

IEA-Advanced Motor Fuels ANNUAL REPORT

2019

Austria



Austria

Drivers and Policies

GHG Emissions Increase Due to Rising Road Performance

The consumption of diesel and gasoline in Austria was around 8.7 million tons in 2019, according to a market assessment by the Association of the Mineral Oil Industry (FVMI).¹ After a significant increase of 1.6% in the previous year, the number represents a stabilization of total consumption with a modest increase of 0.14% compared to 2018. This was the third year with higher total fuel sales compared to sales recorded in the peak year 2005. The year 2017 is the second year with decreasing amounts of biofuels. The numbers reflect the long-term trend of a rising fuel demand due to (1) an increase of road performance (kilometers driven) in passenger and freight transport and (2) the amount of fuel sold in Austria but used elsewhere as a consequence of higher fuel prices in neighboring countries. Both effects contributed to an overall increase in GHG emissions of +74% between 1990 and 2016 in the transport sector.

Austrian Climate and Energy Strategy: #mission2030

In May 2018, the Austrian government adopted the Austrian Climate and Energy Strategy #mission2030², with climate and energy targets for implementing the Paris Agreement. Austria aims to achieve an essentially carbon dioxide (CO₂)-neutral transport sector by 2050. In road transport, the objective is to switch to mainly zero-emission and carbon-neutral vehicles based on renewable energy. Investment in the strategically planned and demand-driven development of infrastructure is included as an essential prerequisite for promoting e-mobility and alternative propulsion systems. Sustainable biofuels, biogas (CNG/LNG), or hydrogen produced from renewable energy will play a crucial role in replacing fossil fuels for applications that are not suitable for electrification, such as long-haul usage of HDVs.

Austrian Integrated National Energy and Climate Plan (NECP)

The integrated National Energy and Climate Plan (NECP) is a new planning and monitoring instrument of the EU and its Member States. It is intended to contribute to improved coordination of European energy and climate policy and is the central instrument for implementing the EU's renewable energy and energy efficiency targets for 2030. For Austria, the NECP main

¹ FVMI: <https://www.wko.at/branchen/industrie/mineraloelindustrie/start.html>

² Austrian Climate and Energy Strategy: https://mission2030.info/wp-content/uploads/2018/10/Klima-Energiestrategie_en.pdf

instruments are (1) to increase the share of renewable energy sources in the fuel sector, whereby in Austria the biogenic share in relation to the energy content of diesel is about 6.3% and for petrol currently about 3.4% and (2) the Normverbrauchsabgabe (NoVA) tax, a bonus/ penalty system for CO₂ emissions levied when passenger cars are first placed on the domestic market (new car purchase or private import) which provides incentives to purchase vehicles with low CO₂ emissions.

Taxes and Incentives

Starting in July 2008, NoVA was introduced for taxing the acquisition of new vehicles. As of March 2014, new cars that emit less than 90 g of CO₂/km are exempt from NoVA. Pure biofuels are exempt from the mineral oil tax. CNG is exempt from the mineral oil tax as well but is subject to the lower natural gas tax.

Advanced Motor Fuels Statistics

Fleet Distribution and Number of Vehicles in Austria

According to provisional figures, the total fleet of motor vehicles registered in Austria amounted to about 7 million, that is, 1.5% more than in 2018. (See Fig. 1.) Passenger cars, the most important type of vehicle (share: 72%), showed an increase by 1.2% to 5.04 million vehicles and crossed the 5 million mark for the first time in history. (See Table 1.)

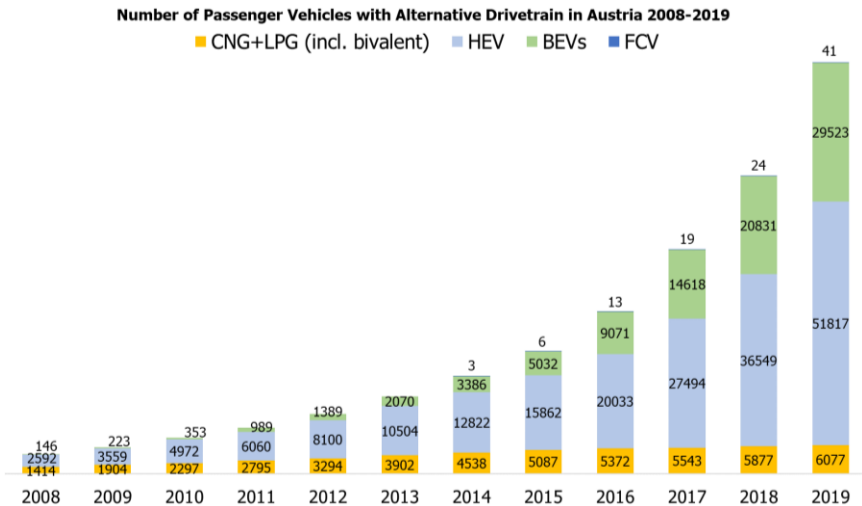


Fig. 1 Trends for vehicles with alternative drivetrains in Austria, 2008-2019

Source: Statistik Austria

An ongoing trend toward advanced alternative propulsion systems can be identified (Fig. 1), especially for battery electric vehicles (BEVs) and hybrid

electric vehicles (HEVs). With numbers of 29,523 and 51,817, respectively, the positive trend is evident and follows an exponential trajectory. The number of vehicles driven by CNG and LPG, including bivalent ones, shows a stable linear increase to 6,077. With 41 vehicles, the fuel cell electric vehicle (FCV) fleet is still negligible.

Average CO₂ Emission of Passenger Cars Rises

In 2019, CO₂ emissions for newly registered passenger cars including BEVs, HEVs and FCVs documented an average of 126 g/km. In 2018, it was 123 g/km. For gasoline-powered passenger cars, the value rose from 125 g/km to 128 g/km. Diesel cars recorded an increase in CO₂ emissions from 126 g/km in 2017 to 133 g/km in 2019.

Table 1 Austrian Fleet Distribution of Passenger Vehicles by Drivetrain, 2014–2019
Source: Statistik Austria

| Drivetrain | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|-------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Gasoline | 2,004,724 | 2,012,885 | 2,031,816 | 2,074,442 | 2,133,473 | 2,173,772 |
| Diesel | 2,663,063 | 2,702,922 | 2,749,038 | 2,770,470 | 2,776,333 | 2,772,854 |
| Electric | 3,386 | 5,032 | 9,071 | 14,618 | 20,831 | 29,523 |
| LPG | 1 | 1 | 1 | 2 | 2 | 2 |
| CNG | 2,397 | 2,475 | 2,456 | 2,433 | 2,365 | 2,602 |
| H ₂ | 3 | 6 | 13 | 19 | 24 | 41 |
| Bivalent gasoline/ ethanol (E85) | 6,380 | 6,254 | 6,165 | 5,992 | 5,769 | 5,770 |
| Bivalent gasoline/ LPG | 279 | 311 | 341 | 335 | 333 | 330 |
| Bivalent gasoline/ CNG | 1,865 | 2,300 | 2,574 | 2,773 | 3,177 | 3,143 |
| Hybrid gasoline/ electric | 12,232 | 14,785 | 18,696 | 26,039 | 34,086 | 45,645 |
| Hybrid diesel/ electric | 591 | 1,077 | 1,337 | 1,455 | 2,463 | 6,172 |
| Total | 4,694,921 | 4,748,048 | 4,821,508 | 4,898,578 | 4,978,856 | 5,039,854 |

Development of Filling Stations

By the end of 2018, Austria had 2,699 publicly accessible filling stations. As an annual average, the price of gasoline for private use at a filling station was €1.27 (\$1.38 US) and the correlating price of diesel was €1.22 (\$1.33 US) per liter. [In total, your country report for the annual report should be a maximum of 5 pages. More details can be published on the AMF website.]

With 152 public CNG stations in 2019, the number of public CNG filling stations has slightly decreased in recent years. For LPG, 42 filling stations

are available. In addition, two public LNG filling stations in Ennshafen (Upper Austria) and Feldkirchen (Styria) are in operation.

Austria has seven hydrogen fueling stations (HFSs), of which five are publicly accessible. For one, access is limited to companies, commercial enterprises, and municipalities; another is dedicated to hydrogen research. Except for the latter, all HFSs support a pressure of 70 MPa.

Research and Demonstration Focus

Energy Model Region³

As part of the “Energy Model Region” initiative, made-in-Austria energy technologies are developed and demonstrated in large-scale, real-world applications with international visibility. In the coming years, the Austrian Climate and Energy Fund (KLIEN) plans to invest up to €120 million (\$131 million US) in three Energy Model Regions. One such region—WIVA P&G—will demonstrate the transition of the Austrian economy and energy production to an energy system based strongly on hydrogen. Particular emphasis is given toward the development of hydrogen transport applications.

klimaaktiv mobil Program

Austria’s national action program for mobility management, called klimaaktiv mobil,⁴ supports the development and implementation of mobility projects and transport initiatives that aim to reduce CO₂ emissions. Since 2004, 15,000 climate friendly mobility projects have received financial support. Financial support for about 34,300 alternative vehicles, including more than 31,600 electric vehicles, has also been provided. The klimaaktiv mobil website offers a map with details of each project. Total financial support amounted to €122 million (\$133 million US) until the end of 2018. In 2018, €13.9 million (\$15.2 million US) in funding was available.

Energy Research Program

The Energy Research Program⁵ provides research and innovation funding for the introduction and implementation of climate-relevant and sustainable measures and energy technologies. The strategic research focus is on sectors contributing significantly to GHG emissions such as the transport sector. In

³ Energy Model Region: <https://www.vorzeigeregion-energie.at/wp-content/uploads/Folder-Vorzeigeregion-EN-screen-RZ.pdf>

⁴ klimaaktiv mobil: <https://www.bmlrt.gv.at/umwelt/luft-laerm-verkehr/klimaaktivmobil.html>

⁵ Energy Research Program: <https://www.klimafonds.gv.at/call/energieforschungsprogramm-2019/>

addition, funding is dedicated to the participation of Austrian stakeholders in international organizations like the TCP under the umbrella of the IEA.

Mobility of the Future Program

The research program, *Mobilität der Zukunft*⁶ (Mobility of the Future), is an Austrian national transportation research and development funding program for 2012–2020. The program covers four complementary thematic fields: Personal Mobility, Mobility of Goods, Vehicle Technology, and Transport Infrastructure. The annual budget of Mobility of the Future is between €13 million and €19 million (\$14.2 million and \$20.7 million US).

ERA-NET Bioenergy⁷

In the European Research Area (ERA-NET) Bioenergy, Austria cooperates with Germany, Ireland, The Netherlands, Poland, Sweden, Switzerland, and the United Kingdom in funding transnational bioenergy research and innovation projects. Austria's contribution to the recent 13th ERA-NET Bioenergy Joint Call amounts to €1.0 million (\$1.09 million US).

Outlook

Currently, most funding programs and incentives focus on electromobility. As advanced motor fuels play a crucial role in the Austrian Climate and Energy Strategy and are considered an important element for a successful Austrian transition toward sustainable mobility, a funding shift toward biofuels can be expected.

Austria's current government set the goal to be carbon neutral by 2040, 10 years earlier than the EU's goal. As outlined in the supporting Government Program, alternative energy is identified as critical for reaching that ambitious goal. Based on this political objective, the Austrian Climate and Energy Strategy and NECP are expected to be updated in the course of 2020.

Additional Information Sources

- Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology, www.bmk.gv.at/
- Federal Ministry of Agriculture, Regions and Tourism, www.bmlrt.gv.at
- Austrian Association for Advanced Propulsion Systems, www.a3ps.at

⁶ Mobility of the Future: <https://open4innovation.at/en/topics/mobility-and-aviation/>

⁷ ERA-NET Bioenergy: <https://www.eranetbioenergy.net/>