



LowCVP Conference

The changing global politics
of low carbon transport...

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Making Cars 50% More Fuel
Efficient by 2050 Worldwide



GFEI - Background

- Established March 2009
- Four partners:



- Shared goal - *to maximise the benefits of fuel efficiency in LDVs globally, given the projected expansion of the global fleet.*
- Shared task – *to encourage countries and regions to develop effective LDV fuel economy policies.*

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What are the issues?

- Growth in the global car fleet
- Unsustainable demand for fossil fuels
- Massive potential impact on the environment with possible doubling of LDV CO₂ emissions
- Alternative fuels and energy sources for LDVs are unlikely to completely replace conventional by 2050 – so more efficiency from internal combustion engine vehicles matters.

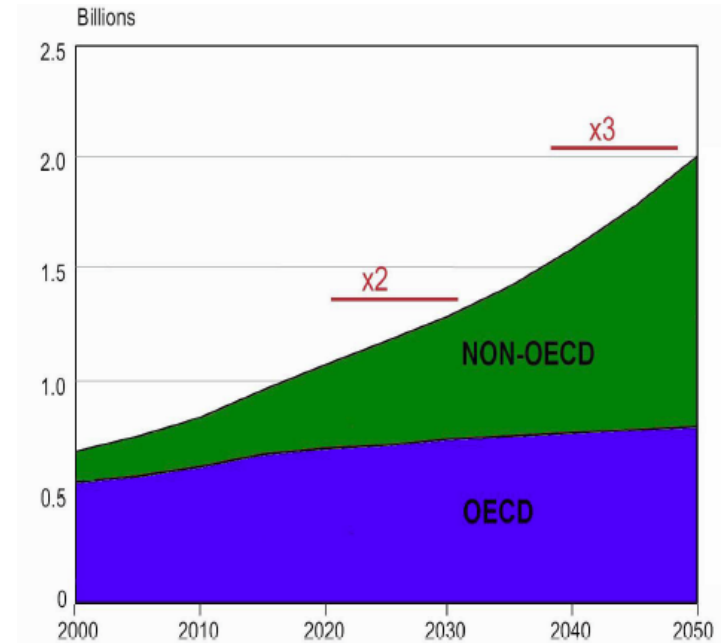


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Baseline

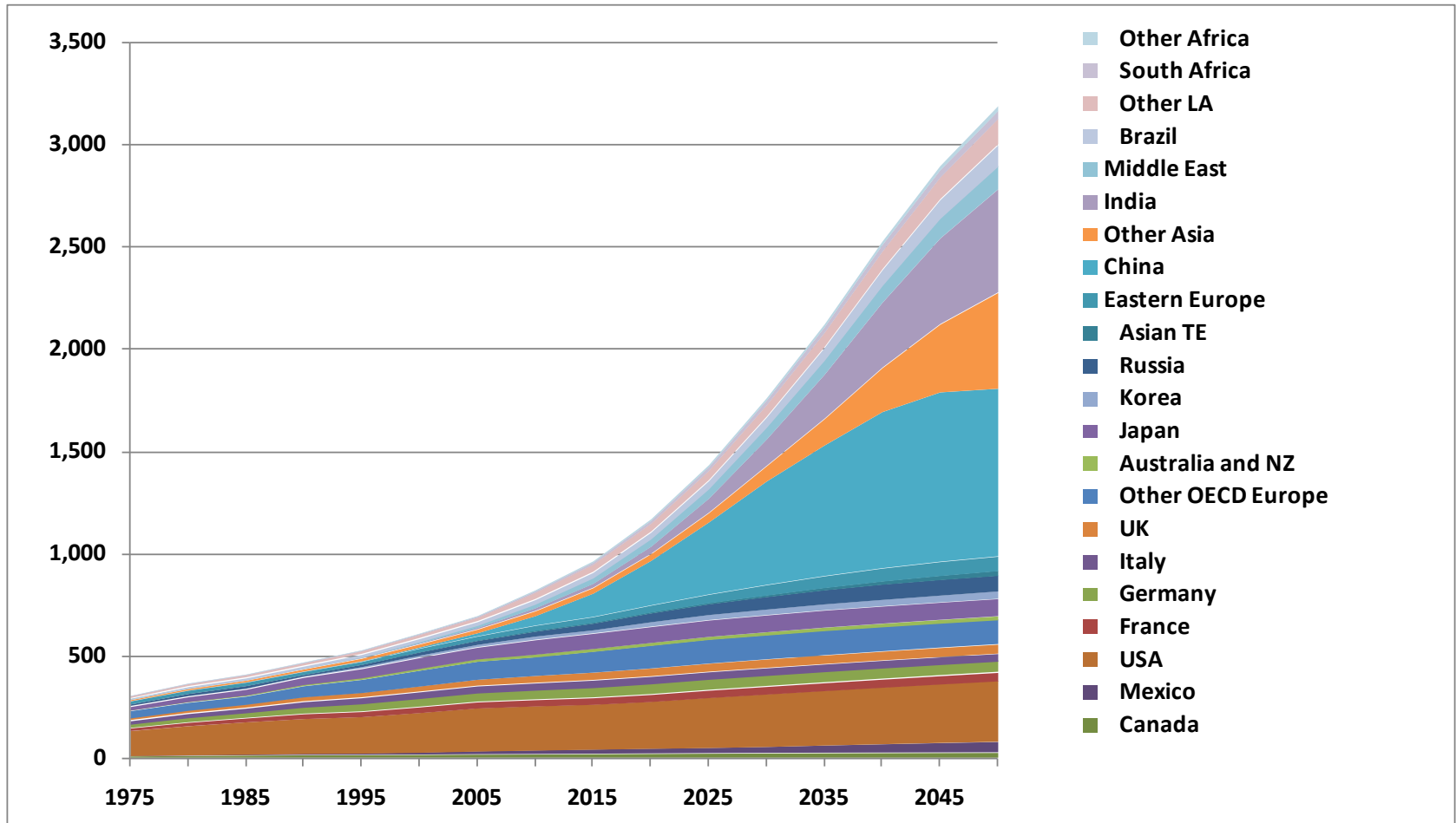
- **global vehicle fleet is set to increase** from around 800 million to between 2 and 3 billion by 2050. Almost all of this growth will take place in developing countries
- By 2050 the world will spend another **US\$ 150 trillion on motor vehicles** and another US\$ 150 trillion in fuels (all transport modes)



IEA 2009

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Country Projections

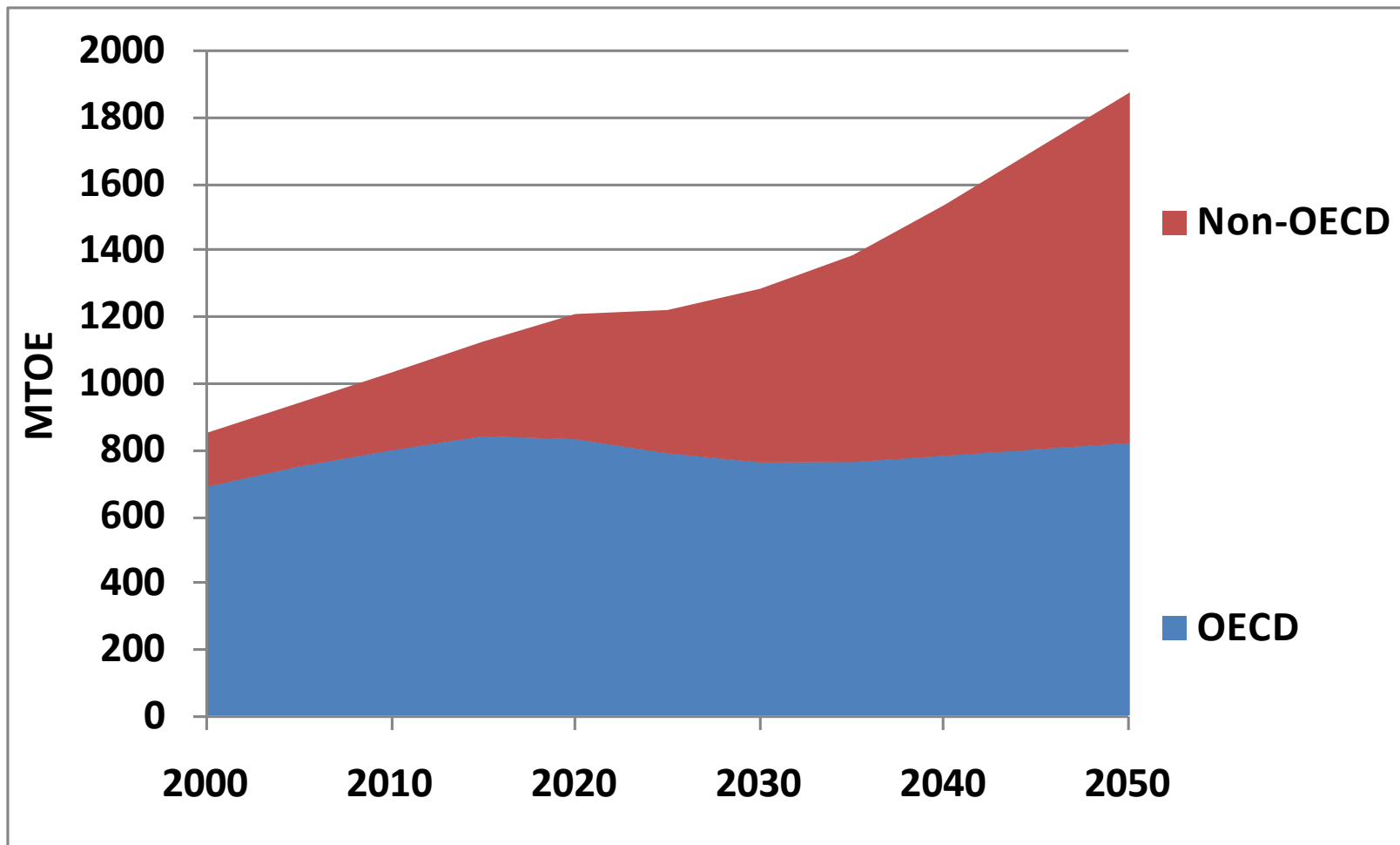


Source: IEA

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Projections of LDV fuel use by region 2000-2050

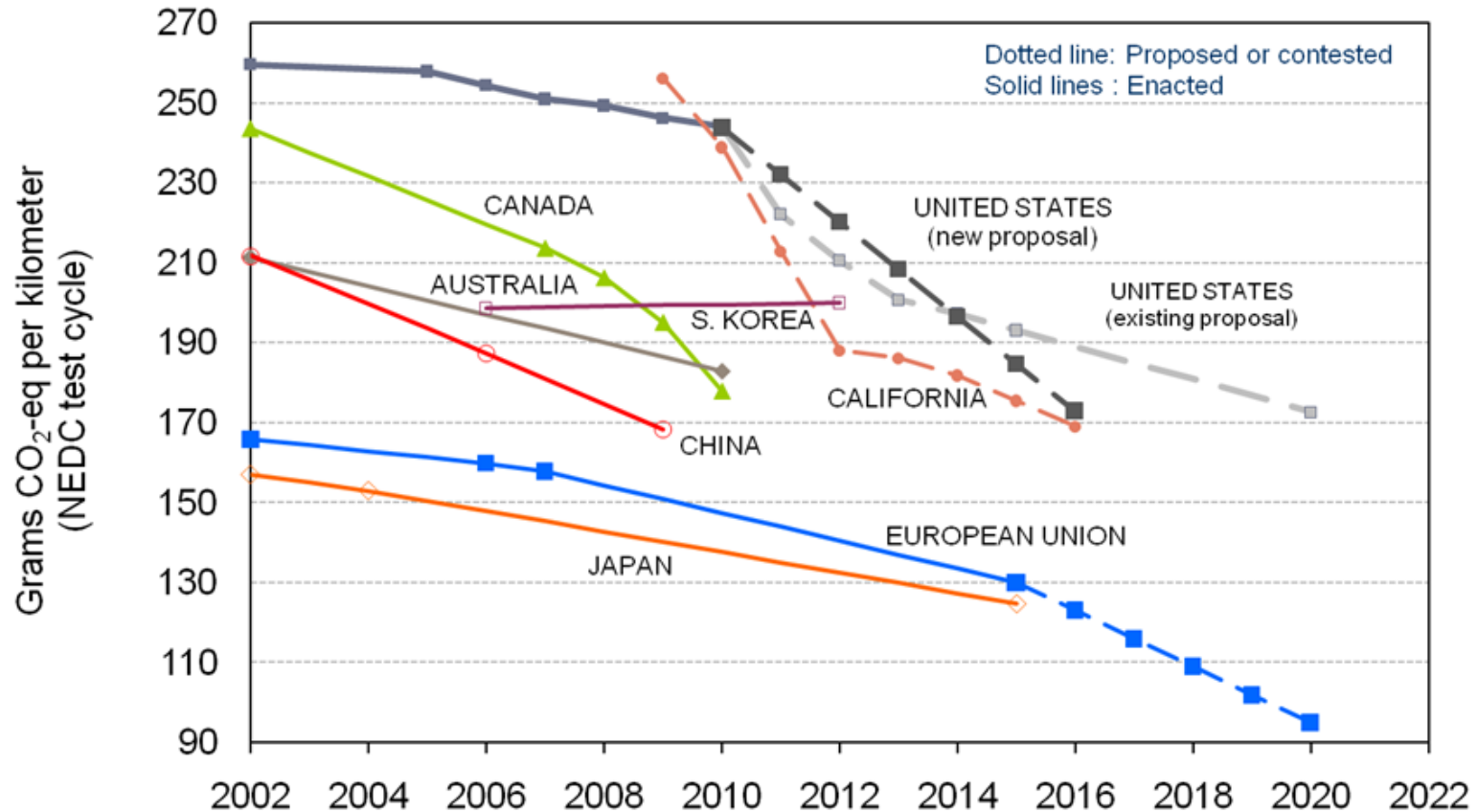


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Fuel Economy Policies – Very Few Countries Have Them...

Actual and Projected GHG Emissions for New Passenger Vehicles by Country/Region,



Source: *Passenger Vehicle Greenhouse Gas and Fuel Economy Standards: A Global Update*, ICCT, 7 August 2008 update.

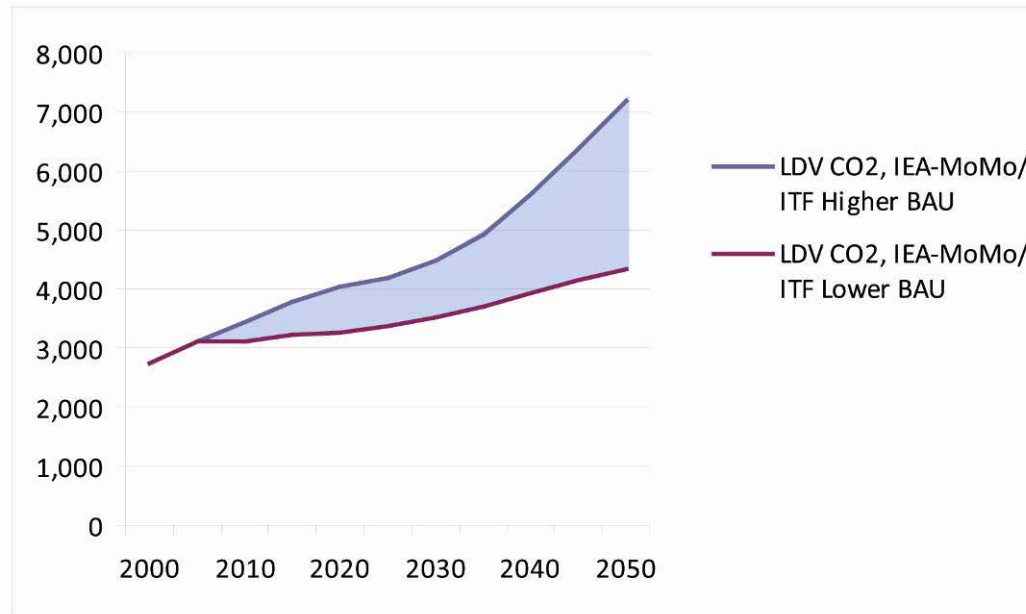
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World CO₂ emissions from cars

(Mt of CO₂ equivalent GHG, well-to-wheels)

Range of possible futures; a CO₂ doubling or more by 2050 is possible



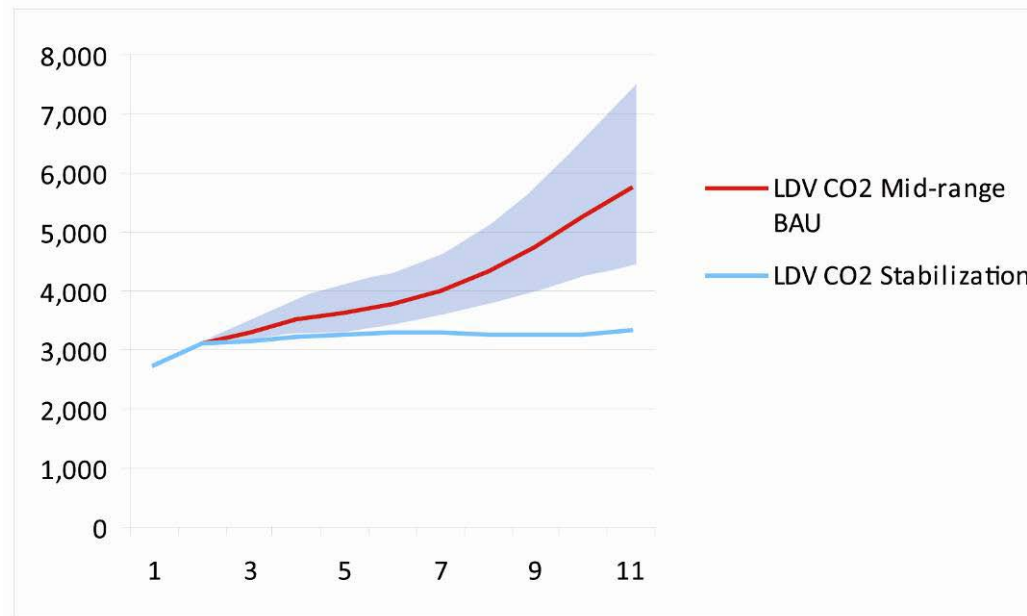
Source: IEA and ITF calculations using the IEA MoMo Model Version 2008.

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CO₂ emissions from more fuel efficient cars

(MT CO₂ equivalent) Improving new car fuel efficiency 50% could stabilise world emissions through 2050.



Source: IITF and IEA calculations using the IEA MOWIO (January 2009)

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GFEI - targets

- **30% reduction in L/100km by 2020 compared to 2005 in all new cars in OECD countries**
- **50% by 2030 in all new cars globally**
- **50% by 2050 in all cars globally ('50by50')**

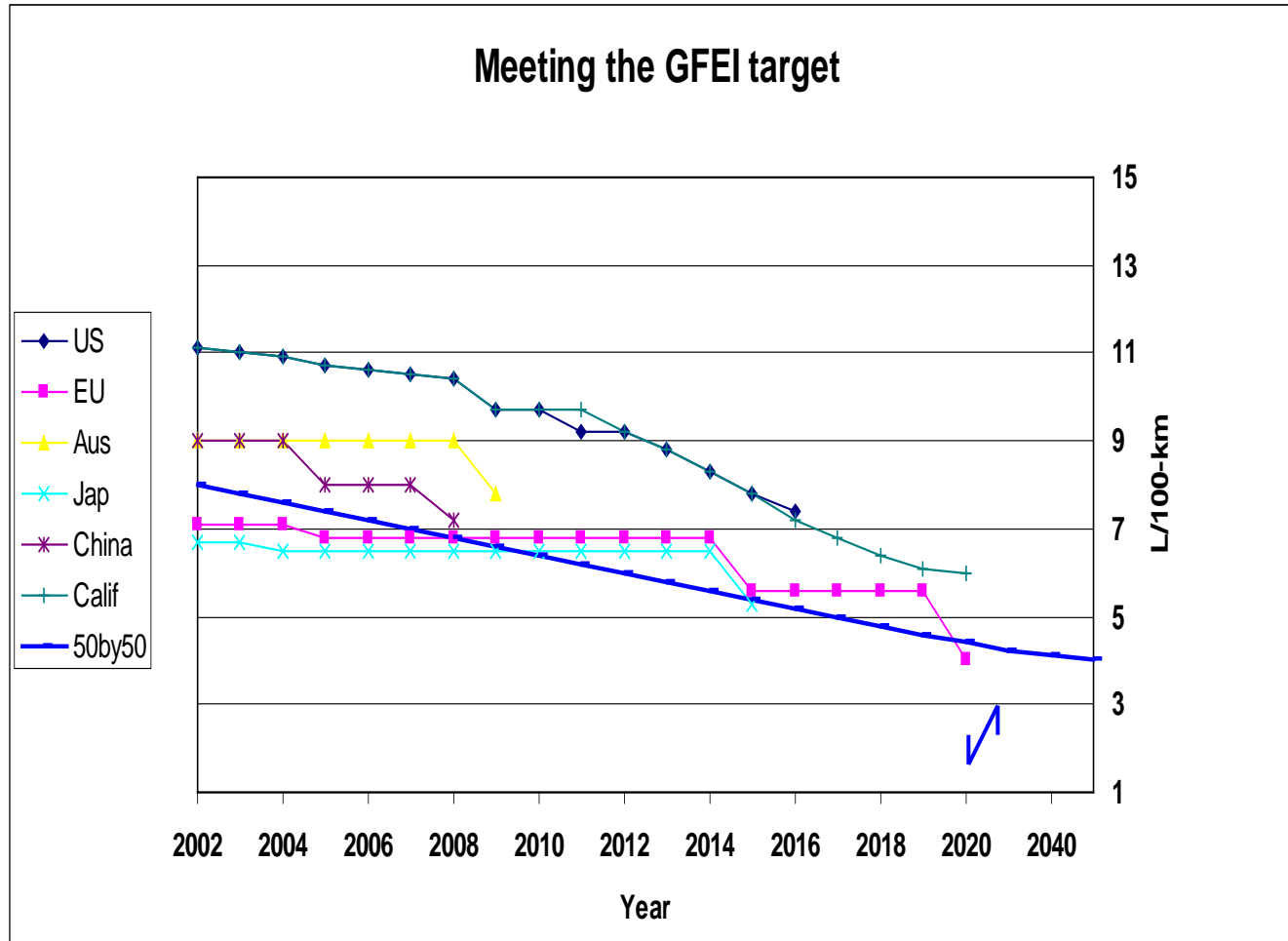
GFEI believes that these targets can be achieved by fully exploiting the potential of known and cost effective technologies available to internal combustion engine (ICE) vehicles.

To meet 50by50 requires moving from today's average of 8 kilometer to close to 4 litres per kilometer.

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GFEI Target from 8 to 4 l/100km by 2050



Source: UNEP 2009, based on ICCT 2009

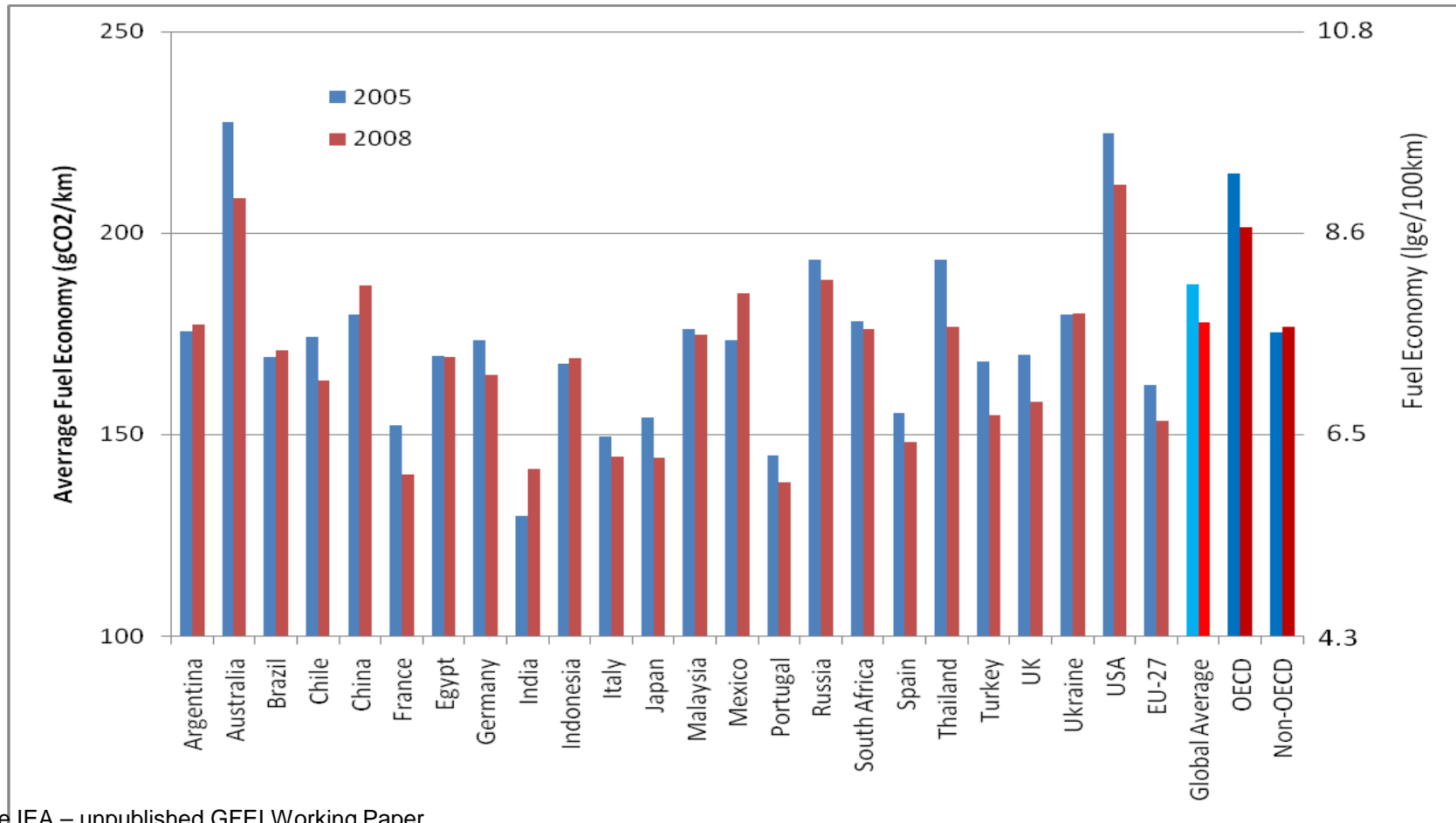
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Where are heading?

		2005	2008	2030	Average Annual Percentage Change
Fuel Economy (Lge/100km)	Estimated Global Average	8.07	7.67		2005 to 2008 (actual): -1.7%
	GFEI Base and Objective	8.07		4.03	2005 to 2030 (required): -2.7%

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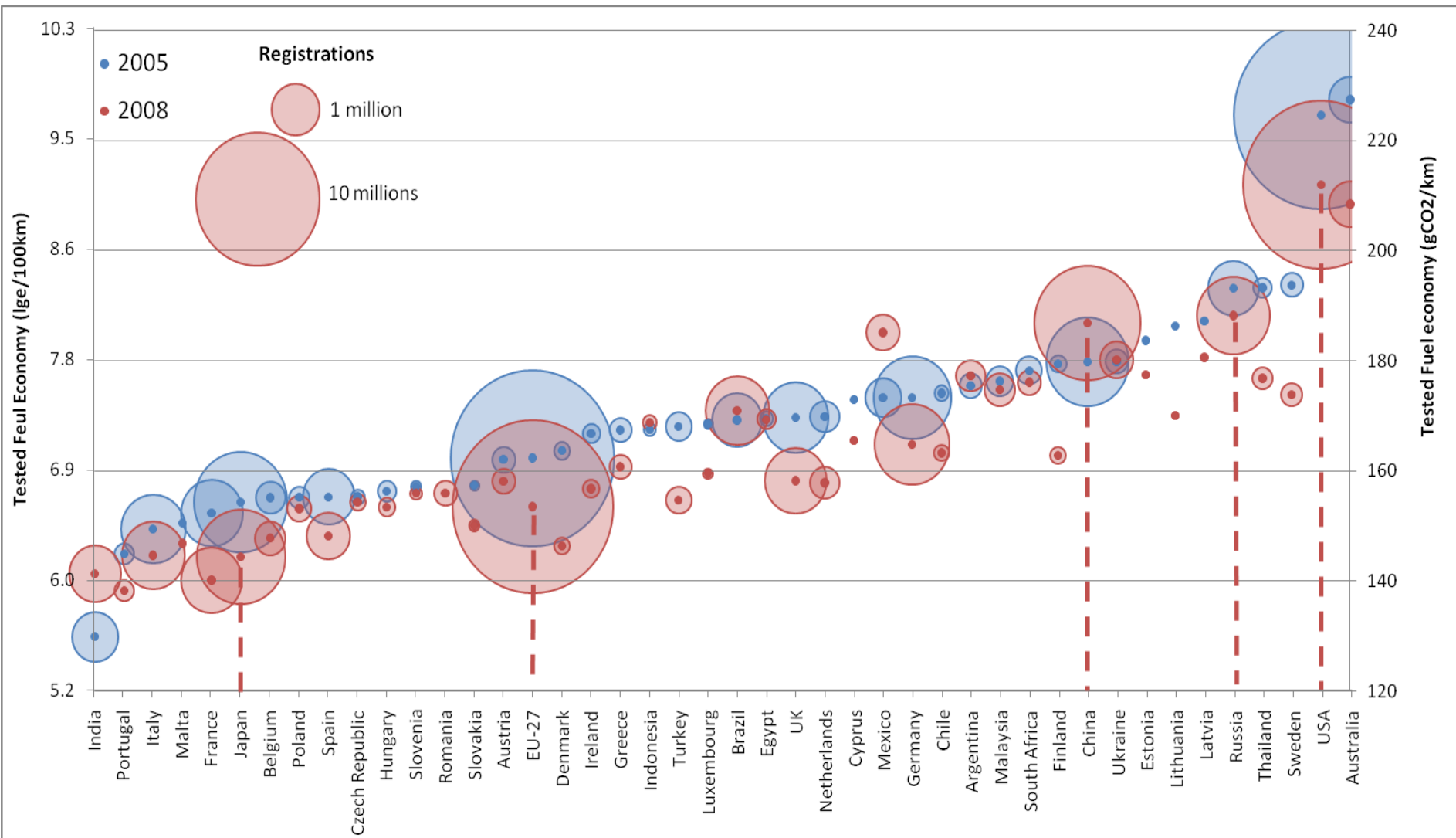
Country Performance



Source IEA – unpublished GFEI Working Paper

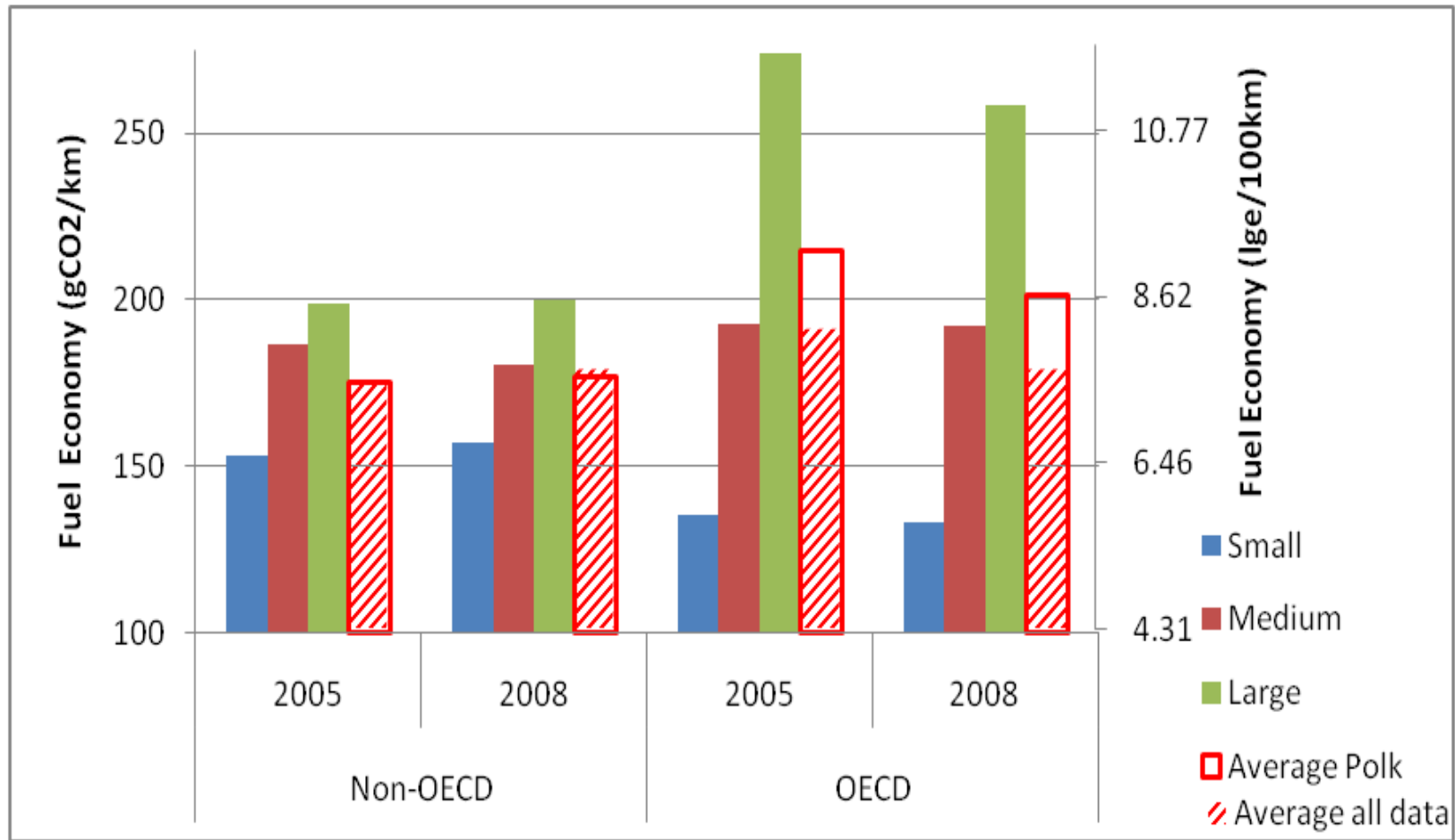
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Current fuel economy performance



Source IEA – unpublished GFEI Working Paper

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Inter Country Comparison

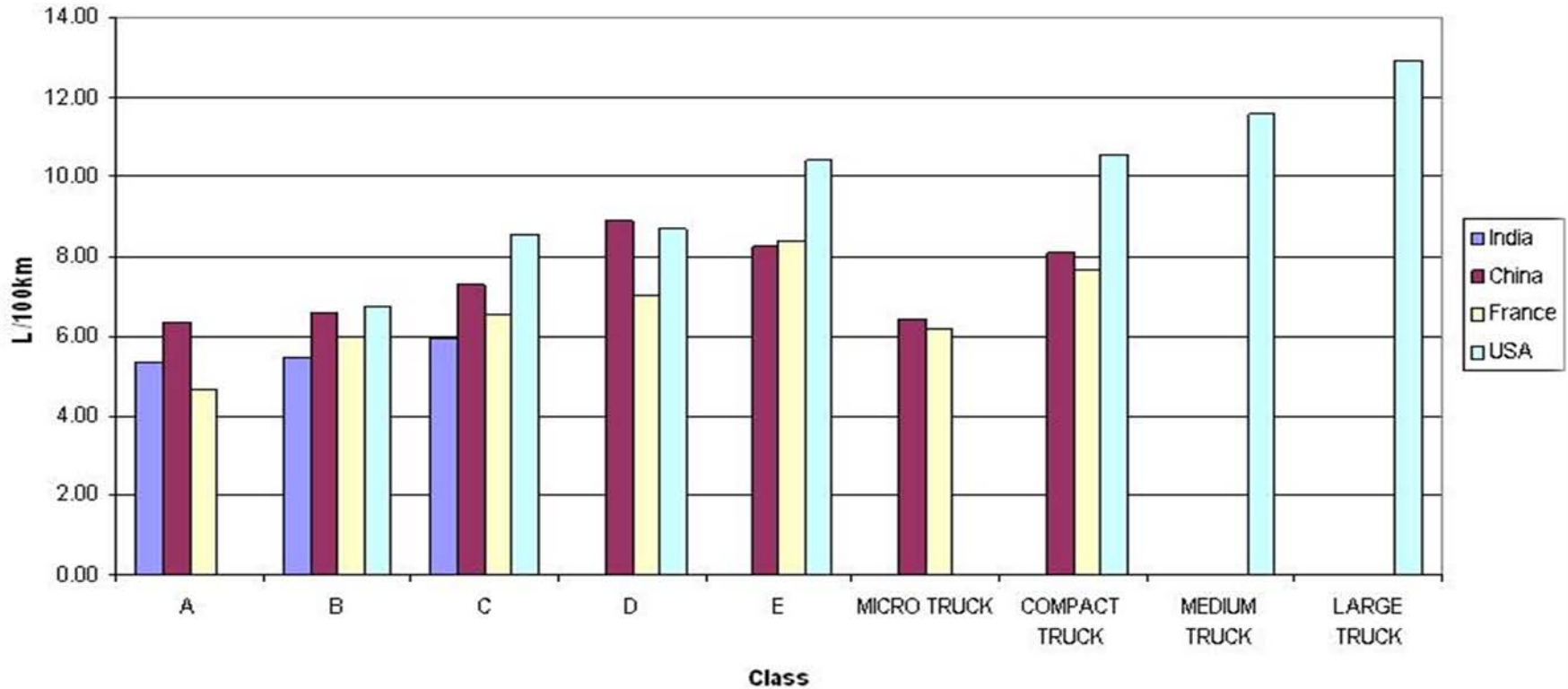
	USA	France	China	India
FC L/100km NEDC basis	10.2	5.3	7.5	5.6
Average Engine Size	3 to 3.5 L	1.2 to1.5L	1.3 to 1.6L	0.9 to 1.3L
Diesel Penetration	~0	81%	~0	35%
Manual Transmission	6%	92%	~40%	~60%

Source KG Duleep, – unpublished GFEI Working Paper

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Gasoline Vehicle Fuel Economy

Fig. 3-8: Fuel Consumption of Gasoline Vehicles by Class

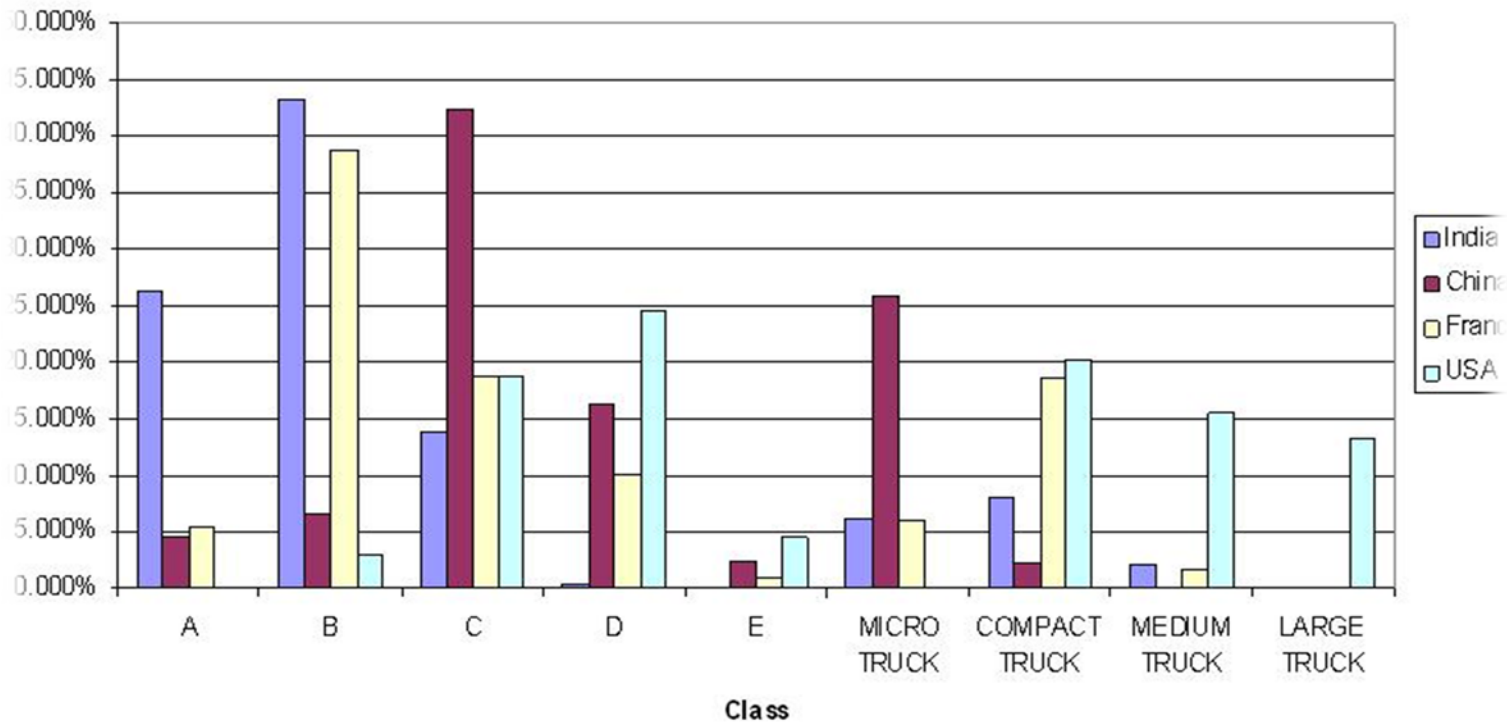


Source KG Duleep, - unpublished GFEI Working Paper

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Sales by Size

Fig. 3-3 Market Share of Class by Country

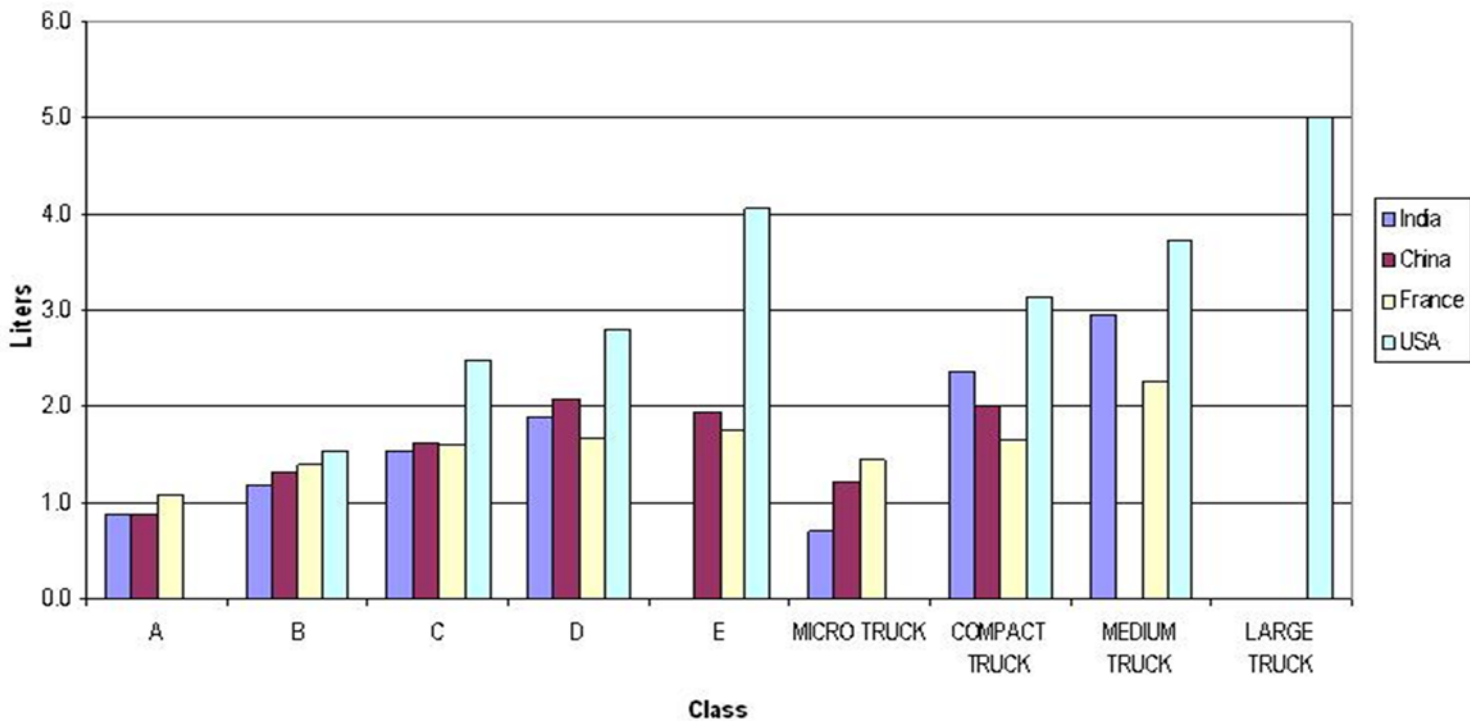


Source KG Duleep, - unpublished GFEI Working Paper

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Engine Size by Class

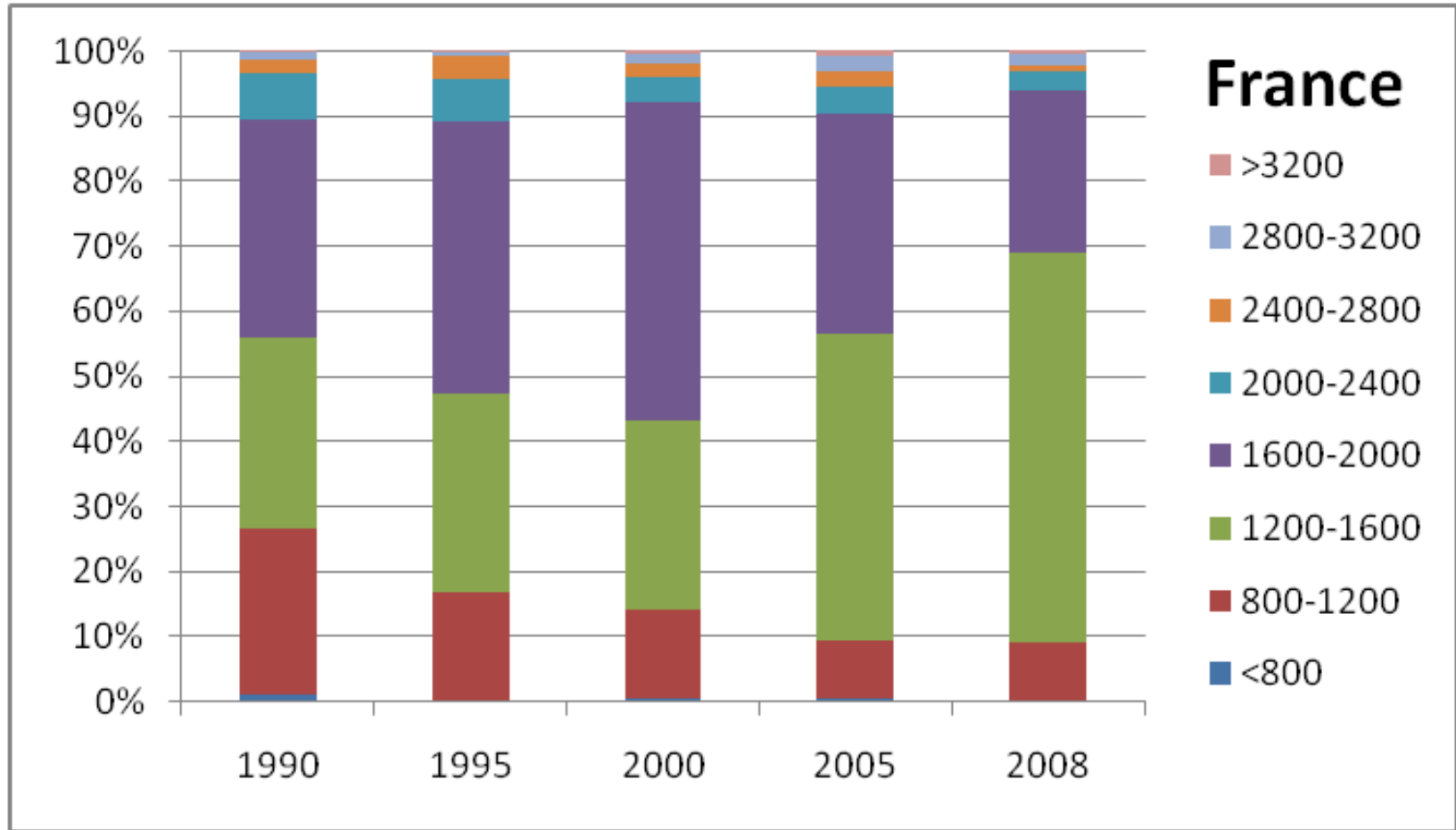
Fig 3-5: Average Engine Size by Class



Source KG Duleep, - unpublished GFEI Working Paper

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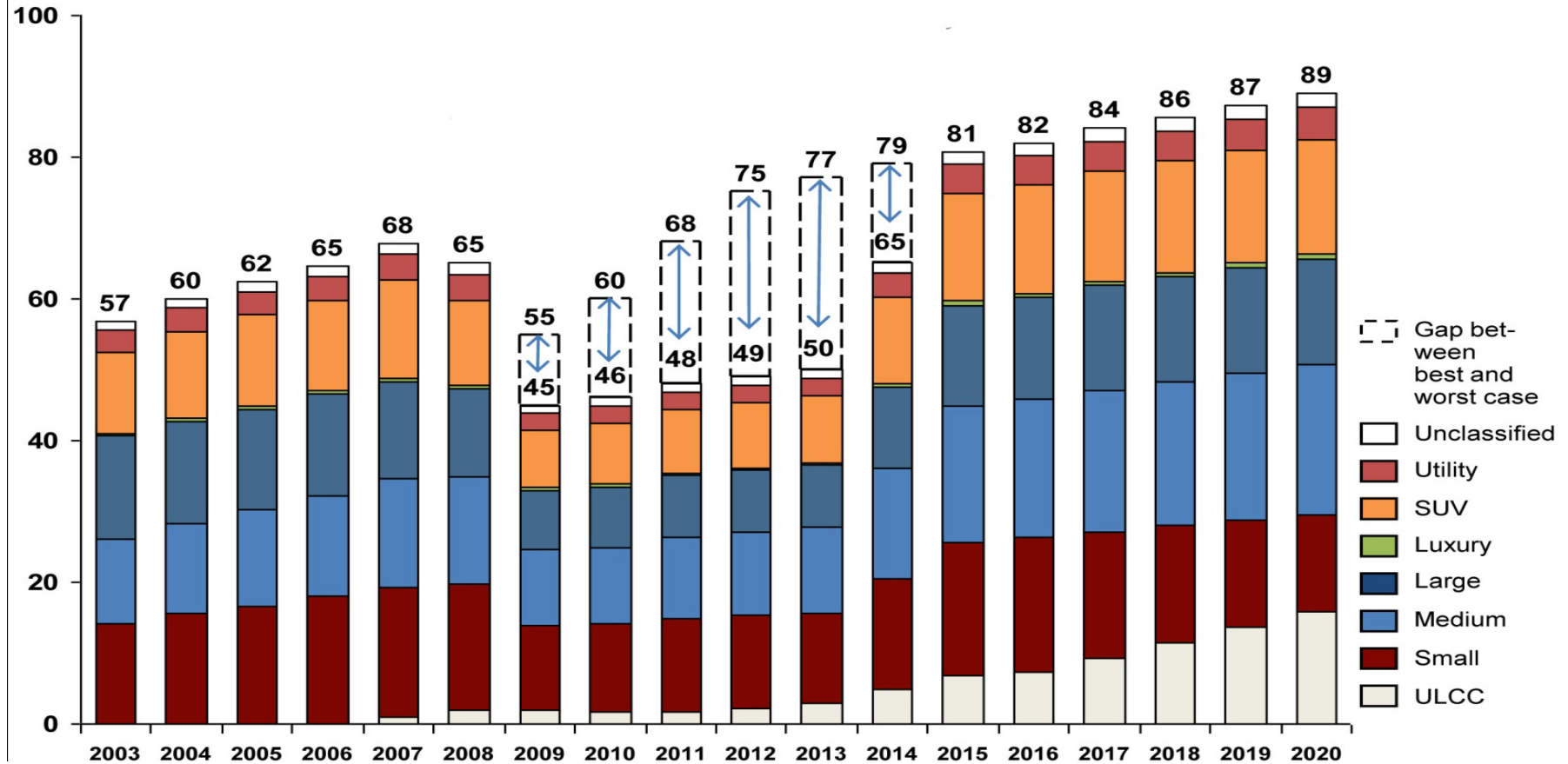
France – Diesels but Downsizing Too



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Growing Market for Smaller Cars

Global Passenger Car Sales Forecast



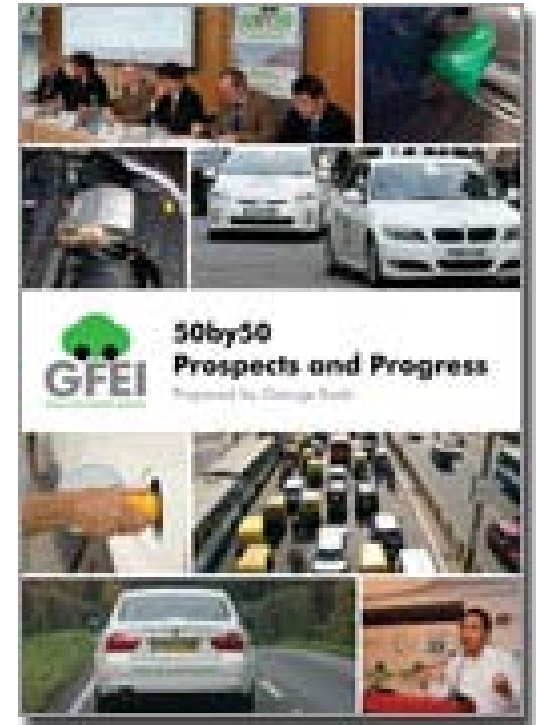
Source: AT Kearney

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GFEI Report - Prospects & Progress

- If technology potential is fully exploited in the OECD countries by 2030 average new car fuel economy could be improved to close to 4l/100 Km (60mpg), a doubling of mpg compared to 2005.
- In terms of carbon emissions, this corresponds to reducing CO₂ emissions from gasoline vehicles from 186 gCO₂/km on average to 93 gCO₂/km.
- This 4l/100 km (60mpg) 2030 target should also be feasible for new car markets such as China and India.



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Some Observations

Non OECD countries have better average fuel economy but have hardly improved whilst their contribution to the global fleet is rapidly growing.

OECD countries have improved but their vehicle fleet is mature, replacing rather than adding to the global fleet.

Size matters! The growing market for smaller cars looks to be vital and policies to sustain this trend should be encouraged.

New technology alone does not work as the comparison of the USA and Europe shows...A supportive policy framework of fuel economy incentives and standards is required especially in the newly motorising economies.

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GFEI activities

- GFEI continues to raise awareness and improve understanding through regional events, sponsored research, seminars, and practical in-country policy work via our toolkit
- GFEI toolkit pilot countries: Chile, Ethiopia, Indonesia, Kenya
- Interested countries (some already started): Morocco, Mauritius, Vietnam, Philippines, Montenegro, Russia, Georgia, Armenia, Azerbaijan, Barbados, Jamaica, Costa Rica, Peru, Paraguay
- Toolkit offers overviews of policy tools and approaches to improving fleet-wide fuel economy, stabilize emissions, and reduce energy intensity of transport with continued growth via examples of:
 - Standard setting and associated institutional structures
 - Fiscal and taxation instruments
 - Vehicle size mix
 - Awareness and behavioural measures etc.

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Contacts:

Thank you!!

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