

Taxing Energy Use 2019: Country Note – Germany

This note explains how Germany taxes energy use. The note shows the distribution of effective energy tax rates – the sum of fuel excise taxes, explicit carbon taxes, and electricity excise taxes, net of applicable exemptions, rate reductions, and refunds – across all domestic energy use. It also details the country-specific assumptions made when calculating effective energy tax rates and matching tax rates to the corresponding energy base.

The note complements the Taxing Energy Use 2019 report that is available at <http://oe.cd/TEU2019>. The report analyses where OECD and G20 countries stand in deploying energy and carbon taxes, tracks progress made, and makes actionable recommendations on how governments could do better to use taxes to reach environmental and climate goals.

The general methodology employed to calculate effective energy tax rates and assign tax rates to the energy base is explained in Chapter 1 of the report. The official energy tax profile for Germany can be found in Chapter 2 of the report. Chapter 3 additionally shows effective carbon tax rates per tonne of CO₂, and presents the corresponding carbon tax profiles for all countries. The report also contains StatLinks to the official data.

Structure of energy taxation in Germany

Energy taxes in Germany are levied within the framework of the 2003 European Union (EU) Energy Tax Directive, which sets minimum rates for the taxation of energy products in EU member states. Within this framework, as at 1 July 2018, the main taxes on energy use in Germany are the following:

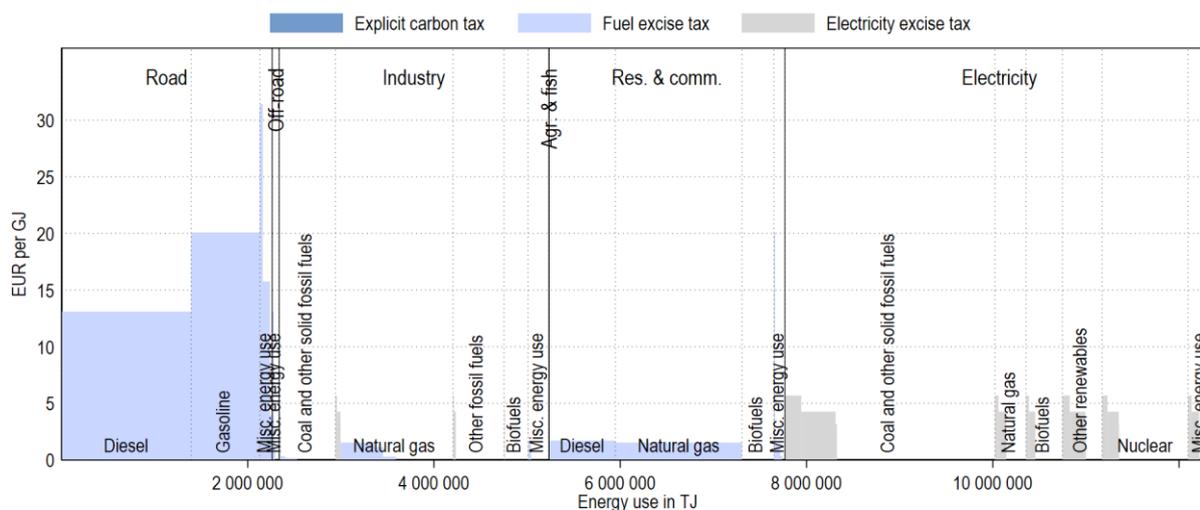
- The Energy Tax (*Energiesteuer*) applies to specified uses of liquid, gaseous and solid fossil fuels and biofuels.
- The Electricity Tax (*Stromsteuer*) applies to specified forms of electricity consumption.

Germany participates in the EU emissions trading system (ETS) (OECD, 2018_[1]). Permit prices are not shown in the energy tax profiles.

Effective tax rates on energy use in Germany

Tax rates can differ across energy products and users, as described below. Figure 1 provides an overview of how energy taxes apply to different energy categories across the economy. Germany does not have a carbon tax. The remainder of this document discusses details on tax rates and tax bases for each of the six economic sectors.

Figure 1. Effective tax rates on energy use by sector and energy category

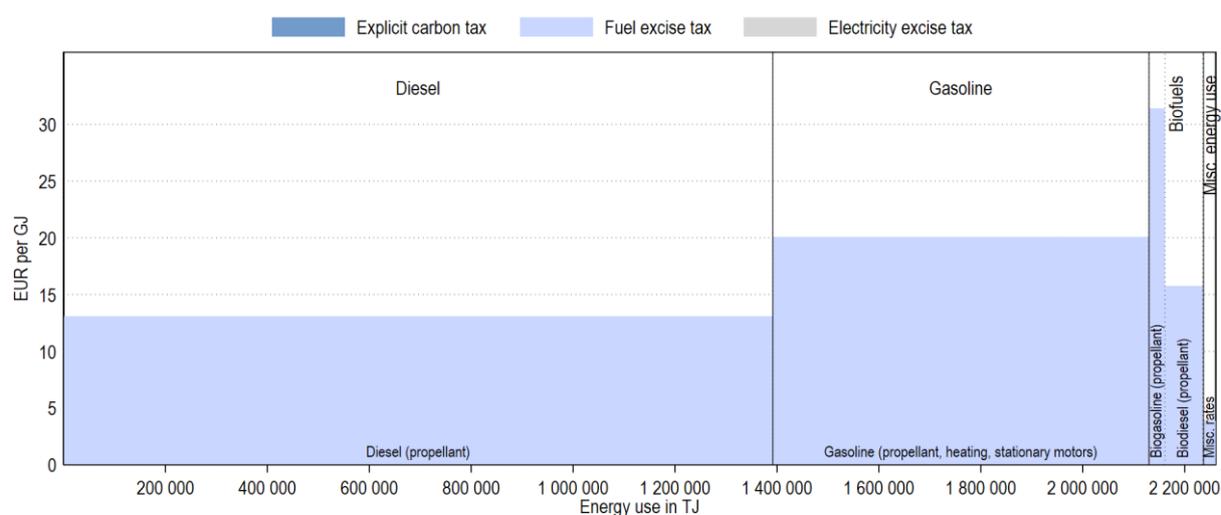


Note: Tax rates applicable on 1 July 2018. Energy use data is for 2016 and adapted from IEA (2018^[2]), *World Energy Statistics and Balances*. Energy categories (labelled at the bottom) that represent less than 1% of a country's energy consumption are grouped into "misc. energy use" and may not be labelled.

Road

Figure 2 shows that within the road sector, gasoline is taxed at a higher effective tax rate than diesel. In the road sector, unleaded gasoline is taxed at the highest statutory rate, followed by diesel fuel. Biogasoline and biodiesel are taxed at the same statutory rates as their fossil fuel equivalents, which translates into higher effective tax rates in the figure because biofuels' energy content per litre is lower.

Figure 2. Effective tax rates on energy use in the road sector

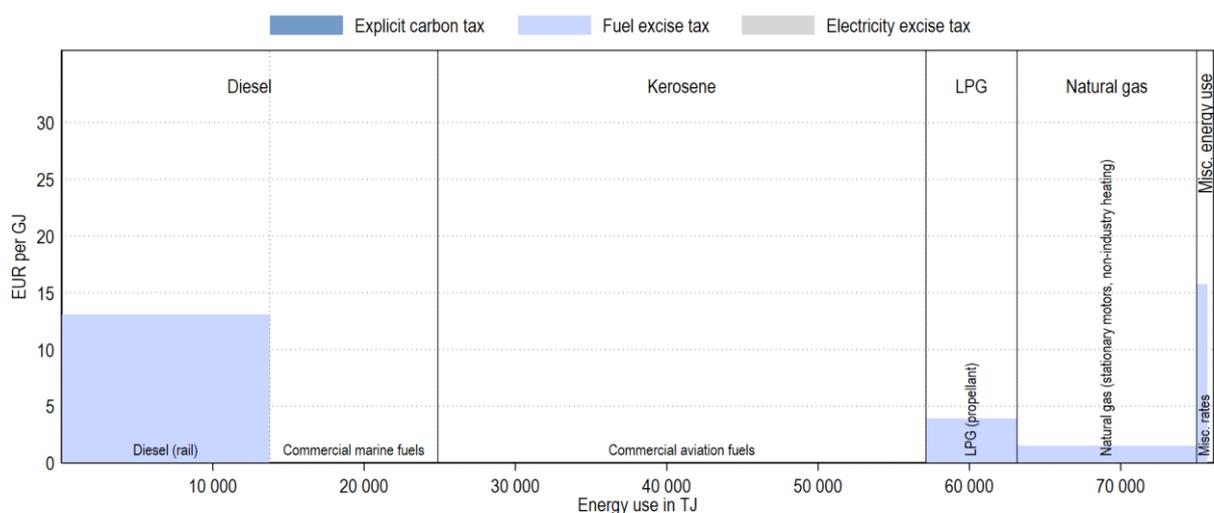


Note: Tax rates applicable on 1 July 2018. Energy use data is for 2016 and adapted from IEA (2018^[2]), *World Energy Statistics and Balances*. Energy categories (labelled at the top) that represent less than 1% of a sector's energy consumption are grouped into "misc. energy use" and may not be labelled. Similarly, rate labels (shown at the bottom) are grouped into "misc. rates" using the same threshold.

Off-road

Diesel consumed for railway transport is taxed. Fossil fuels used in the off-road sector are untaxed when used for commercial navigation (“marine”) or commercial aviation, as shown in Figure 3.¹ LPG and natural gas are taxed.

Figure 3. Effective tax rates on energy use in the off-road sector



Note: Tax rates applicable on 1 July 2018. Energy use data is for 2016 and adapted from IEA (2018^[2]), *World Energy Statistics and Balances*. Energy categories (labelled at the top) that represent less than 1% of a sector’s energy consumption are grouped into “misc. energy use” and may not be labelled. Similarly, rate labels (shown at the bottom) are grouped into “misc. rates” using the same threshold.

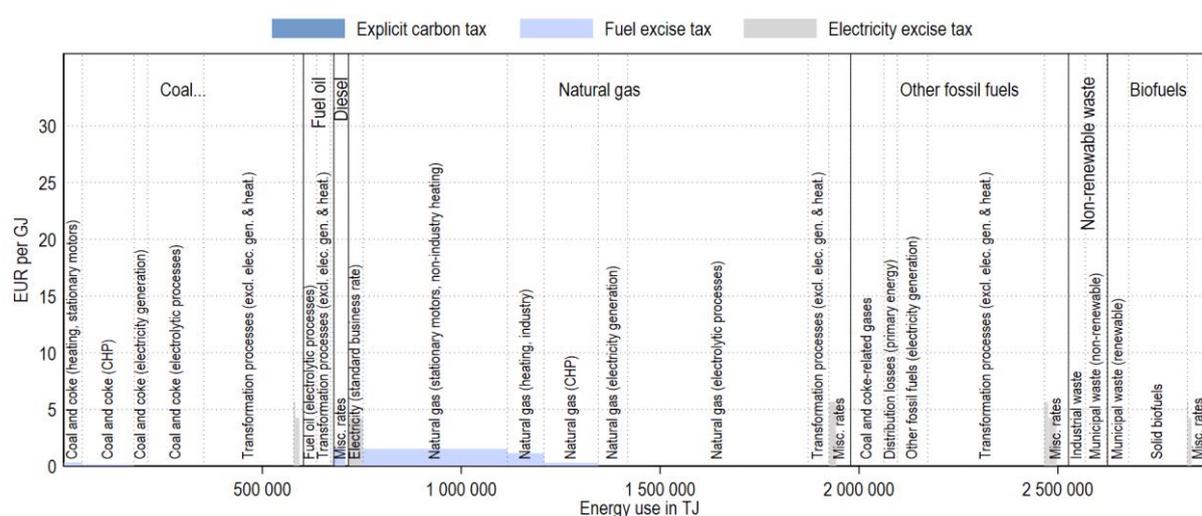
¹ Diesel and kerosene used in private pleasure craft and private planes are taxed (not modelled in TEU due to a lack of consumption data).

Industry

Most fossil fuels used in the industry are taxed in principle, unless specific provisions apply, as shown in Figure 4. Fuels used in combined heat and power (CHP) plants that produce electricity and district heating are not subject to energy taxes with respect to the electricity generation. Fuels used for heat production in CHP plants are generally taxed, albeit at rates that are too low to be discernible in the figure. Fossil fuels that are used in industrial processes are not taxed if the conditions for non-taxation of the EU Energy Tax Directive are fulfilled (electrolytic processes, etc.). Non-renewable waste and biofuels are not taxed.

Electricity from autogeneration plants that is fed into the general electricity network are subject to the general electricity tax (called “electricity excise tax” in TEU) (see electricity section below).

Figure 4. Effective tax rates on energy use in the industry sector



Note: Tax rates applicable on 1 July 2018. Energy use data is for 2016 and adapted from IEA (2018^[2]), *World Energy Statistics and Balances*. Energy categories (labelled at the top) that represent less than 1% of a sector’s energy consumption are grouped into “misc. energy use” and may not be labelled. Similarly, rate labels (shown at the bottom) are grouped into “misc. rates” using the same threshold.

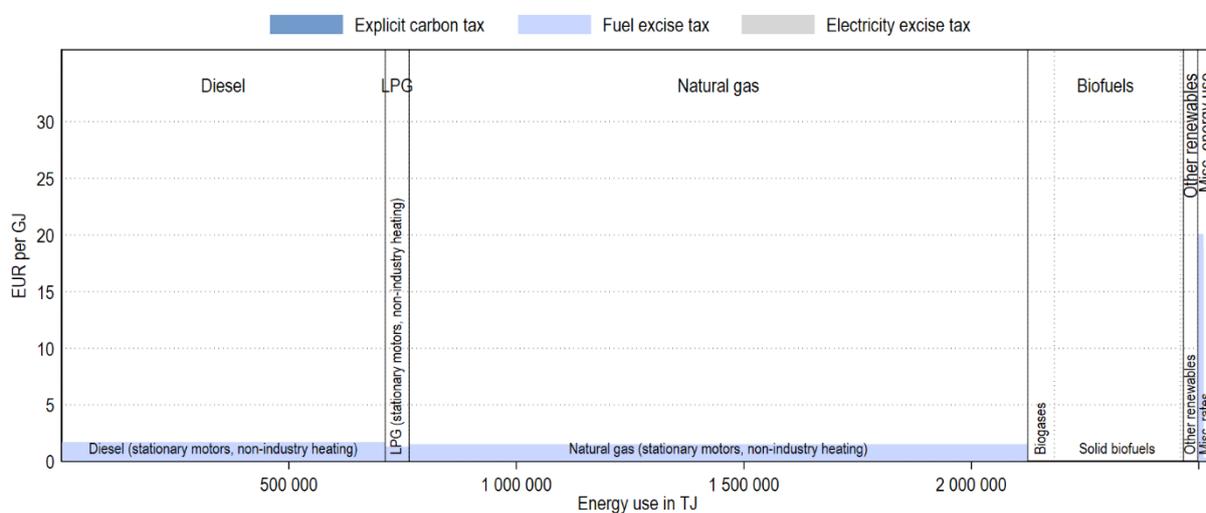
Agriculture and fisheries

The IEA's energy balances do not report any energy use for the German agriculture & fisheries sector. In line with the TEU methodology, TEU consequently does not provide information on effective tax rates in this sector.

Residential and commercial

Fossil fuel use in the residential and commercial sectors (Figure 5) are taxed. Biofuels and other renewables are not taxed. Notice that TEU reports the energy use associated with electricity and district heating consumption in the industry and electricity sector as that is where the primary energy consumption occurs.

Figure 5. Effective tax rates on energy use in the residential & commercial sector



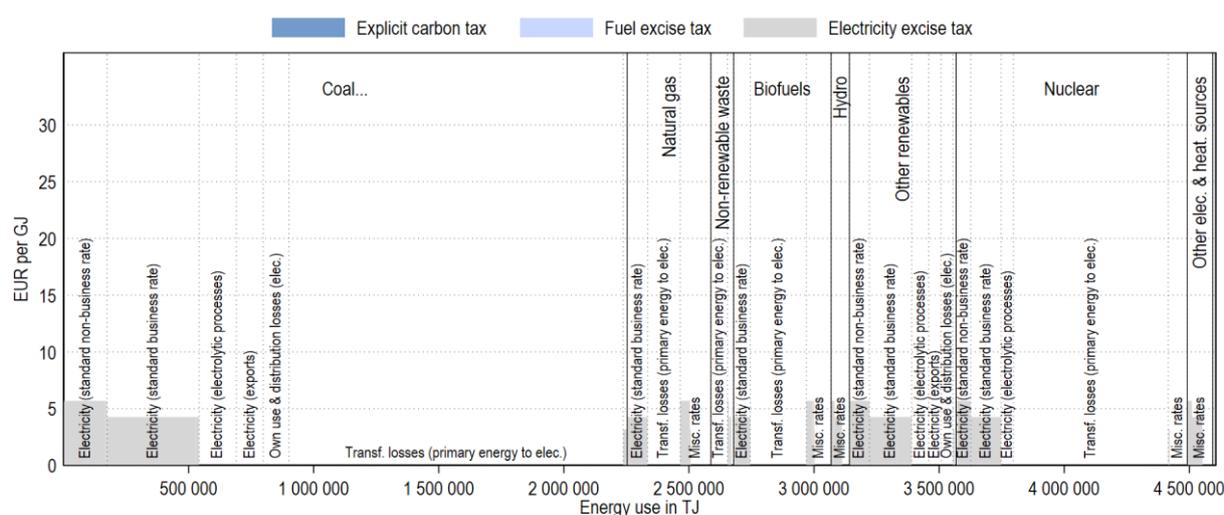
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Electricity

Figure 6 shows how the electricity sector, as defined in TEU, is taxed in Germany. The fuels used to generate electricity are generally not taxed, but the electricity sector is covered by the EU ETS (OECD, 2018^[1]).

The use of electricity, on the other hand, is subject to a tax per kWh. The standard rate is differentiated between business and non-business use. In addition, user-specific rate reductions and exemptions may apply. Electricity used in electrolytic processes is exempt from the electricity tax. As is standard, electricity exports are not subject to the electricity tax in Germany, but may be subject to electricity taxes elsewhere. Electricity used by the power industry and electricity lost during transmission to end-users is not taxed either.

Figure 6. Effective tax rates on energy use in the electricity sector



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References

- IEA (2018), "Extended world energy balances", *IEA World Energy Statistics and Balances* (database), <http://dx.doi.org/10.1787/data-00513-en> (accessed on 16 October 2018). [2]
- OECD (2018), *Effective Carbon Rates 2018: Pricing Carbon Emissions Through Taxes and Emissions Trading*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264305304-en>. [1]