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Identification of Knowledge Gaps and Other Barriers

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“Energy Efficiency and Climate Change Mitigation in the Land Transport
Sector”



Content

1. Roadmap outline and development steps
 - A. Objectives, deliverables & timeline, progress report
 - B. Discussion of the Roadmap outline by section
2. Fine-tuning of the Roadmap Vision
3. Identification of knowledge gaps and other barriers
4. Roadmap goals and milestones



Knowledge Gaps and Other Barriers

Two key questions to ask yourself:

1. Do we miss anything?
2. Do you agree/disagree with the proposed elements?



Knowledge Gaps



Fuel Economy Baselines – Available Data

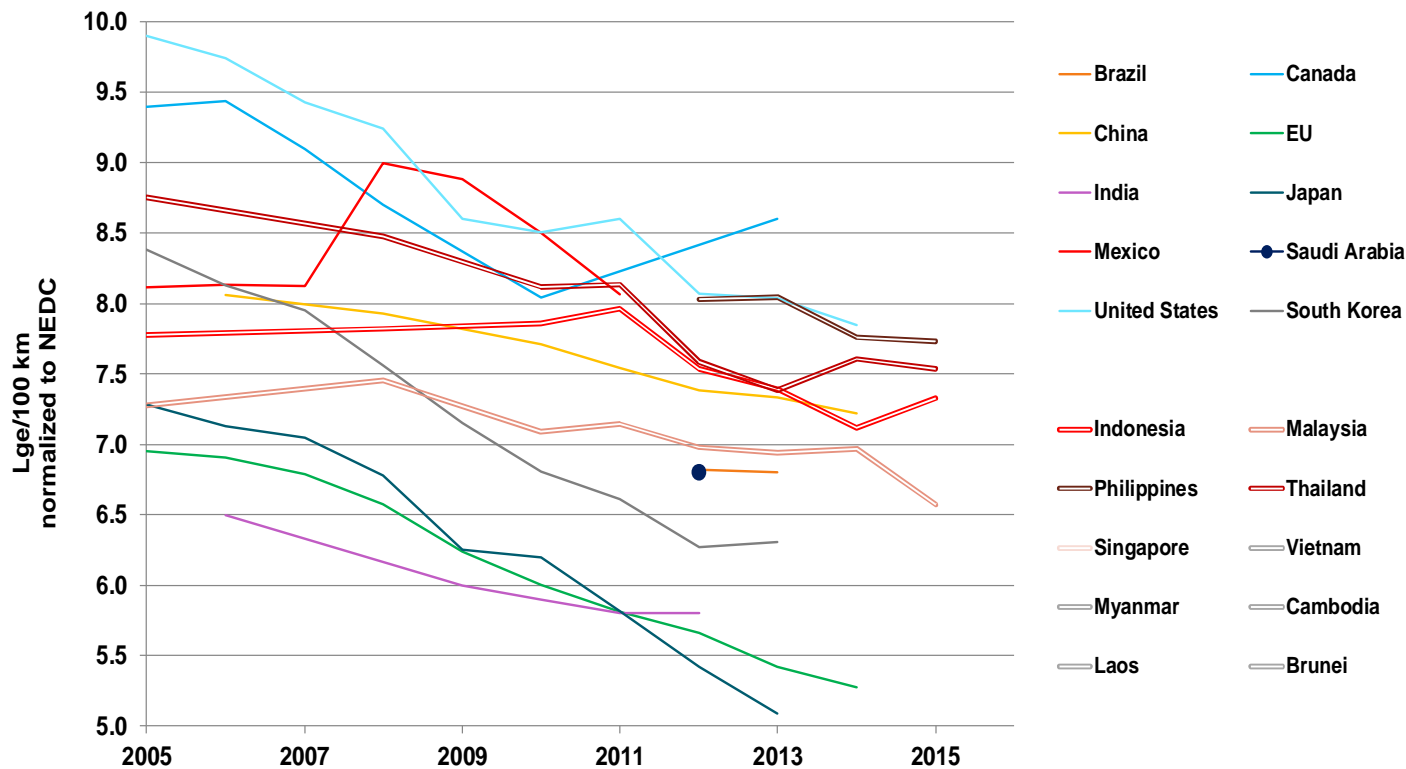
Country	Area (km ²)	Population	GDP per cap (USD PPP, IMF 2016)	New vehicle FE baseline	LDV market structure-segment and powertrain	LDV market structure - domestic vs. import
Indonesia	1,904,569	255,975,000	10,537	LDV, 2005-2015 in GFEI 2017	LDV, 2005-2015 in GFEI 2017	TBD
Philippines	300,000	103,371,800	8,325	LDV, 2015 in GFEI 2017	TBD	TBD
Vietnam	331,690	92,700,000	5,957	PC and 2W 2013-2015 in GIZ 2017	PC and 2W 2013-2015 in GIZ 2017	PC and 2W 2013-2015 in GIZ 2017
Thailand	513,115	65,339,612	16,959	PC and 2W 2013-2015 in GIZ 2017; LDV, 2005-2015 in GFEI 2017	PC and 2W 2013-2015 in GIZ 2017; LDV, 2005-2015 in GFEI 2017	PC and 2W 2013-2015 in GIZ 2017
Myanmar	676,578	51,419,420	5,514	TBD	TBD	TBD
Malaysia	329,847	31,427,096	25,552	LDV, 2005-2015 in GFEI 2017	TBD	TBD
Cambodia	181,035	15,626,444	3,340	TBD	TBD	TBD
Laos	236,800	6,492,400	5,748	TBD	TBD	TBD
Singapore	707.1	5,535,000	85,253	New vehicle FE inventory exists	TBD	TBD
Brunei	5,765	411,900	80,648	TBD	TBD	TBD

- Priority: Missing FE baselines in Vietnam, Myanmar, Cambodia, Laos, Singapore and Brunei



Fuel Economy Baselines – Available Data

The ASEAN LDV market is among the least efficient markets with FE regulation



	2015 LDV FE
France	4.90
Italy	5.10
Turkey	5.20
United Kingdom	5.40
Germany	5.50
Japan	5.50
India	5.70
Korea	6.40
Malaysia	6.60
Brazil	6.80
Ukraine	6.90
Argentina	7.00
South Africa	7.10
China	7.20
Egypt	7.30
Indonesia	7.30
Peru	7.30
Chile	7.40
Russian Federation	7.50
Thailand	7.50
Australia	7.70
Philippines	7.70
Mexico	7.80
United States	8.00
Canada	8.20



Completion of overview of planned and existing national fuel economy policies

Input date: May 2017

3.2 Overview of Existing and Planned Light Duty Vehicle Fuel Economy Policies

- Detailed overview of the state of the art of existing and planned fuel economy policies by country in the ASEAN region

Table 2 Overview of the Status of Fuel Economy Policies in the ASEAN Region (as of November 2016)

COUNTRY	Fuel Economy Calculations, Fuel Economy Standards, Type of Vehicles Covered	Baseline Fuel Economy Standards	Fuel Quality and Emissions Standards	Vehicle Public Information programmes	Fiscal incentives and/or other Tax Instruments
Indonesia	Baseline calculations and Cost-Benefit Analysis completed in 2012. Establishment of standards currently not under...	Currently, Euro 2 (LDVs) and Euro 4 by 2016	2000ppm sulfur diesel Currently, Euro 2 (LDVs) and Euro 4 by 2016	Voluntary labelling by manufacturers based on test data from type approval process Eco-driving programs and intensive public policy dialogues	Low Cost Green Car Program since 2013 including zero luxury sales tax (LST) for 120ccm vehicles(diesel: 150 ccm)with 20km/lit

- Review and completion of the collected information
- Review and completion of references



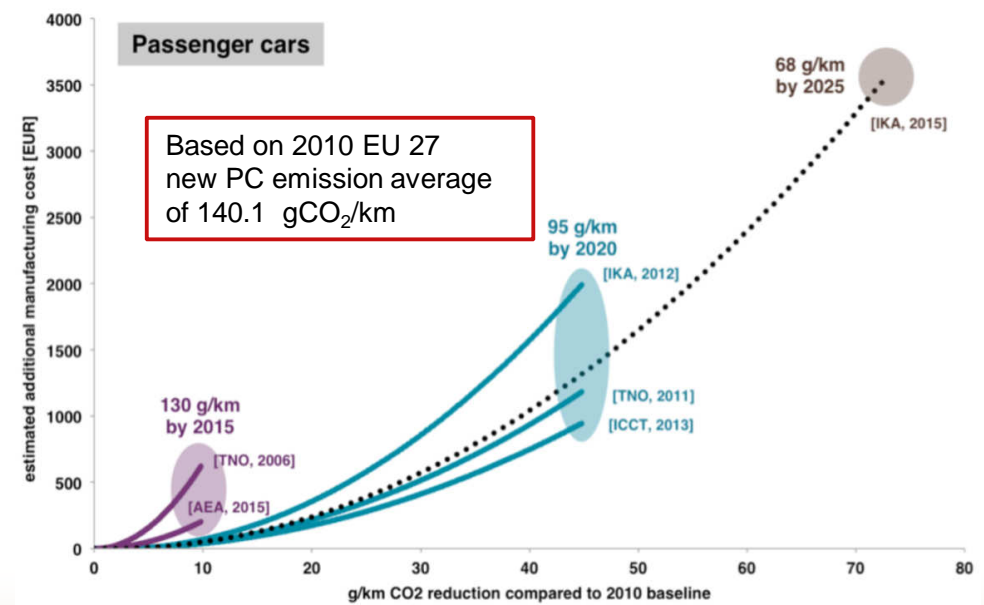
Fuel Economy Policies: Cost-benefit analysis

Assessment of region-specific technology costs to achieve the FE target based on:

- the baseline FE
- **estimates of additional costs per vehicle by predominant size/powertrain classes**
- projected vehicle sales and estimated size class distribution

Assessment of savings due to reduced fuel use based on:

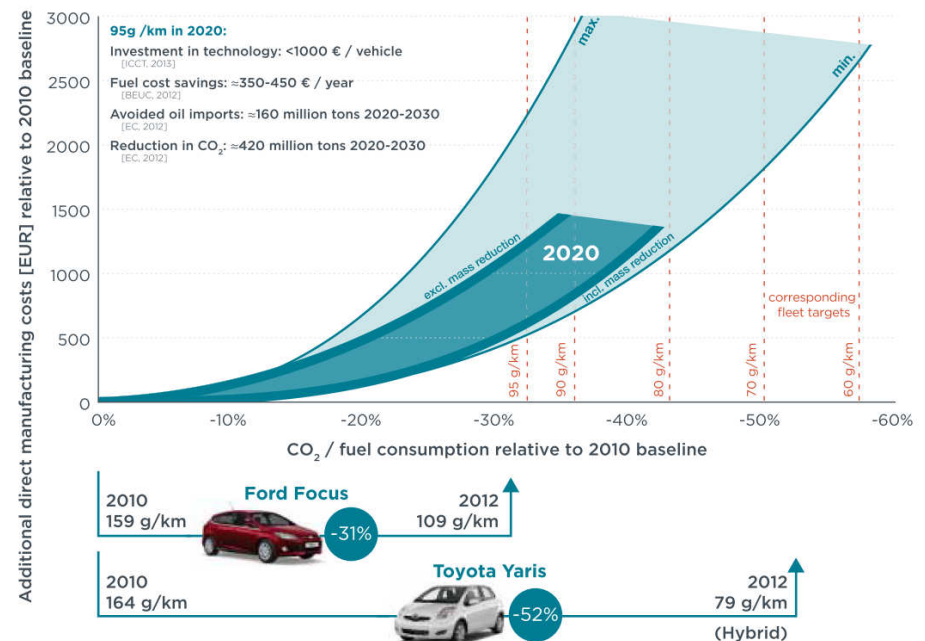
- the targeted FE development of new vehicles over time
- projected vehicle sales
- Assumptions on average annual driving distance per car
- Assumptions on future fuel prices





Assessment of Region Specific Vehicle Technology Costs

- Extensive studies have been carried out for the U.S. and Europe
 - 2025 Passenger Car and Light Commercial Vehicle Powertrain Technology Analysis, FEV 2015
 - Analysis of Greenhouse Gas Emission Reduction Potential of Light Duty Vehicle Technologies in the European Union for 2020-2025, Ricardo 2012
 - CO₂ reduction technologies for the European car and van fleet, a 2020-2025 assessment: initial processing of Ricardo vehicle simulation modeling CO₂ data, ICCT 2012
- Technology cost analysis either based on expert interviews or “tear down” analysis



Source: ICCT 2013



Interactive Collection of Other Barriers



Collection of Other Barriers for Fuel Economy Development and Implementation

Possible categories:

1. Administrative
2. Financial
3. Behavioral
4. Conflict of interests – Role of the car industry



Thank you!