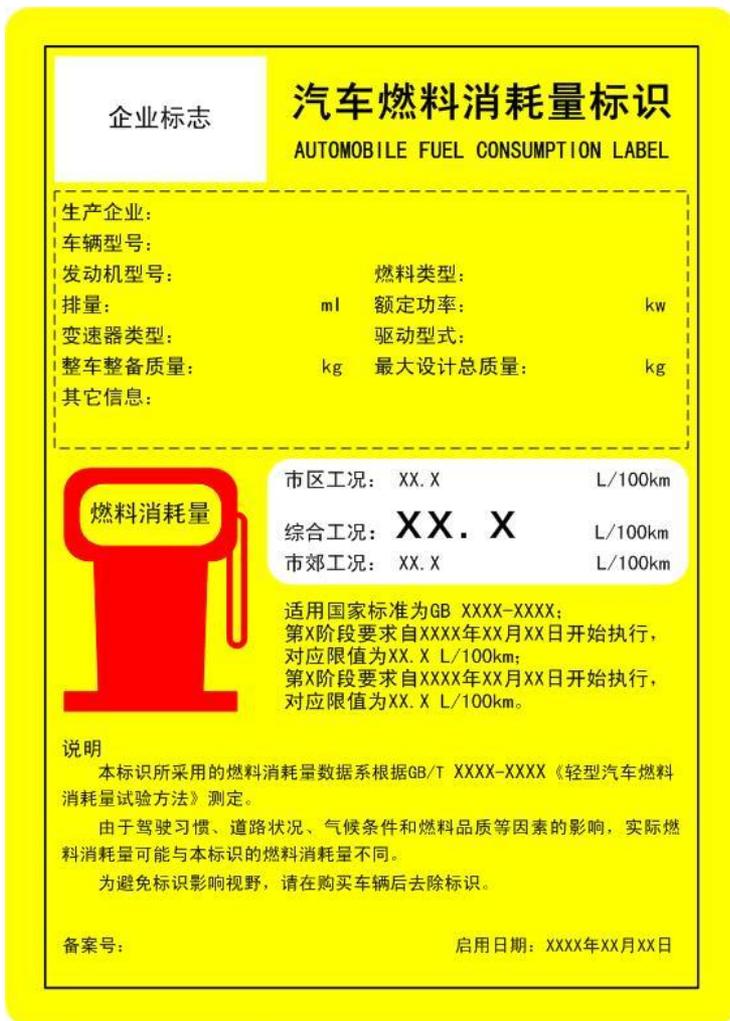
- Automobile fuel consumption labels (GB 22757-2007)
 - ▣ Minimum information displayed on the label
 - ▣ Size(A4/5) and format of the label
- “Fuel consumption labeling administrative rule for light duty vehicles”
 - ▣ Issued by MIIT in order to strengthen standard enforcement
 - ▣ Covering all vehicles with $GVW \leq 3.5$ t
 - ▣ Requiring specified vehicles for sale to be equipped with a label

 - ▣ MIIT issues fuel consumptions of all vehicles with $GVW \leq 3.5$ t on its website monthly.

Status-Fuel consumption label



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Manufacture's LOGO and Label title

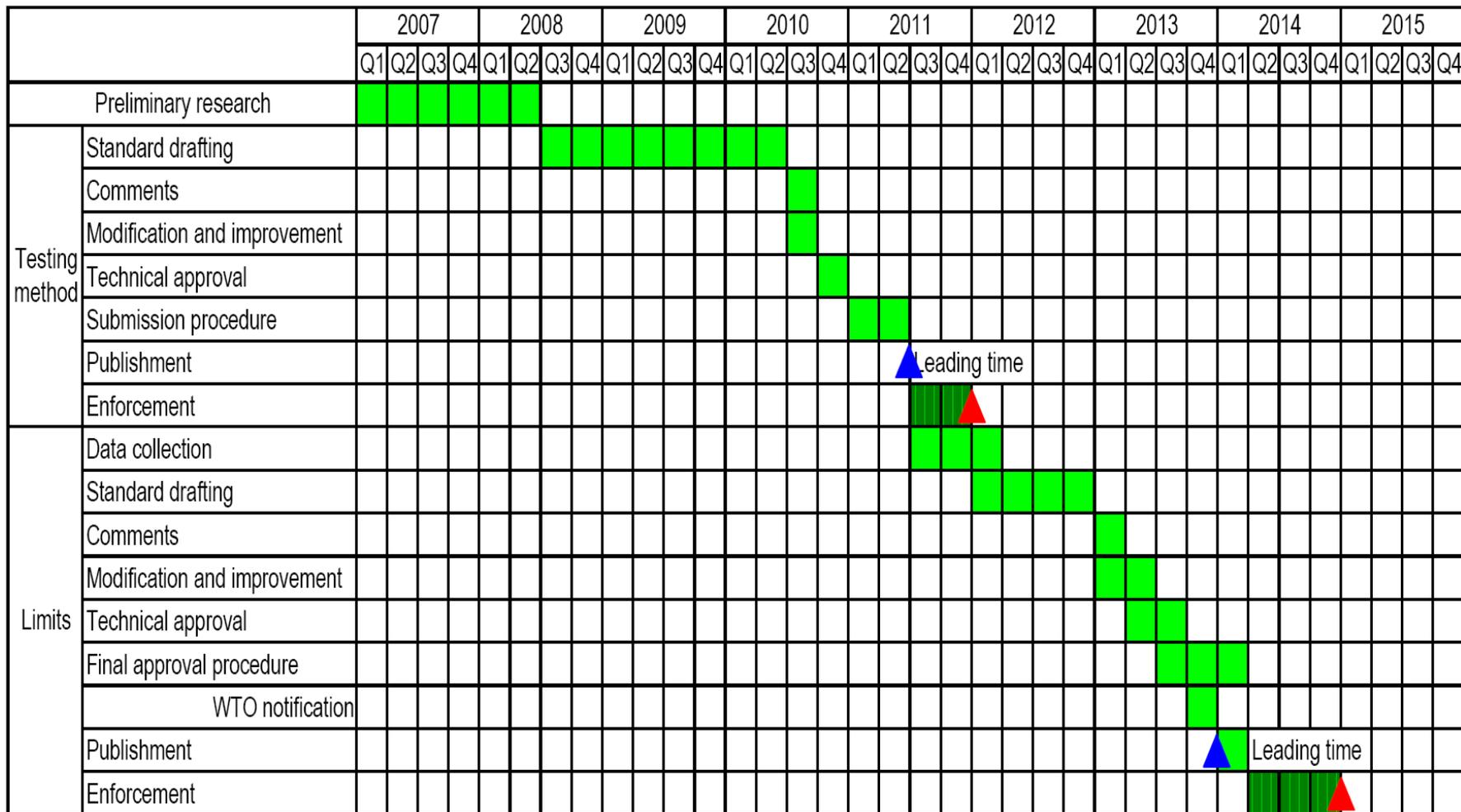
Manufacture's name and Vehicle characteristics

Urban, suburban, and combined fuel consumption

Applicable fuel consumption limits

Related explanations

Latest developments-Medium and Heavy vehicles



- Challenges
 - ▣ Continuous rapid increase in vehicle stock in future
 - ▣ Relatively low fuel economy of vehicles
 - ▣ Lacking in Chinese own driving cycles
 - ▣ Large gap between real fuel consumption and testing result
- Following tasks
 - ▣ To set up Corporate Average Fuel Consumption reporting, computing, and monitoring system
 - ▣ To implement fiscal measures based on fuel economy
 - ▣ To develop Chinese own typical driving cycles

Improving Fuel Economy in ASEAN

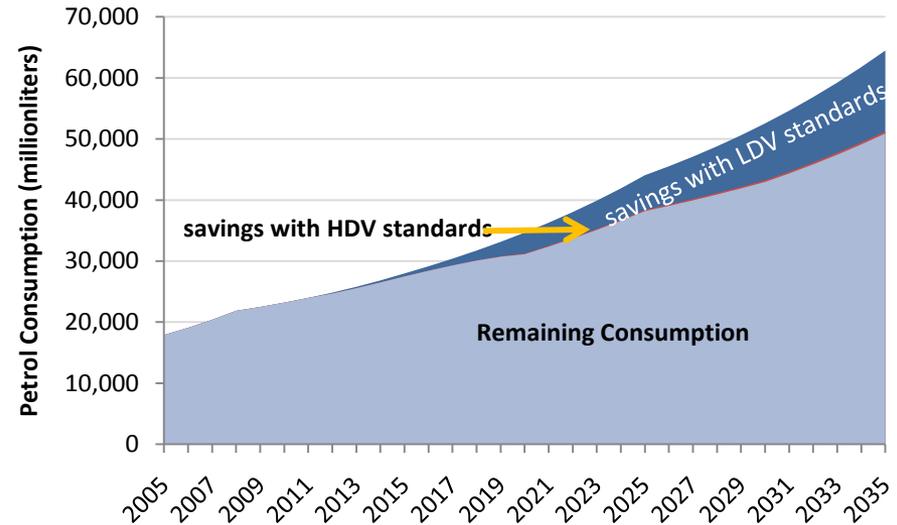
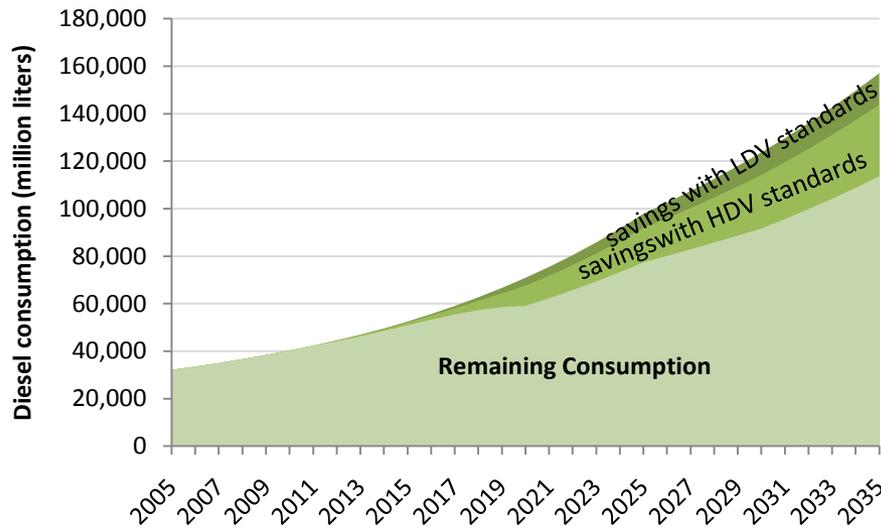


- Report by the Global Fuel Economy Initiative (GFEI) and CAI-Asia
- Objectives
 - Provide a basis for pro-active approach to fuel economy in the ASEAN by establishing a common fuel economy framework for policies and measures
 - Provide overview of fuel economy policies and measures in the ASEAN
 - Identify next steps for establishing a fuel economy framework and key stakeholders to be involved



Main Findings

- Significant fuel savings considering LDVs and HDVs for Indonesia, Thailand, Philippines, and Vietnam



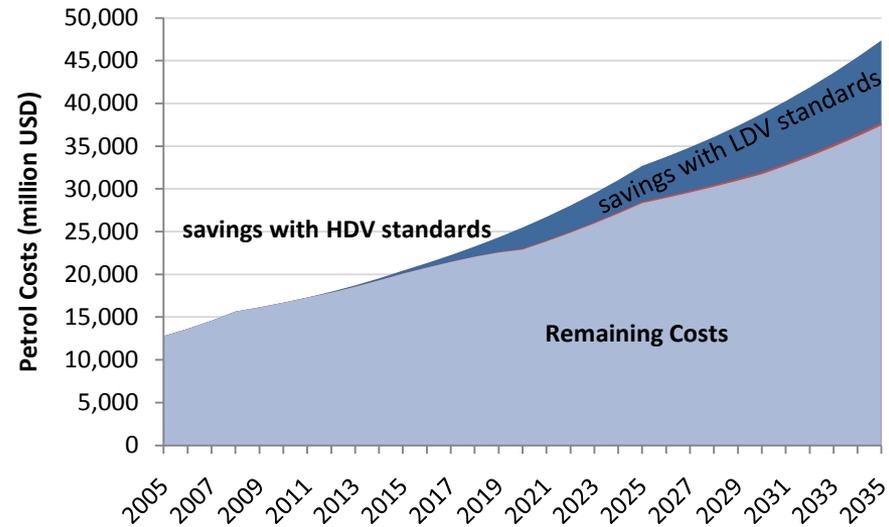
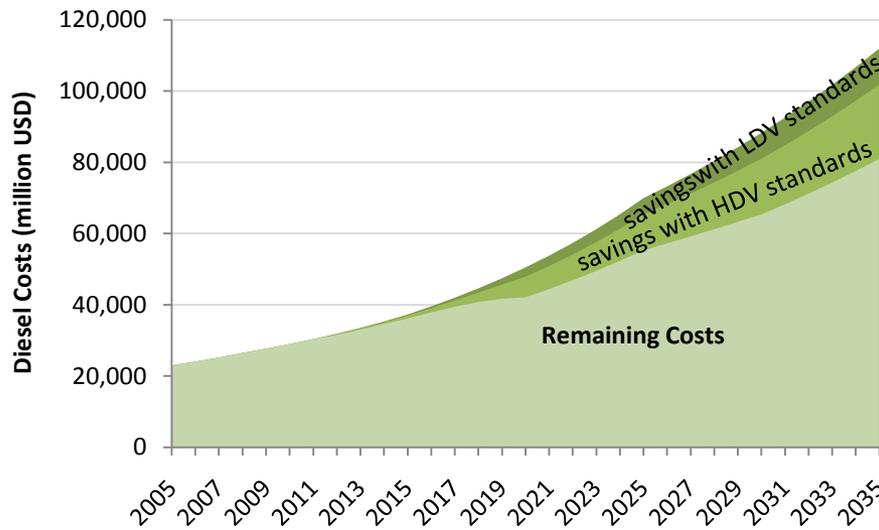
HDV+LDV fuel economy scenario (savings from 2012 to 2035):

- **446 billion liters diesel**
- **134 billion liters gasoline**



Main Findings

- Significant cost savings considering LDVs and HDVs for Indonesia, Thailand, Philippines, and Vietnam



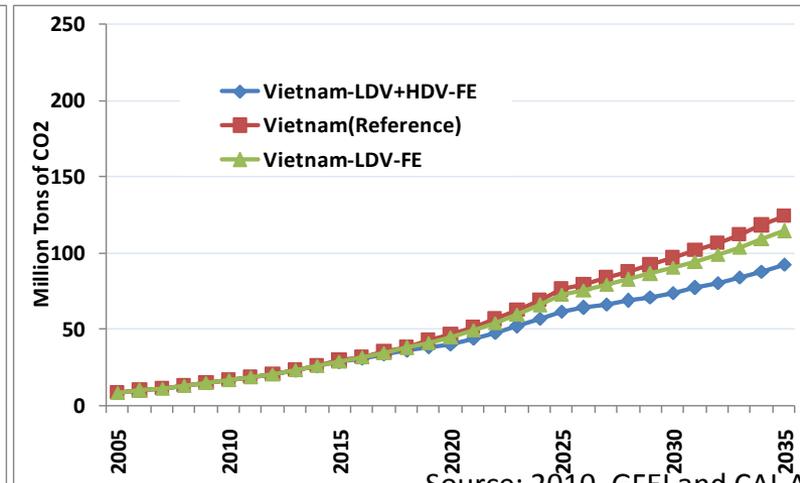
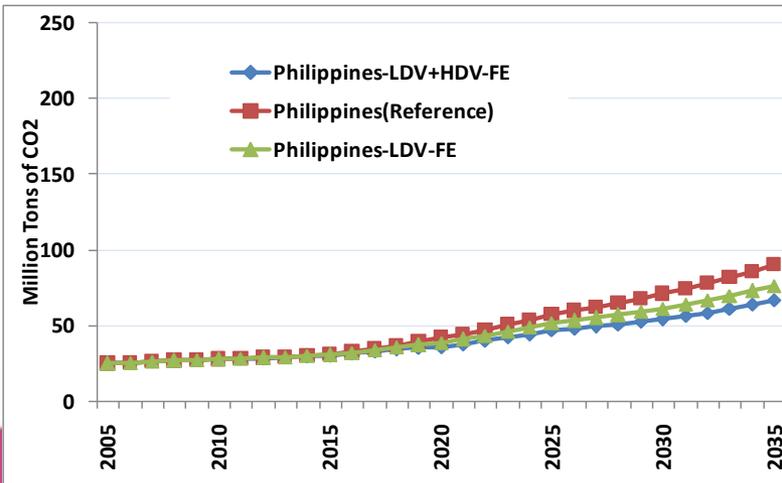
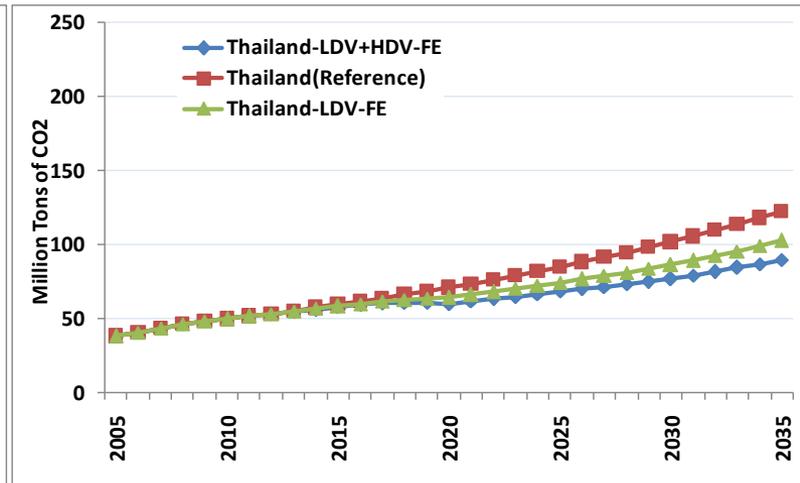
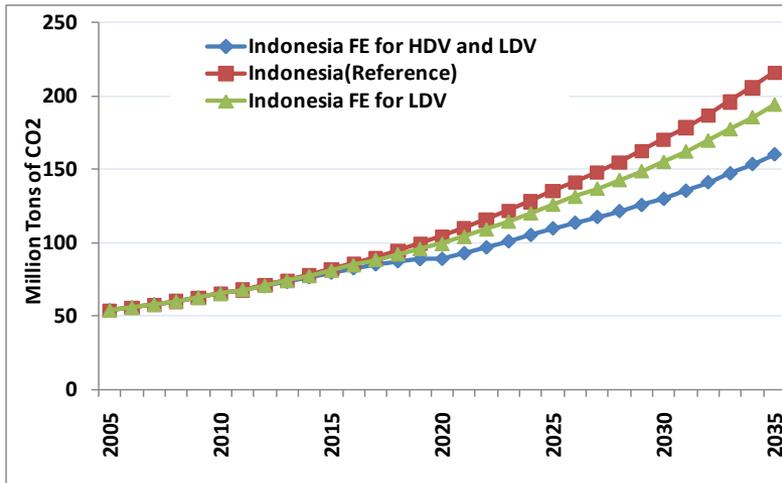
HDV+LDV fuel economy scenario (savings 2012 to 2035):

- **318 billion USD** from reduced diesel consumption
- **98 billion USD** from reduced gasoline consumption



Main Findings

1. High potential for reducing reduced CO₂ emissions (and air pollution) from LDV and HDV



Main Findings

2. Only Thailand has proposed fuel economy standards in Southeast Asia
3. Fuel economy must be seen in the context of other fuel, vehicle and energy-related issues
 - Fuel economy policies and measures currently ***do not rate as highly*** as alternative fuels and emissions management in the agenda of government ministries
 - The introduction of fuel economy policies and measures, particularly the setting of standards, ***will need to be complementary to or at least not undermine*** other energy and emissions-related policies and programs of the ASEAN Member Countries



Main Findings



4. Often several different government agencies involved in setting and developing standards related to fuels, vehicles, and energy

ASEAN Countries	Vehicle Emissions Standards	Fuel Quality	Vehicle Tariffs and Taxes and Fuel Subsidies and Taxes	Energy Efficiency and possibly Fuel Economy
Indonesia	Environment	Energy	Finance	Energy
Malaysia	Environment	Energy	Finance	Energy
Philippines	Environment	Energy	Finance	Energy
Singapore	Environment	Environment	Finance	Environment
Thailand	Environment	Energy	Finance	Energy
Vietnam	Transport	Environment	Finance	Transport

Source: 2010. GFEI and CAI-Asia



Main Findings



5. Need to involve vehicle manufacturers & other stakeholders

- Customer readiness, impacts on vehicle sales; test / compliance costs
- Fear of car industry moving to other countries
- Difficult to influence if only vehicle assembly and import
- Fuel subsidies have to be removed in parallel

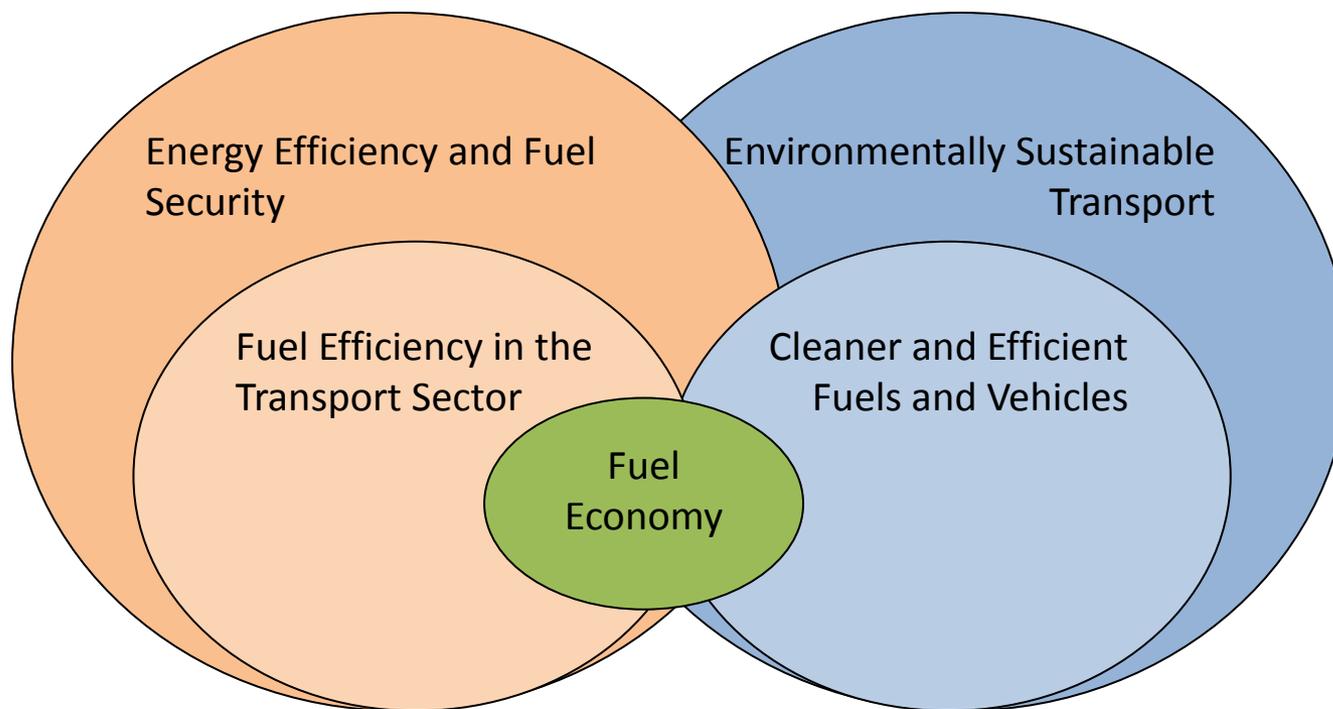
% of GDP	Fuel	Food	Remarks
Malaysia	2.6%	0.7%	Based on prices after June 08 hike
Indonesia	2.7%	0.2%	Fuel prices were raised in late May 08
Philippines	0.2%	3.4%	Fuel subsidy for public transport sector for 3 months starting April, and cut import duties on oil
Thailand	0.8%	0.1%	Diesel subsidy for 3 months ending July, subsidy for rice farmers to raise production
Singapore	0	0	



- ## 6. Need to overcome technical issues and other barriers
- Insufficient basic statistical data to set standards and assess impact
 - Perceived conflict with other policy objectives like biofuels
 - Fuel efficiency is not considered in car purchase choice
 - Economic incentives to promote the sale of cars with more fuel efficient engines seldom considered
 - Difficulties in obtaining reliable test results
 - Control at the borders with importation of second-hand/ used cars



Model for Fuel Economy Framework



Fuel Economy Framework in ASEAN



	First Tier	Second Tier
ASEAN bodies	Senior Transport Officials Meeting (<i>proposed</i>)	Others to be determined, in particular relating to energy and the environment
National Government	Agency that takes the lead in fuel economy	Agencies involved in setting policies for fuel, vehicles, energy and the environment
Stakeholder involvement	Car manufacturers	Vehicle manufacturers, oil/fuel companies, academic and research institutions, NGOs, other experts
Vehicles	LDV / cars	Trucks, buses, motorcycles
Policies and measures	Fuel economy	Link to other policies for fuel, vehicles, energy and the environment
Assistance	Awareness raising, knowledge sharing, capacity building, and pilot study for at least 1 ASEAN country	Financing and other assistance needed to implement fuel economy policies and measures and remove barriers





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For more information:
"Improving Vehicle Fuel Economy
in the ASEAN Region"
Global Fuel Economy Initiative
(GFEI) and CAI-Asia Center, 2010

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