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Car Labeling: A Comparison of Case Studies

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IDEC: Debate Automóvel e Consumo



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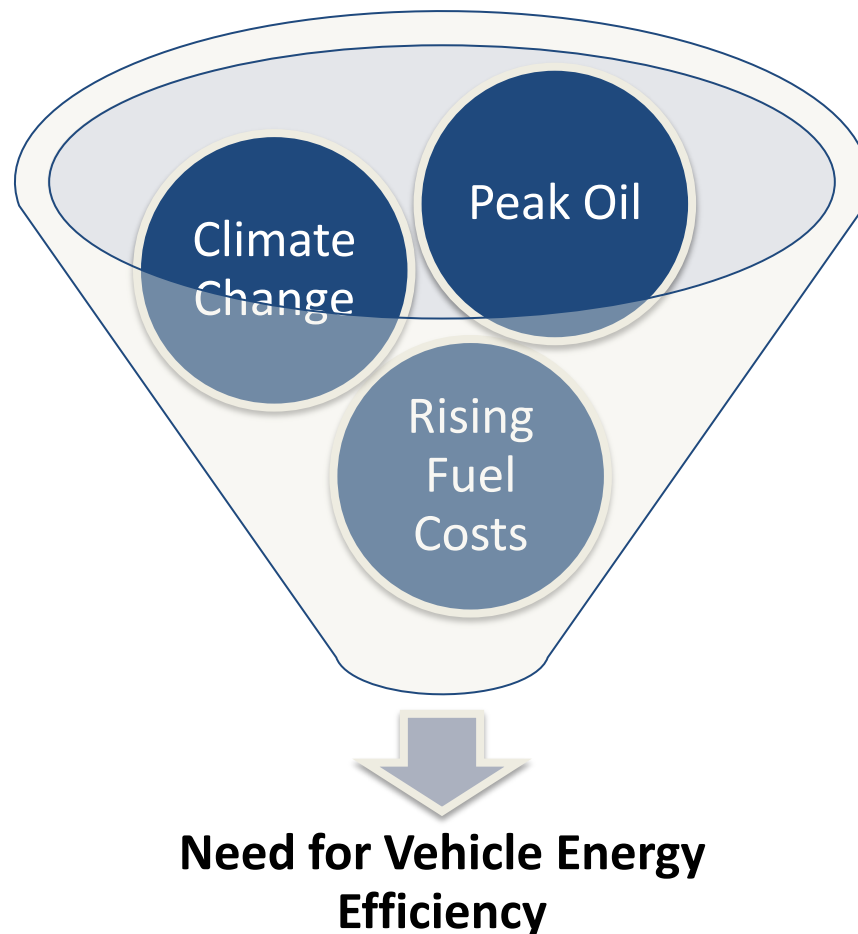
- ▶ Independent Research Institute
 - ▶ Environmental Research
 - ▶ Policy Analysis
 - ▶ 120 employees



- ▶ Offices in Berlin, Brussels, Washington DC und San Mateo
- ▶ Experience and Contacts: Car Labeling
 - ▶ Study commissioned by the European Parliament (2010)
 - ▶ *ICCT, Friends of the Earth Europe, Germany Association of the Automotive Industry, various manufacturers*



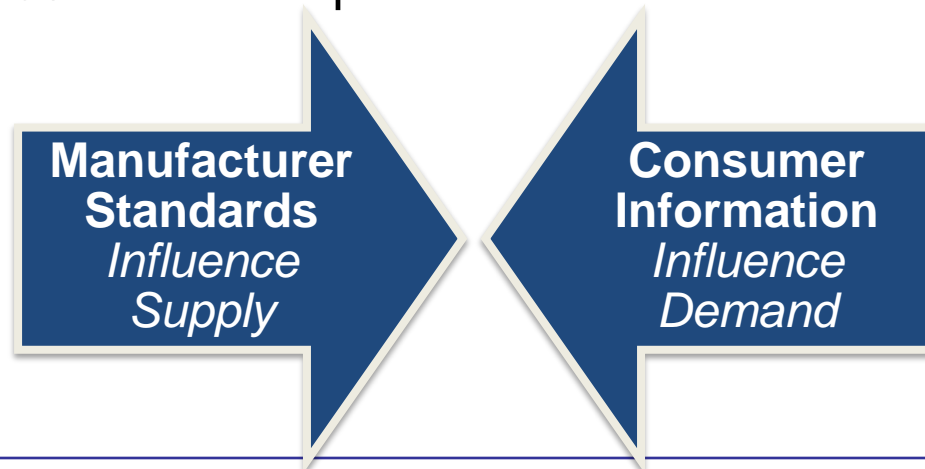
Overview: Vehicle Energy Efficiency





EU Policy Instruments

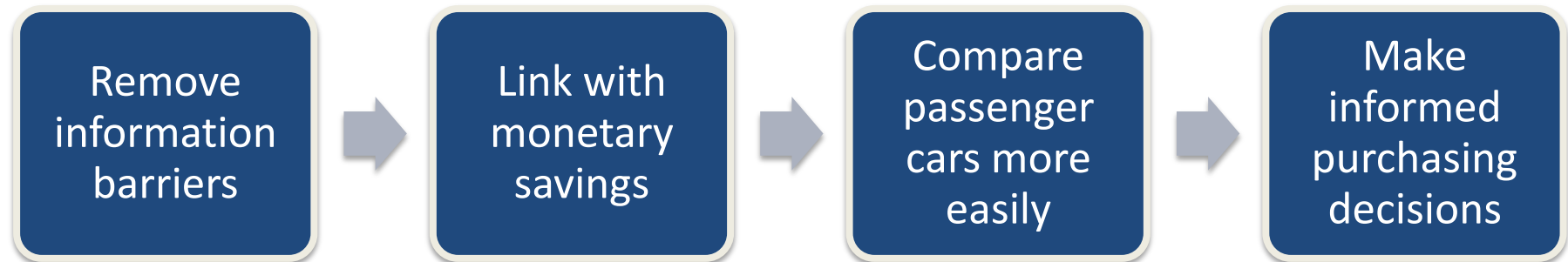
- ▶ **Directive 1999/94/EC:** Information for new passenger cars for *sale or lease*
 - ▶ Label
 - ▶ Guide
 - ▶ Poster display
 - ▶ Printed promotional material
- ▶ **Regulation (EC) No 443/2009:** Emission performance standards for manufacturers
- ▶ „Push-Pull“ effect





Overview: Car Labeling

- ▶ Information regarding fuel economy and CO₂ emissions costly to obtain
- ▶ Provide consumers with relevant information



- ▶ Manufacturers compete according to fuel economy
 - **Climate Change Mitigation**
 - **Energy Independence**
 - **Cost savings and Efficiency**



France

Label Attribute

Format Absolute: CO₂ Emissions Static

Categories 7

Additional Information city and highway fuel consumption, link to website

Assessment No running costs on label but Bonus/Malus System *links directly to the label*

Illustration of the Label

Consommation de carburant et émission de CO₂

Informations en application de la directive 1999/94/CE

Marque : **VOITURE**
Modèle : **Xxx**
Version : **Xxx**
Énergie : **Essence**

Consommation de carburant

Mesures effectuées selon la directive 90/128/CEE modifiée 1999/100/CE

Consommation mixte :

X,X l/100 km

Consommation urbaine : X,X l/100 km
Consommation extra-urbaine : X,X l/100 km

CO₂ Le CO₂ (dioxyde de carbone) est le principal gaz à effet de serre responsable du changement climatique.

Mesures effectuées selon la directive 90/128/CEE modifiée 1999/100/CE

XX g/km

Émissions de CO₂ faibles

- Inférieures ou égales à 100 g/km **A**
- de 101 à 120 g/km **B**
- de 121 à 140 g/km **C**
- de 141 à 160 g/km **D**
- de 161 à 200 g/km **E**
- de 201 à 250 g/km **F**
- supérieures à 250 g/km **G**

Émissions de CO₂ élevées

La consommation de carburant et les émissions de CO₂ d'un véhicule sont fonction non seulement de son rendement énergétique, mais également du comportement au volant et d'autres facteurs non techniques. Les informations sur les consommations de carburant et les émissions de CO₂ de tous les modèles de voitures particulières neuves, contenues dans le guide de l'ADEME, peuvent être obtenues gratuitement dans tous les points de vente, auprès de l'ADEME et consultées sur le site internet : www.ademe.fr





Germany

Label Attribute

Format	<p>Relative: CO₂ Efficiency by car mass</p> <p>Semi-Dynamic: Percentage deviation from the reference value <i>(potential A++, A+++)</i></p>
Categories	8 (so far)
Additional Information	Electricity consumption, tax information, fuel and electricity costs
Assessment	<p>No incentive for lighter vehicles</p> <p>Vehicle registration tax linked to CO₂ emissions</p>

Illustration of the Label

Information über Kraftstoffverbrauch, CO₂-Emissionen und Stromverbrauch i. S. d. Pkw-EnVKV

Marke:	Kraftstoff:	
Modell:	andere Energieträger:	
Leistung:	Masse des Fahrzeugs:	

Kraftstoffverbrauch	kombiniert:	/100 km
	innerorts:	/100 km
	außerorts:	/100 km
CO₂-Emissionen	kombiniert:	g/km
Stromverbrauch	kombiniert:	kWh/100 km

Die angegebenen Werte wurden nach vorgeschriebenen Messverfahren (§ 2 Nm. 5, 6, 6a Pkw-EnVKV in der gegenwärtig geltenden Fassung) ermittelt. CO₂-Emissionen, die durch die Produktion und Bereitstellung des Kraftstoffes bzw. anderer Energieträger entstehen, werden bei der Ermittlung der CO₂-Emissionen gemäß der Richtlinie 1999/94/EG nicht berücksichtigt. Die Angaben beziehen sich nicht auf ein einzelnes Fahrzeug und sind nicht Bestandteil des Angebotes, sondern dienen allein Vergleichszwecken zwischen den verschiedenen Fahrzeugtypen.

Hinweise nach Richtlinie 1999/94/EG:
Der Kraftstoffverbrauch und die CO₂-Emissionen eines Fahrzeugs hängen nicht nur von der effizienten Ausnutzung des Kraftstoffes durch das Fahrzeug ab, sondern werden auch vom Fahrverhalten und anderen nichttechnischen Faktoren beeinflusst. CO₂ ist das für die Erderwärmung hauptsächlich verantwortliche Treibhausgas. Ein Leitfaden für den Kraftstoffverbrauch und die CO₂-Emissionen aller in Deutschland angebotenen Personenkraftfahrzeugmodelle ist unentgeltlich an jedem Verkaufsort in Deutschland erhältlich, an dem neue Personenkraftfahrzeugmodelle ausgestellt oder angeboten werden.

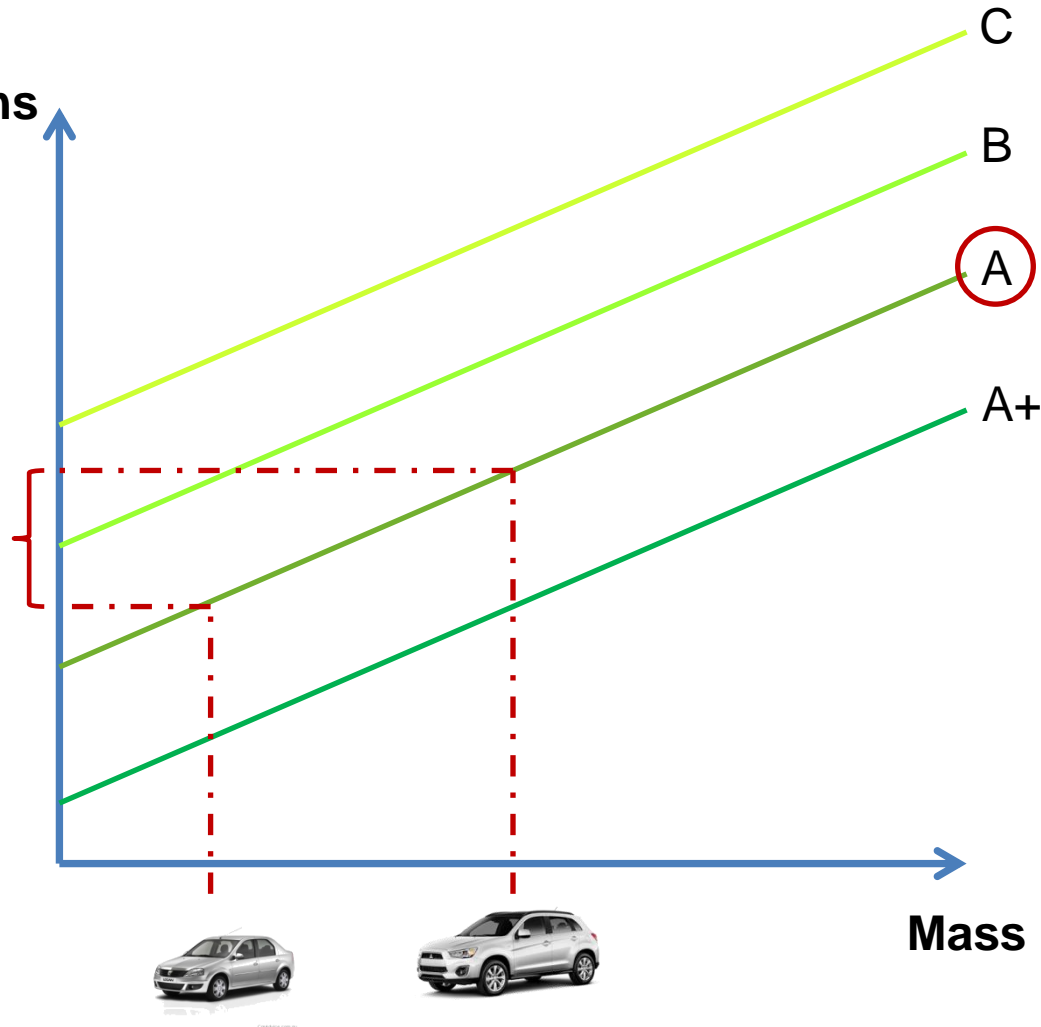
CO₂-Effizienz	Auf der Grundlage der gemessenen CO ₂ -Emissionen unter Berücksichtigung der Masse des Fahrzeugs ermittelt.
	B

Jahressteuer für dieses Fahrzeug	Euro
Energieträgerkosten bei einer Laufleistung von 20.000 km:	
Kraftstoffkosten (_____) bei einem Kraftstoffpreis von _____ Euro/Abrechnungseinheit	Euro
Stromkosten bei einem Strompreis von _____ Euro/Abrechnungseinheit	Euro
Erstellt am:	



Germany

CO₂ Emissions



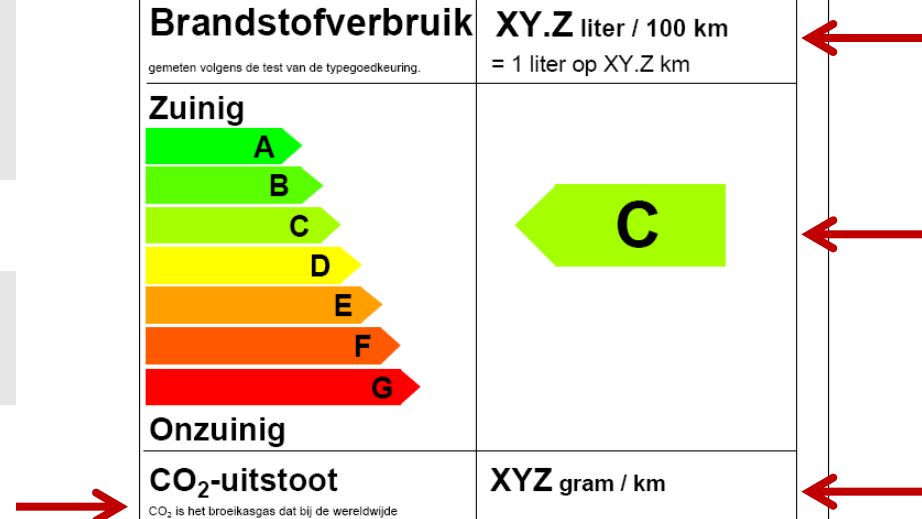


The Netherlands

Label Attribute	
Format	Relative: CO ₂ Emissions by realtive footprint <i>(weighted)</i> Dynamic
Categories	7
Additional Information	-
Assessment	No information about fuel costs No incentive for smaller vehicles, but for lighter vehicles

Illustration of the Label

Energie	Personenauto
Fabrikant Model	Logo ABC 123 DEF GHI
Brandstof	
Brandstofverbruik <small>gemeten volgens de test van de typegoedkeuring.</small>	XY.Z liter / 100 km = 1 liter op XY.Z km
Zuinig 	
Onzuinig	
CO₂-uitstoot <small>CO₂ is het broeikasgas dat bij de wereldwijde klimaatverandering de belangrijkste rol speelt.</small>	XYZ gram / km
<small>Jaar van toepassing</small>	2XYZ
<small>Een gids betreffende het brandstofverbruik en de CO₂-uitstoot met gegevens voor alle nieuwe modellen personenauto's is gratis verkrijgbaar in elk verkooppunt.</small>	
<small>Naast de brandstofefficiëntie van een auto zijn ook het rijgedrag en andere, niet-technische factoren bepalend voor het brandstofverbruik en de CO₂-uitstoot van een auto.</small>	
<small>Richtlijn 1999/94/EG: Etikettering personenauto's</small>	





Switzerland

Label Attribute

Format *Dual Label*
Absolute/Static: CO₂ Emissions (*continuous scale with fleet average*)
Relative/Dynamic: Energy Efficiency by mass

Categories 7

Additional Information link to website

Assessment No running costs
 Too complex → information overload?

Illustration of the Label

Benzinfahrzeuge

energieEtikette

Marke Typ	Testwagen Modell
Treibstoff	Benzin
Getriebe	Manuell, 5 Gänge
Leergewicht	1800 kg
Emissionsvorschrift	EURO5

Energieverbrauch EU-Normverbrauch	7.4 l / 100 km
CO₂-Emissionen CO ₂ ist das für die Erderwärmung hauptverantwortliche Treibhausgas.	177 g / km

Energieeffizienz
 Für die Einteilung in die Kategorien der Etikette sind zwei Größen massgebend: Energieverbrauch und Gewicht.

Der Energieverbrauch und damit die CO₂-Emissionen eines Fahrzeugs sind auch vom Fahrstil und anderen nichttechnischen Faktoren abhängig.

Informationen zum Energieverbrauch und zu den CO₂-Emissionen, inklusive einer Auflistung aller angebotenen Neuwagen, sind kostenlos an allen Verkaufsstellen erhältlich oder im Internet unter www.energieetikette.ch abrufbar.

Gültig bis 31.12.2012 / 1XY000 (m5)





Switzerland

Label Attribute

Separate label for electric vehicles

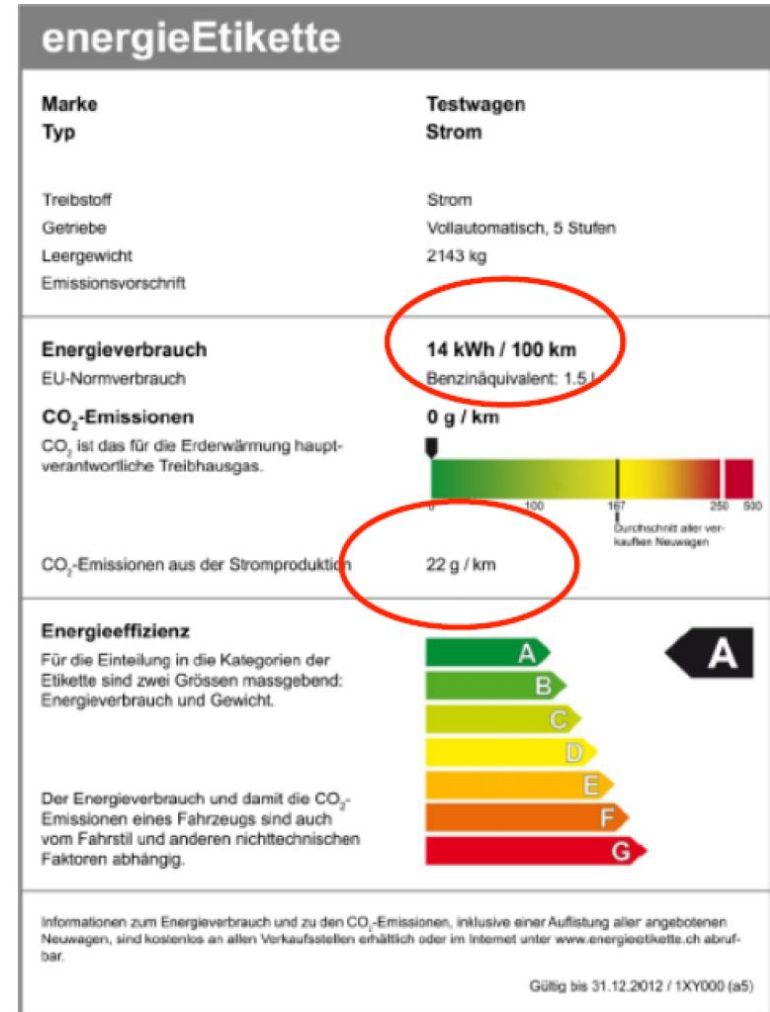
Additional Information

CO₂ emissions from electricity generation, assuming the Swiss electricity consumption mix

Assessment

Plug-in electric vehicles → *well-to-wheels basis*; other vehicle types → *tank-to-wheels basis*

Illustration of the Label





United Kingdom

Label Attribute

Format **Absolute: CO₂ Emissions**
Static

Categories 13

Additional Information Fuel costs, vehicle excise duty (direct link between label and tax), link to website, logos → branding and legitimating Voluntary for used cars

Assessment A lot of information provided → potential overload?

Illustration of the Label

Fuel Economy		VED band and CO ₂													
<p>CO₂ emission figure (g/km)</p>															
<p>Fuel cost (estimated) for 12,000 miles <small>A fuel cost figure indicates to the consumer a guide price for comparison purposes. This figure is calculated by using the combined drive cycle (town centre and motorway) and average fuel price. Re-calculated annually, the cost per litre as at Mar 2011 is as follows - petrol 133p, diesel 139p, LPG 77p.</small></p> <p>VED for 12 months <small>Vehicle excise duty (VED) or road tax varies according to the CO₂ emissions and fuel type of the vehicle.</small></p>		<p>** Year rate*</p>	<p>Standard rate**</p>												
<p align="center">Environmental Information</p> <p>A guide on fuel economy and CO₂ emissions which contains data for all new passenger car models is available at any point of sale free of charge. In addition to the fuel efficiency of a car, driving behaviour as well as other non-technical factors play a role in determining a car's fuel consumption and CO₂ emissions. CO₂ is the main greenhouse gas responsible for global warming.</p>															
<p>Make/Model:</p>		<p>Engine Capacity (cc):</p>													
<p>Fuel Type:</p>		<p>Transmission:</p>													
<p>Fuel Consumption:</p> <table border="1"> <thead> <tr> <th>Drive cycle</th> <th>Litres/100km</th> <th>Mpg</th> </tr> </thead> <tbody> <tr> <td>Urban</td> <td></td> <td></td> </tr> <tr> <td>Extra-urban</td> <td></td> <td></td> </tr> <tr> <td>Combined</td> <td></td> <td></td> </tr> </tbody> </table>				Drive cycle	Litres/100km	Mpg	Urban			Extra-urban			Combined		
Drive cycle	Litres/100km	Mpg													
Urban															
Extra-urban															
Combined															
<p>Carbon dioxide emissions (g/km): Important note: Some specifications of this make/model may have lower CO₂ emissions than this. Check with your dealer.</p>															
<p>Department for Transport</p>		<p>To compare fuel costs and CO₂ emissions of new cars, visit http://carfueldata.direct.gov.uk/</p>													

* A new 1st year VED rate will be applied to vehicles registered for the first time on or after April 2010.
 ** The standard 12 month VED rate for all registered cars in this band is shown for the purposes of comparison. Note, figures quoted reflect the current rate only, and may be subject to change in the future.



Brazil

Label Attribute

Format **Relative:** Energy consumption by car class
Static

Categories 5 (but in 8 car classes)

Additional Information Ethanol and gasoline consumption (if appll.), city and highway, Plus CO₂-emissions logos → branding and legitimation

Assessment **Voluntary**
→ compliance issues, overlapping categories, No running costs less incentive for lighter vehicles

Illustration of the Label

Energia (Combustível)		2013 Ano de aplicação
Categoria do veículo	Compacto ←	
Marca	(Nome/Logo)	
Modelo	Samba Flex	
Versão	LXP ou nome	
Motor	XYZ	
Transmissão	Manual 5 Velocidades	
Menor consumo na categoria		← B
Maior consumo na categoria		
Quilometragem por litro e CO₂		
	Etanol	
Cidade (km/l)	6,9	9,8 ←
Estrada (km/l)	8,1	11,3 ←
CO ₂ fóssil não renovável (g/km)	0	145 ←
Etiqueta Nacional de Conservação de Energia, de acordo com o Regulamento de Avaliação da Conformidade para Veículos Leves de Passageiros e Comerciais Leves, com Motores do Ciclo Otto. ESTA ETIQUETA NÃO PODE SER REMOVIDA ANTES DA VENDA DO VEÍCULO		
IMPORTANTE: * Valores medidos em condições padrão de laboratório (NBR-7024) e ajustados para simular condições mais comuns de utilização. O consumo percebido pelo motorista poderá variar para mais ou para menos, dependendo das condições de uso. Para saber por que, consulte www.inmetro.gov.br e www.conpet.gov.br Instruções e recomendações de uso, leia o Manual do Proprietário		



Illustration of the Label

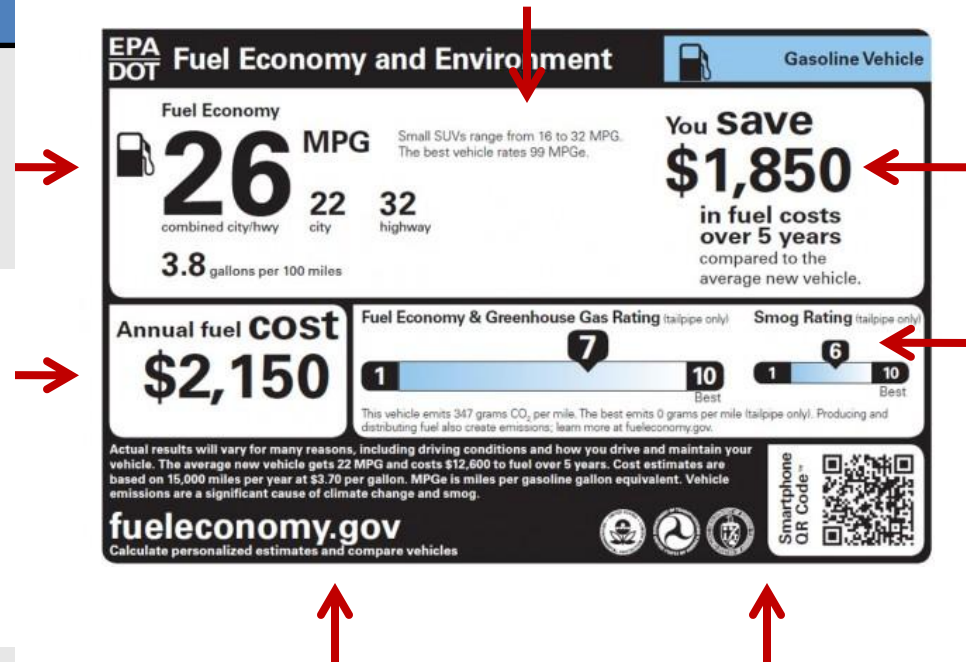
United States

Label Attribute

Format **Absolute:** Combined continuous scale for fuel economy and GHG emissions
Static

Additional Information Additional smog scale, annual fuel costs and savings over 5 years; car class range; MPG: city, highway and combined; logos → branding and legitimation, online tools, Smartphone application

Assessment Focuses on costs (cultural reasons?)
Potential information overload





United States

Label Attribute

Separate label for electric and hybrid vehicles

Format

Absolute: same scale as other passenger vehicles
Static

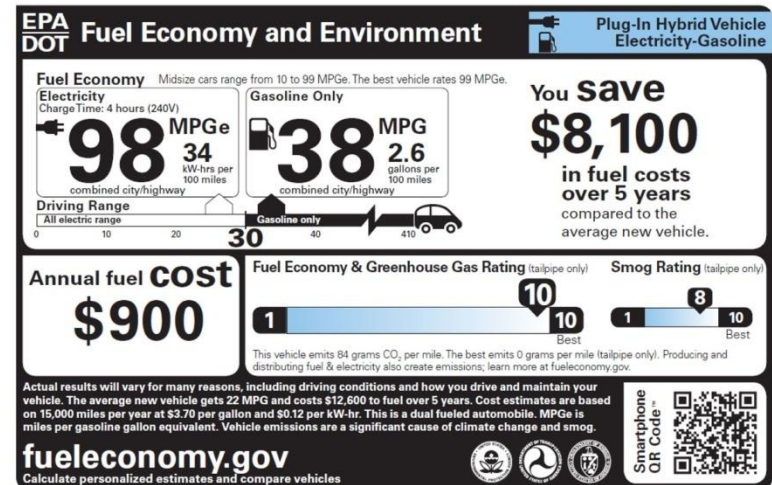
Additional Information

Charge time, driving range, fuel economy by electricity and gasoline

Assessment

Focus on costs
Potential information overload

Illustration of Electric and Hybrid Car Label(s)

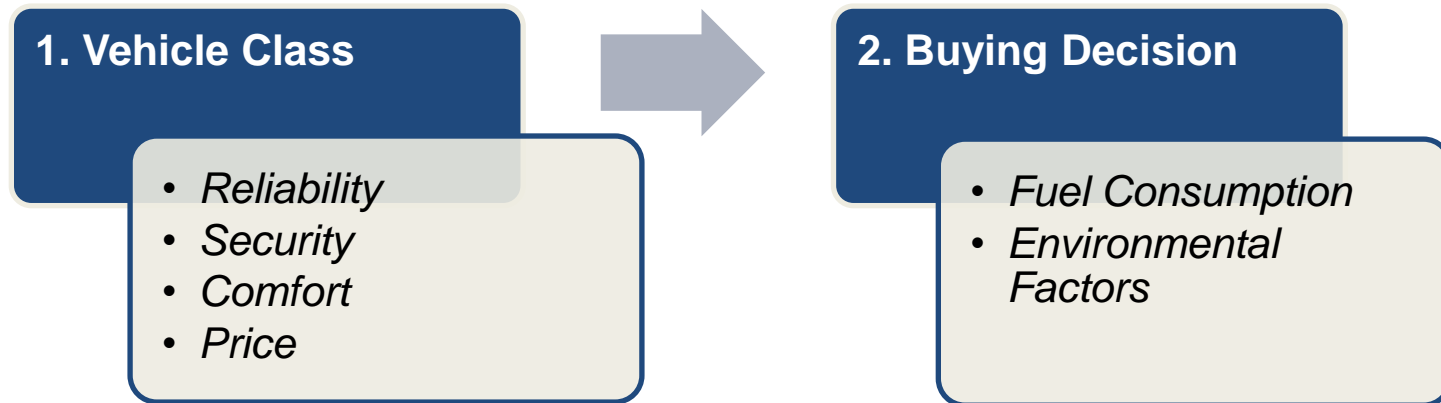




Debate: Relative vs. Absolute Label

► Pros of relative label:

- Enables consumers to compare fuel efficiency of cars **within** vehicle class
 - efficiency vs. fuel economy
- Complements decision making process of car buyer (*two-stage process*)





Debate: Relative vs. Absolute Label

► Cons of relative label:

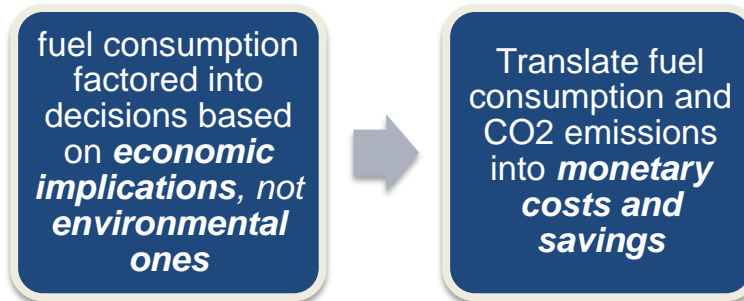
- Complicated method and calculations
- No incentive for manufacturers to build smaller / lighter cars → manipulation
- Could create confusion among consumers





Best Practices

- ▶ Mandatory labelling for 100% of LDV is the global standard
- ▶ Provide cost information on label



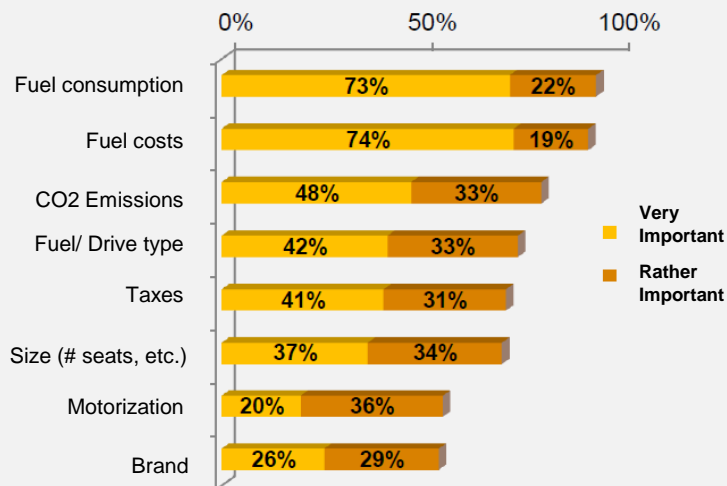
- ▶ Link label to fiscal policies (complementarity of measures)
- ▶ Avoid information overload
- ▶ Present information in a clear and concise manner (units that can be intuitively understood)
- ▶ Use branding strategies and supplement label with online-tools
- ▶ Adapt information to local consumer preferences → **market research**



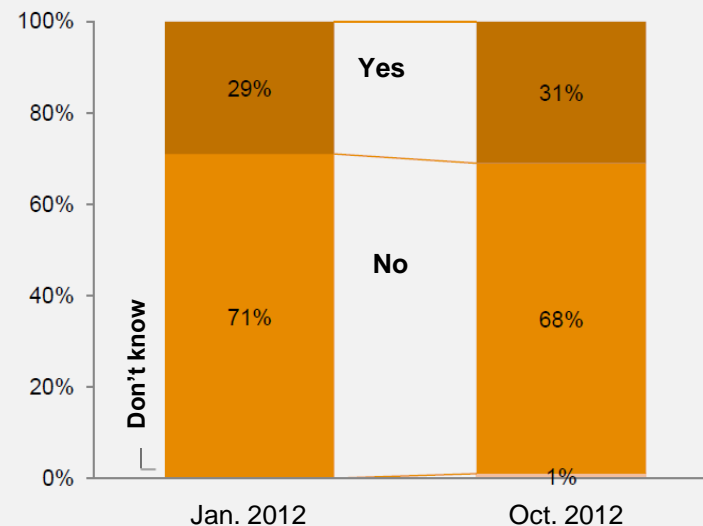
Awareness

- German consumers understand the impacts on the environment, knowledge about the car label is increasing > continuous process

Please tell us if the following factors are relevant to your car purchasing decision



Do you know about the new CO2 Efficiency car label?



Basis: 1,680 New Car Buyers, Oct. 2012

Source: DENA, 2012

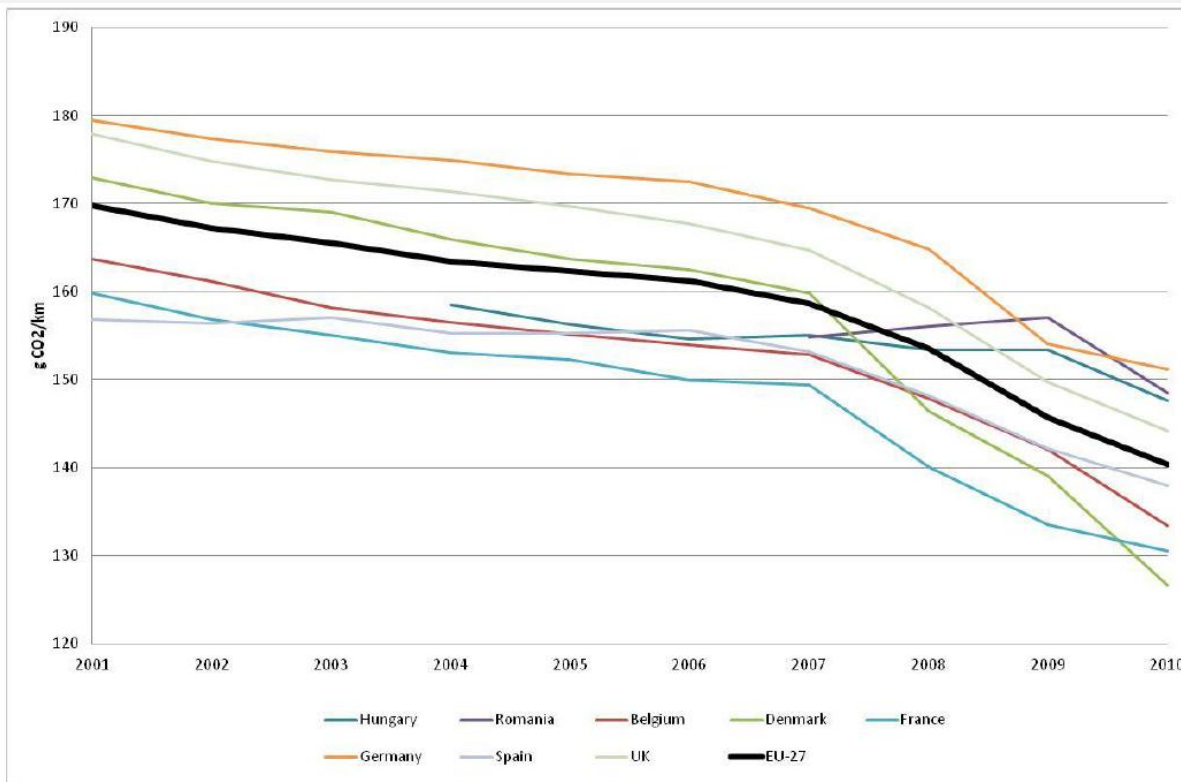
Basis: 1,680 New Car Buyers, Oct. 2012



Overall Assessment

CO₂ Mitigation

Average CO₂ emissions of new car registrations in selected Member States



CO₂ Emissions are decreasing → reduction due to a combination of measures including targets, taxes and labeling

Source: AEA, 2011



Key messages

1. Mandatory labelling for 100% of LDV is the global standard
2. Provide cost information on label
3. Link label to fiscal policies (complementarity of measures)
4. Avoid information overload
5. Present information in a clear and concise manner (units that can be intuitively understood)
6. Use branding strategies and supplement label with online-tools
7. Adapt information to local consumer preferences → **market research**



Thank you for your attention!

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