

Calculation method to assess the final energy savings due to energy-related taxes

Price signals are sent out in Austria in the form of taxes and charges in the following areas:

- Electricity tax
- Natural gas tax
- Mineral oil tax
- Funding the green electricity subsidy
- Toll on federal roads

The following table provides an overview of all the relevant tax rates in Austria.

Table 1: Tax rates for environmental and energy-related taxes in Austria

Tax	Cent / kWh		€ / unit		Unit
	from	to	from	to	
Electricity tax	1.5		0.015		€/kWh
Natural gas tax	0.8		0.066		€/m³
Mineral oil tax					
Petrol	6.0	7.3	0.482	0.587	€/l
Diesel	4.1	4.4	0.397	0.425	€/l
Heating oil, extra light / light	1.0	1.3	0.098	0.128	€/l
Heavy fuel oil	3.8	4.0	0.397	0.425	€/l
Green electricity					
Flat rate			11 35 000		€/year
Demand component			3.41	9.36	€/kW
Energy component	0.1	1.1	0.001	0.011	€/kWh
HGV toll^[1]	0.4	1.2	0.149	0.405	€/km

^[1] For the conversion to an energy-based rate, a conversion factor of 2.9 kWh/km is assumed

Source: AEA report; Measures for meeting the targets under Art. 7 of the EED

The taxes on electricity and natural gas relate only to the amount of final energy consumed, as can be seen from the table. The other taxes that are assessed are dependent not only on the amount of final energy consumed but also the following criteria:

- The mineral oil tax is dependent on the oil's composition.
- The green electricity tax is dependent on the network level.
- The HGV toll is dependent on the number of axles and the emissions class of the vehicle (engine).

The savings are calculated by subtracting the energy consumption with taxes from the energy consumption without taxes. The energy consumption with taxes is the energy consumption as determined through national energy statistics. The energy consumption without taxes is arrived at using the following formula:

$$EV_B = EV_{Tax} \cdot \frac{1}{1 + \Delta p \cdot \varepsilon}$$

- EV_B ... Theoretical energy consumption without taxes (gross or base)
 EV_{Tax} ... Energy consumption relevant to taxes¹²
 Δp ... Energy tax as a proportion of the gross price minus European minimum taxation rates
 ε ... Price elasticity of energy consumption

Short-term price elasticity values are used (taken from a study by PROGNOS); these indicate the behavioural effects caused by changes in price. These elasticity values, as well as the assumed values for tax-relevant energy consumption in the individual sectors, are shown in Table 2.

Table 2: Energy consumption relevant to tax, along with the price elasticity values used

		Tax-relevant energy consumption TJ	Price elasticity values -
Households	Heating	116 349 –	0.200
	Mobility	120 404 –	0.250
	Electricity for other uses	48 841 –	0.025
Services, agriculture	Heating	9 094 –	0.200
	Mobility	1 310 –	0.025
	Electricity for other uses	36 489 –	0.025
	Processes	42 074 –	0.100
Industry	Heating	1 377 –	0.200
	Electricity for other uses	95 403 –	0.025
	Processes	120 889 –	0.100
Other transport		188 916 –	0.025
Total		781 146	

Source: Statistics Austria and Prognos

Energy taxes

The taxation of electrical energy, natural gas and various mineral oil products is provided for in the following three Austrian laws:

- Electricity Taxation Act (Federal Law Gazette (BGBl.) No 201/1996)
- Natural Gas Taxation Act (BGBl. No 201/1996)
- Mineral Oil Taxation Act (BGBl. No 630/1994)

As Table 3 shows, all three laws stipulate higher tax rates than the EU Energy Taxation Directive (Directive 2003/96/EC). The percentage figures in the table show the proportion of energy tax to Austrian gross price for each energy source. The percentage figure is always higher using the Austrian tax rates than when using the EU minimum taxation rates.

Table 3: Tax rates used, and proportion of the tax to the Austrian gross price

	Austria			EU		
Heating oil, heavy	67.70	€/t	12%	-	€/GJ	-
Heating oil, extra light	109.18	€/1000 l	14%	0.60	€/GJ	3%
Diesel	0.44	€/l	2%	10.31	€/GJ	39%
Regular petrol	0.53	€/l	39%	12.19	€/GJ	26%
Natural gas	1.45	€/GJ (BW)	11%	0.15	€/GJ	1%
Electricity	0.02	€/kWh	14%	-	€/GJ	-

Source: Statistics Austria and Directive 2003/96/EC

The following energy-related fees and taxes are also collected in addition to taxation of the energy sources:

Green Electricity Act (BGBl. I No 75/2011)

The Green Electricity Act contains provisions on subsidies and how these subsidies are to be funded. An additional tax is imposed on the energy price in order to raise the money for the subsidies. This tax is charged on top of the energy price and works in the same way as an energy tax on consumption.

The green electricity tax is made up of a flat rate plus a green electricity subsidy contribution. The contribution is determined in relation to the grid utilisation fees and grid loss fees that are to be paid. The calculated energy savings brought about by these taxes amount to a cumulative total of 10 430 TJ from 2014 to 2020.

Federal Roads Toll Act (BGBl. I No 109/2002)

The use of toll roads by motor vehicles with a gross vehicle weight in excess of 3.5 tonnes is subject to a distance-related toll. Vehicles meeting these criteria therefore have to pay a fee for the distance that they cover on the toll route. The toll amount is set by the Minister for Transport, Innovation and Technology, in consultation with the Minister for Finance. ASFINAG, the Austrian motorway and expressway financing company, issues a 'toll order'. The toll amount depends on the distance covered, the emissions class of the vehicle and the number of axles it has, and also depends in part on the duration of the journey. To keep tolls as low as possible, companies can adopt the following measures:

- Reducing distances travelled
- Increasing haulage capacity
- Using more energy-efficient vehicles
- Cutting down on unloaded trips

All these measures lead to a more efficient use of energy in the transport sector and therefore to energy savings.