



# Comparison of current fuel economy standards and agreements

16 May 2008

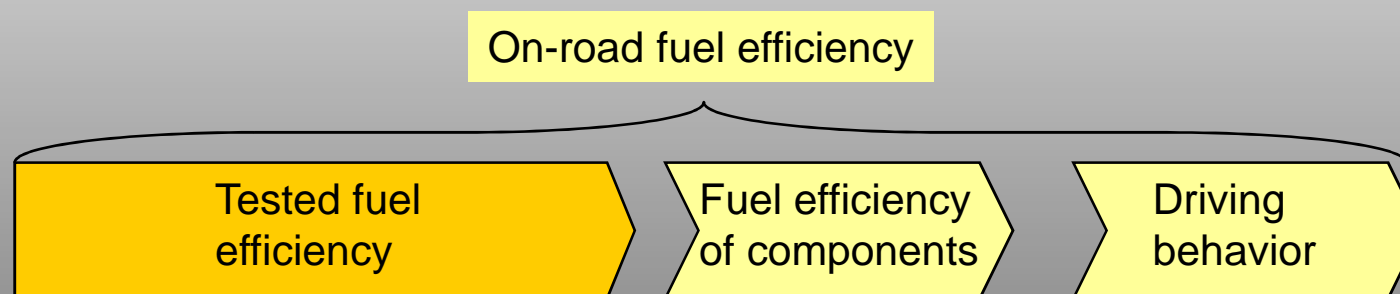
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# Scope of this presentation

## Policies to improve tested fuel efficiency





## Barriers

- **High discount rate**
  - *Fluctuating fuel price and on-road fuel efficiency, dilution by other costs, etc., all make consumers short-sighted and reluctant to invest for the future.*
- **Incomplete market for energy efficiency**
  - *Energy efficiency is often a secondary attribute bundled together with other vehicle features.*



# Implementation of policy measures for technical fuel efficiency improvement

	Regulatory standards	Voluntary targets	Vehicle tax differentiation	Consumer information
EU	PL*	IM*	PL**	IM
Japan	IM		IM	IM
US	IM		IM	IM
Canada	PL	IM*		IM
China	IM		IM	IM
Korea	IM	IM		IM
Australia		IM		IM

IM: implemented

PL: planned or under consideration

\*) Voluntary and Regulatory measures in EU are on CO<sub>2</sub>, not directly on fuel efficiency. Similarly, Voluntary target in is on GHG.

\*\*\*) Several EU member states have already implemented the tax systems and the European Commission is currently calling for harmonization of the systems.



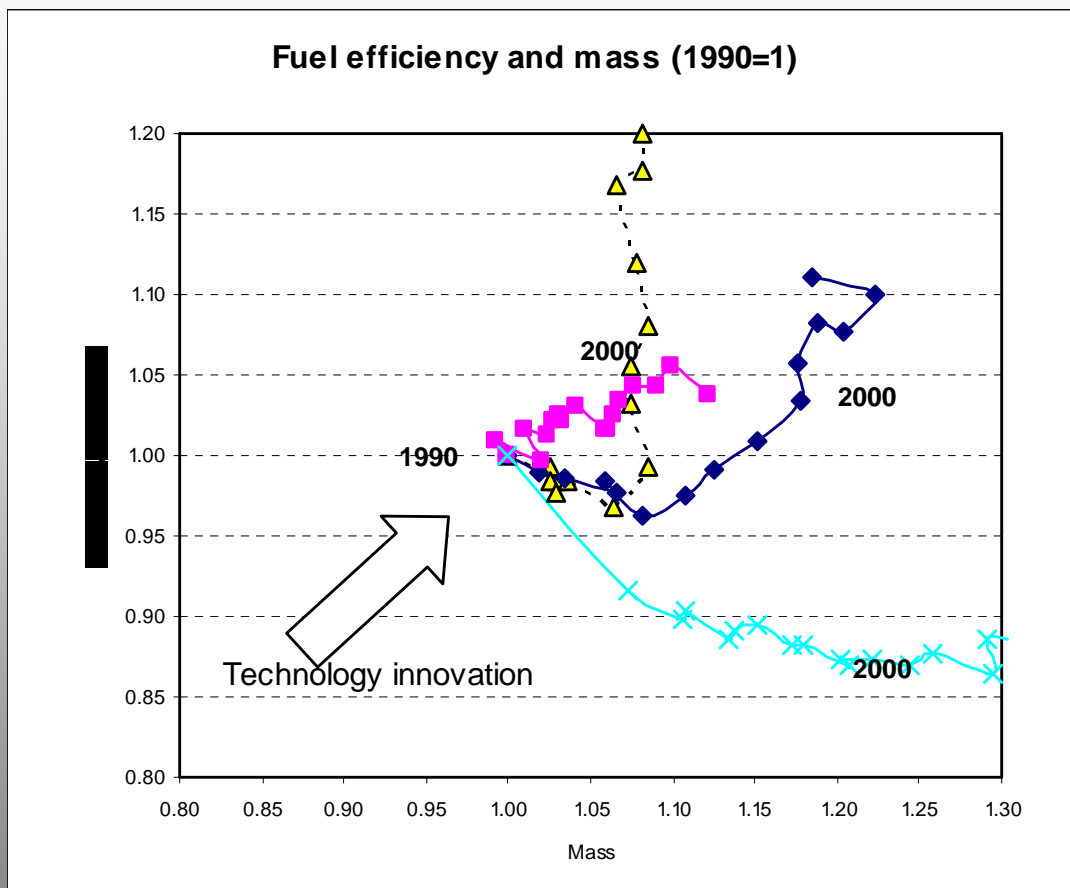
## Outcome of Voluntary and Regulatory Programs

	Regulatory standards			Voluntary targets		
	Set year	Target year	Outcome	Set year	Target year	Outcome
Japan	1999	2010	A	1978	1985	F
	2007	2015		1993	2002	F
EU				1995	2012	
				1999	2008	F
US	1975 2006	each MY	A			
Canada				1976 2005	Each MY 2010	A
China	2004 2004	2005 2008	A			
Australia				1978	1987	F
				1987	2000	F
				2005	2009	

Note: A; Achieved the objectives  
F; Failed to clear the set values



# Fuel Efficiency and Vehicle Mass



While Europe and the USA increased average mass of their fleet, Japan increased fuel efficiency at constant mass

Except in Japan, manufacturers are using technology innovation to produce bigger, therefore, heavier vehicles



## **Key Aspects that Governments Should Consider –Overall**

- **Implementation of appropriate mandatory fuel efficiency standards**
- **Flexibility should be introduced to achieve maximum fuel savings and CO<sub>2</sub> reduction at lowest cost to society**



## **Key Aspects–Related Measures**

- **About 80% of new passenger vehicles have achieved the 2010 Target Standard Values in 2005 in Japan.**



**Demand side measures including financial incentives can be a useful complement to standards**



## **IEA concrete recommendations**

- **IEA submitted 12 recommendations on energy efficiency policy to the 2007 G8**
- **G8 declared to take forward the IEA recommendations and to consider drawing on these when preparing national energy efficiency plans.**
- **One of the recommendations:**
  - Introduce/ Strengthen Mandatory Fuel Efficiency Standards for Light-duty Vehicles
  - align, if appropriate, as many aspects of the future standards as possible

[http://www.iea.org/G8/docs/recommendations\\_heiligendamm.pdf](http://www.iea.org/G8/docs/recommendations_heiligendamm.pdf)



## Issues when alignment is considered: *Test procedures*

- Test procedures are different in EU, US and Japan
- In 2006, US and Japan revised their test procedures to tailor more closely to their own specific traffic conditions (divergence not convergence!)
- Examples of effect of different test procedures
  - US: Compared to today's estimates, the new city mpg estimates for the manufacturers of most vehicles will drop by about **12 percent on average**, and by as much as **30 percent for some vehicles** (USEPA).
  - Japan: 15.1 km/l with old test procedure equals to 13.6 km/l with new test procedure



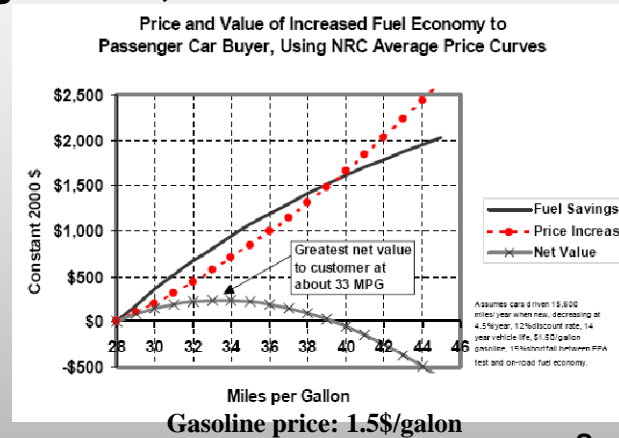
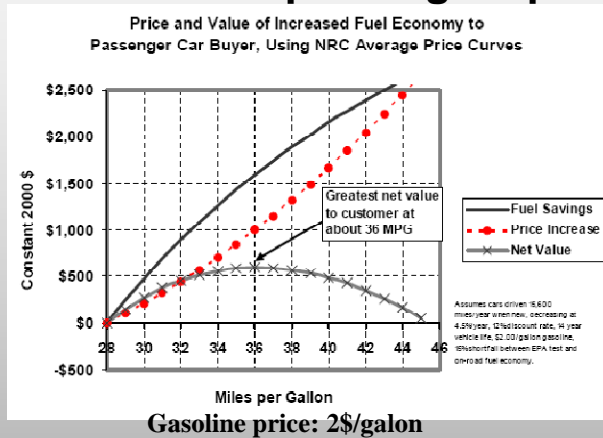
## Issues when alignment is considered : *Different policy objective*

- If policy objectives relates to energy security, etc, fuel economy regulation should be considered
- If climate change, CO<sub>2</sub> or GHG regulation
- 120gCO<sub>2</sub>/km, for example, is equivalent to 20km/l for gasoline cars and 22km/l for diesel cars
- In California...
  - 30% reduction by 2016
  - Bundle of gases, CO<sub>2</sub>, HFC, N<sub>2</sub>O, CH<sub>4</sub>



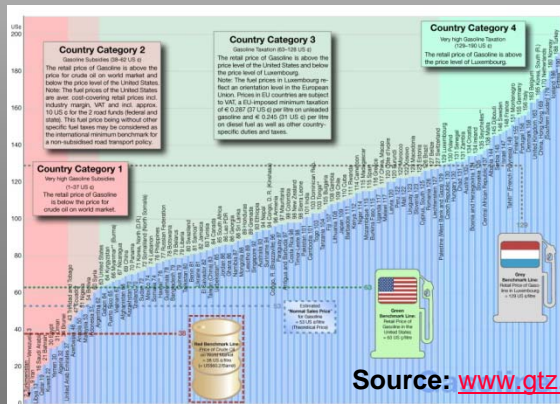
# Issues when alignment is considered: Available technologies

- Technologies that should be introduced from a view point of LCC are different depending on price of gasoline, vehicle distance traveled, size mix

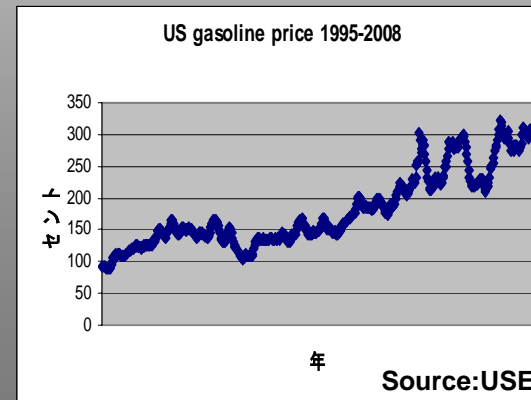


Source: David L. Greene

- Gasoline price, for example, differs countries to countries and time to time



Source: [www.gtz.de/fuelprices](http://www.gtz.de/fuelprices)

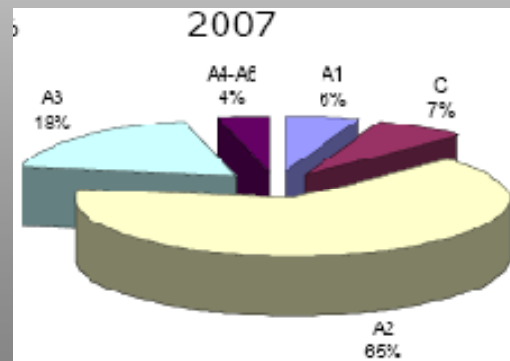


Source: USEIA



## Different size mix

- In US, half of vehicles are big SUVs etc.
- In India, more than 90% falls in A segment



Source: Maruti Suzuki



## **WLTP activities in UNECE/WP29**

- **UNECE/WP29 started the activities on worldwide harmonized light vehicles test procedures (WLTP)**
- **The activity was initiated by Japan, with the full support by EU, India, OICA and the FIA Foundation**
- **First meeting to be held in June 2008 to work on a detailed roadmap**



# Conclusion

- **There are a wide variety of types of fuel economy policies that either do or could exist**
- **The IEA recommended to G8 at Heiligendamm Summit to introduce/ strengthen fuel economy regulations for LDVs and to align as many aspects of the future regulations as possible**
- **There is no such a thing as “ one solution fits all” and when alignment is considered, many issues including different test procedure and lack of data should be considered**
- **The activity at UNECE/WP29 to establish WLTP deserves attention**
- **Policies to improve on-road fuel efficiency such as those for wider deployment of fuel efficient components and promotion of eco-driving are also important**