

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 tonnes in 2018, according to a market assessment by the Association of the Mineral Oil Industry (FVMI).¹ The number represents an increase of 1.6% compared to 2017 and reflects 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 neighbouring countries. Both effects contributed to an overall increase in greenhouse gas (GHG) emissions of +62% between 1990 and 2015 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 (bio-compressed natural gas [CNG]/bio-liquefied natural gas [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 heavy-duty vehicles.

Revised Renewable Energy Directive (RED II)³

In November 2018, the European Parliament approved new targets for renewables, energy efficiency, and second-generation biofuels, with obligation on Member States to require fuel suppliers to deliver a 14% overall share of fuels from renewable energy sources to encourage the continuous development of alternative renewable transport fuels. Austria has to transpose RED II into national law within 18 months.

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

³ RED II Directive: https://ec.europa.eu/energy/sites/ener/files/documents/directive_renewable_factsheet.pdf

Taxes and Incentives

Starting in July 2008, the Normverbrauchsabgabe (NoVA) — a bonus/penalty system for CO₂ emissions — 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 6.90 million, that is, 1.8% more than in 2017. Passenger cars, the most important type of vehicle (share: 72.2%), showed an increase by 1.6%, or 4.98 million vehicles.

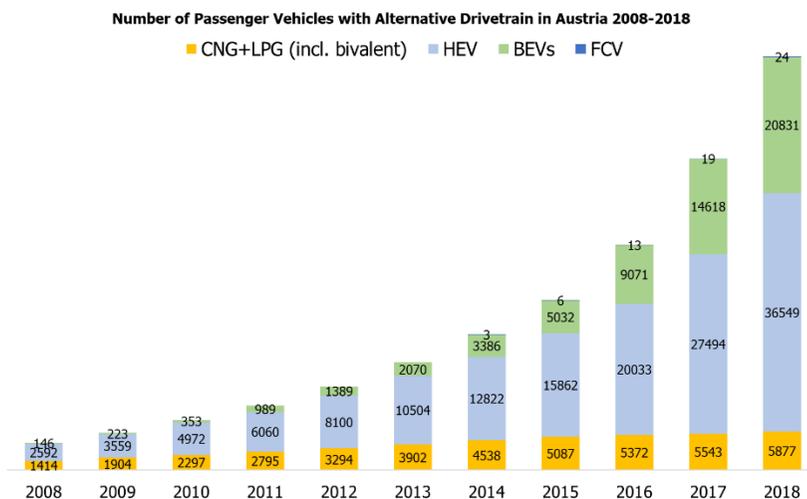


Fig. 1 Trends for vehicles with alternative drivetrains in Austria, 2008–2018

Source: Statistik Austria

An ongoing trend toward advanced alternative propulsion systems can be identified (Figure 1), especially for battery electric vehicles and hybrid electric vehicles. With numbers of 20,831 and 36,549, respectively, the trend is evident. The number of vehicles driven by CNG and liquefied petroleum gas (LPG), including bivalent ones, shows a stable increase to 5,877. With 24 vehicles, the fuel cell electric vehicle fleet is still negligible.

Average CO₂ Emission of Passenger Cars Rises to 126 g/km

In 2018, CO₂ emissions for newly registered passenger cars documented an average of 126 g/km (2000: 169 g/km). For gasoline-powered passenger cars, the value rose from 122 g/km to 125 g/km (2000: 176 g/km). Diesel cars recorded an increase in CO₂ emissions from 125 g/km in 2017 to 129 g/km in 2018 (2000: 162 g/km).

Table 1 Austrian Fleet Distribution of Passenger Vehicles by Drivetrain, 2014–2018
Source: Statistics Austria

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

Development of Filling Stations

By the end of 2017, Austria had 2,685 publicly accessible filling stations. As an annual average for 2017, the price of gasoline at the filling station was €1.18 (\$1.35 US) and for diesel €1.10 (\$1.23 US) per liter.

With 157 public CNG stations in 2018, the number of public CNG filling stations has slightly decreased in recent years. For LPG, 52 filling stations are available. In addition, 1 public LNG filling station in Ennschafen (Upper Austria) is 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; and one is dedicated to hydrogen research. Except for the latter all HFSs support a pressure of 70 MPa.

Research and Demonstration Focus

Flagship Region Energy⁴

In the coming 8 years, the Austrian Climate and Energy Fund (KLIEN) will invest up to €120 million (\$137 million US) in three flagship regions. The flagship 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

The national action program for mobility management, called klimaaktiv mobil,⁵ supports the development and implementation of mobility projects and transport initiatives that aim to reduce CO₂ emissions, for example, by vehicles with alternative drivetrains or electric mobility. Since 2006, 11,600 climate friendly mobility projects received financial support. The klimaaktiv mobil website offers a map with the details of each project. The financial support amounted to €106 million (\$121 million US) until the end of 2017. In 2017, €13.9 million (\$15.9 million US) funding was available.

Energy Research Program

The Energy Research Program⁶ 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 greenhouse gas emissions such as the transport sector. In addition, funding is dedicated to the participation of Austrian stakeholders in international organisations like the Technical Collaboration Program (TCP) under the umbrella of the IEA.

Mobility of the Future Program

The research program, Mobilität der Zukunft⁷ (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

⁴ Flagship region Energy: <https://www.vorzeigeregion-energie.at/wp-content/uploads/Folder-Vorzeigeregion-EN-screen-RZ.pdf>

⁵ klimaaktiv mobil: <https://www.bmnt.gv.at/english/environment/Air-Noise-Traffic/klimaaktivmobil.html>

⁶ Energy Research Program: <https://www.klimafonds.gv.at/call/energieforschungsprogramm-2018/>

⁷ Mobility of the Future: https://www.bmvit.gv.at/en/innovation/mobility/future_mobility.html

Infrastructure. The annual budget of Mobility of the Future is between €13 million and €19 million (between \$15 million and \$22 million US).

ERA-NET Bioenergy⁸

In the ERA-NET Bioenergy, Austria cooperates with Germany, Ireland, The Netherlands, Poland, Sweden, Switzerland, and 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 (\$1.14 million US).

Outlook

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

Due to the low price of fossil fuels in 2017, biofuels sales decreased (see Figure 1). With the recovery of the crude oil price and the implementation of the European RED II directive, biofuel demand for biodiesel will increase.

A significant increase of vehicles with alternative powertrains can be expected for electric vehicles. For other vehicles, such as CNG, the market development is sluggish despite well-established CNG infrastructure and existing technological and regulatory framework conditions. A future awareness campaign could highlight the advantages for the customer and the environment.

Additional Information Sources

- Federal Ministry for Transport, Innovation and Technology, www.bmvit.gv.at/
- Federal Ministry of Sustainability and Tourism, www.bmnt.gv.at
- Austrian Association for Advanced Propulsion Systems, www.a3ps.at

⁸ ERA-NET Bioenergy: <https://www.eranetbioenergy.net/>