

2. SECTORAL TRENDS OF ENVIRONMENTAL SIGNIFICANCE

Road fuel prices

Prices are a key form of information for consumers. When fuel prices rise relative to other goods, this tends to reduce demand for fuels, as well as for vehicles with high fuel consumption. This stimulates energy saving, and may influence the fuel structure of energy consumption. However, there may be a rebound effect whereby greater use of more fuel-efficient vehicles encourages greater vehicle usage.

Definitions

The indicators presented here relate to road fuel prices and taxes, notably the relative price and taxation levels of diesel fuel and unleaded gasoline.

Information on energy consumption by road transport is given as a complement.

The indicators should be read in connection with information on the modal split of transport and on the structure of the vehicle fleet. They should further be complemented with information on congestion rates and air pollution from road traffic.

Overview

Energy consumption in road transport represents about 89% of total transport energy consumption. It has increased in conjunction with transport growth, but the overall energy intensity of transport has remained close to the 1990 level. This is partly due to the introduction of more fuel-efficient vehicles, which has partially offset emissions due to increased usage.

Differences across countries in energy intensity are more pronounced in freight than in passenger transport. Road transport almost entirely relies on oil.

OECD countries have deployed a mix of instruments to address the growing environmental pressures from car usage. Standards have been set for fuel economy and vehicle emissions, which have led to improvements in the amount of fuel required per unit of distance travelled, the quality of the fuel, and the resultant emissions. Market-based instruments have been applied such as taxes imposed on vehicles at the time of purchase and annually. The tax treatment of company cars and commuting also influence transport-related energy consumption.

The use of taxation to influence energy consumer behaviour and to internalise environmental costs is increasing in OECD countries. Many countries have introduced tax differentials in favour of unleaded gasoline and some have imposed environmental taxes (e.g. relating to sulphur content) on energy products. Many countries apply higher taxes for petrol than for diesel. Diesel-driven motors are more fuel efficient than petrol-driven motors, and emit less CO₂ per km driven. However they are responsible for more air pollutants like NO_x, particle matter (PM₁₀, PM_{2.5}) and the related health impacts than petrol-driven ones.

Comparability

Data on energy consumption by road transport and on road fuel prices should display a good level of comparability.

Care should be taken when comparing end-use energy prices, and the way that energy use is taxed. In view of the large number of factors involved, direct comparisons may be misleading. However, comparisons may be the starting point for analysis of differences observed.

For additional notes, see Annex B.

Sources

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Further information

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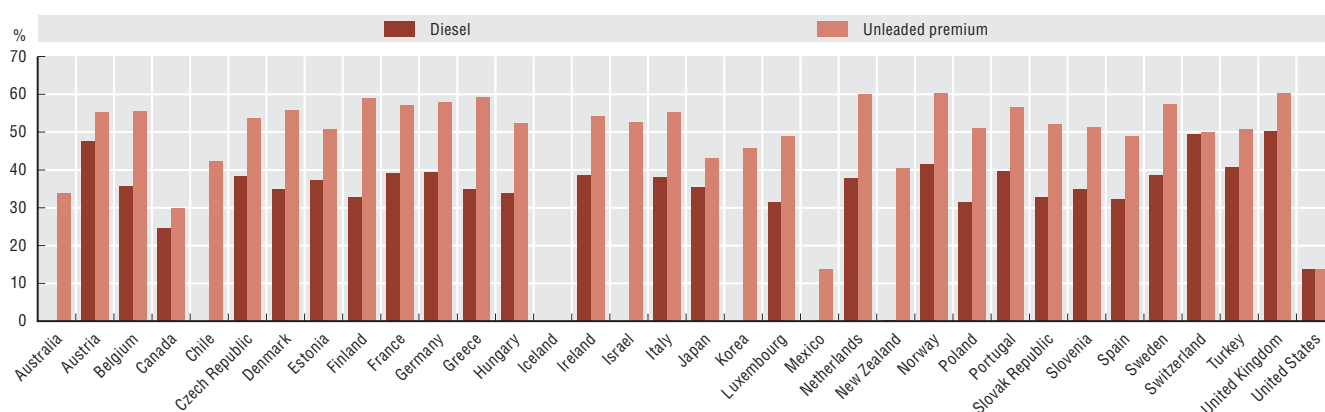
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Figure 2.13. Road fuel prices as percentage of price, diesel and unleaded premium, 2011



Source: IEA, Energy Prices and Taxes (2012) (database).

StatLink <http://dx.doi.org/10.1787/888932977467>

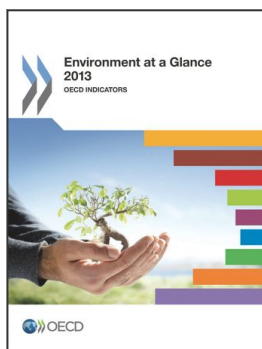
Table 2.5. Road fuel prices and energy consumption

In constant 2005 prices and PPPs

	Diesel				Unleaded premium		Energy consumption by road transport		
	Price		Tax		Price	Tax	Share of total consumption	Total	% change
	USD/litre		% of price		USD/litre	% of price		Mtoe	
	1990	2011	1990	2011	2011	2011	2011	2011	
Australia	0.32	..	..	..	0.92	33.9	83	24	28
Austria	0.65	0.89	45.4	47.5	1.36	55.3	93	7	69
Belgium	0.60	1.02	46.8	35.6	1.56	55.6	96	8	29
Canada	0.55	0.92	34.5	24.5	0.99	29.8	82	49	48
Chile	..	..	..	..	1.78	42.2	88	6	139
Czech Republic	2.02	1.83	55.1	38.3	2.06	53.8	94	6	139
Denmark	0.26	0.83	0.0	34.9	1.22	55.7	92	4	30
Estonia	..	1.65	..	37.2	1.86	50.8	91	1	-7
Finland	0.72	0.93	58.7	32.8	1.41	58.9	90	4	10
France	0.55	1.08	57.5	39.1	1.48	57.1	94	42	14
Germany	0.61	1.24	50.8	39.3	1.63	57.9	95	50	-1
Greece	0.47	1.26	26.6	34.8	1.91	59.3	87	6	66
Hungary	1.20	1.96	18.2	33.8	2.20	52.2	96	4	53
Iceland	..	..	..	..	..	..	94	0	46
Ireland	0.61	1.18	51.4	38.5	1.33	54.1	98	4	146
Israel	..	..	..	..	1.70	52.7	100	4	85
Italy	0.71	1.20	60.0	38.1	1.59	55.3	93	36	15
Japan	0.48	0.80	38.5	35.3	1.13	43.1	89	69	8
Korea	..	..	..	..	2.24	45.7	95	28	168
Luxembourg	0.39	0.87	32.7	31.5	1.17	48.9	99	2	149
Mexico	0.40	0.82	0.0	..	1.13	13.8	97	50	84
Netherlands	0.60	1.00	43.2	37.9	1.66	60.1	97	11	32
New Zealand	0.44	0.57	21.0	0.3	1.17	40.5	89	4	62
Norway	0.37	0.82	15.1	41.5	1.36	60.2	74	4	38
Poland	0.73	1.96	29.5	31.5	2.28	51.1	96	16	173
Portugal	0.98	1.57	52.1	39.6	2.00	56.4	95	6	101
Slovak Republic	2.05	1.95	55.4	32.8	2.14	52.1	83	2	58
Slovenia	..	1.48	..	34.8	1.80	51.2	98	2	98
Spain	0.63	1.17	48.8	32.2	1.49	48.8	87	30	67
Sweden	0.54	1.04	27.2	38.5	1.34	57.4	93	7	19
Switzerland	..	0.86	..	49.4	0.95	49.8	94	6	19
Turkey	1.30	2.87	54.3	40.7	3.12	50.8	91	13	58
United Kingdom	0.72	1.39	52.8	50.3	1.71	60.3	93	38	5
United States	..	0.81	..	13.7	0.84	13.8	87	505	29
OECD	..	..	..	..	..	..	83	1 000	26

Source: IEA, Energy Prices and Taxes (2012) (database).

StatLink <http://dx.doi.org/10.1787/888932978436>



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