



Fuel Economy Standards in Asia

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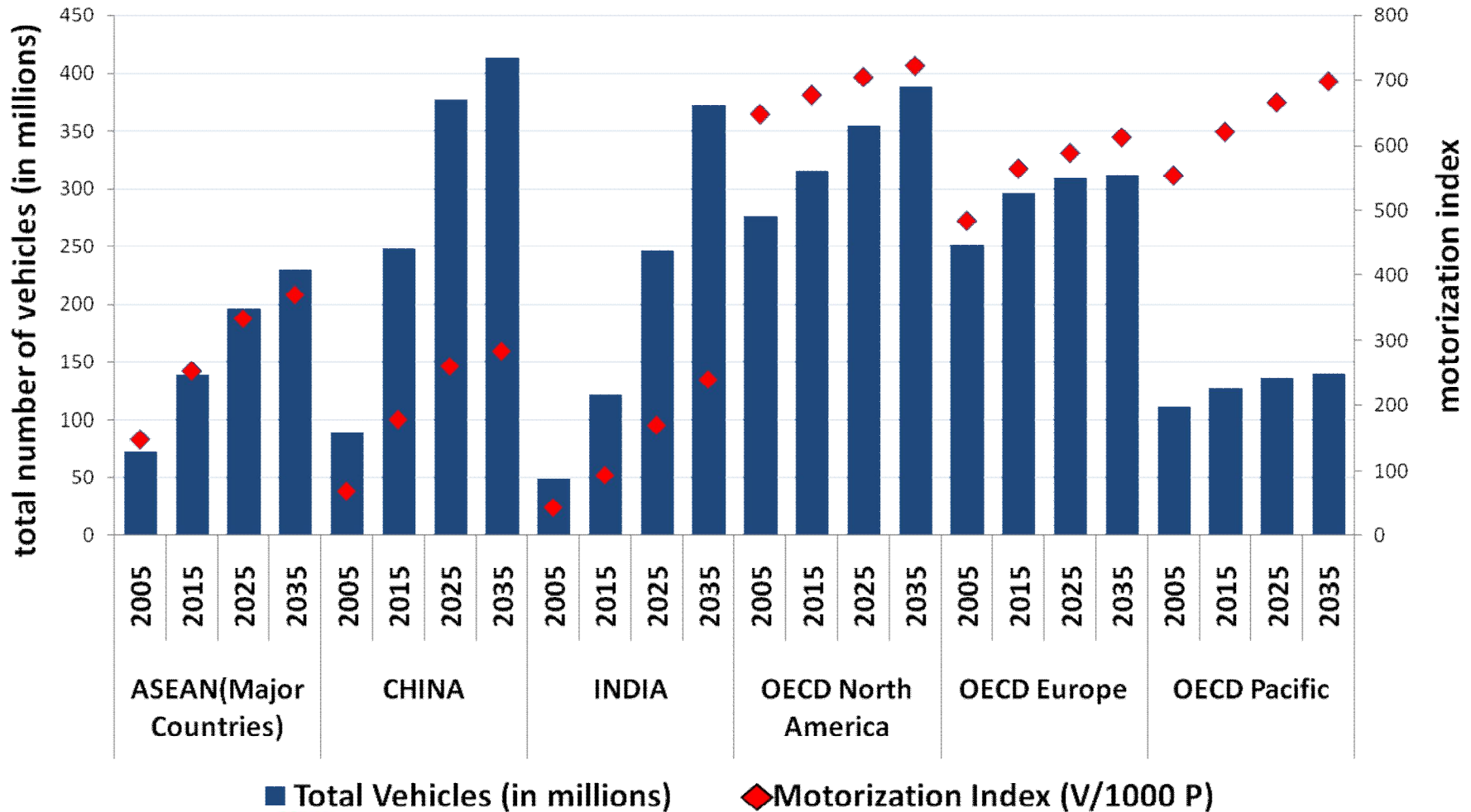
ADB Transport Forum

Asian Development Bank

26 May 2010



Increasing Motorization in Asia

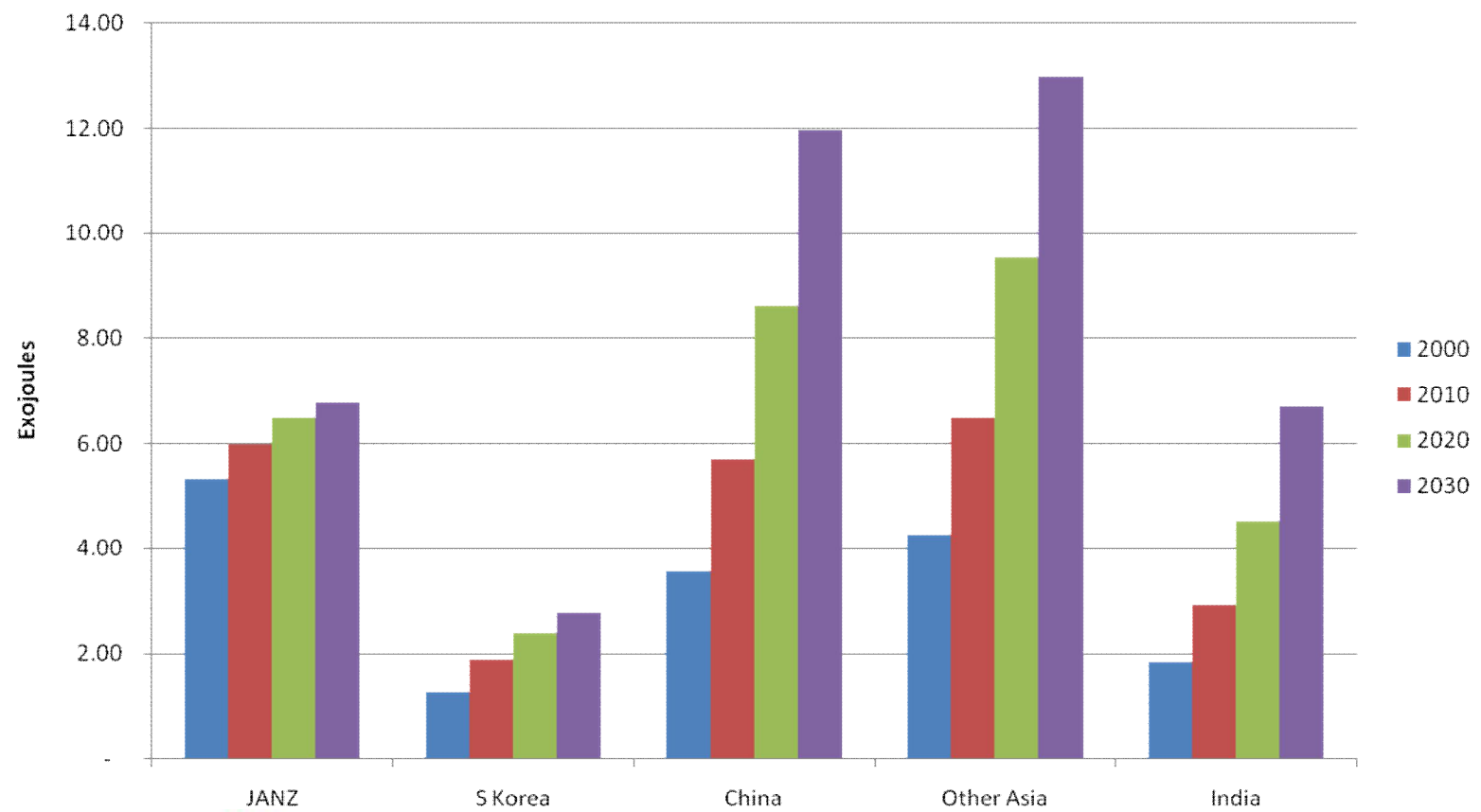


Source: 2009. ADB, CAI-Asia, Segment Y Ltd., and IEA



Increasing Energy Use in Transport

Total Transport Energy Use in Asia

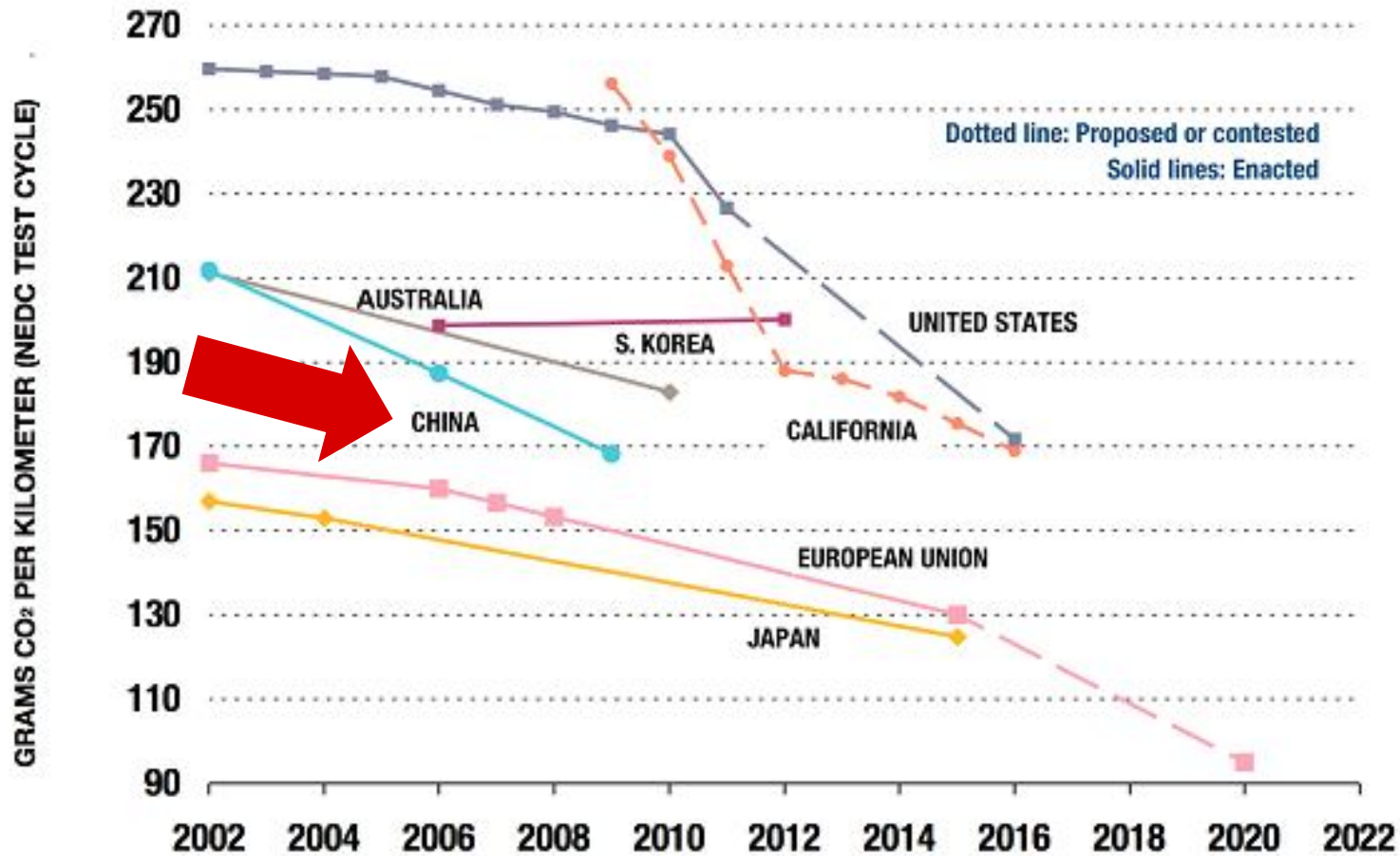


Source: IEA, WBCSD. IEA/SMP Transport Model



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 – Japan

- Regulatory “Top Runner” standards and the mandatory display of energy efficiency values enabled in 1998
- Fuel economy standards introduced for LDVs (1999), LPG (2003), HDV (2006)
- Mandatory fuel economy labeling of vehicles
- Progressively higher taxes levied based on the gross vehicle weight and engine displacement of automobiles when purchased and registered



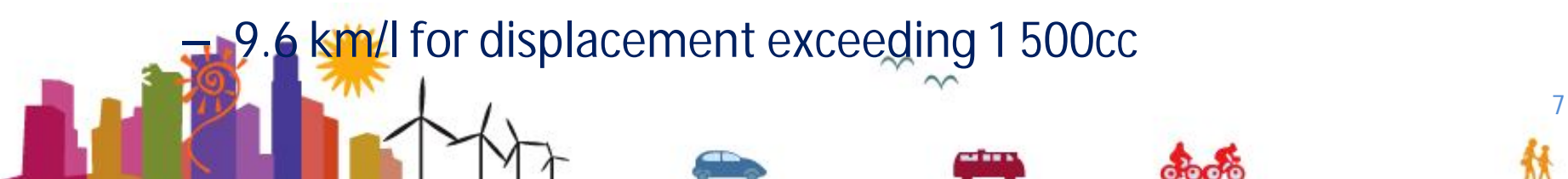
Fuel Economy Standards – China

- 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



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 - Thailand

- The Department of Energy Development and Alternative Energy has prepared a draft royal decree for highly efficient vehicles based on the Japanese “Top Runner” approach
- The proposed Royal Decree shall initially cover passenger vehicles and 1-ton pick-up trucks (diesel and gasoline) and shall employ a vehicle classification scheme that is weight-based
- It will employ the New European Driving Cycle in the testing protocol



Study on Improving Fuel Economy in ASEAN

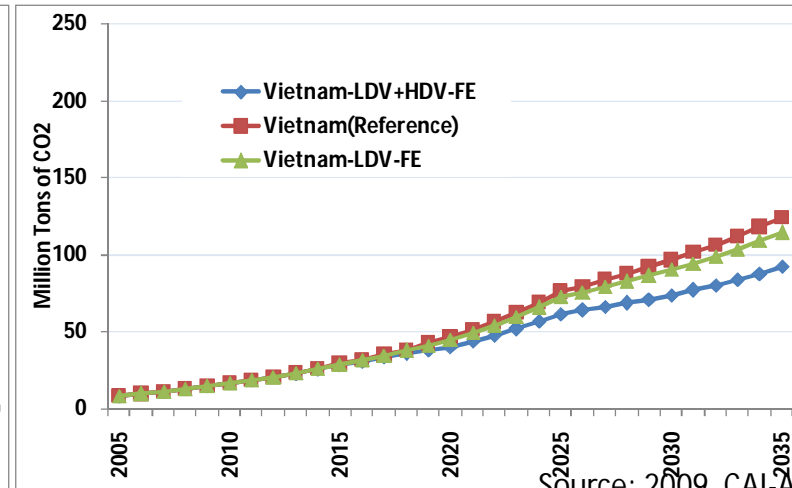
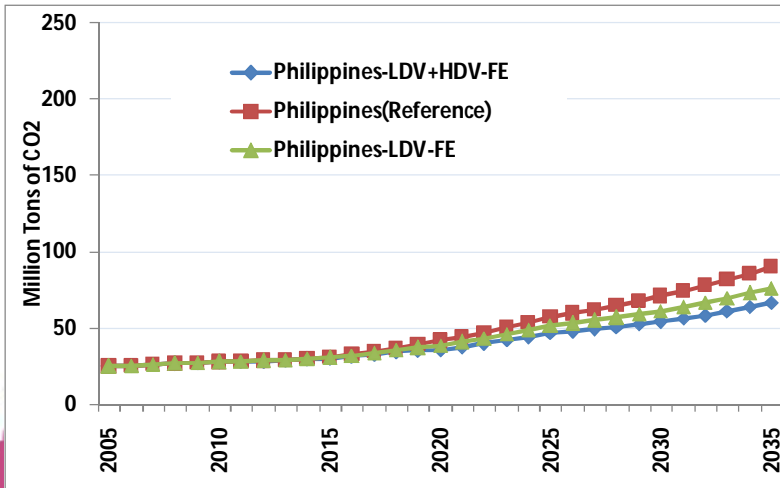
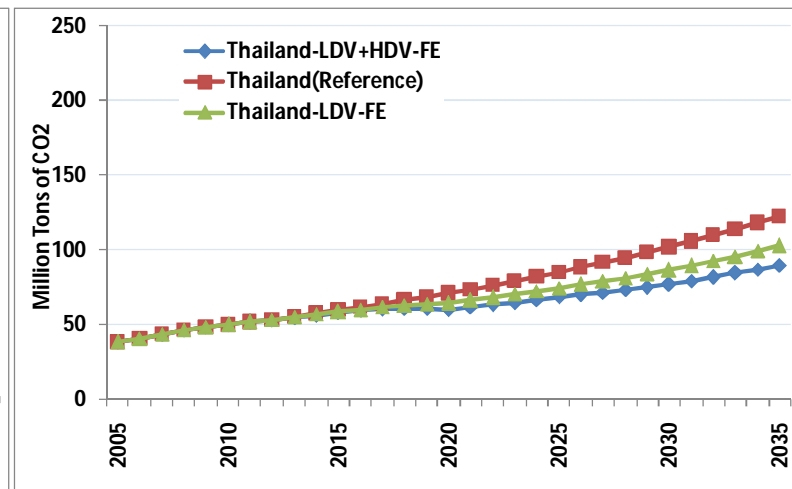
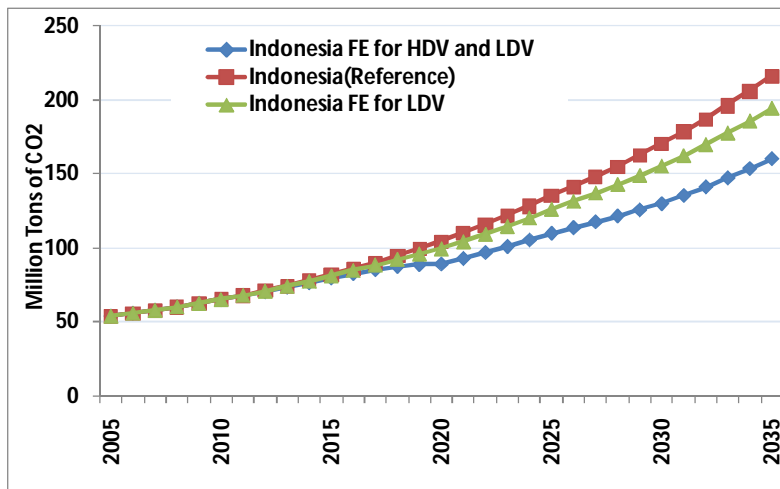


- Study by the Global Fuel Economy Initiative (GFEI) and CAI-Asia.
- Objectives
 - Provide a basis for pro-active approach to fuel economy in the ASEAN by establishing a common fuel economy framework for policies and measures
 - Provide overview of fuel economy policies and measures in the ASEAN
 - Identify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



Main Findings

1. Except for Thailand, no fuel economy standards are being developed in ASEAN, despite significant potential for CO2 reductions



Source: 2009. CAI-Asia.



Main Findings

2. 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

3. 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



Main Findings

4. 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	



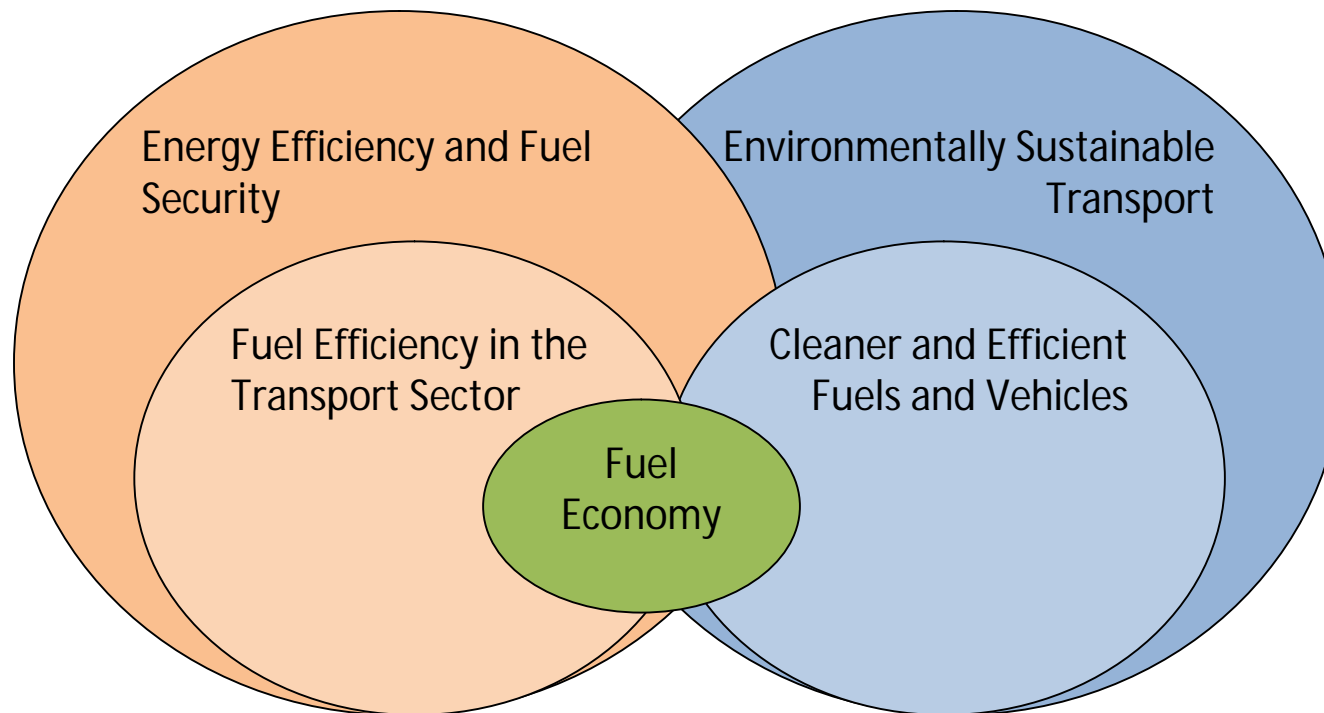
Main Findings

5. Need to overcome technical issues and other barriers

- Lack of 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

