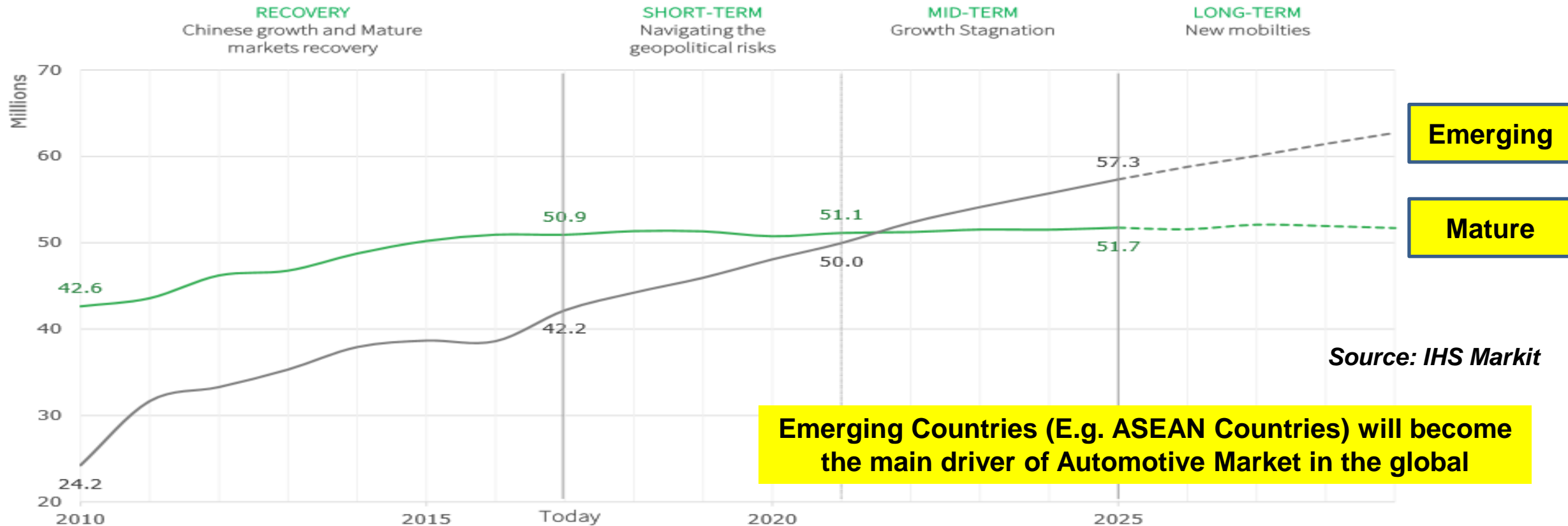


**WELCOME REMARKS :**

***GAIKINDO***

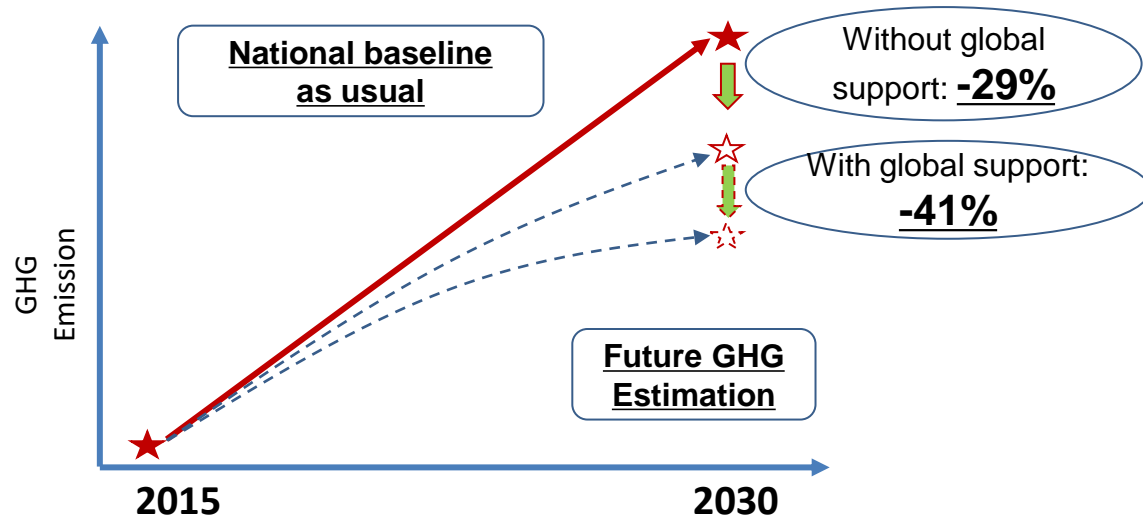
***"Peranan Industri Otomotif Dalam Mitigasi Pemanasan Global"***

## ❖ Forecast Automotive (4 Wheeler) Market in the World



**Emerging Countries (E.g. ASEAN Countries) will become the main driver of Automotive Market in the global**

**Automotive Industry will remains growth, mainly is driven by emerging countries.  
 As an impact, there will be several new challenges need to be managed**



No	Sector	GHG Emission Level 2010* MTon CO <sub>2</sub> e	GHG Emission Level 2030 (MTon CO <sub>2</sub> e)			GHG Emission Reduction (MTon CO <sub>2</sub> e) % of Total BaU				Annual Average Growth BAU (2010-2030)	Average Growth 2000-2012*
			BaU	CM1	CM2	CM1	CM2	CM1	CM2		
1	Energy*	453.2	1,669	1,355	1,271	314	398	11%	14%	6.7%	4.50%
2	Waste	88	296	285	270	11	26	0.38%	1%	6.3%	4.00%
3	IPPU	36	69.6	66.85	66.35	2.75	3.25	0.10%	0.11%	3.4%	0.10%
4	Agriculture	110.5	119.66	110.39	115.86	9	4	0.32%	0.13%	0.4%	1.30%
5	Forestry**	647	714	217	64	497	650	17.2%	23%	0.5%	2.70%
<b>TOTAL</b>		<b>1,334</b>	<b>2,869</b>	<b>2,034</b>	<b>1,787</b>	<b>834</b>	<b>1,081</b>	<b>29%</b>	<b>38%</b>	<b>3.9%</b>	<b>3.20%</b>

\* Termasuk fugitive

\*\*Termasuk kebakaran gambut

Notes: **CM1** = Counter Measure (kondisi scenario tanpa persyaratan mitigasi-*unconditional*)

**CM2** = Counter Measure (kondisi scenario dengan persyaratan mitigasi-*conditional*)



### 【Summary for Indonesia Commitment】

- Indonesia submitted the commitment at COP21 to reduce **29% CO<sub>2</sub> emission w/o international support, and reduce 41% CO<sub>2</sub> emission with international support until 2030**
- Indonesia **will increase the renewable energy usage to 23% until 2025**
- **Transport Sector** is one of key sector need to reduce it's CO<sub>2</sub> emission through **measures which are suitable** with Indonesian condition

**President Joko Widodo agreed to reduce 29% CO<sub>2</sub> in 2030 in COP21. To achieve this goal, Transportation sector as one of the key sectors to reduce CO<sub>2</sub>.**

## ❖ Several options to reduce CO2 Emission

### Manufacturing Technology Improvement

- ① Increase energy efficiency
- ② Invest in high quality machine (Efficient & Multi Tasking)
- ③ Prevent energy wasting leaks



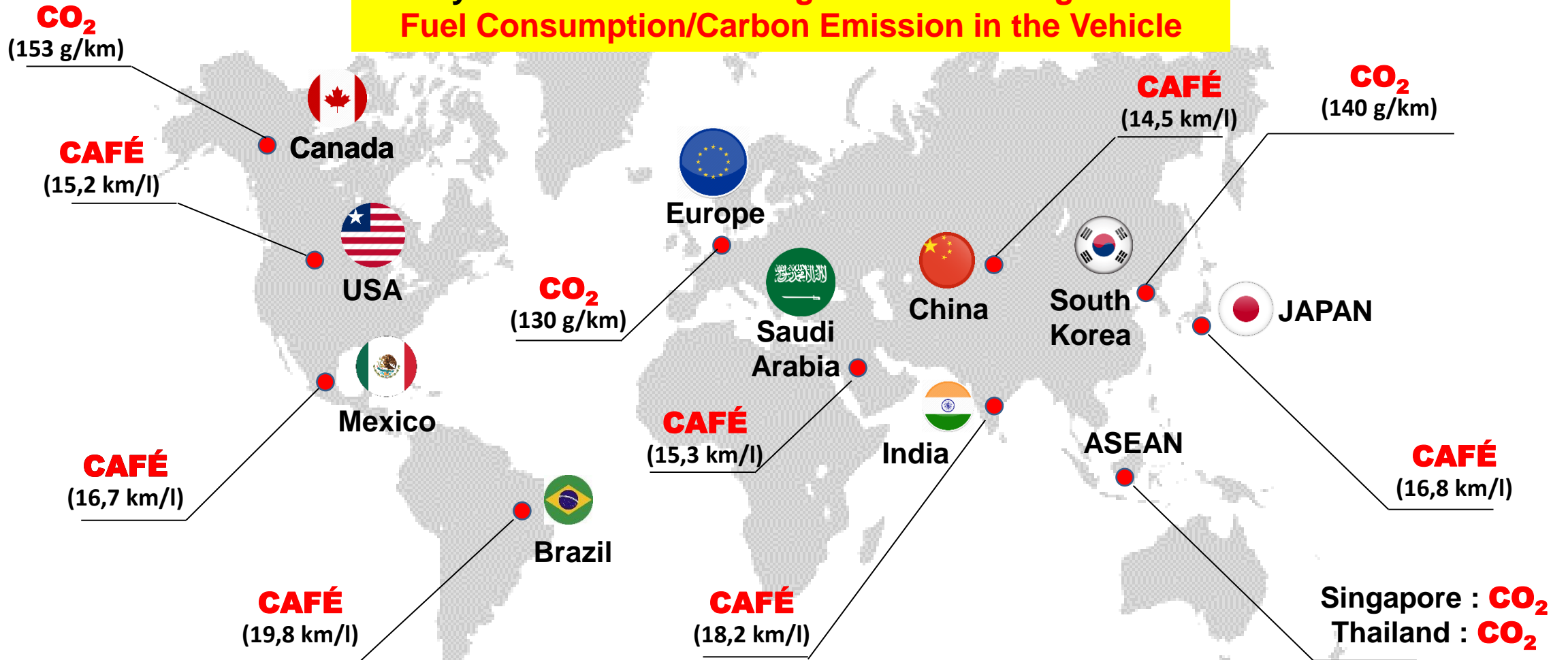
### Vehicle Technology Improvement

- ① Lightweight construction, Aerodynamics
- ② Improve drive train technologies
- ③ Improve Power train technologies



In order to achieve optimum CO2 emission reduction in Transportation sectors, Both **Manufacturing industry & Vehicle Technology must be improved**

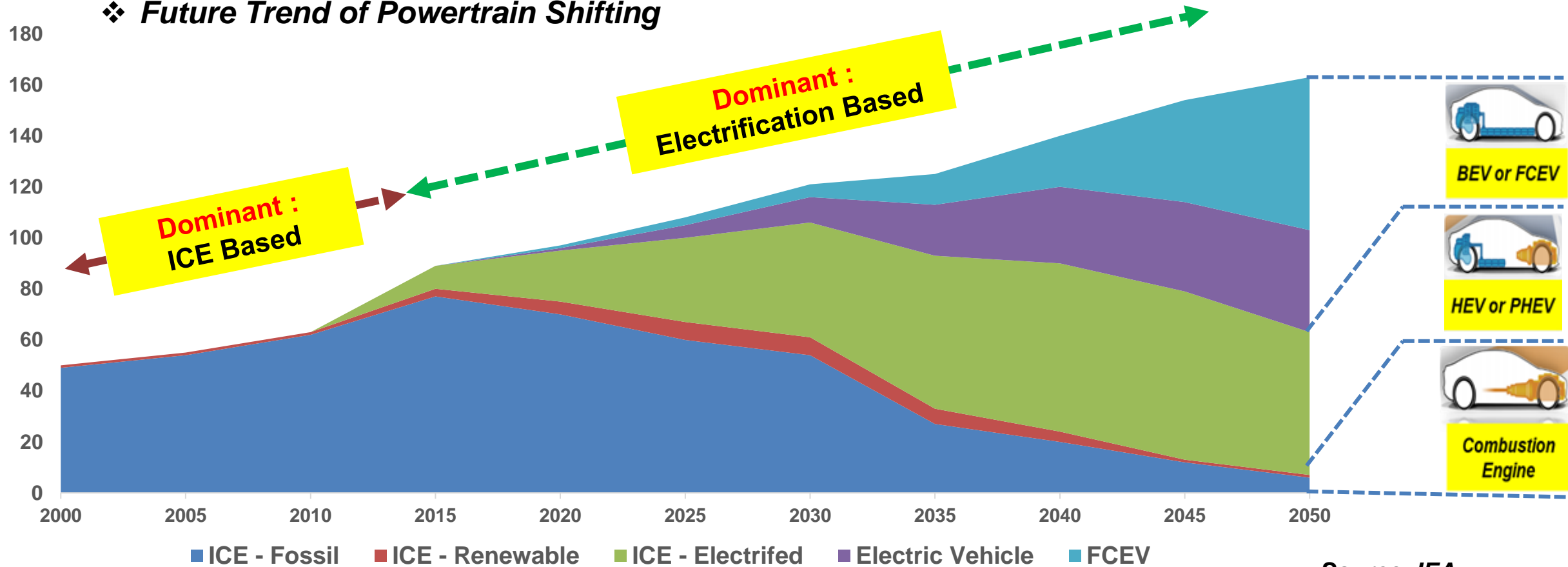
**Many Countries Issued Regulation to Manage Fossil Fuel Consumption/Carbon Emission in the Vehicle**



CAFÉ : Corporate Average Fuel Economy

Source: ICCT

❖ *Future Trend of Powertrain Shifting*



Source: IEA

**As an impact of stringent regulation of Fuel Economy / CO<sub>2</sub>, Global powertrain is predicted will shift from ICE Based to Electrification Based in the future.**



“Let’s discuss **the most appropriate way** to sustain the growth of automotive industry as well as **manage its potential negative impact /challenges**”