

Taxing Energy Use 2019: Country Note – Korea

This note explains how Korea 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 Korea 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 Korea

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

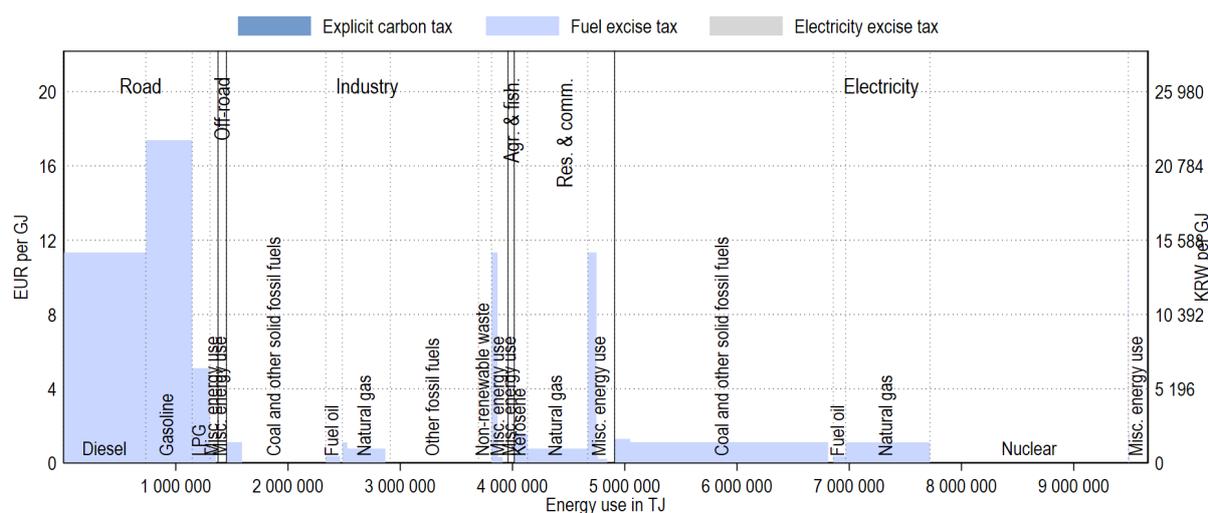
- The Individual Consumption Tax (개별소비세 – ICT) applies to liquid, gaseous and solid fossil fuels
- The Transportation-Energy-Environment Tax (교통·에너지·환경세 – TEET) applies to gasoline and diesel at uniform rates of KRW 529 per litre and KRW 375 per litre, respectively. These rates are specified by Presidential Decree.
- The Education Tax applies to liquid and gaseous fuels at a rate of 15% of the ICT tax on liquid and gaseous fuels. The Education tax also applies to gasoline and diesel at a rate of 15% of the TEET rate.
- The Local Automobile Tax (자동차세, mileage-based tax) also applies to gasoline and diesel at a rate of 26% of the TEET rate.

Korea does not levy a carbon tax, but the country operates an emissions trading system (OECD, 2018^[1]). Permit prices are not shown in the energy tax profiles.

Effective tax rates on energy use in Korea

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

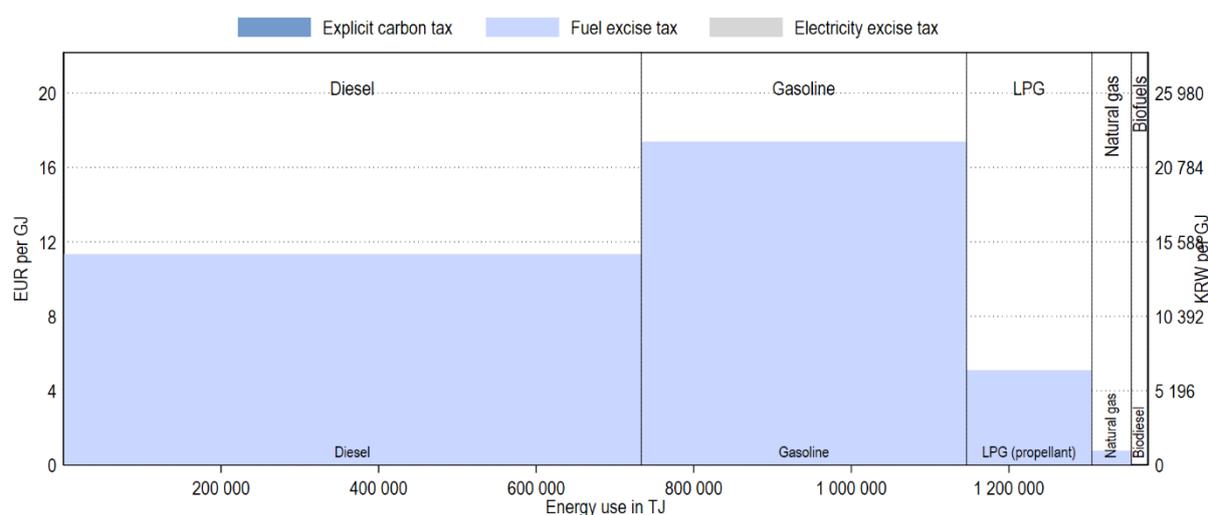


Note: Tax rates applicable on 1 July 2018. Energy use data is for 2016 and adapted from IEA (2018^[2]), *World Energy Statistics and Balances*. Energy categories (labelled at the bottom) that represent less than 1% of a country's energy consumption are grouped into "misc. energy use" and may not be labelled.

Road

Figure 2 shows that within the road sector, gasoline is taxed at a higher effective tax rate than diesel. LPG and natural gas are also taxed. Biodiesel is not taxed.

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

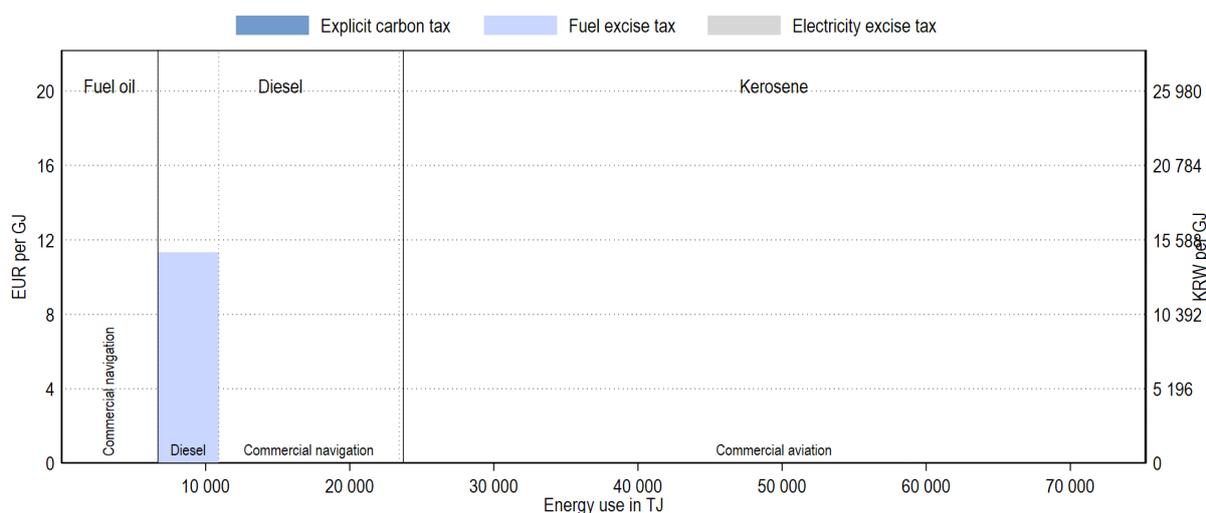


Note: Tax rates applicable on 1 July 2018. Energy use data is for 2016 and adapted from IEA (2018^[2]), *World Energy Statistics and Balances*. Energy categories (labelled at the top) that represent less than 1% of a sector's energy consumption are grouped into "misc. energy use" and may not be labelled. 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), fuel oil and diesel are not taxed under certain circumstances when used for aviation and navigation.

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

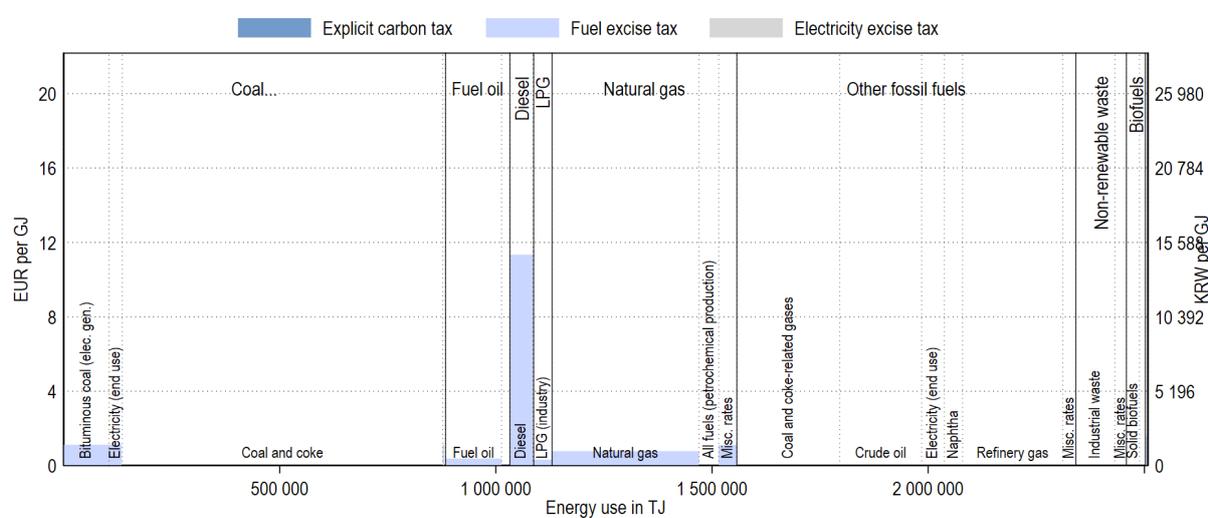


Note: Tax rates applicable on 1 July 2018. Energy use data is for 2016 and adapted from IEA (2018^[2]), *World Energy Statistics and Balances*. Energy categories (labelled at the top) that represent less than 1% of a sector's energy consumption are grouped into "misc. energy use" and may not be labelled.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

Industry

In the industry sector, fossil fuels are generally taxed at their standard rates. However, all solid fuels consumed by industry for purposes other than electricity generation are untaxed. In addition, all fuels used for petrochemical production are untaxed. LPG consumed by industry is categorised into two groups: butane and propane. The individual consumption tax applies to both, but the Education Tax applies only to butane at a rate of 15%.¹ Other fossil fuels, such as coal and coke-related gases and refinery gases are not taxed. Non-renewable waste and biofuels are not taxed.

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



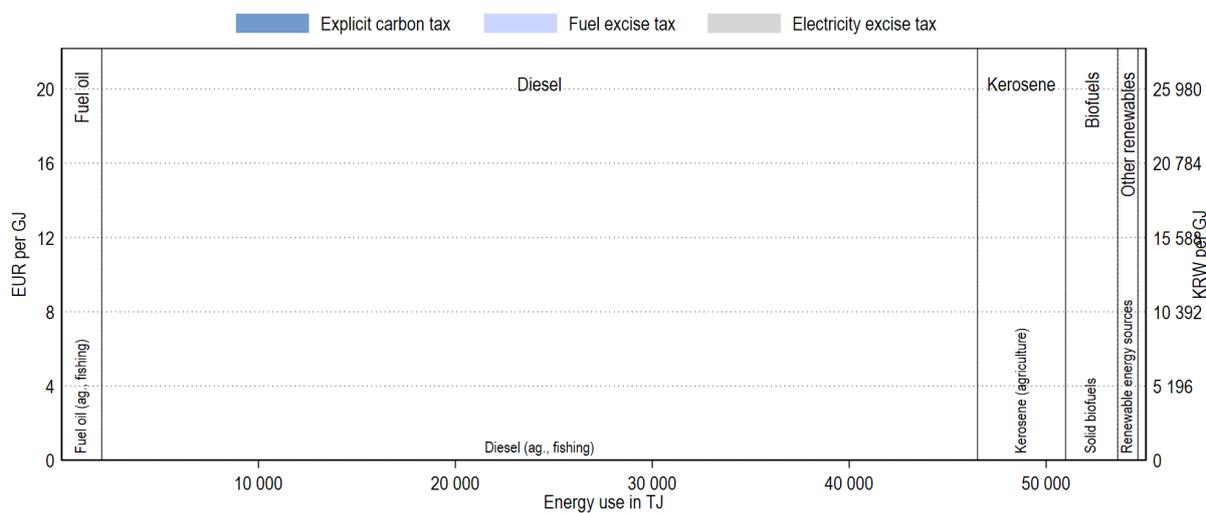
Note: Tax rates applicable on 1 July 2018. Energy use data is for 2016 and adapted from IEA (2018_[2]), *World Energy Statistics and Balances*. Energy categories (labelled at the top) that represent less than 1% of a sector's energy consumption are grouped into "misc. energy use" and may not be labelled.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

¹ TEU assumes that all reported LPG consumption for the industry sector is for propane.

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



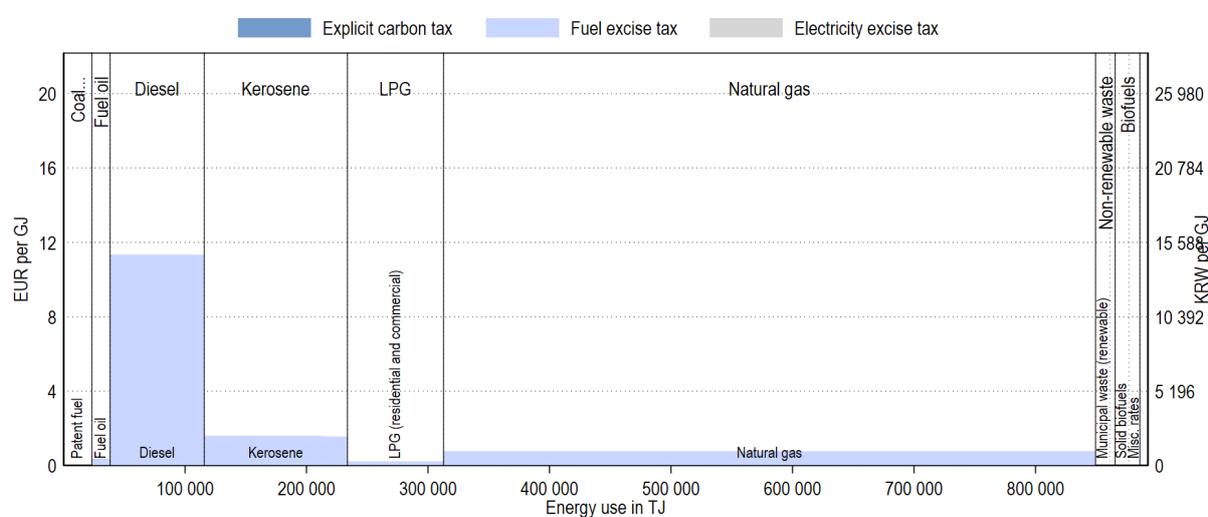
Note: Tax rates applicable on 1 July 2018. Energy use data is for 2016 and adapted from IEA (2018^[2]), *World Energy Statistics and Balances*. Energy categories (labelled at the top) that represent less than 1% of a sector's energy consumption are grouped into "misc. energy use" and may not be labelled. 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 fuels are generally taxed at their standard rates. All solid fuels consumed by households and commercial users are untaxed. LPG consumed by industry is categorised into two groups: butane and propane. The Education tax applies to butane at a rate of 15%.

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

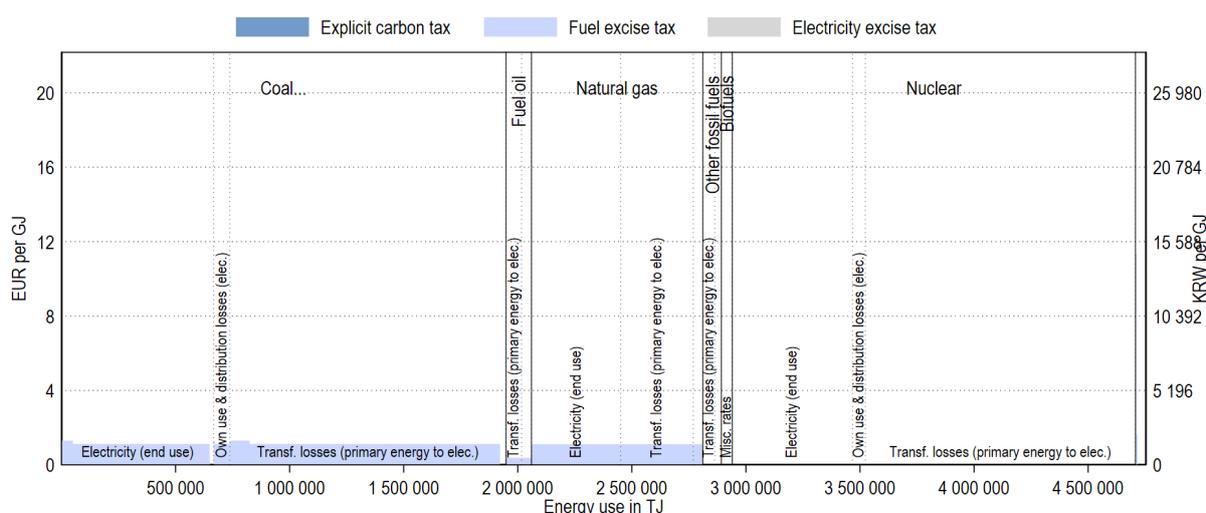


Note: Tax rates applicable on 1 July 2018. Energy use data is for 2016 and adapted from IEA (2018^[2]), *World Energy Statistics and Balances*. Energy categories (labelled at the top) that represent less than 1% of a sector's energy consumption are grouped into "misc. energy use" and may not be labelled. 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 Korea. The individual consumption tax applies to bituminous coal, while it does not apply to industry. Natural gas used to generate electricity is taxed at a higher rate than when used for other purposes. Other fossil fuels, biofuels and nuclear are not taxed. The final consumption of electricity is not taxed.

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]