

Taxing Energy Use 2019: Country Note – Brazil

This note explains how Brazil 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 Brazil 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 Brazil

As at 1 July 2018, the main taxes on energy use in Brazil are the following:

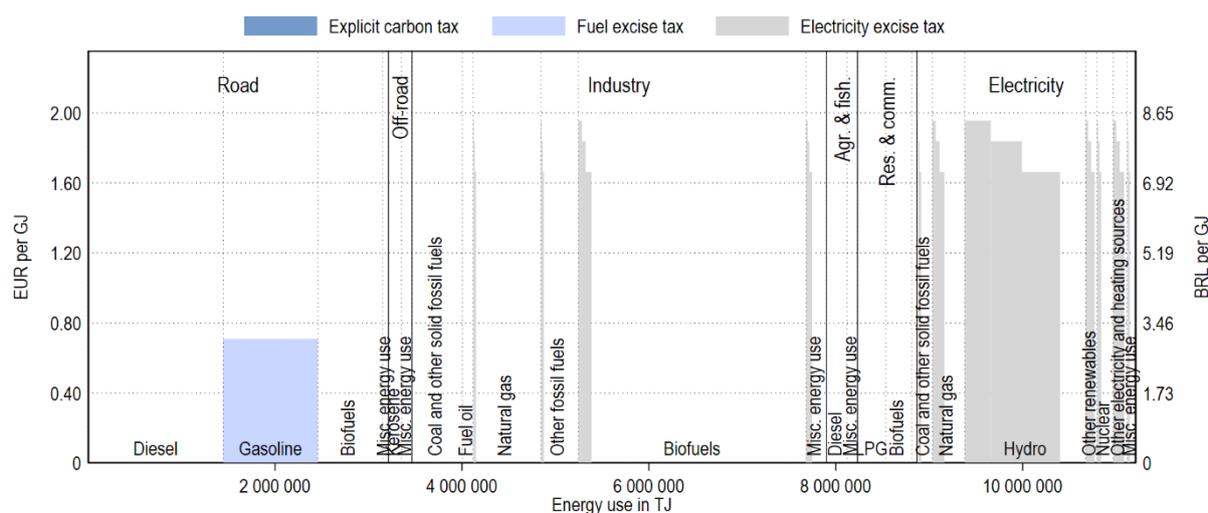
- The CIDE-fuels (*Contribuição de intervenção no domínio econômico incidente sobre as operações realizadas com combustíveis*) tax applies to liquid fuels (incl. ethanol) and natural gas in principle. In practice, it is the presidential Decree that defines the tax rate of CIDE. There have been recent changes in CIDE of gasoline (Decree 8.395/15) and diesel (Decree 9.391/18). The rates are BRL 100 per m³ for gasoline (since May 2015) and zero for diesel (since June 2018). Other CIDE-fuels are effectively untaxed in practice.
- The CDE (*Conta de Desenvolvimento Energético*) tax applies to electricity consumption, and the rate differs by region and by voltage level.

Brazil does not have a carbon tax or an emissions trading system for CO₂ emissions from energy use (OECD, 2018^[1]).

Effective tax rates on energy use in Brazil

Tax rates can differ across energy products and users, as described below. Figure 1 provides an overview of how energy and carbon taxes apply to different energy categories 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

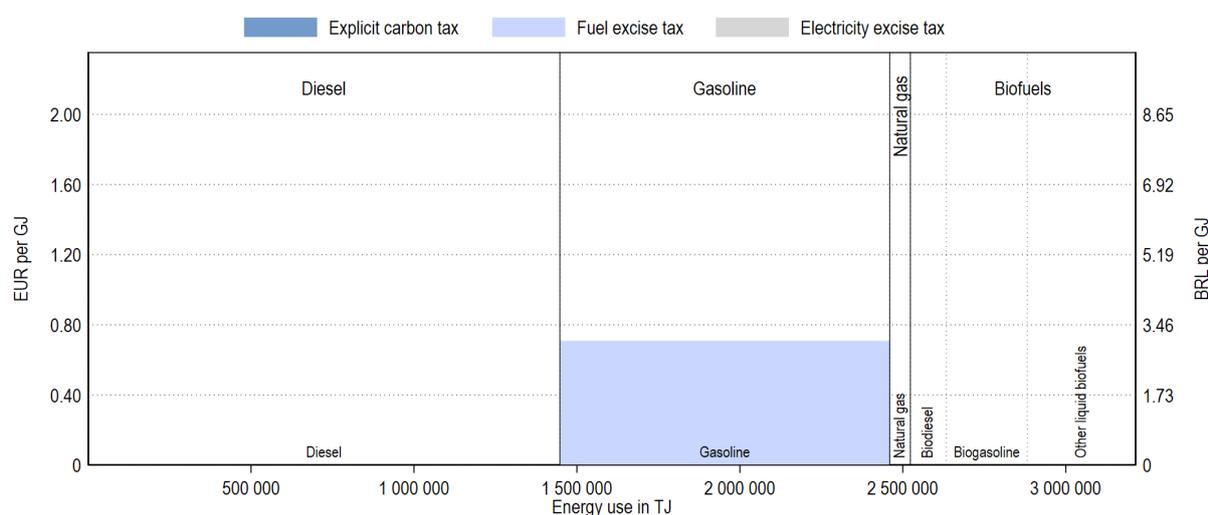


Note: Tax rates applicable on 1 July 2018. Energy use data is for 2016 and adapted from IEA (2018^[2]), *World Energy Statistics and Balances*. Energy categories (labelled at the bottom) that represent less than 1% of a country's energy consumption are grouped into "misc. energy use" and may not be labelled.

Road

Figure 2 shows that within the road sector, only gasoline is taxed. Diesel and natural gas are not taxed, and neither are biofuels.

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

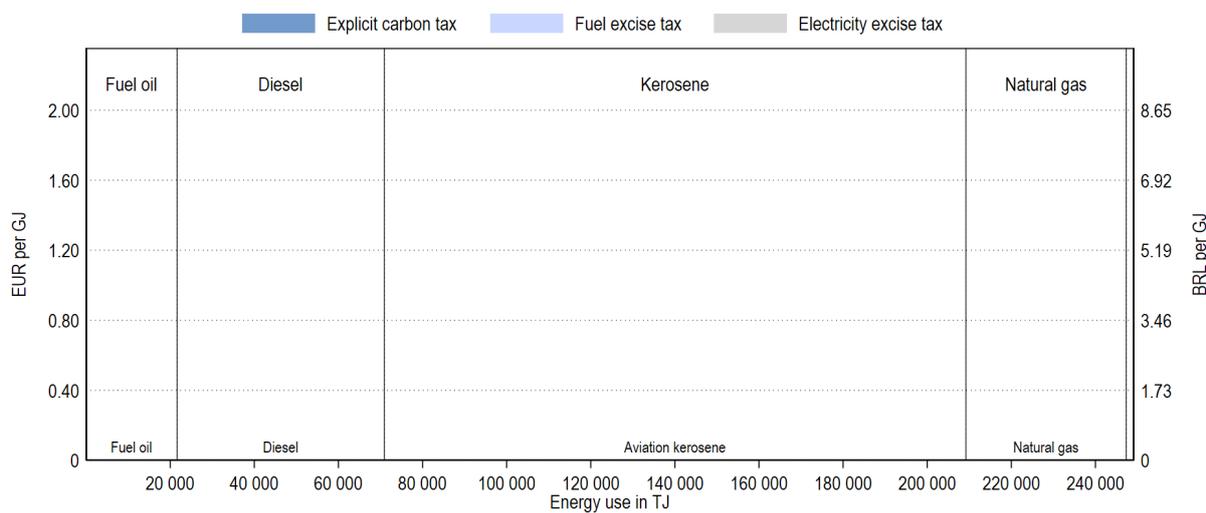


Note: Tax rates applicable on 1 July 2018. Energy use data is for 2016 and adapted from IEA (2018^[2]), *World Energy Statistics and Balances*. Energy categories (labelled at the top) that represent less than 1% of a sector's energy consumption are grouped into "misc. energy use" and may not be labelled.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

Off-road

In the off-road sector (Figure 3), fossil fuels are untaxed.

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



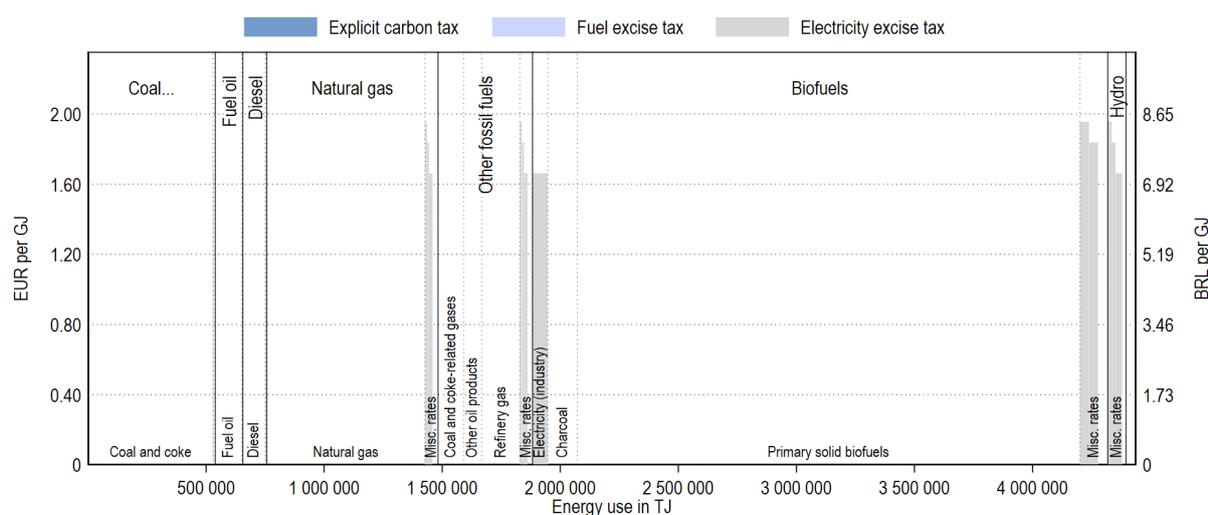
Note: Tax rates applicable on 1 July 2018. Energy use data is for 2016 and adapted from IEA (2018^[2]), *World Energy Statistics and Balances*. Energy categories (labelled at the top) that represent less than 1% of a sector's energy consumption are grouped into "misc. energy use" and may not be labelled.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

Industry

Fossil fuels used in the industry sector are not taxed (Figure 4). Biofuels and hydro are not taxed.

Electricity from autoproducers plants, which according to the TEU methodology is allocated to the industry sector, is generally subject to electricity excise taxes (see electricity section below).

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

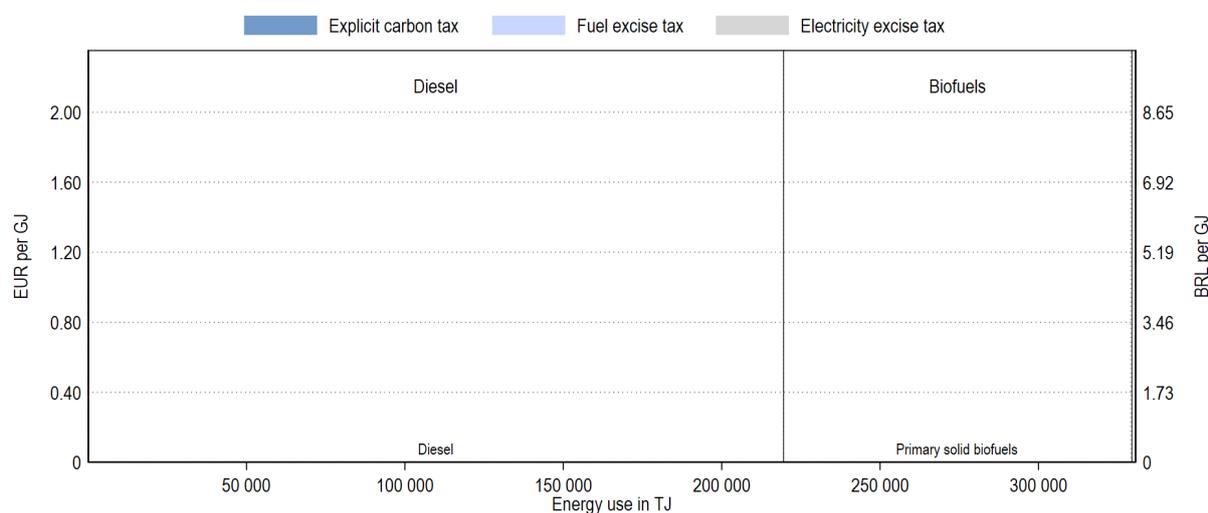


Note: Tax rates applicable on 1 July 2018. Energy use data is for 2016 and adapted from IEA (2018^[2]), *World Energy Statistics and Balances*. Energy categories (labelled at the top) that represent less than 1% of a sector's energy consumption are grouped into "misc. energy use" and may not be labelled.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

Agriculture and fisheries

Fuels used in agriculture and fisheries are not taxed (Figure 5).

Figure 5. Effective tax rates on energy use in the agriculture & fisheries sector



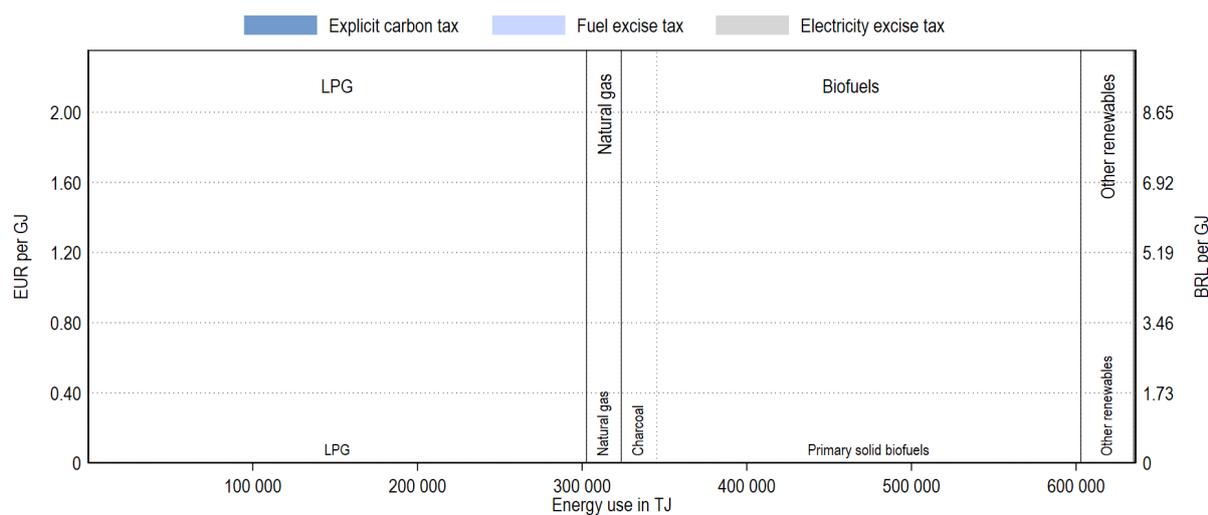
Note: Tax rates applicable on 1 July 2018. Energy use data is for 2016 and adapted from IEA (2018^[2]), *World Energy Statistics and Balances*. Energy categories (labelled at the top) that represent less than 1% of a sector's energy consumption are grouped into "misc. energy use" and may not be labelled.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

Residential and commercial

In the residential and commercial sector (Figure 6), fossil fuel use is not taxed.

Notice that TEU reports the energy use associated with electricity consumption in the industry and electricity sector as that is where the primary energy consumption occurs.

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



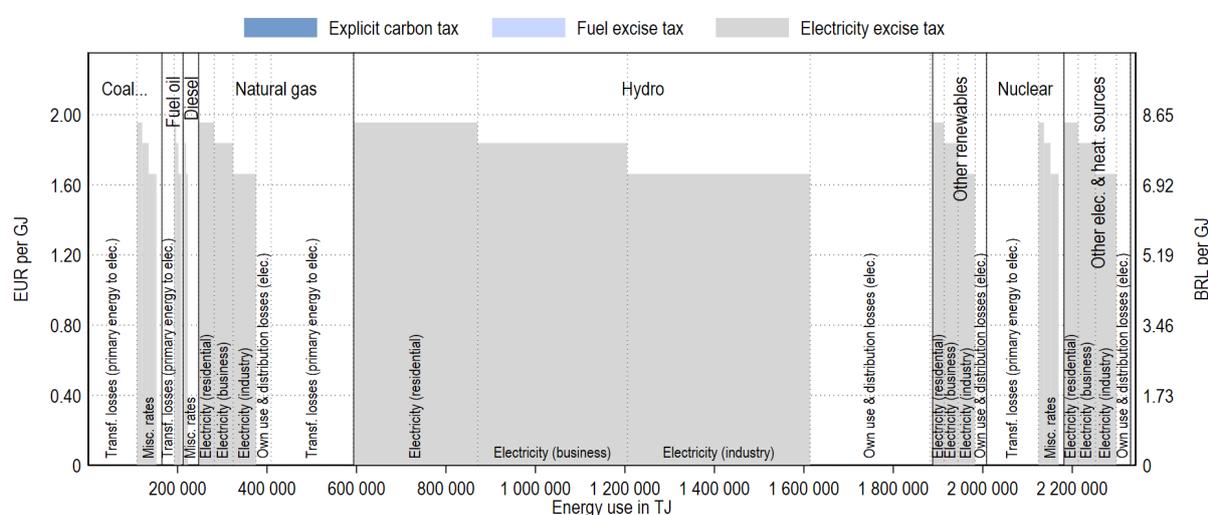
Note: Tax rates applicable on 1 July 2018. Energy use data is for 2016 and adapted from IEA (2018^[2]), *World Energy Statistics and Balances*. Energy categories (labelled at the top) that represent less than 1% of a sector's energy consumption are grouped into "misc. energy use" and may not be labelled.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

Electricity

Figure 7 shows how the electricity sector, as defined in TEU, is taxed in Brazil. The fuels used to generate electricity are not taxed.

The final consumption of electricity, on the other hand, is subject to an electricity excise tax. The CDE rate differs by region, with significantly lower rates applied to the north and the northeast. The CDE rates also differ by voltage level within regions, and rates decrease as voltage increases.¹ TEU shows weighted average CDE rates that are calculated based on the assumed electricity market shares by region, and on the assumption that the high-level voltage rates apply to the industry sector, the low-level voltage rates apply to household consumption, and the medium-level voltage rates apply to all other economic sectors.

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, <http://dx.doi.org/10.1787/9789264305304-en>. [1]

¹ Based on 2015 data, it is assumed the N/NE and the S/SE/CO represent 21.5% and 78.5% of the electricity market, respectively.