

Sustainable fleets and transport from a European perspective

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Members

Austria, Belgium, Croatia,
Czech Republic,
Denmark, Estonia,
(Finland), France,
FYROM, Germany,
Greece, Hungary, Italy,
Netherlands, Norway,
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‘The next Commission needs to maintain the momentum towards decarbonising the transport sector’

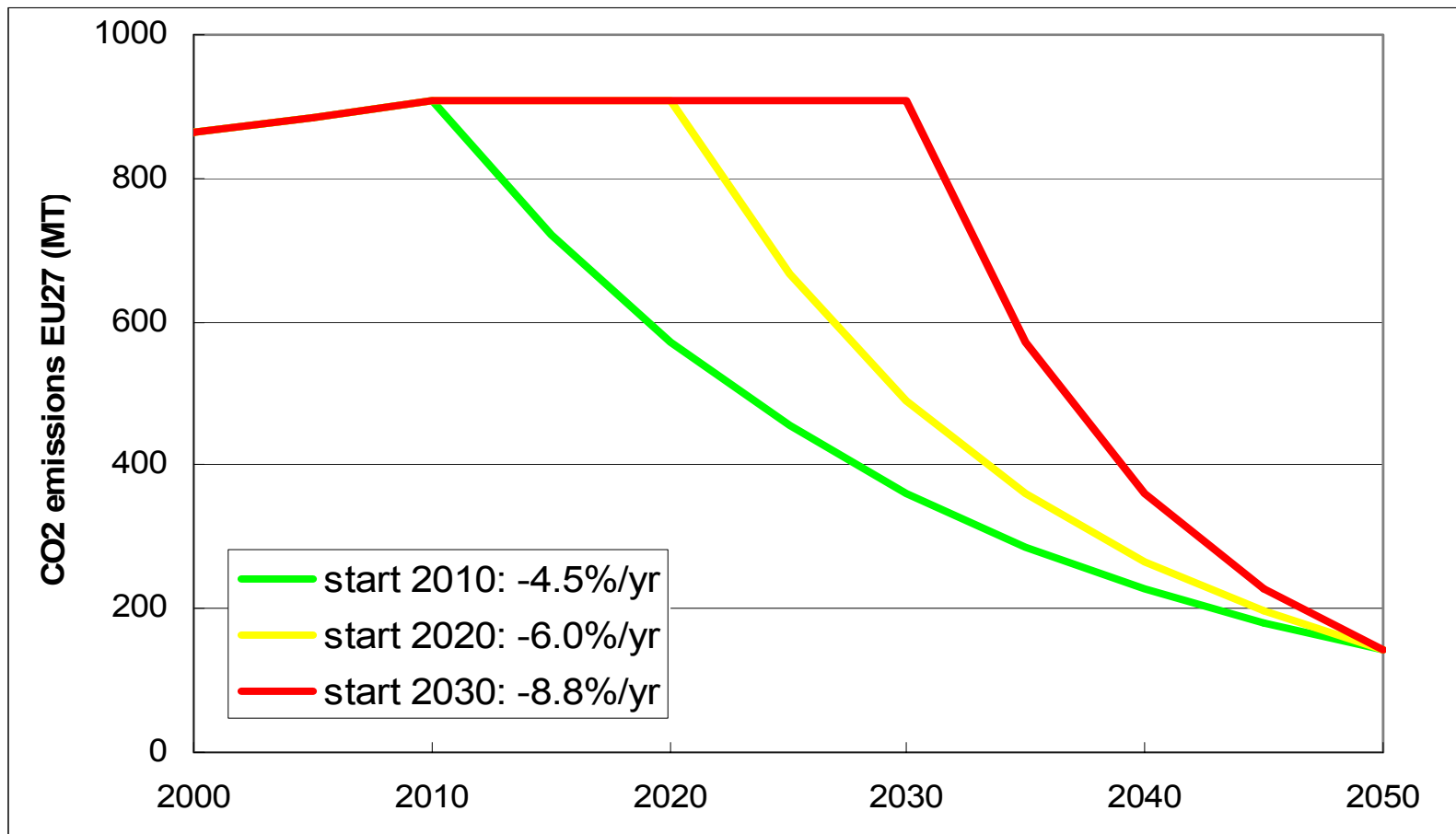
‘Political guidelines for the next Commission’
September 2009



‘The EU Council (...) supports an EU objective (...) to reduce emissions by 80-95% by 2050 compared to 1990 levels’

EU Council conclusions, 29/30 October 2009

Start NOW!



How much climate impact of transport?

Driven distance (kms)

Energy intensity (kWh/km)

Carbon intensity (g fossile CO_{2eq}/kWh)

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Driven distance (kms)

x

Energy intensity (kWh/km)

x

Carbon intensity (g fossile CO_{2eq}/kWh)

=

Climate impact of transport

Reducing climate impact of transport

Fewer kms:

Lower traffic volumes

Fewer kWh/km:

More efficient transport modes

More efficient vehicles

More efficient driving behaviour
(incl lower speeds)

Fewer gram fossile CO_{2eq} per kWh:

Switch to renewable energy
sources with low life-cycle emissions

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**High prices on fossile fuels
make it a lot easier**

Efficiency, efficiency, efficiency!!!

CO₂ emissions from Swedish car fleet 2006

$(6,4 \times 10^{12} \text{ km}) \times 200 \text{ g CO}_2 \text{ per km} = 13 \times 10^9 \text{ tons}$

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EU target 2020: 95 g CO₂ per km

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EU target 2020: 95 g CO₂ per km

$(6,4 \times 10^{12} \text{ km}) \times 95 \text{ g CO}_2 \text{ per km} = 6 \times 10^9 \text{ tons}$

Do we have to stop driving cars?

l/100 km	€/l	Cost 16 000 kms	CO ₂ emissions 16 000 kms
10	1	€ 1600	3.74 ton
8	1.50	€ 1920	3.00 ton
6	2.00	€ 2100	2.25 ton
4	2.50	€ 1600	1.50 ton

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Improved efficiency will deliver lower emissions,
only if the driven distances don't grow

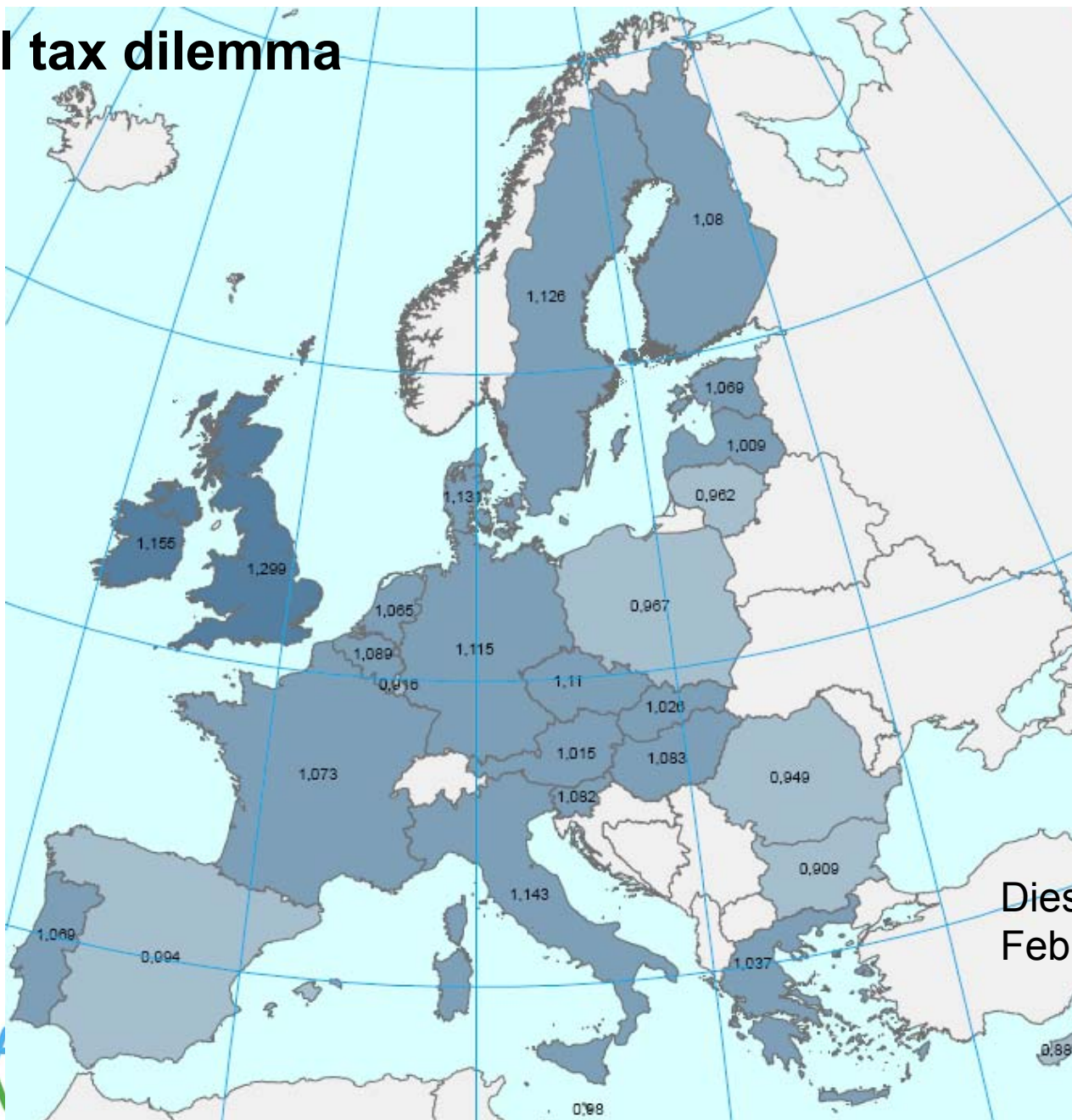
How do different tools influence CO₂ emissions?

	CO ₂ -standards for vehicles	CO ₂ -related registration & circulation taxes	Km-charges	Electrification	CO ₂ -related fuel taxes
Transport volume (nr. of kms)	Negative				
Energy efficiency	Positive				
Carbon intensity	Neutral				

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Transport volume (nr. of kms)	Negative	Negative & Positive	Positive	Negative	Positive
Energy efficiency	Positive	Positive	Neutral	Positive	Positive
Carbon intensity	Neutral	Neutral	Neutral	Positive	Positive

The fuel tax dilemma



The fuel tax dilemma

	Euro-Super 95	Automotive gas oil	
	In 1000L	In 1000L	
Austria	484.68	385.93	
Belgium	613.57	366.19	
Bulgaria	350.24	306.78	
Cyprus	309.36	255.70	
Czech Republic	498.64	425.24	
Denmark	572.57	389.73	
Estonia	422.78	392.93	
Finland	611.31	330.12	
France	606.20	427.90	
Germany	654.50	470.40	
Greece	539.65	361.77	
Hungary	457.26	372.84	
Ireland	563.20	469.20	
Italy	564.00	423.00	
Latvia	379.25	329.90	
Lithuania	434.43	274.27	
Luxembourg	462.09	302.00	←
Malta	438.38	352.40	
Netherlands	719.90	437.70	
Poland	418.48	323.57	
Portugal	582.95	364.41	
Romania	360.00	303.29	
Slovakia	514.50	368.00	
Slovenia	493.51	434.00	
Spain	436.51	340.35	
Sweden	562.75	442.35	
United Kingdom	638.74	638.74	←

Fuel taxes Feb 2010

The fuel tax dilemma

"Provisional results from recent DfT research show that foreign-registered vehicles /.../ generally arrive in the UK with just under 800 litres of fuel and only 3% of those surveyed said they purchased fuel in the UK."

100202 www.roadtransport.com

The fuel tax dilemma

- It is necessary to raise the taxes on fossil transport fuels.
- If a member state raises its diesel tax, lorries in international transport will avoid filling their tanks in that country.
- Member states with high diesel tax lose tax revenues to member states with lower diesel taxes.
- This causes a "race to the bottom" (led by Luxembourg).
- Increased share of diesel cars means that also petrol taxes are put under pressure.
- EU has - so far (?) - not bothered about this problem.

The fuel tax dilemma – one possible solution?

“4 Member States which apply or introduce a system of road user charges to motor vehicles using commercial gas oil as defined in paragraph 3, may apply a reduced rate to such gas oil that goes below the national level of taxation in force on 1 January 2003, as long as the overall tax burden remains broadly equivalent, and provided that the Community minimum level applicable to gas oil is observed.”

“5. Member States shall ensure that the differentiated levels of taxation of commercial and non-commercial gas oil are implemented by means of a non-discriminatory refund mechanism. This mechanism shall ensure that operators of all Member States have access to refunding under conditions which are equal, transparent and simple from an administrative point of view.

The Commission shall establish common rules as to the mechanisms referred to in the first subparagraph, in accordance with the procedure referred to in Article 27(2).”

Proposal 13.3.2007 for a revision of directive
2003/96/EC from the Commission

Lowered diesel tax for heavy vehicles if covered by km charge?

EU: cars and CO₂-legislation

2015: average emission cars 130 g CO₂ per km

2020: 95 g per km

Based on EU wide sales per company (not brand)

Weight differentiated (higher emissions permitted for manufacturers of heavier cars and vice versa)

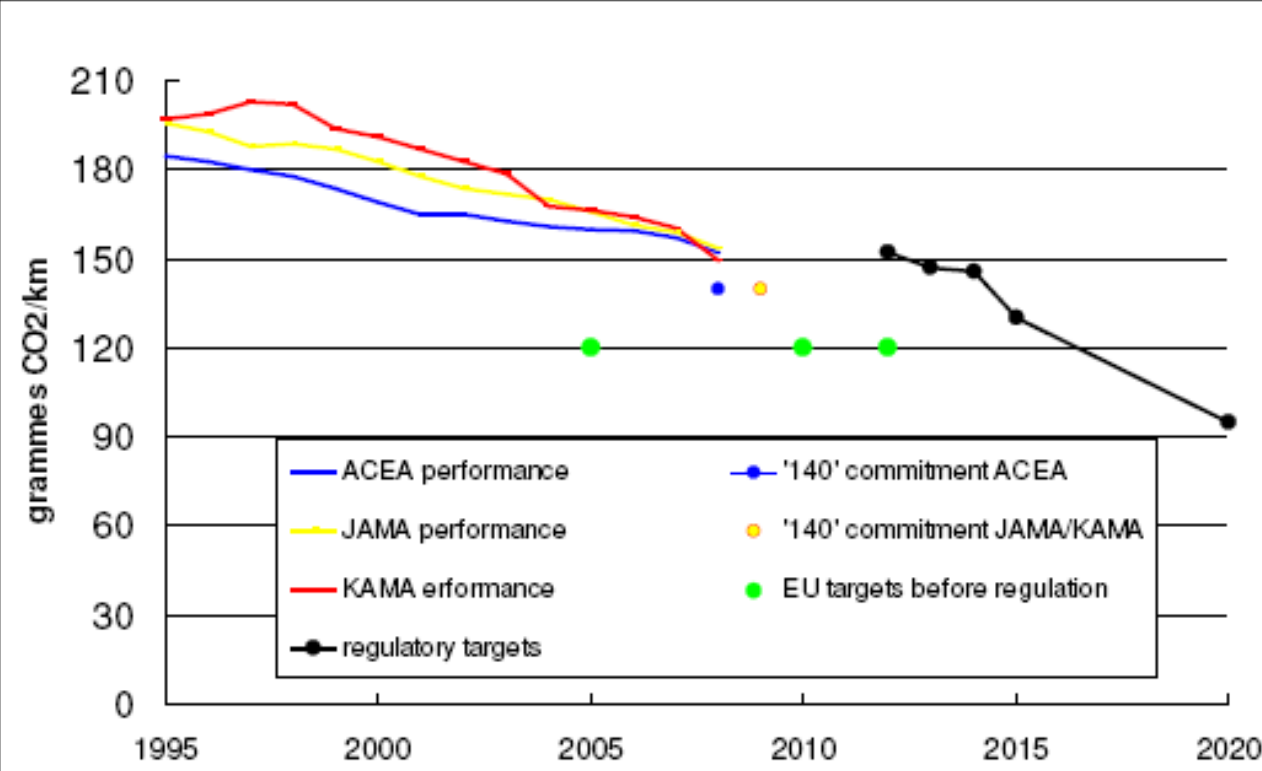
Loopholes:

- Small manufacturers exempted
- Flexfuel(ethanol) car counts as 1.05 car, EVs as 3.5 cars
- "Eco innovations" (emission reductions outside test cycle) max 7 g CO₂ per km

After EU legislation: Fast improvements

Ranking by progress in 2008					
1 BMW	1	784,736	154	172	-10.2%
2 Mazda	2	229,596	158	172	-8.2%
3 Hyundai	3	467,673	149	161	-7.6%
4 Ford	4	1,388,335	152	163	-6.7%
5 Suzuki	5	229,074	156	164	-4.9%
6 Nissan	6	323,340	161	168	-4.0%
7 Daimler	7	760,925	175	182	-3.8%
8 Volkswagen	8	2,870,570	159	165	-3.3%
9 Renault	9	1,253,371	143	147	-3.2%
10 Fiat	10	1,131,005	138	142	-2.9%
11 Toyota	11	784,054	147	150	-2.4%
12 GM	12	1,366,069	153	157	-2.3%
13 Honda	13	245,395	154	157	-2.2%
14 PSA Peugeot-Citroen	14	1,794,593	139	142	-2.0%
Average			153.5	158.7	-3.3%

After EU legislation: Fast improvements



After EU legislation: Fast improvements

	Registrations 2008 (1,000)	Average CO ₂ 2008	Average CO ₂ 2007*	Improvement 2007-2008	Rank 2007
1 Portugal	215	138	144	-4.1%	1
2 France	2,037	140	149	-6.2%	4
3 Italy	2,162	145	147	-1.2%	2
4 Denmark	146	146	160	-8.3%	12
5 Malta	5	147	148	-0.6%	3
6 Belgium	536	148	153	-3.2%	5
7 Spain	1,045	148	153	-3.4%	6
8 Poland	302	153	154	-0.4%	7
9 Hungary	163	153	155	-1.0%	10
10 Czech Republic	134	154	154	0.1%	8
11 Slovenia	71	156	156	-0.3%	11
12 Romania	285	156	155	0.7%	9
13 Ireland	151	157	162	-3.0%	13
14 Netherlands	481	158	165	-4.2%	15
15 Austria	294	158	163	-2.9%	14
16 UK	2,084	158	165	-4.0%	16
17 Luxembourg	52	160	166	-3.8%	18
18 Greece	276	161	165	-2.6%	17
19 Finland	137	163	177	-8.2%	22
20 Germany	3,044	165	169	-2.7%	19
21 Cyprus	24	166	170	-2.8%	20
22 Lithuania	21	170	177	-3.7%	21
23 Sweden	248	174	181	-4.1%	23
24 Estonia	24	177	182	-2.3%	24
25 Latvia	19	181	183	-1.5%	25
Total / average	13,957	153.5	158.7	-3.3%	

Electric cars?

EU legislation:

Electric cars emit 0 g CO₂ per km

Cars that emit less than 50 g CO₂ per km (incl all EVs) are counted as 3.5 cars

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So:

If a manufacturer sells 10 petrol cars and 0 EV the permitted average emission from the petrol cars is $(10 \times 130) : 10 = 130$ g CO₂ per km

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If the manufacturer sells 9 petrol cars and 1 EV the permitted average emission from the petrol cars is $(12.5 \times 130) : 9 = 181$ g CO₂ per km

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If a manufacturer sells 10 petrol cars and 0 EV the permitted average emission from the petrol cars is $(10 \times 130) : 10 = 130$ g CO₂ per km

If the manufacturer sells 9 petrol cars and 1 EV the permitted average emission from the petrol cars is $(12.5 \times 130) : 9 = 181$ g CO₂ per km

And if the manufacturer sells 8 petrol cars and 2 EVs the permitted average emission from the petrol cars is $(15 \times 130) : 8 = 244$ g CO₂ per km

The more EVs, the higher emissions!

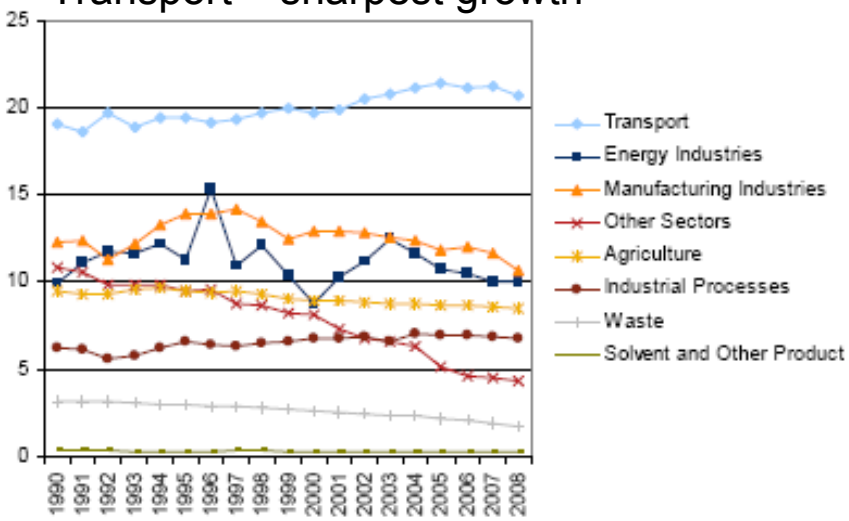
Some conclusions

- Real emission cuts NOW urgent
- Technical improvements of vehicles may contribute, but is far from enough - transport growth has to be tackled
- URGENT: EU must solve the fuel tax dilemma
- Legislation works!
- Loopholes raises the costs and delays the transition

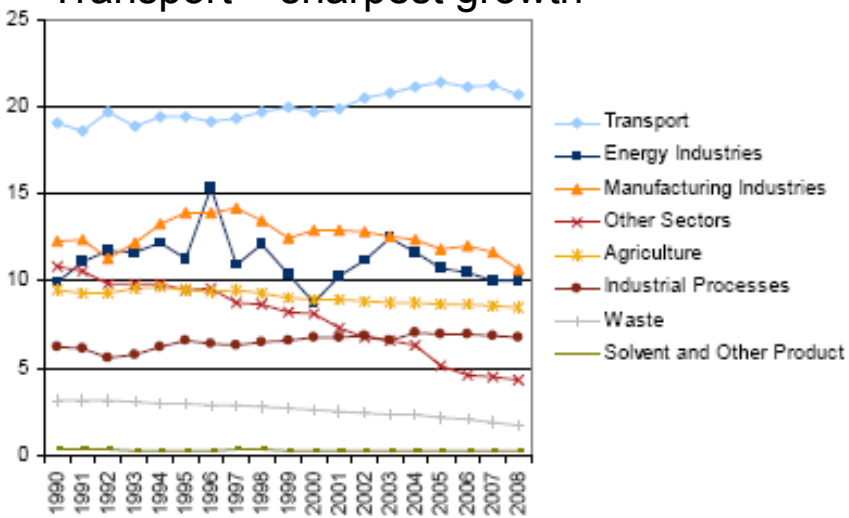
Thank you for your attention!

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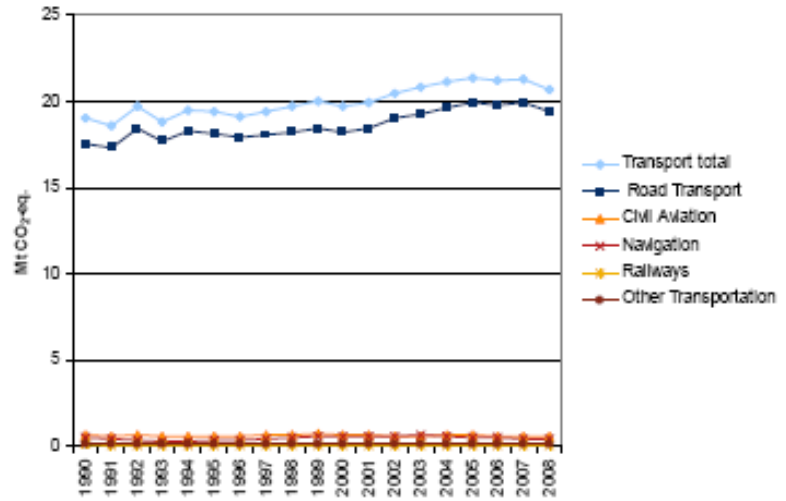
Transport – sharpest growth



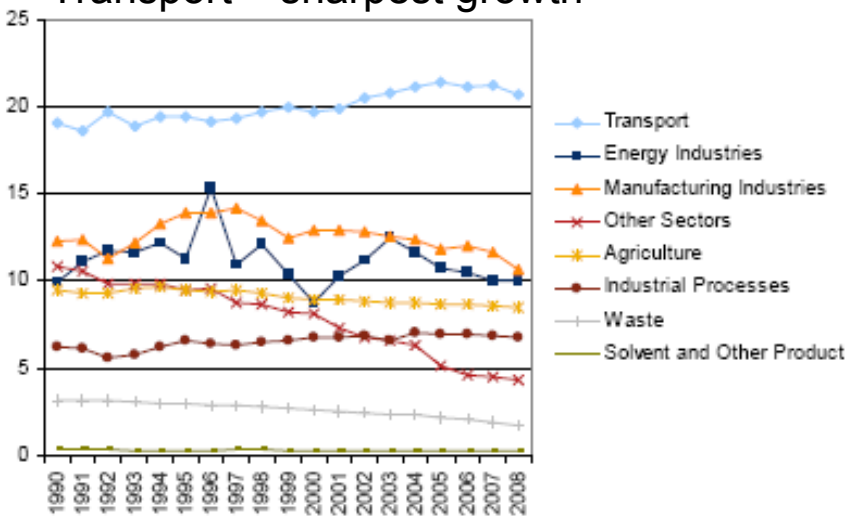
Transport – sharpest growth



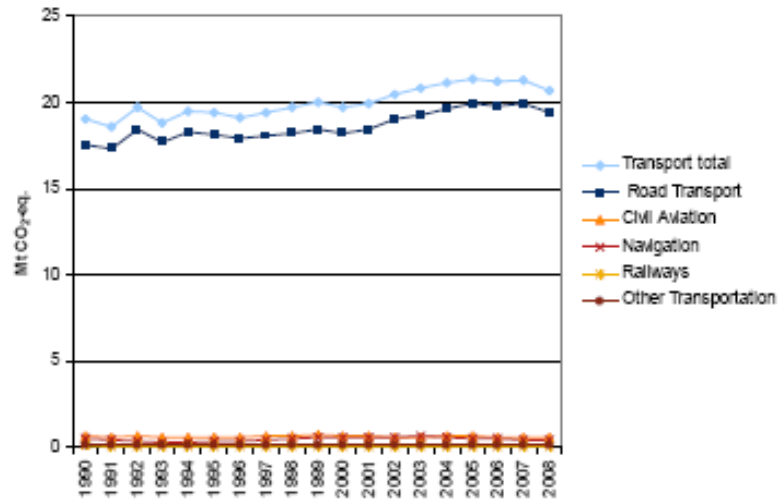
Road traffic – completely dominant



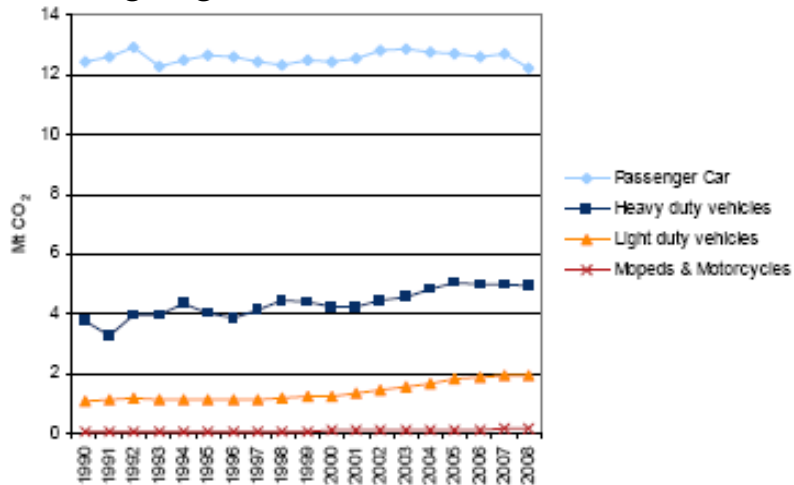
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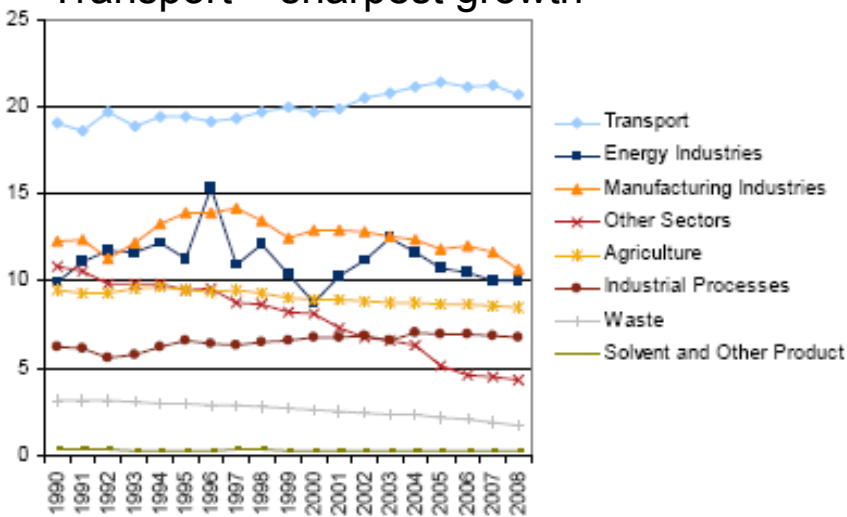
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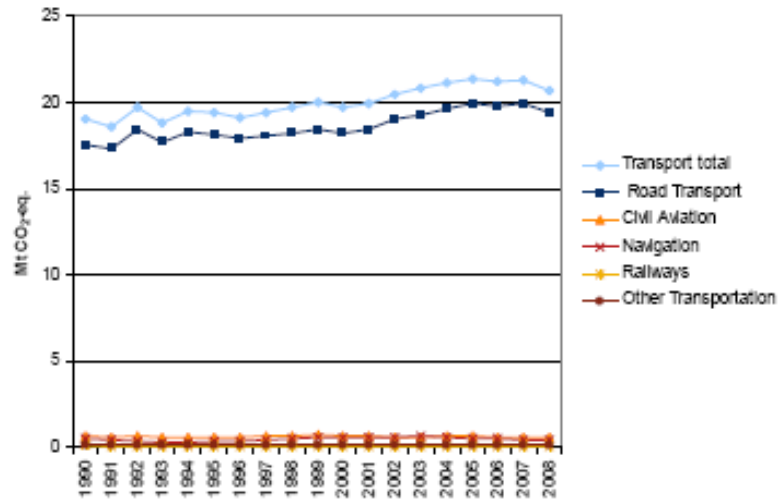
Car emissions stable – freight grow



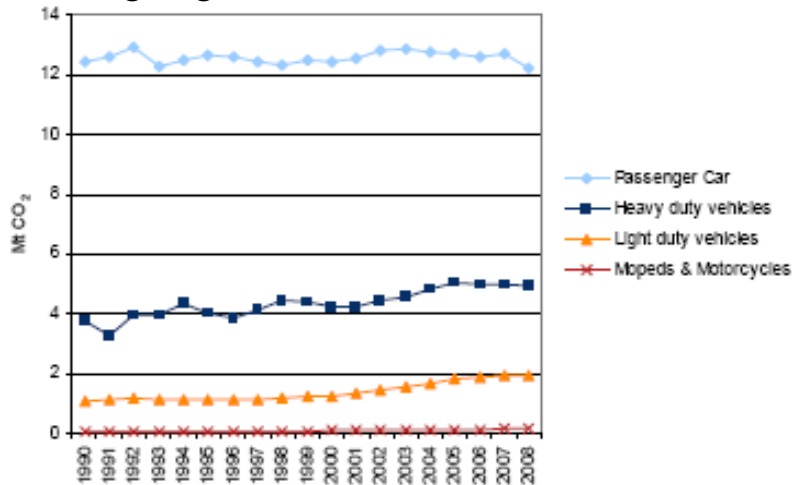
Transport – sharpest growth



Road traffic – completely dominant



Car emissions stable – freight grow



Bunker – drastic increase

