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Low Carbon *Progress* Emission Vehicle in Indonesia

- Ahmad Safrudin - KPBB

**REGIONAL POLICY DIALOGUE ON FUEL ECONOMY IN ASIA
& THE 2ND APEC WORKSHOP ON POLICY DIALOGUE ON FUEL ECONOMY PLATFORM
13 November 2018
Borneo Convention Centre Kuching Sarawak, Malaysia**

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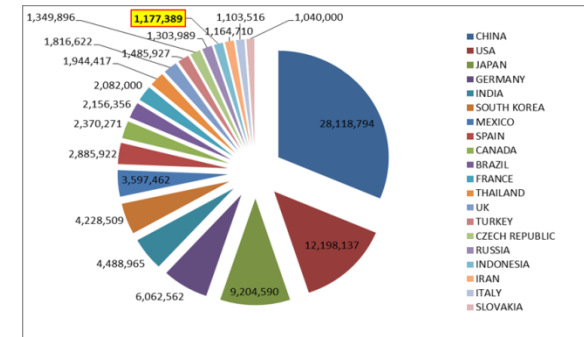
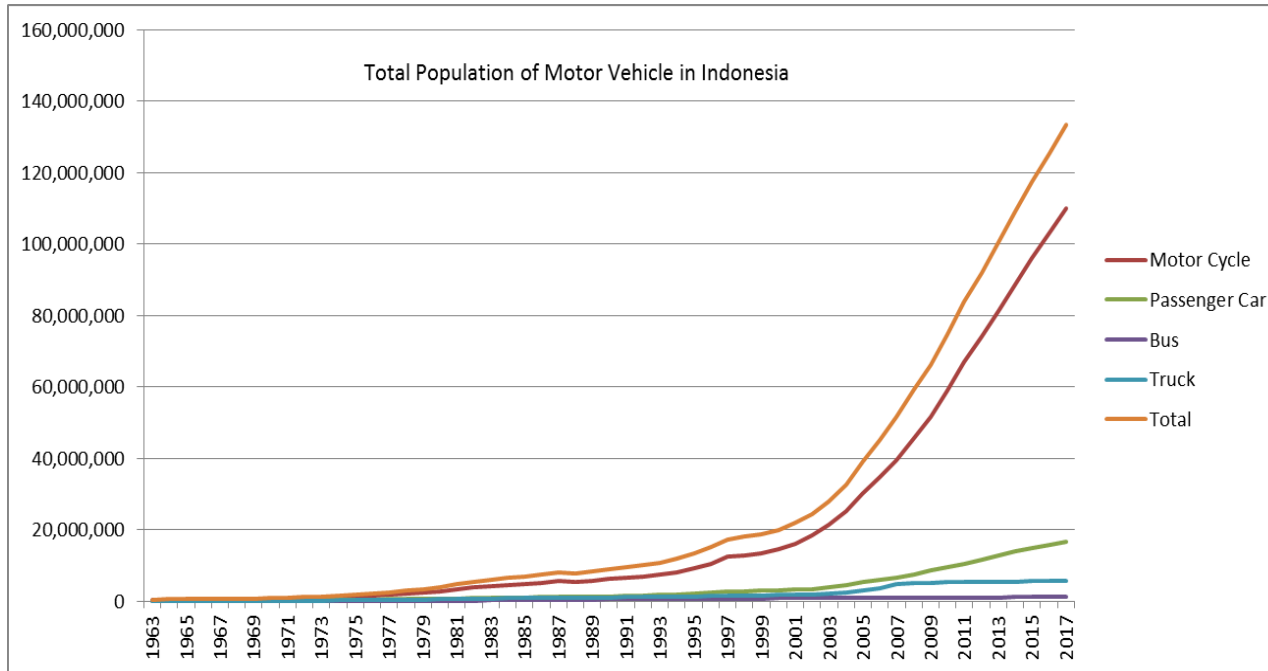
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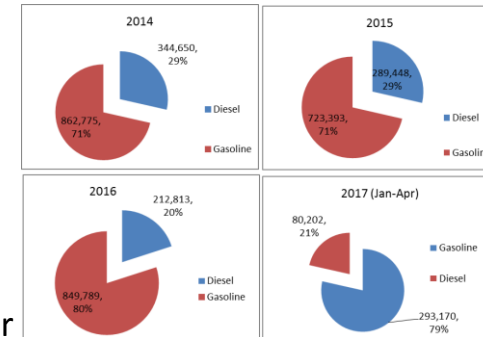
Outline

1. Motor vehicle growth
2. NDC
3. Fuel Economy baseline, roadmap and carbon tax scheme
4. The effectiveness of *GtonCO₂e* Reduction
Road-transportation
5. Conclusion and recommendation.

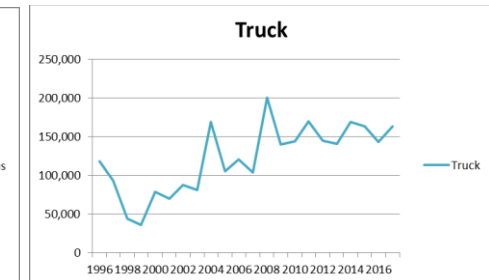
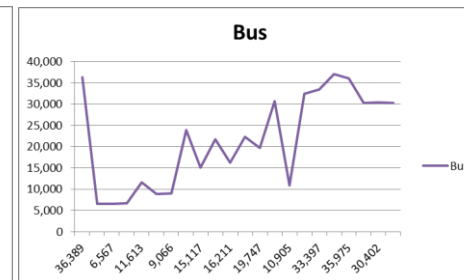
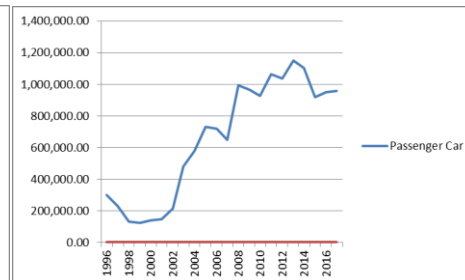
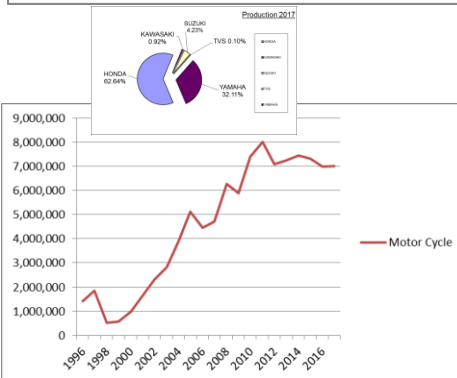
Motor Vehicle Growth



Global Vehicle Sales, 2016



Share Gasoline vs Diesel Car

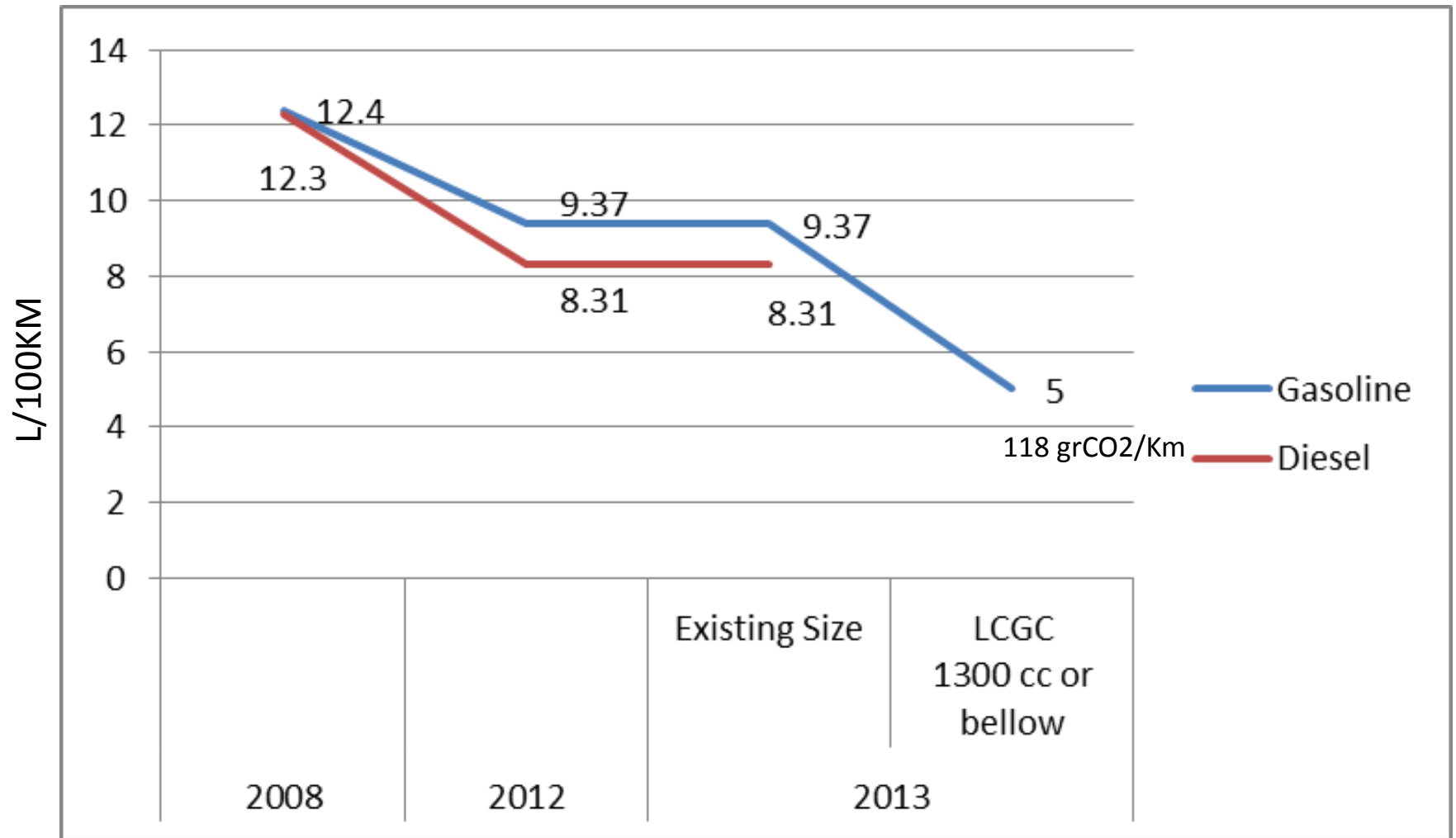


Total sales of motor cycle, passenger car, bus, and truck

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

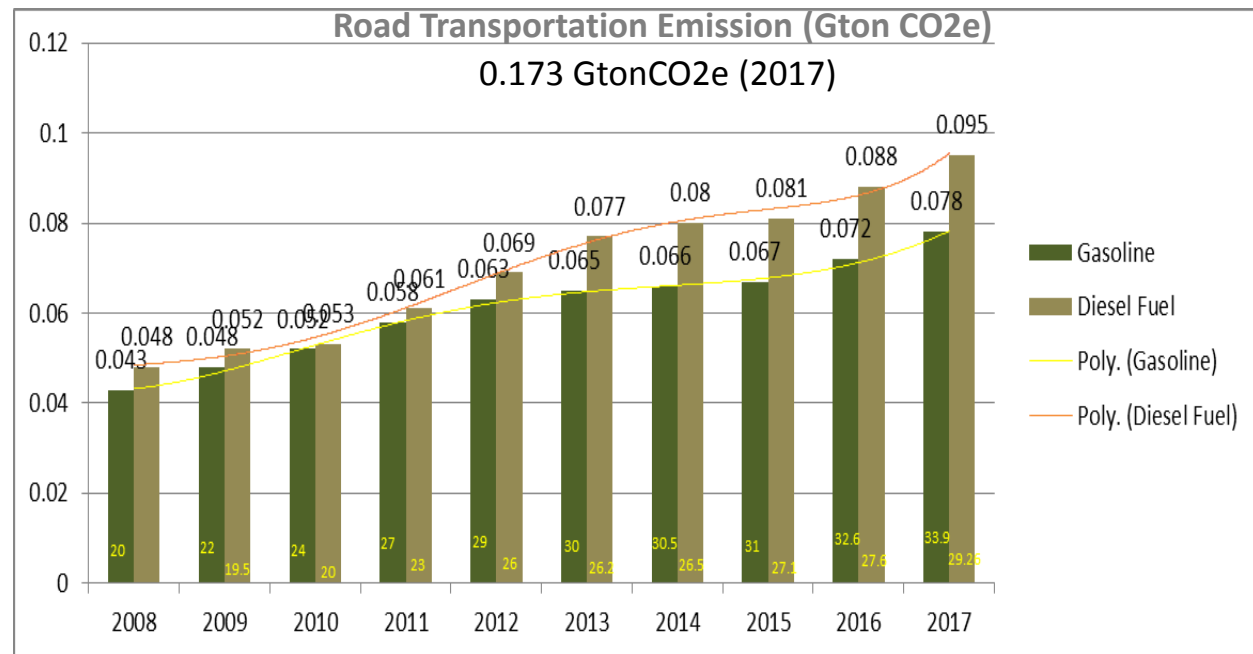
NDC - Indonesia

Nationally Determined Contributions

2020 – 2030

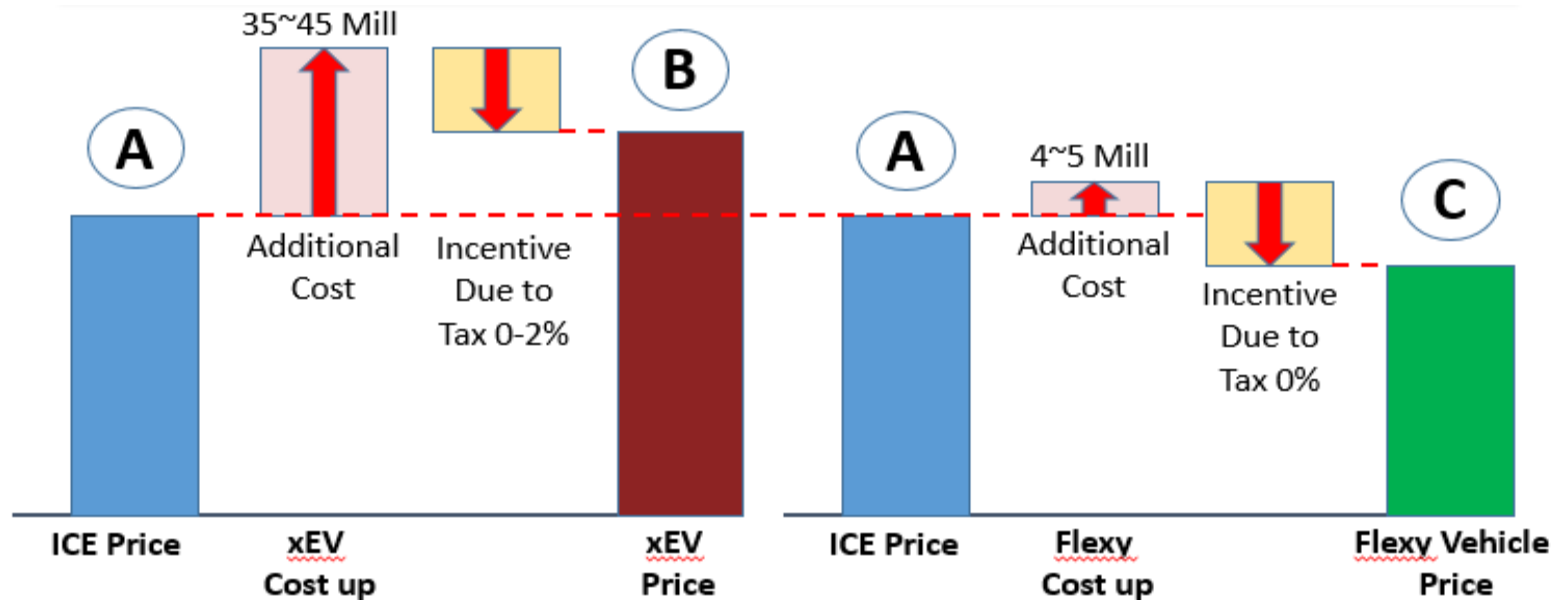
Based on Paris Agreement Dec 2015

- 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

Fiscal and Non-fiscal Incentive to increase LCEV competitiveness



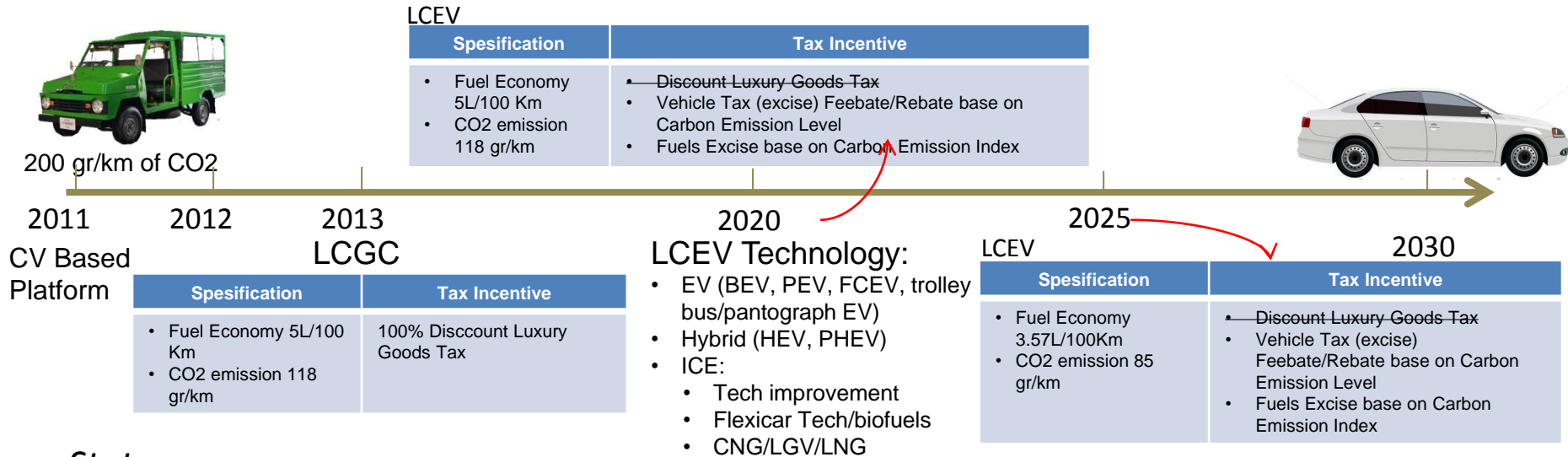
B is more expensive than A
C is cheaper than A
C is much cheaper than B

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



Status

1. Presidential Decree (Perpres No 22/2017) toward National Energy Planning mandates to formulate Fuel Economy Standard and implemented by 2020.
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

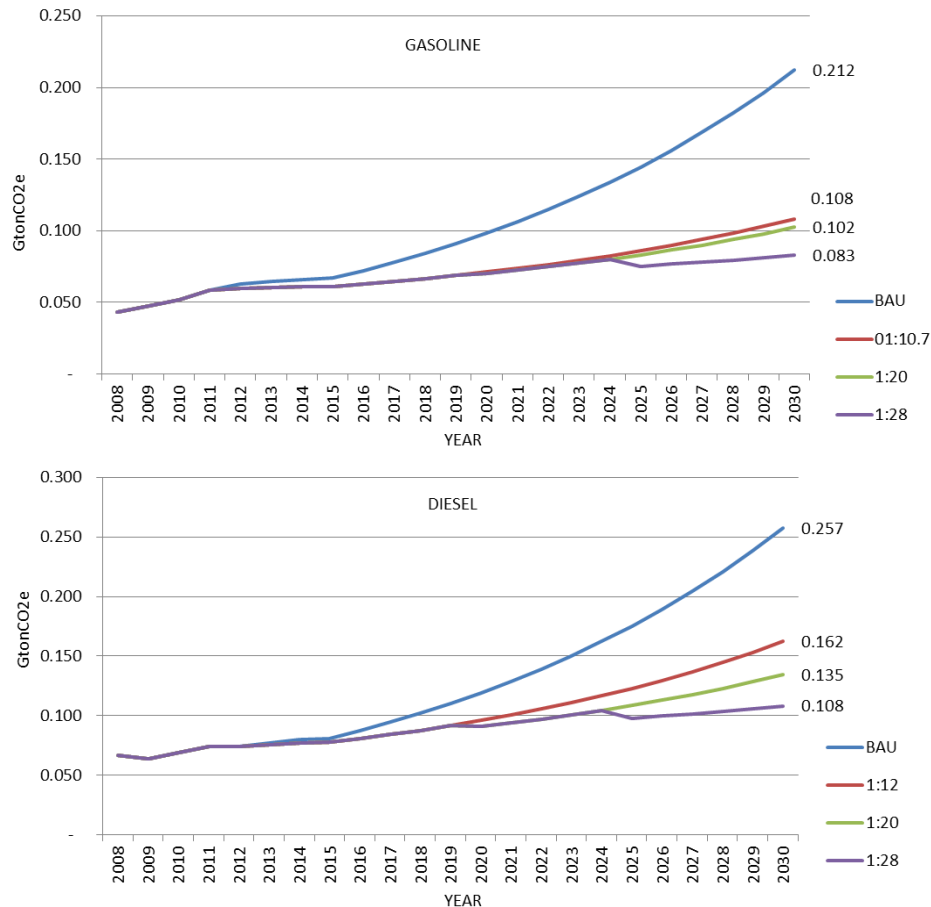
fiscal incentive base on luxury goods VAT deduction

LCEV	Category		Fuel Consumption (km/l)		CO2 (g/km)	E/G Volume (cc)		
			Gasoline	Diesel		< 1.5	1.5 - 3.0	> 3.0
	Passenger Vehicle	< 10 person	>15.5	> 17.5	<150	15%		40%
			15.4 – 11.6	17.4 - 13.1	151 - 200	20%		40%
			11.5 – 9.3	13.0 - 10.5	201 - 250	25%		40%
			< 9.3	< 10.5	> 250	40%		50%
		(≥ 10 person / Minibus)	>11.6	> 13.1	< 200	15%		30%
			<11.6	< 13.1	> 200	20%		30%
	Commercial	Pick Up	>15.5	> 17.5	< 150	5%		20%
			15.5-11.6	17.4 - 13.1	150 - 200	10%		20%
			<11.6	< 13.1	> 200	15%		30%
		Truck, Bus	All type	All type	All type	0%		
	Program	LCGC	20	21.8	120	0%	-	-
		Hybrid, PHEV	> 23	> 26	< 100	0%		20%
			23 – 18.5	25.9 - 21	101 – 125	2%		20%
			18.4 – 15.5	20.8 - 17.5	126 – 150	5%		20%
		Flexy Engine (E100/B100)	-	-	-	8%		
		EV/FC	All type	All type	All type	0%		

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 grCO₂/Km Gasoline
 - ❑ 8.33 L/100 Km ~ 216.99 grCO₂/Km Diesel
 - ❑ **2020**
 - ❑ 5 L/100 Km ~ 117.75 grCO₂/Km Gasoline
 - ❑ 5 L/100 Km ~ 130.25 grCO₂/Km Diesel
 - ❑ **2025**
 - ❑ 3.57 L/100 Km ~ 84.07 grCO₂/Km Gasoline
 - ❑ 3.57 L/100 Km ~ 92.99 grCO₂/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).
 - ❑ Equal to fuel saving by 59.86 million KL p.a. Gasoline, and 56.00 million KL p.a. Diesel Fuel on 2030 ~ Rp 677 trillions.

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).
5. Binding commitment among the parties on the roadmap on Low Carbon Emission Vehicle Standard and implement it by 2020.

Terimakasih

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