Transport MRV & Fuel Economy – The Good, The Bad & The Difficult

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Shifting to Efficient and Zero Emissions Vehicles in the Global South
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Transport MRV & Fuel Economy – The Bad and The Difficult
Transport MRV – Tackling “Merchants of Doubt”

Myths

• “Transport MRV is difficult”?
• “Transport data is not available”?
• “Transport data is not reliable”?
• “Transport MRV is very expensive”?
• “Transport MRV takes a long time”?
• “Transport MRV needs complex models”
• “Local experts are not good enough to carry out transport MRV”?

Nocebo Effect
### Affordable & Clean Energy

- **SDG 7.2** By 2030, increase substantially the share of renewable energy in the global energy mix
- **SDG 7.3** double the global rate of improvement in energy efficiency by 2030

| Indicator 7.2.1: Renewable energy share in the total final energy consumption
| Indicator 7.3.1: Energy intensity measured in terms of primary energy and GDP

### Climate Change

- **SDG 13.1** Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries
- **SDG 1.5** By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters
- **SDG 13.2** Integrate climate change measures into national policies, strategies and planning

| Indicator 11.5.2: Direct economic loss in relation to global GDP, damage to critical infrastructure and number of disruptions to basic services, attributed to disasters
| Indicator 13.2.2: Total greenhouse gas emissions per year
| Indicator 13.2.1: Number of countries with nationally determined contributions, long-term strategies, national adaptation plans and adaptation communications

### Use of “Aggregated Indicators”

- International Energy Agency (IEA)
- United Nations Statistics Division (UNSD)
Transport Energy Efficiency Reporting in VNR’s

The voluntary National Reviews (VNRs) process aims to facilitate the sharing of experiences among countries, including successes, challenges and lessons learned.

However, since 2016, transport energy efficiency data has NOT been reported by countries.

Source: Analysis using SLOCAT VNR Database
WHY IS 2019 TRANSPORT ENERGY INTENSITY > 2005/2010 LEVELS?

NEED DISAGGREGATED INDICATORS

Source: Sudhir Gota et al. 2021, ADB, Report on the Status of Transport Related SDG Targets in Asia and the Pacific Region
Fuel Economy in New Climate Strategies

However, only 40% of Countries have long-term transport CO2 emission projections (2050) ~ 12% report Mitigation Potential (1st Generation NDCs)

Source: Analysis of Tracker of Climate Strategies for Transport, GIZ & SLOCAT
The **Global Tracking Framework for Transport (GTF)** consists of more than 100 desirable and actual transport-related indicators to measure the performance of countries’ transport systems, covering all modes of transportation (road, air, *maritime, and rail)*.

*Energy consumption of transport to GDP (PPP)*
Transport MRV & Fuel Economy – The Good (1 example)
MRV using ASIF Framework

Fuel Sale Statistics & Carbon content of Fuel

Fuel Use and Emissions from Transport

* * *

Occupancy/Load Factor

Vehicle fuel intensity

Emissions per unit of energy or volume or km from fuel J in mode I

Real drive cycles and routing, driver behavior

Source – Lee Schipper
MRV using GFEI Toolkit

GUIDELINE FOR FUEL ECONOMY BASELINE-SETTING

1. Introduction

The following document provides an overview on the necessary steps, which needs to be taken to set the fuel economy baseline in a given country in a given year. It furthermore comprises links to relevant sources for data to fill eventual gaps in the national vehicle registration data, as well as useful hints on the methodological approach.

The overall aim of the baseline-setting exercise is to obtain information on weighted average fuel economy of newly registered cars for at least one historic year. This baseline fuel economy information is required to:

- Evaluate the status quo
- Define future average fuel economy targets
- Measure progress of weighted average fuel economy of newly registered cars

In a second step, the data can be completed to obtain information on:

- Vehicle market segmentation by size and fuel economy class
- Average vehicle purchase price

This additional information is necessary to use the FEBIT tool as well as a tool to design rebates, which are provided by GFEI for free. These simple and user-friendly models can help:

- Identifying appropriate policy measures to reach the fuel economy target (FEPIT)
- Quantifying the policy impact in terms of estimated fuel economy improvements (FEPIT)
- Designing a rebate scheme (FEBIT tool)

Guidelines as well as methodology reports for the respective tools can be found online.
## MRV Principles & GFEI Toolkit

<table>
<thead>
<tr>
<th>Accessible</th>
<th>Consistency</th>
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<tbody>
<tr>
<td>Required data are accessible by all stakeholders involved (a portal being designed to share the data)</td>
<td>Data collected from various sources is consistent and comparable in order to compare different jurisdictions and performance over time</td>
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<tr>
<td>Country Factsheets</td>
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<td>Country Reports</td>
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<tr>
<th>Comprehensive</th>
<th>Accuracy</th>
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<tr>
<td>Time-series data for diverse types of LDV's to facilitate various types of analysis along multiple dimensions</td>
<td>Local data available on disaggregated level (Vehicle make, Vehicle model, Model production year, Engine displacement, Engine power, Fuel type)</td>
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<td>~ 30 million vehicle data from 60+ countries were cumulatively collected over 2005-2019</td>
<td>Consistent assumptions</td>
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<td>Two-stage QC</td>
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<th>Relevance</th>
<th>Cost Effectiveness</th>
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<td>Data matches the requirements of &quot;ASIF&quot;</td>
<td>Local data by local institutions via partnerships</td>
</tr>
<tr>
<td>Insights on energy consumption &amp; GHG emissions</td>
<td>No Commercial data but reliable assumptions &amp; conversions</td>
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<tr>
<th>Transparency</th>
<th>Easy to Communicate</th>
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<tr>
<td>Assumptions are explicitly explained and substantiated via toolkit. The methods used to collect statistics are accessible for review (country reports)</td>
<td>Outputs are easily understood by the policymakers</td>
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<td>Capacity Building workshops</td>
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Fuel Economy MRV Pyramid – GFEI Toolkit (& FEPIT)

Danger Signal to the Transport Ministry?

Economic Impact, Emissions

(\sum \text{emissions or fuel consumption/km*kilometers}) \text{ for each vehicle type, fuel}

Inputs to diagnosis

Detailed Data: make, model, production year, engine displacement, engine power, fuel type

Design and Implementation of Policy Actions

Based on PSUTA
Example – GFEI Toolkit

"fuel economy baselines help authorities make good policy choices and monitor those choices"

- MRV is not difficult
- Data for MRV can be found
- Sufficiently reliable (staircase approach)
- Does not require a lot of $
- Can be carried out quickly
- Does not need complex models
- Investing in local capacity and local institutions ensures sustainability

Three cheers for GFEI Toolkit
Thank you

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