

## *Taxing Energy Use 2019: Country Note – The United States*

*This note explains how the United States 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 the United States can be found in Chapter 2 of the report. Chapter 3 additionally shows effective carbon tax rates per tonne of CO<sub>2</sub>, and presents the corresponding carbon tax profiles for all countries. The report also contains StatLinks to the official data.*

### **Structure of energy taxation in the United States**

As at 1 July 2018, the main federal taxes on energy use in the United States are the following:<sup>1</sup>

- The Highway Motor Fuel Tax (HMFT) applies to motor fuels. The HMFT is set at USD 0.83 per gallon on gasoline, biogasoline (ethanol), CNG and LPG, and at a rate of USD 0.243 per gallon on (undyed) diesel, biodiesel and (undyed) kerosene;
- The General Aviation Fuel Tax (GAFT) applies to gasoline and kerosene used for non-commercial aviation purposes at a rate of USD 0.193 per gallon and USD 0.218 per gallon, respectively;
- The Commercial Fuel Tax (CFT) applies to aviation fuels when used for commercial aviation purposes at a rate of USD 0.043 per gallon;

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<sup>1</sup> In addition, the Leaking Underground Storage Tank (LUST) Trust Fund Tax applies to all excisable motor, aviation and marine fuels, with the exception of CNG and LPG, at a rate of USD 0.001 per gallon; while the Oil Spill Liability Tax (OSLT) applies to crude oil at a rate of USD 0.09 per barrel (USD 0.002 per gallon). Note that the Oil Spill Liability Tax expired 12/31/2018.

- The Inland Waterways Trust Fund financing rate (IWTF Tax) applies to all fuels used for domestic navigation purposes at a rate of USD 0.29 per gallon;

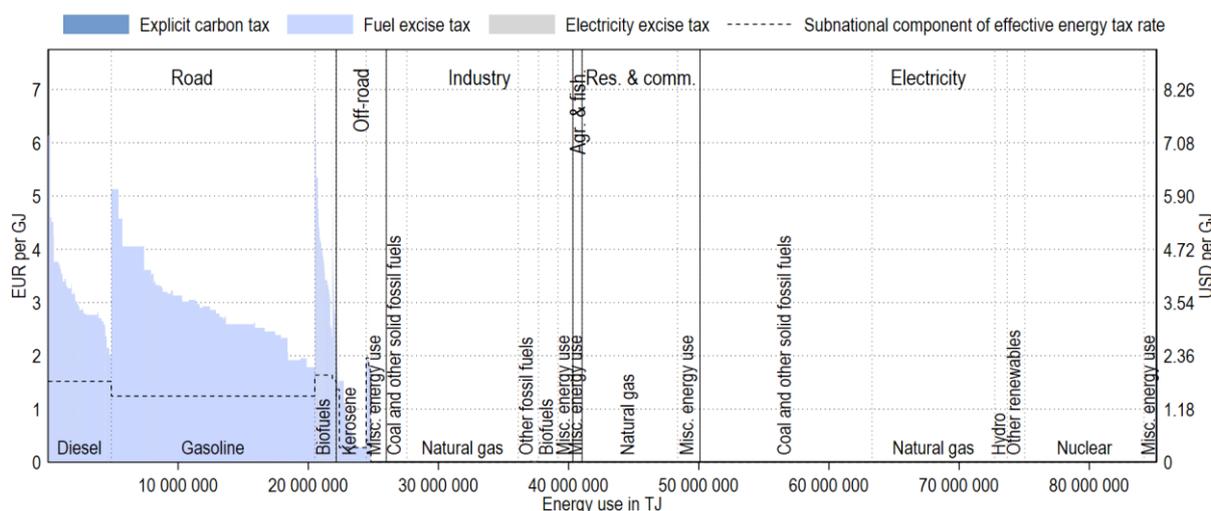
In addition, states levy taxes on transport fuels, and these are added to the federal tax rates.<sup>2</sup>

The United States does not levy a carbon tax and does not have a federal emissions trading system for CO<sub>2</sub> emissions, but there are subnational trading systems (OECD, 2018<sup>[1]</sup>). Permit prices are not included in the energy tax profiles.

## Effective tax rates on energy use in The United States

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. 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**



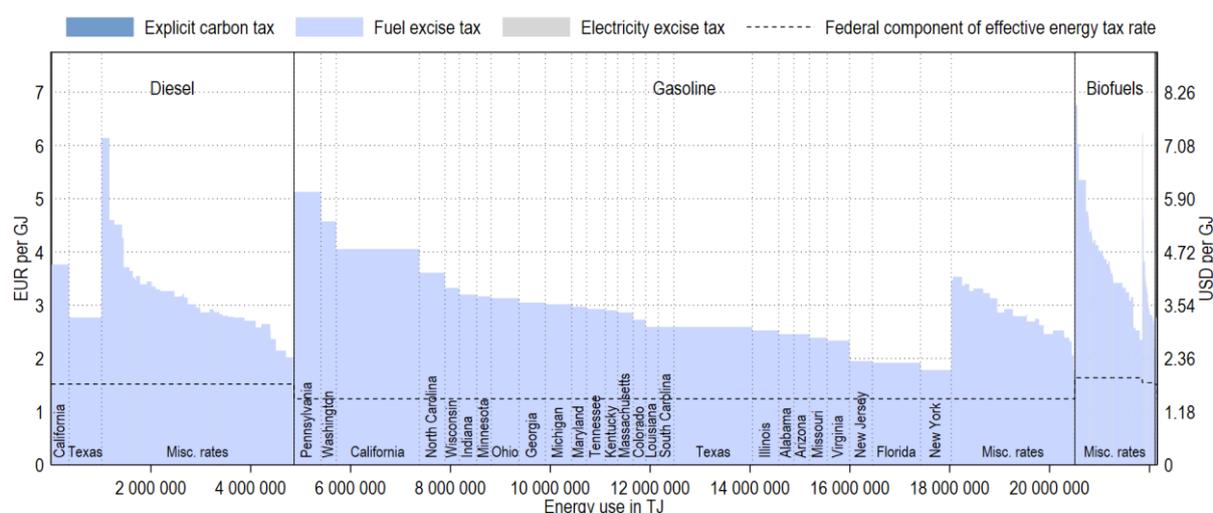
*Note:* Tax rates applicable on 1 July 2018. Energy use data is for 2016 and adapted from IEA (2018<sup>[2]</sup>), *World Energy Statistics and Balances*. Energy categories (labelled at the bottom) that represent less than 1% of a country's energy consumption are grouped into "misc. energy use" and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

<sup>2</sup> As the IEA energy balances only provide energy use data at the country level, TEU calculates subnational tax bases based on data from the US Energy Information Administration (EIA), which also provides information on state excise taxes. Local surcharges above state-wide minima for excise tax rates are not covered due to data constraints (this is, for instance, relevant in parts of Hawaii as well as in Florida).

## Road

Figure 2 shows that within the road sector, diesel is taxed at a higher *federal* tax rate than gasoline.<sup>3</sup> Both diesel and gasoline are additionally subject to fuel excise taxes at the state level, which vary in magnitude. Biofuels may also be taxed at both federal and state level.<sup>4</sup> Natural gas consumption in road transport is taxed, but consumption is low and not discernible in the figure.<sup>5</sup>

**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<sup>[2]</sup>), *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.

<sup>3</sup> Due to data limitations, TEU does not take into account that in the road sector, fuels used by state and local governments; non-profit educational organisations; certain private local mass transit buses as well as private intercity buses serving the public are generally tax exempt. In addition, various tax credits (retroactively extended through December 31, 2018) apply to alternative fuels (e.g. natural gas and LPG) as well as to biogasoline and biodiesel consumption. TEU does not take these tax credits into account (see Methodology).

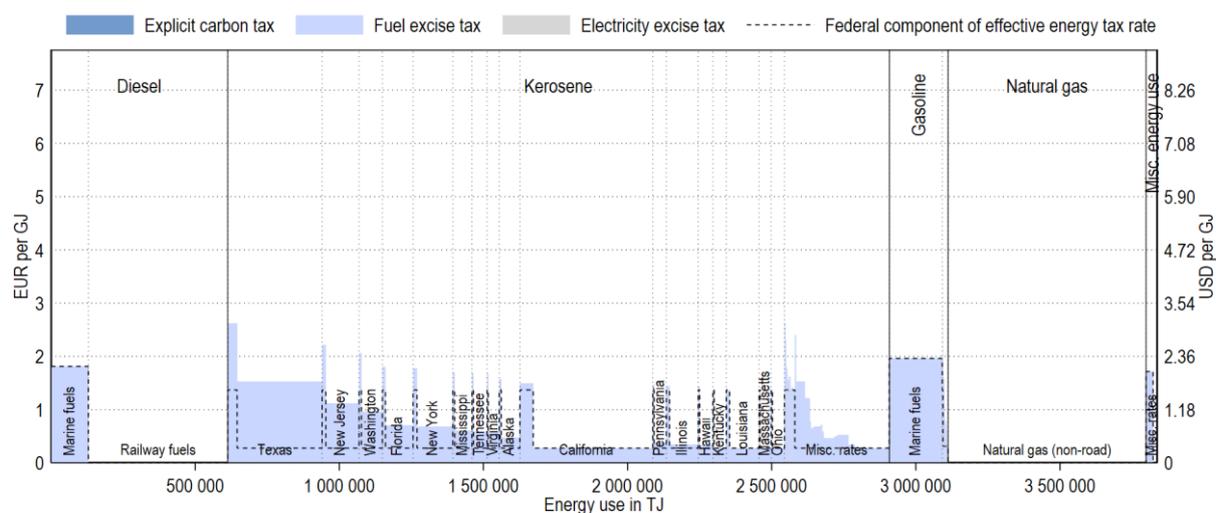
<sup>4</sup> Biofuels are assumed to be taxed at the same statutory rate as their fossil-fuel equivalents. Tax credits for alternative fuels are not considered because TEU does not cover refunds that operate through the income tax system.

<sup>5</sup> The extent to which US states also tax natural gas in road transport varies across the country. As natural gas consumption in road transport is negligible, the secretariat makes the simplifying assumption that all states tax natural gas at the gasoline equivalent rate.

### Off-road

In the off-road sector (Figure 3), fossil fuels used in inland waterways (“marine”) are taxed at the federal level. Diesel use by railways is not taxed.<sup>6</sup> Kerosene use is taxed at both federal and state level. Rates are lower for domestic commercial aviation, which is assumed to be responsible for 90% of aviation fuel consumption. Gasoline is taxed at the federal level, both when used as a marine fuel and for domestic aviation. Natural gas used in pipeline transport is not taxed.

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



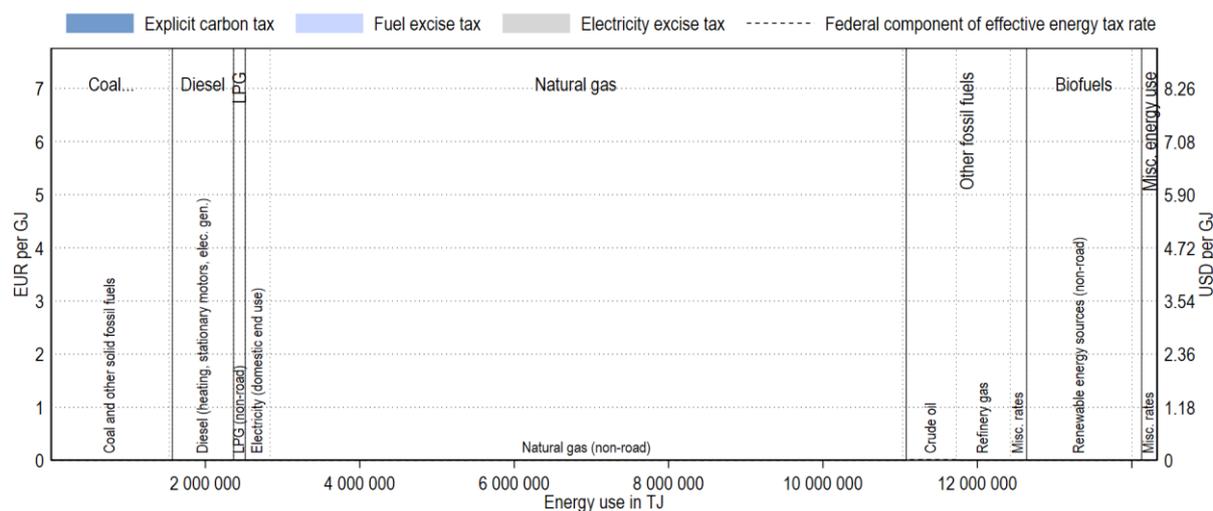
*Note:* Tax rates applicable on 1 July 2018. Energy use data is for 2016 and adapted from IEA (2018<sup>[2]</sup>), *World Energy Statistics and Balances*. Energy categories (labelled at the top) that represent less than 1% of a sector’s energy consumption are grouped into “misc. energy use” and may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

<sup>6</sup> Diesel marked for off-road use is taxed in Arkansas, Mississippi and North Dakota. TEU does not include these subnational taxes as rates are low and the corresponding fuel consumption is negligible.

### Industry

Energy used in the industry sector is not taxed (Figure 4).<sup>7</sup>

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



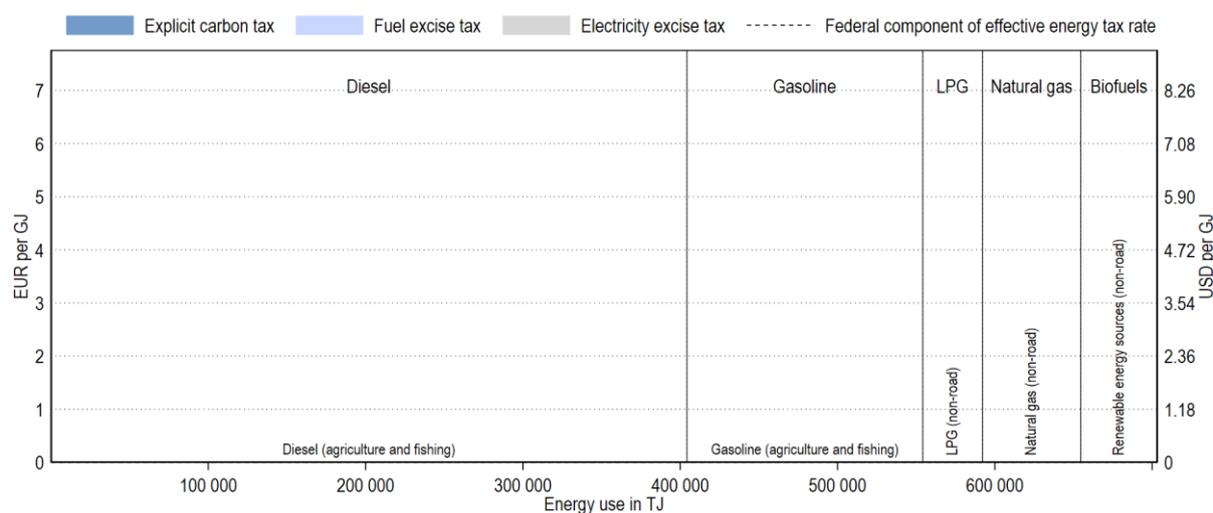
Note: Tax rates applicable on 1 July 2018. Energy use data is for 2016 and adapted from IEA (2018<sup>[2]</sup>), *World Energy Statistics and Balances*. Energy categories (labelled at the top) that represent less than 1% of a sector’s energy consumption are grouped into “misc. energy use” and may not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

<sup>7</sup> TEU does not include severance taxes. In addition, TEU does not include Alaska’s surcharge of \$0.0095 per gallon on refined fuel used in an engine, machine, or contrivance that creates heat, energy, or power, as the corresponding energy base is negligible.

### *Agriculture and fisheries*

Energy used in the agriculture and fisheries sector is not taxed (Figure 5).

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

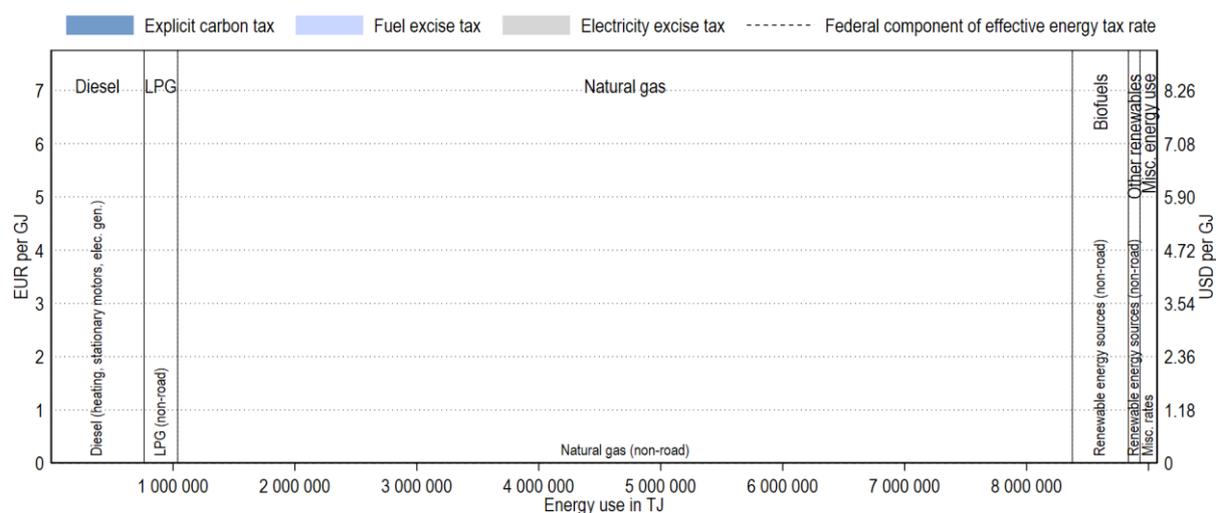


*Note:* Tax rates applicable on 1 July 2018. Energy use data is for 2016 and adapted from IEA (2018<sup>[2]</sup>), *World Energy Statistics and Balances*. Energy categories (labelled at the top) that represent less than 1% of a sector's energy consumption are grouped into "misc. energy use" and may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

### Residential and commercial

Energy use in the residential and commercial sector (Figure 6) 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**

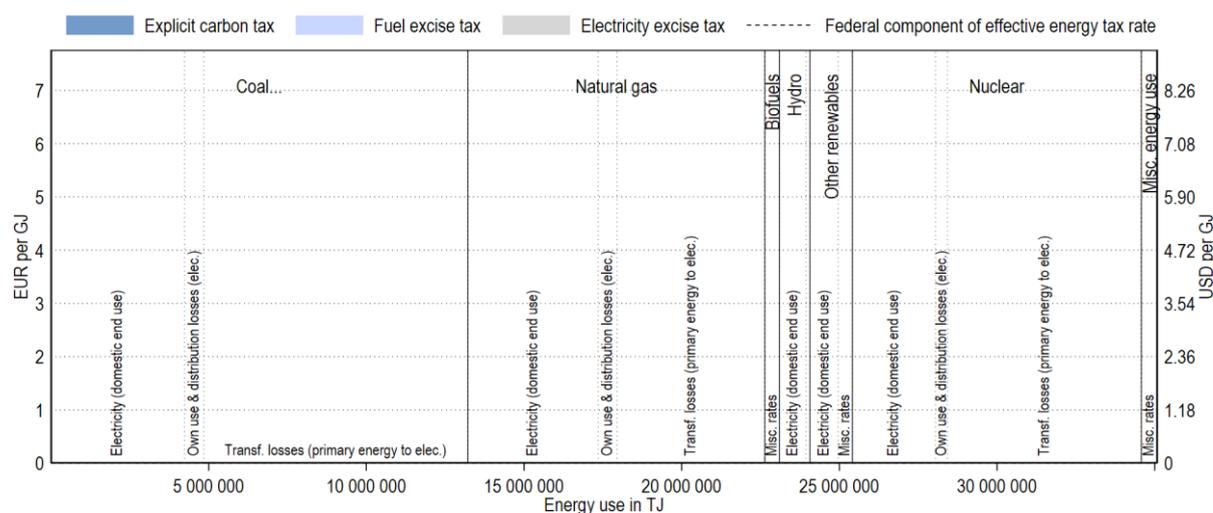


*Note:* Tax rates applicable on 1 July 2018. Energy use data is for 2016 and adapted from IEA (2018<sup>[2]</sup>), *World Energy Statistics and Balances*. Energy categories (labelled at the top) that represent less than 1% of a sector's energy consumption are grouped into "misc. energy use" and may 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 The United States. The fuels used to generate electricity are not taxed,<sup>8</sup> and neither is the final consumption of electricity.

**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<sup>[2]</sup>), *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]

<sup>8</sup> TEU does not include severance taxes. In addition, TEU does not include Alaska's surcharge of \$0.0095 per gallon on refined fuel used in an engine, machine, or contrivance that creates heat, energy, or power, as the corresponding energy base is negligible.