Low Carbon Emission Vehicle in Indonesia

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REGIONAL POLICY DIALOGUE ON FUEL ECONOMY IN ASIA & THE 2ND APEC WORKSHOP ON POLICY DIALOGUE ON FUEL ECONOMY PLATFORM
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Outline

1. Motor vehicle growth
2. NDC
3. Fuel Economy baseline, roadmap and carbon tax scheme
4. The effectiveness of GtonCO$_2$e Reduction
   Road-transportation
5. Conclusion and recommendation.
Motor Vehicle Growth

Total Sales (2017): 1.1 mil units of car and 7 mil units of motor cycle p.a.
Fuel Economy Standard
Low Carbon Vehicle
Policy option on technological approach to accelerate LCEV implementation
Status Fuel Economy

L/100KM

118 grCO2/Km

Gasoline

Diesel

Existing Size

LCGC 1300 cc or bellow

2008 | 2012 | 2013

12.4 | 9.37 | 8.31

12.3 | 9.37 | 8.31

5

0  2  4  6  8  10  12  14
NDC - Indonesia
Nationally Determined Contributions
2020 – 2030
Based on Paris Agreement Dec 2015

• Indonesia commitment on COP 21 - UNFCCC => NDC
• To reduce GHG 29% (unconditional) to 41% (conditional) with baseline on BAU GHG in 2030 ~2.82 GtonCO2e.
• Sectors: Energy (include transportation), LULUCF, IPPU, Agriculture, and Waste.

GHG mitigation needs to be elaborated to implement Paris Agreement => include sub-sector transportation

Road Transportation Emission (Gton CO2e)
0.173 GtonCO2e (2017)
Fiscal and Non-fiscal Incentive

to increase LCEV competitiveness

Current Plan: Flexy Vehicle Tax = 0%
same as HEV/PHEV/BEV

Proposal:
- Tax rate not 0%
- Tax rate program should be higher than HEV/PHEV/BEV

(To be discussed)

Source: Ministry of Industry Republic of Indonesia
**Fuel Economy Roadmap**

*And Carbon Tax scheme*

<table>
<thead>
<tr>
<th>Spesification</th>
<th>Tax Incentive</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Fuel Economy 5L/100 Km</td>
<td>• Discount Luxury Goods Tax</td>
</tr>
<tr>
<td>• CO2 emission 118 gr/km</td>
<td>• Vehicle Tax (excise) Feebate/Rebate base on Carbon Emission Level</td>
</tr>
<tr>
<td>200 gr/km of CO2</td>
<td>• Fuels Excise base on Carbon Emission Index</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spesification</th>
<th>Tax Incentive</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Fuel Economy 3.57L/100Km</td>
<td>• Discount Luxury Goods Tax</td>
</tr>
<tr>
<td>• CO2 emission 85 gr/km</td>
<td>• Vehicle Tax (excise) Feebate/Rebate base on Carbon Emission Level</td>
</tr>
<tr>
<td>2020</td>
<td>• Fuels Excise base on Carbon Emission Index</td>
</tr>
</tbody>
</table>

**Status**

2. Government Decree No 41/2013 mandates to adopt LCEV
3. Policy option on LCEV:
   • LCEV Technology: direct leapfrog to EV *versus* technology-mix approach (ICE improvement tech, flexiCar, EV)
   • Fiscal incentive: discounted luxury goods VAT *versus* Carbon Excise with feebate/rebate scheme
     • To reform Government Regulation PP No 41/2013 toward Luxury Goods VAT mandates to adopt LCEV with discounted luxury goods VAT
   • Non fiscal incentive => Market base incentive:
     • Fuel Economy Labeling
     • Shifting urban mobility to mass public transport and non motorized mobility (walking and cycling).
     • Scraped Car.

**LCEV: technology-mix approach (ICE improvement tech, flexi-Car, EV) options with tax feebate/rebate scheme base on grCO2/km level.**
## Ministry of Industry Proposal

**fiscal incentive base on luxury goods VAT deduction**

<table>
<thead>
<tr>
<th>Category</th>
<th>Fuel Consumption (km/l)</th>
<th>CO2 (g/km)</th>
<th>E/G Volume (cc)</th>
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<tbody>
<tr>
<td></td>
<td>Gasoline</td>
<td>Diesel</td>
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<tr>
<td>Passenger Vehicle</td>
<td>(&lt; 10 person)</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>&gt;15.5</td>
<td>&gt; 17.5</td>
<td>&lt;150</td>
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<tr>
<td></td>
<td>15.4 – 11.6</td>
<td>17.4 - 13.1</td>
<td>151 - 200</td>
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<tr>
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<td>11.5 – 9.3</td>
<td>13.0 - 10.5</td>
<td>201 - 250</td>
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<tr>
<td></td>
<td>&lt; 9.3</td>
<td>&lt; 10.5</td>
<td>&gt; 250</td>
</tr>
<tr>
<td></td>
<td>(&gt; ≥ 10 person / Minibus)</td>
<td></td>
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<tr>
<td></td>
<td>&gt;11.6</td>
<td>&gt; 13.1</td>
<td>&lt; 200</td>
</tr>
<tr>
<td></td>
<td>&lt;11.6</td>
<td>&lt; 13.1</td>
<td>&gt; 200</td>
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<tr>
<td>Commercial</td>
<td>Pick Up</td>
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<tr>
<td></td>
<td>&gt;15.5</td>
<td>&gt; 17.5</td>
<td>&lt; 150</td>
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<td>15.5-11.6</td>
<td>17.4 - 13.1</td>
<td>150 - 200</td>
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<tr>
<td></td>
<td>&lt;11.6</td>
<td>&lt; 13.1</td>
<td>&gt; 200</td>
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<tr>
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<td></td>
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<td>21.8</td>
<td>120</td>
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<td>Hybrid, PHEV</td>
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<td>&gt; 26</td>
<td>&lt; 100</td>
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<tr>
<td></td>
<td>23 – 18.5</td>
<td>25.9 - 21</td>
<td>101 – 125</td>
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<tr>
<td></td>
<td>18.4 – 15.5</td>
<td>20.8 - 17.5</td>
<td>126 – 150</td>
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<tr>
<td>Flexy Engine (E100/B100)</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>EV/FC</td>
<td>All type</td>
<td>All type</td>
<td>All type</td>
</tr>
</tbody>
</table>

Source: Ministry of Industry Republic of Indonesia
Technology-mix Approach – $GtonCO_2e$ Reduction

Road-transportation

- National Green House Gas BAU 2030 ~ 2.82 $GtonCO_2e$
- Road-transportation will share 0.470 $GtonCO_2e$ (16.66%):
  - 0.212 $GtonCO_2e$ Gasoline
  - 0.257 $GtonCO_2e$ Diesel

- Scenario Fuel Economy Standard or Low Carbon:
  - 2012 (applied)
    - 9.34 L/100 Km ~ 219.96 gr$CO_2$/Km Gasoline
    - 8.33 L/100 Km ~ 216.99 gr$CO_2$/Km Diesel
  - 2020
    - 5 L/100 Km ~ 117.75 gr$CO_2$/Km Gasoline
    - 5 L/100 Km ~ 130.25 gr$CO_2$/Km Diesel
  - 2025
    - 3.57 L/100 Km ~ 84.07 gr$CO_2$/Km Gasoline
    - 3.57 L/100 Km ~ 92.99 gr$CO_2$/Km Diesel

- Total reduction by above-mentioned scenario (2030) is 0.280 $GtonCO_2e$ or 59% of BAU:
  - > target NDC (41%)
  - Improve competitive advantage of nat’l auto industry at regional/global market (4.4 L/100 Km).
Conclusion and Recommendation

1. Indonesia is an emerging market for automotive, and it is necessity to adopt low carbon emission vehicle (LCEV) to control air pollution and CO2.

2. LCEV set up through technology-mix approach (ICE improvement tech, flexi-Car, EV) options with tax feebate/rebate scheme base on grCO2/km level => needs to complete CBA.

3. Effectiveness to adopt fuel economy standard: 5L/100 Km (2020) dan 3.57L/100 Km (2025):
   • Reduce **0.28 GtonCO2e** (59% road transport emission),
   • Gain economic benefit IDR 4,444 T on 2030 through fuel efficiency, production saving and public health improvement.

4. Needs to be combined with non technological and non-fiscal scheme such as green mobility and fuel economy labeling (currently COP conformity of production).

Terimakasih
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