

Taxing Energy Use 2019: Country Note – Luxembourg

This note explains how Luxembourg 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 Luxembourg 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 Luxembourg

Energy taxes in Luxembourg 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 Luxembourg are the following:

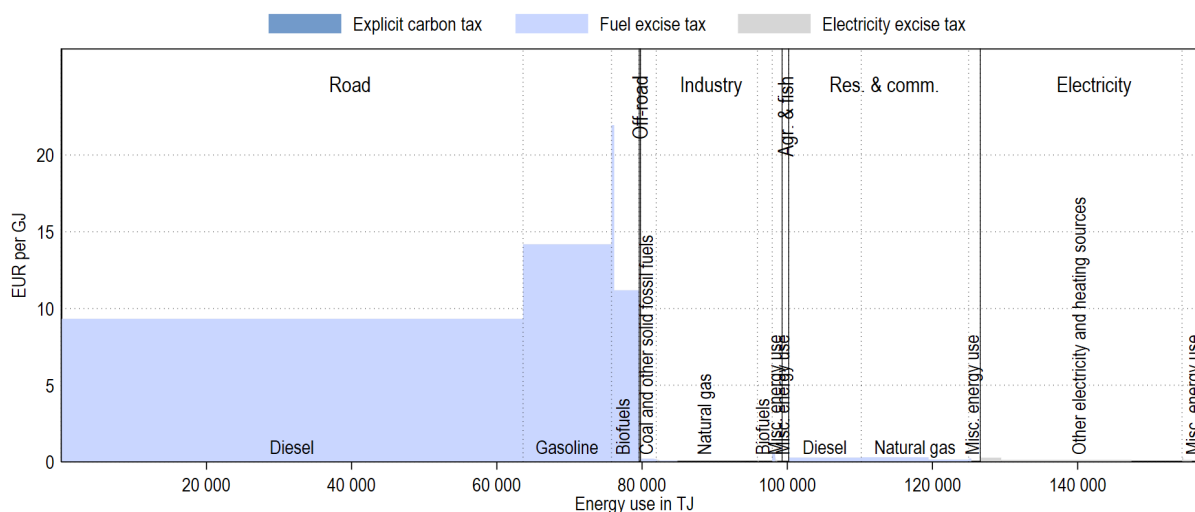
- The energy tax applies to oil products, natural gas and coal. Tax rates on fuels are higher when used as propellant than for heating and process purposes. Fuels used for electricity generation are untaxed.
- Electricity consumption is taxed at a lower rate when used in the industry sector than when used in the residential sector.

Luxembourg 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 Luxembourg

The taxes result in effective tax rates that can differ across energy products and uses, as described below. Figure 1 provides an overview of how energy and carbon taxes apply across the economy. 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



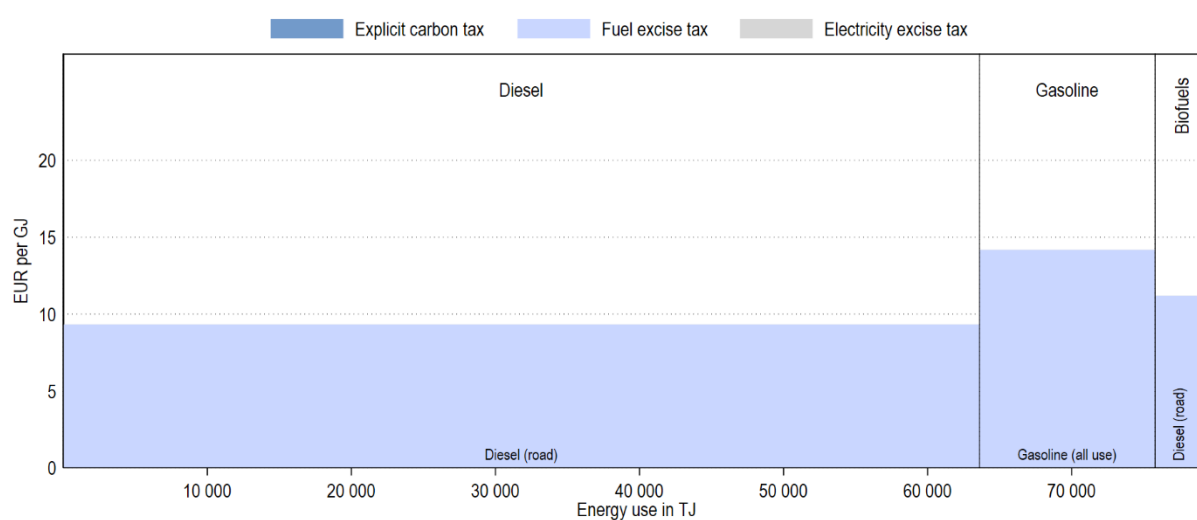
Note: Tax rates applicable on 1 July 2018. Energy use data is for 2016 and adapted from IEA (2018^[2]), *World Energy Statistics and Balances*. Energy categories (labelled at the bottom) that represent less than 1% of a country's energy consumption are grouped into "misc. energy use" and may not be labelled.

Road

In the road sector, gasoline is taxed at a higher rate than diesel fuel. Biofuels are taxed at the same statutory rates as their fossil fuel equivalents. However, due to biofuels lower heating value, their effective rate is higher.¹

Notice that a large part of energy use reported in the road sector is due to fuel tourism/transit traffic. A substantial share of fuel use in road transport is in reality consumed in neighbouring countries, but allocated to Luxembourg in the energy balances (and TEU) because Luxembourg is where the fuel is sold.

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



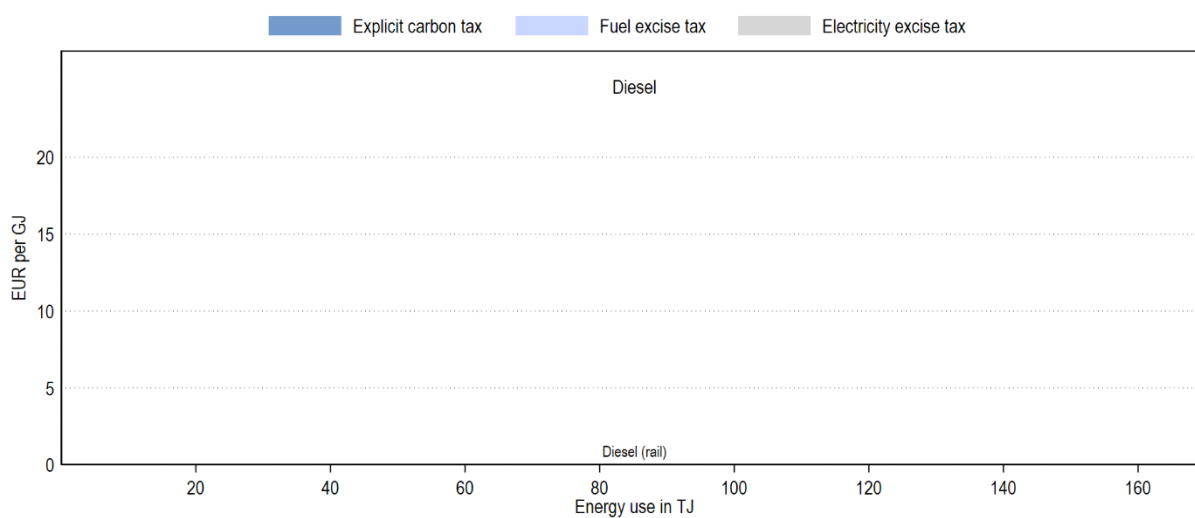
Note: Tax rates applicable on 1 July 2018. Energy use data is for 2016 and adapted from IEA (2018^[2]), *World Energy Statistics and Balances*. Energy categories (labelled at the top) that represent less than 1% of a sector's energy consumption are grouped into "misc. energy use" and may not be labelled.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

¹ Natural gas in road is tax exempt, but the IEA's extended world energy balances report no such use for the road sector in Luxembourg in 2016.

Off-road

The only reported energy use for the off-road sector in Luxembourg is diesel consumption by railways. Such diesel use is not 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.

Industry

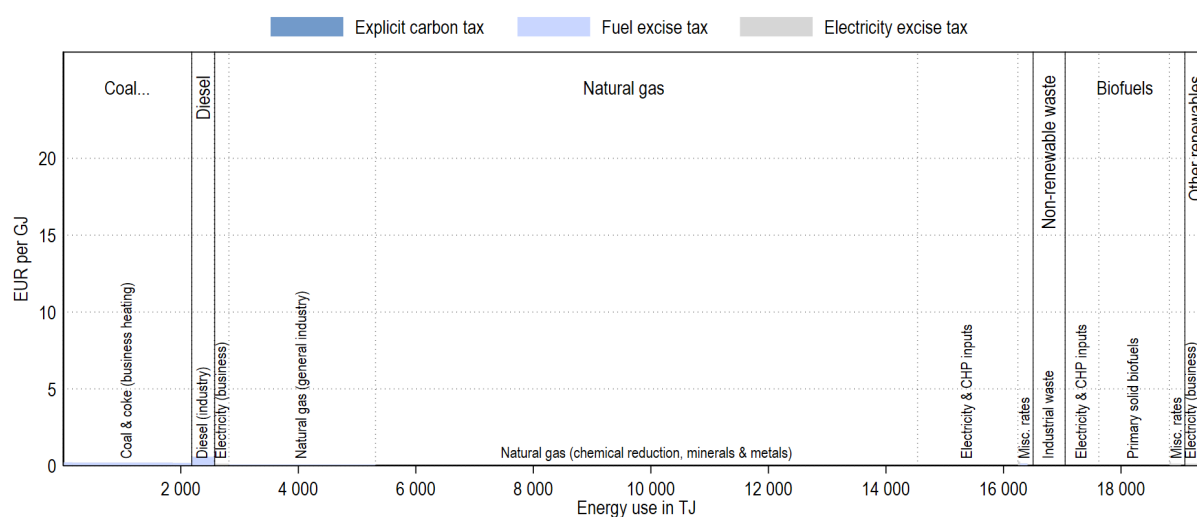
In the industry sector, coal and coke products are taxed, but the rate is barely discernible in the figure. Diesel is taxed, albeit at a lower rate than in road transport. Natural gas is generally taxed at rates that vary with the consumption volume (as rates are low, they are difficult to see in the figure).² Non-renewable waste, biofuels and other renewables are not taxed.

In addition, fuels are generally not taxed when used:

- in chemical reduction, mineralogical and metallurgical processes;
- in combined heat and power (CHP) or autoproducer electricity plants;

Electricity produced by autogeneration plants are generally subject to electricity excise taxes under the same conditions as main-producer electricity plants (see electricity section below).

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



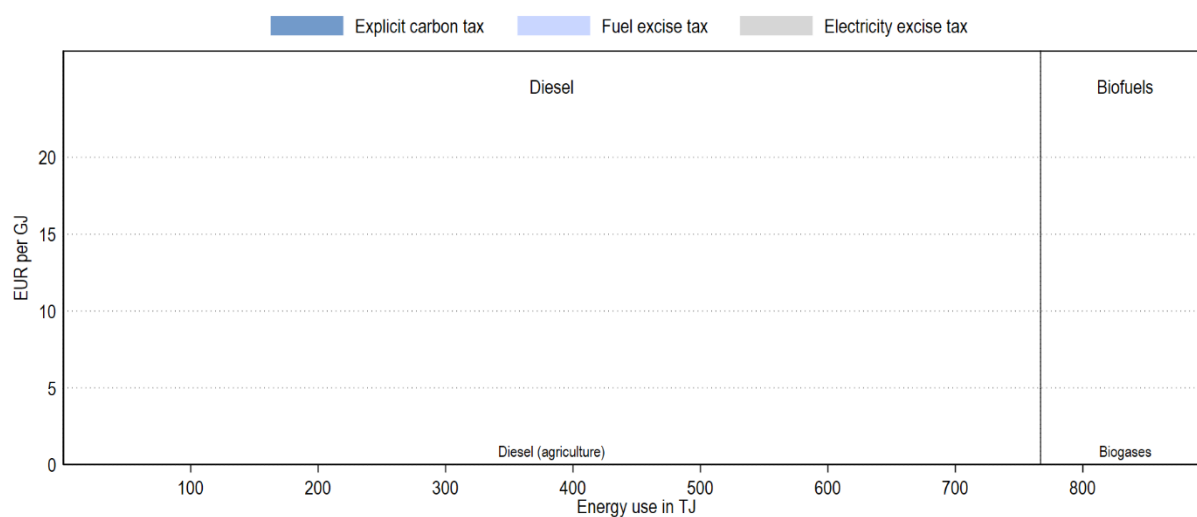
Note: Tax rates applicable on 1 July 2018. Energy use data is for 2016 and adapted from IEA (2018^[2]), *World Energy Statistics and Balances*. Energy categories (labelled at the top) that represent less than 1% of a sector's energy consumption are grouped into "misc. energy use" and may not be labelled.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

² In addition, LPG is taxed, but the IEA's extended world energy balances report no such use for the industry sector in Luxembourg in 2016.

Agriculture and fisheries

Diesel used in agriculture and fishing is not taxed. Biogases are not taxed either, as in the other sectors.

Figure 5. Effective tax rates on energy use in agriculture and fisheries

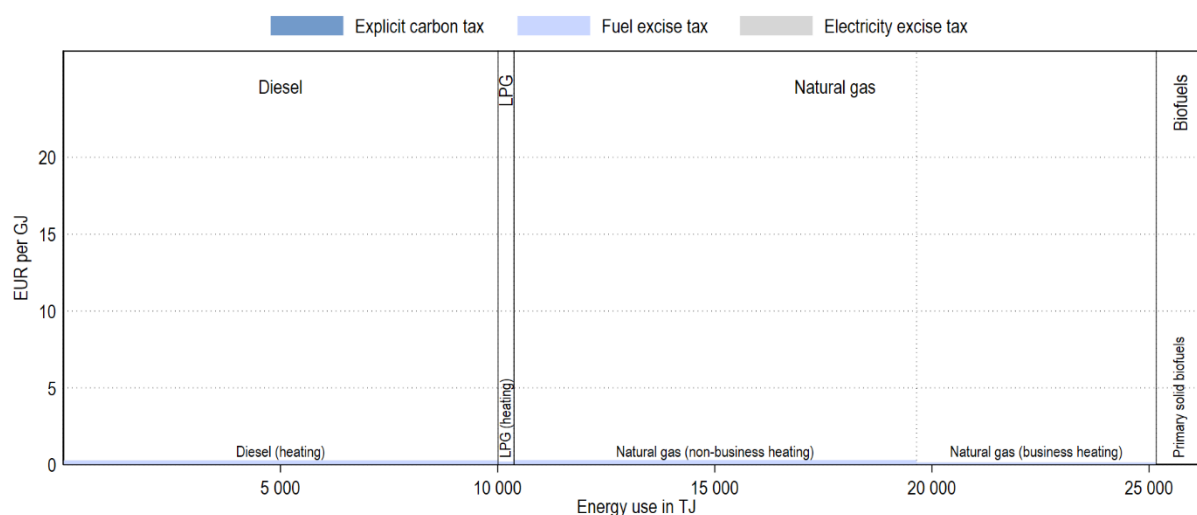


Note: Tax rates applicable on 1 July 2018. Energy use data is for 2016 and adapted from IEA (2018^[2]), *World Energy Statistics and Balances*. Energy categories (labelled at the top) that represent less than 1% of a sector's energy consumption are grouped into "misc. energy use" and may not be labelled.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

Residential and commercial

In the residential and commercial sector, fossil fuels are generally taxed.³ The exception is coal used for non-business heating, but this use is rare and not visible in the figure. Solid biofuels are not taxed, as in the other sectors.

Figure 6. Effective tax rates on energy use in the residential and commercial sector



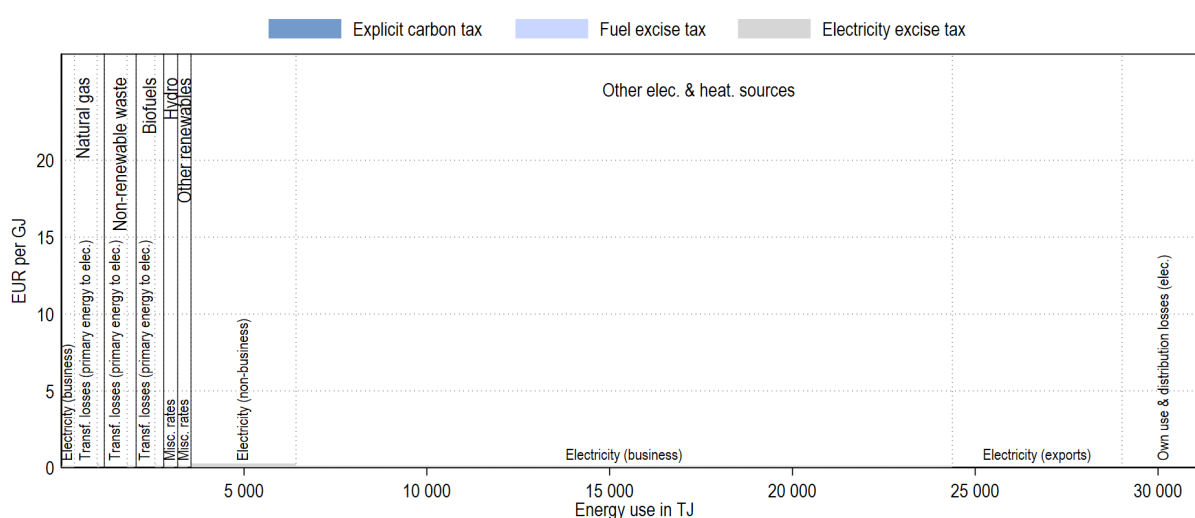
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³ Rates for natural gas used for business heating vary depending on the consumption volume. However, since data on natural gas consumption volumes was not available, TEU assumes that Category B applies to all commercial use.

Electricity

All energy sources used to generate electricity are untaxed. Electricity consumption, on the other hand, is generally subject to an electricity excise tax (per MWh). The rate is higher for non-business use, and lower for business use. However, as both rates correspond to the minimum admissible under the Energy Tax Directive, they are barely visible in the figure. Own use by the electricity industry is not taxed, and neither are exports, which may, however, be subject to electricity taxes in other countries.

Figure 7. Effective tax rates on energy use in the electricity 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.

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]