

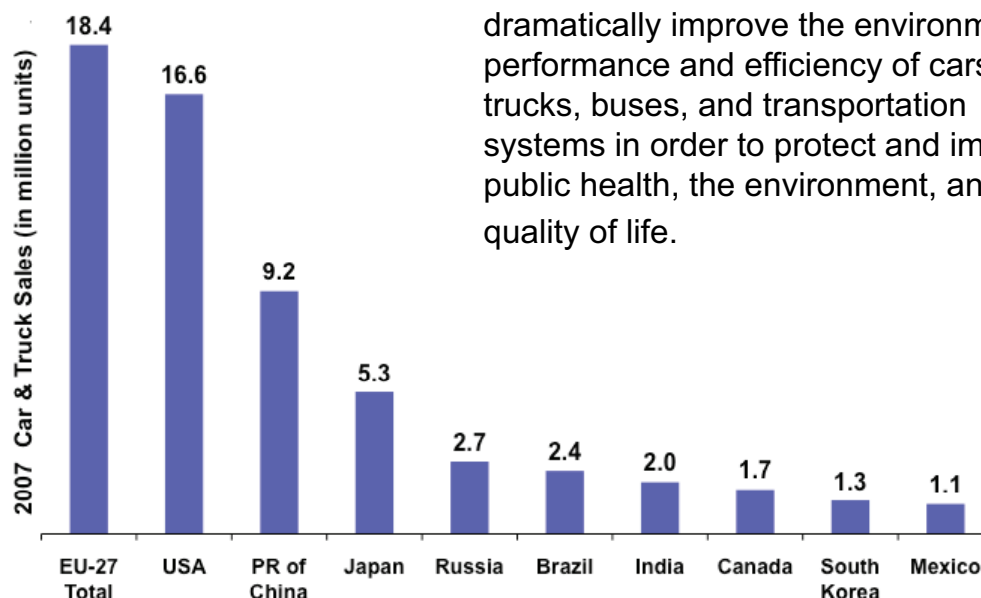
International experience with greenhouse gas and fuel economy standards

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The International Council on Clean Transportation (ICCT)

Top Ten Vehicle Markets, 2007



The mission of the ICCT is to dramatically improve the environmental performance and efficiency of cars, trucks, buses, and transportation systems in order to protect and improve public health, the environment, and quality of life.

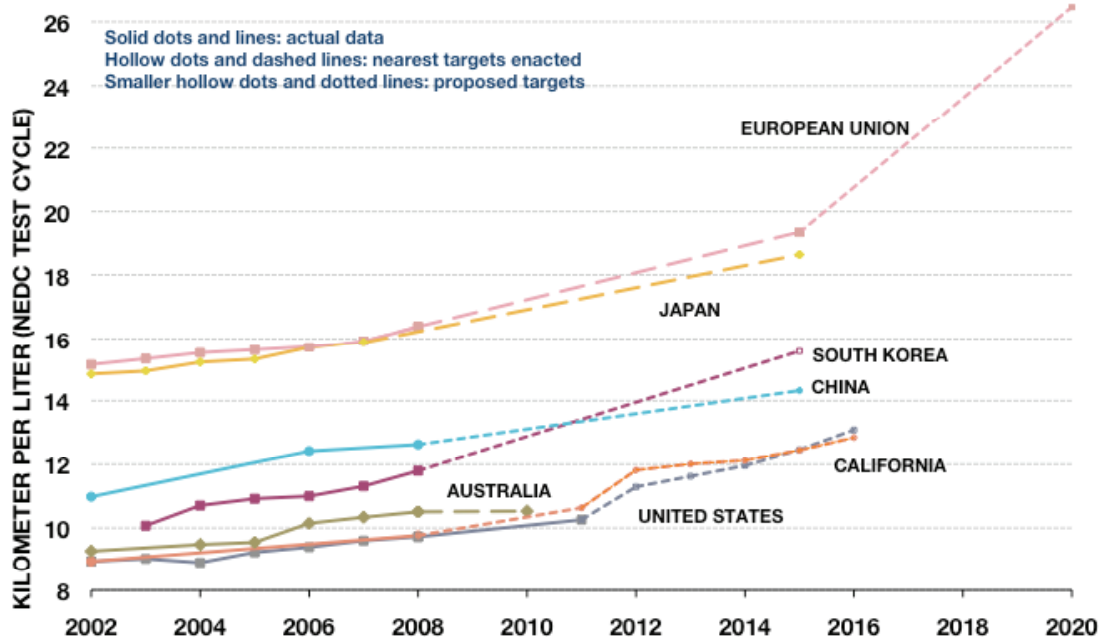


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A Brief History

- **1973 - Middle East Oil Embargo**
- 1975 - US Congress passes fuel economy CAFE standards
- 1981 - Mexico establishes fuel economy standards for passenger vehicles and bans 8-cylinder vehicles.
- **1997 - Global Climate Summit - Kyoto Protocol**
- 1998 - European voluntary agreement to auto maker associations on CO₂ standards for passenger vehicles
- 1999 - Japan sets modest fuel economy standards for passenger vehicles
- 2004 - California sets GHG standards for passenger vehicles.
- 2004 - China adopts fuel economy standards
- 2006 - Japan revises FE standards for passenger vehicles and sets standards for commercial trucks
- 2007?? - South Korea revised fuel economy standards (Check)
- 2009 - Europe sets mandatory CO₂ standards
- 2009 - US proposes combined GHG / FE standards

ACTUAL FLEET AVERAGE FUEL ECONOMY DATA THROUGH 2008 AND NEAREST TARGETS ENACTED OR PROPOSED THEREAFTER BY REGION



Efficiency Technologies by Price and Fuel Savings Benefit

QuickTime? and a decompressor are needed to see this picture.



Worldwide Automobile Efficiency/GHG Standards

→ About three-quarters of the world auto market is in the midst of 20%+ GHG reduction

Country/Region	Automobile 2007 sales in million/year (and world share)	Regulated metric	Form of Standard	Program details, reduction in CO ₂ -per-distance emissions
European Union	23 (32%)	GHG emission (CO ₂ e/km)	Weight, continuous	40% reduction, MY 2008-2020 EU NEDC cycle
United States	17 (24%)	Fuel economy (mi/gal)	Size-based, continuous	20% reduction, MY 2011-2016 U.S. FTP testing
		GHG emission (CO ₂ e/mi)		
Japan	6 (8%)	Fuel economy (km/L)	Weight classes	19% reduction, MY 2010-2015 Japan 10-15 cycle
China	5 (7%)	Fuel consump. (L/100km)	Per vehicle, weight class → Average weight class	12% reduction, MY2008-2015 EU NEDC cycle
California	1.8 (3%)	GHG emission (CO ₂ e/mi)	Vehicle class	30% reduction, MY 2009-2016 U.S. FTP testing
Canada	1.6 (2%)	Fuel consump. (gal/mi)	Size-based, continuous	Harmonized to U.S. stds U.S. FTP testing
		GHG emission (CO ₂ e/mi)		
Mexico	1.0 (1%)	TBD	TBD	TBD
Australia	0.9 (1%)	Fuel consump. (L/100km)	Fleet average	10% reduction, MY 2004-2010 EU NEDC
South Korea	0.5 (1%)	Fuel economy (km/L)	Engine size based	13% reduction, MY 2012-2015 U.S. FTP testing
		GHG emission (CO ₂ /km)		
Taiwan	0.3 (0.5%)	Fuel economy (km/L)	Engine size based	U.S. FTP testing



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