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ASEAN Fuel Economy Roadmap Outline and Development Steps

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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**



Objectives, deliverables & timeline



Objectives – Why are we doing that?

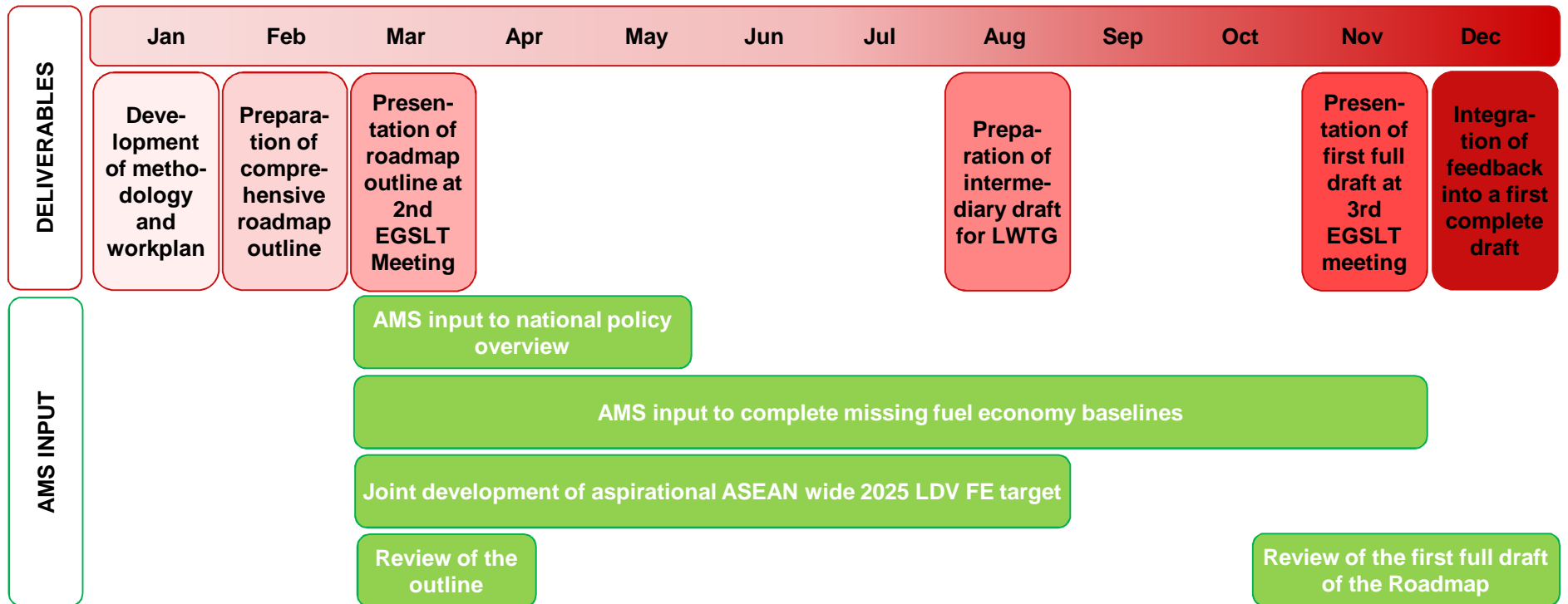
- Improving the fuel efficiency of new vehicles in the ASEAN region
- Highlighting all benefits of fuel economy improvement – reduced energy use, CO₂ and pollutant emissions, costs and fatalities
- Providing guidance for effective fuel economy policy development by:
 - illustrating the required data and presenting/supporting the needed analysis
 - offering a policy tool box in order to help developing adequate measures



- Creating the understanding of the matter, developing common measures and indicators
- Bringing together all relevant stakeholders
- Emphasizing the value of cooperation within the ASEAN region
- **Taking decisions!**



Deliverables and Timeline 2017



Preparation of first full draft of the Asian FE Roadmap



Progress report

What has been done to date:

1. Development of workplan and methodological approach
2. Definition of Roadmap scope
3. Drafting of a detailed roadmap outline
4. Drafting of Roadmap vision
5. Development of preliminary proposals for a 2025 ASEAN fuel economy target for new light duty vehicles
6. Compilation of a summary of required ASEAN Members States (AMS) input to the Roadmap



Discussion of the Roadmap outline



Discussion of roadmap outline




Two key questions to ask yourself:

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



Structure

- Table of contents – see handout
- Final product: About 50 to 60 pages
- Visualization of time line and priorities: Separate foldout which summarizes the findings of the roadmap

 ASEAN – German Technical Cooperation Transport and Climate Change		 
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ASEAN FE Roadmap – Main Sections

1. Preface
2. Introduction
3. Light Duty Vehicle Fuel Economy in the ASEAN Region – State of the Art
4. A Brief Introduction to Light Duty Vehicle Fuel Economy Technology
5. Light Duty Vehicle Fuel Economy in the ASEAN Region – A Vision out to 2025
6. Light Duty Vehicle Fuel Economy in the ASEAN Region – Gaps and Barriers
7. The Fuel Economy Policy Toolbox
8. Successful Development of Fuel Economy Policies in the ASEAN Region – Key Recommendations and Actions
9. Visualization – Timeline and Priorities for Fuel Economy Policy Development
10. References



Preface

Aims at providing a Vision for the use of the document

- Definition of target group: Government, industry, academia and interested public
- Should act as catalyzer to facilitate fruitful discussion among all stakeholders
- Should provide guidance to successfully develop and implement fuel economy policies
- Emphasizes the need for collaboration in the ASEAN region:

“While most of the national vehicle markets in isolation are of small or moderate size, the ASEAN light duty vehicle market as a whole is significant, accounting for about 3% of the global vehicle sales and being hence comparable to the Brazilian market.”

The introduction of aligned fiscal fuel economy policy measures in combination with common regulatory targets has the highest potential to bring the best available vehicle technology at the lowest costs to the ASEAN consumer.”



Introduction

- **Scope of the Document**
- **Transport Energy Use, Emissions and Climate Change**
- **Light Duty Vehicle Fuel Economy – Aligning Units and Measures**
- **How Light Duty Vehicle Fuel Economy Can Save Energy and Money**
- **Light Duty Vehicle Fuel Economy Policies Around the World**



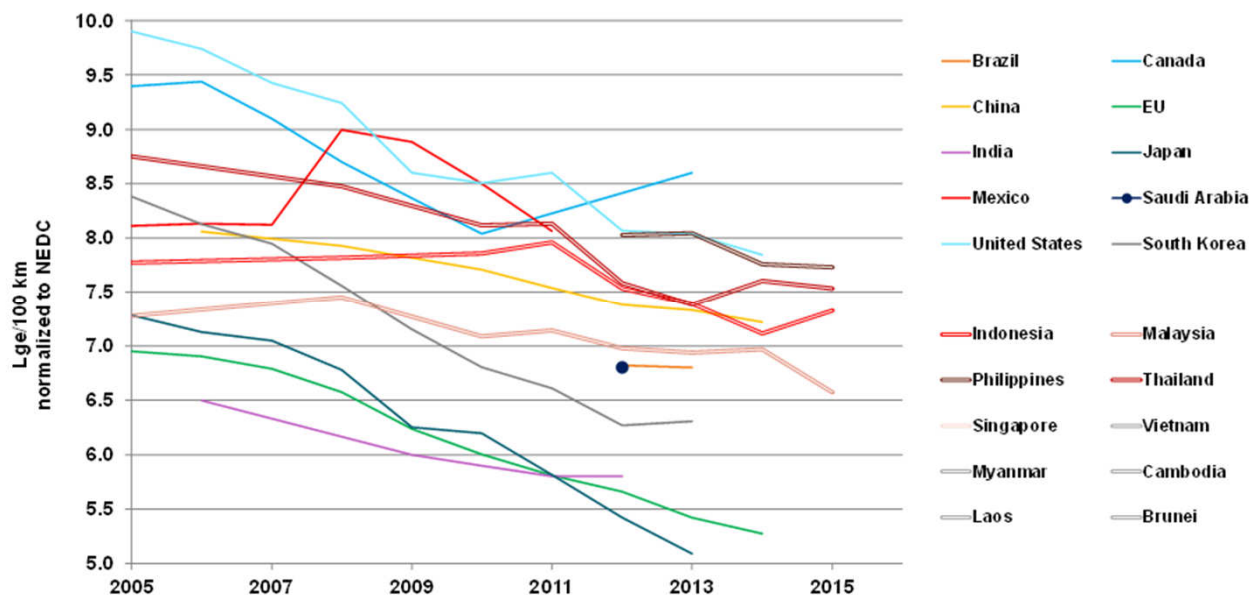
Introduction – Definition of the Scope

- **Vehicles**
 - Coverage of all light duty vehicles (LDVs), including passenger cars (PCs) and Light commercial vehicles (LCVs, up to a GVW of 3.5 tons)
 - Additional information on two-wheelers and heavy duty vehicles (HDV) in dedicated text boxes
- **Time frame**
 - Target year 2025
 - Key milestone: 2020
 - Text boxes on specific themes such as electric mobility or fuel economy policies for Heavy Duty Vehicles (HDVs) until the year 2030
- **Level of detail & measures** – combination of regional and national guidance
 - Historic data at national level
 - National policies: Fiscal measures (registration tax/feebates), technical control, capacity building
 - ASEAN wide policies: regulatory measures information campaigns, e.g. fuel economy labelling, fuel economy standards, fuel quality regulation
- **Target Group** – Government, industry, academia and civil society



Light Duty Vehicle Fuel Economy in the ASEAN Region – State of the Art

- Overview on historic sales weighted average fuel economy of new light duty vehicles in by country – Fuel Economy Baselines
- Overview of Existing and Planned Light Duty Vehicle Fuel Economy Policies



Source: ICCT 2017, GFEI 2016 and GFEI 2016a



A Brief Introduction to Light Duty Vehicle Fuel Economy Technology

- Aims at providing a brief introduction to vehicle efficiency technologies as well as improvement potential and costs

	<i>Improvement potential (% reduction in fuel use)</i>	<i>Cost (EUR/vehicle)</i>
Thermal management	3%	100
Variable valve actuation and lift	2%	230
Auxiliary systems improvement	5%	350
Thermodynamic cycle improvements	14%	400
Strong downsizing	17%	520
Dual clutch transmission	6%	700
Strong weight reduction	12%	1 000
Cumulative before full hybridisation	51%	3 520
Full hybrid: electric drive	25%	2 750
Cumulative after full hybridisation	63%	6 270
Diesel engines		
Tyres: low rolling resistance	3%	35
Reduced driveline friction	2%	50

Source: Technology Roadmap on Vehicle Fuel Economy IEA 2012



Vision

WILL BE DISCUSSED IN DETAIL AFTER THE COFFEE BREAK!

“The vision of this roadmap is to line out a pathway to transform the ASEAN light duty vehicle market from being among the least efficient ones to being among the efficiency vanguards in the world until the year 2025.”



Gaps and Barriers

WILL BE DISCUSSED IN DETAIL AFTER LUNCH!

Three main fields of action:

1. Completion of fuel economy baselines in the region
2. Introduction to cost benefit analysis of fuel economy policies
3. Identification of other barriers
 - Administrative
 - Financial
 - Behavioural



Policy Toolbox

- Provides a detailed overview of fuel economy policies, their functional principles, data requirements and elements for successful development and implementation
- Is intended to distinguish between policy measures which should be developed at the national level and policy measures which should be developed at the regional level



Policy toolbox – Elements & scope

Proposal to for policy development at the national and regional level

Developed at national level	Developed at ASEAN level
Vehicle registration tax/feebate scheme	Aligned fuel economy label
Vehicle circulation tax	Fuel economy standard
Fuel tax	Fuel quality regulation
Vehicle maintenance – technical control	Vehicle pollutant emission regulation
In-use FE measures: traffic flow control/ITS; eco-driving campaigns;	Enforcement of regulation
Capacity building	

Are we missing something substantial?



Key Recommendations and Actions

- Summarizes the findings of the Roadmap
- Provides key recommendations and actions on the national as well as regional level

National

- Does not provide country specific policy recommendations on the national level but aims at providing policy measures according to country groups
- ASEAN countries could be grouped by:
 - GDP per capita
 - Level of motorization – LDV car ownership
 - Current sales weighted average new LDV and market structure

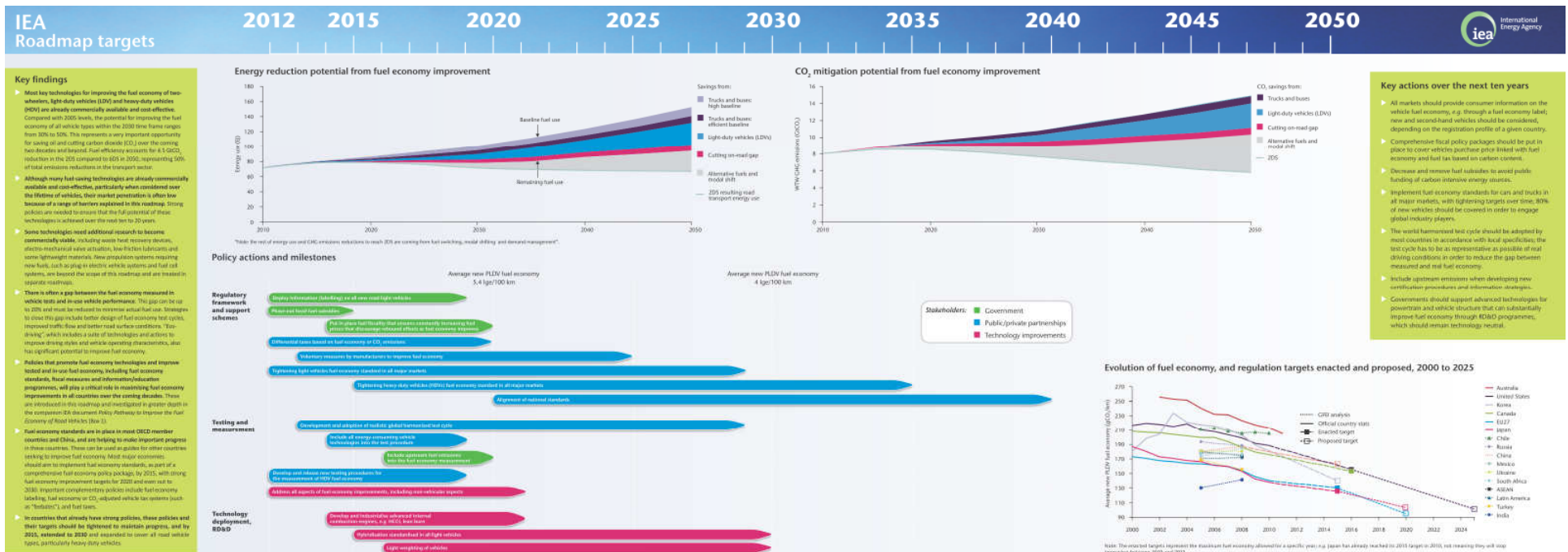
Regional

- Concrete regulatory targets and according fuel economy policy measures will be suggested on the regional level (e.g. aligned fuel economy label, introduction of ASEAN fuel economy standard for 2020 & 2025)



Visualization – Timeline and Priorities for Fuel Economy Policy Development

- This section of the Roadmap is actually intended to come as a separate fold-out with the Roadmap document
- It contains a visual summary of the key recommendations and actions as well as all goals and milestones alongside a timeline



Source: Technology Roadmap on Vehicle Fuel Economy IEA 2012



Implemented by



Thank you!