

# IEA-Advanced Motor Fuels ANNUAL REPORT 2016

An aerial photograph of a city, likely Vienna, Austria, showing a dense urban area with many buildings, a river, and a large green forested area in the foreground. A highway with several billboards is visible in the lower part of the image.

**Austria**

## Austria

### Drivers and Policies

In December 2016, the national strategy framework “*Saubere Energie im Verkehr*” (Clean Energy in Transportation)<sup>1</sup> was introduced to the Ministerial Council by the Federal Ministry for Transport, Innovation and Technology, the Ministry of Science, Research and Economy, and the Ministry of Agriculture, Forestry, Environment and Water Management, and was approved. With this national strategic framework, Austria fulfilled an obligation of Directive 2014/94/EU of the European Parliament and Council on the installation of an infrastructure for alternative fuels such as electricity, compressed natural gas (CNG), liquefied natural gas (LNG), and hydrogen (H<sub>2</sub>).

Gasoline, especially diesel, is less expensive in Austria than in most neighboring countries because of the relatively low mineral oil tax.

- For gasoline containing a minimum of 46 L biofuel and a maximum of 10 mg/kg sulphur, the tax is €482 (\$523 US); the tax is €515 (\$559 US) for gasoline with a lower share of biogenic fuel.
- For diesel containing a minimum of 66 L biofuel and a maximum of 10 mg/kg sulphur, the tax is €397 (\$431 US); the tax is €425 (\$462 US) for diesel with a lower share of biogenic substances.

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.

Starting in July 2008, the *Normverbrauchsabgabe* (NoVA) — a uniquely bonus/malus system for carbon dioxide (CO<sub>2</sub>) emissions — was introduced for taxing the acquisition of new vehicles. As of March 2014, new cars that emit less than 90 g of CO<sub>2</sub>/km do not have to pay the NoVA. The excess amount (i.e., amount over 90 g) is divided by 5 and gives the NoVA tax rate. For vehicles with CO<sub>2</sub> emissions above 250 g/km, the NoVA increased by €20 (\$21.72 US) per g of CO<sub>2</sub>.

Austria is pushing strongly for eco-mobility. In November 2016, the Austrian Minister of Transport, Innovation and Technology (bmvit) and the Minister of Agriculture, Forestry, Environment and Water Management (BMLFUW), together with the spokesman of the Austrian automobile importers, presented a package of measures to support electro mobility with €72 million (\$78.2 million US), including incentives for buying electric vehicles, installation of charging stations, and a particular number plate for electric vehicles. In addition, states and communities offer many promotions such as purchase premiums.

### Advanced Motor Fuels Statistics

#### Fleet Distribution and Number of Vehicles in Austria

As of December 31, 2016, 8.6 million people were living in Austria. According to Statistics Austria, a total of 6,64,168 vehicles (including 4,821,508 passenger cars) were registered in Austria as of December 31, 2016. Newly registered motor vehicles totaled 430,648 in 2016 (an increase of 7.4% in comparison to 2015). Newly registered passenger cars accounted for 329,604 vehicles — an increase of 6.8% compared to 2015.

An ongoing trend toward advanced propulsion systems can be seen in the number of vehicles with alternative drivetrains on Austrian roads in 2016 (Figure 1).

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<sup>1</sup> <https://www.bmvit.gv.at/verkehr/elektromobilitaet/downloads/strategierahmen.pdf>.

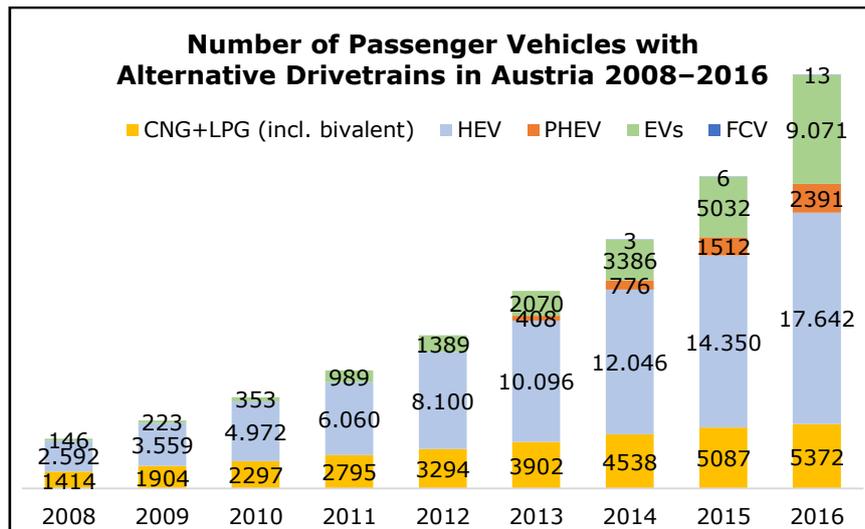


Fig. 1 Trends in Vehicles with Alternative Drivetrains in Austria 2008–2016  
(Data Source: Statistik Austria)

Electric vehicles have become more popular within the last few years in Austria. The number of battery electric vehicles (BEVs) increased to 9,071 in 2016 (5,032 in 2015). The number of vehicles driven by CNG and liquefied petroleum gas (LPG), including bivalent ones, rose to 5,372. The number of fuel cell vehicles (FCVs) driven by H<sub>2</sub> increased to 13.<sup>2</sup>

Taking into account the total number of new registrations based on alternative drivetrains (9,028 vehicles), vehicles with alternative drivetrains account for 2.7% of all new registered vehicles. Table 1 shows the development of the fleet distribution of passenger cars by drivetrains between 2013 and 2016.

Table 1 Fleet Distribution of Passenger Cars by Drivetrain in Austria, 2013–2016

Drivetrain	2013	2014	2015	2016
Gasoline	1,997,302 <sup>a</sup>	2,004,724	2,012,885	2,031,816
Diesel	2,621,133	2,663,063	2,702,922	2,749,038
Electric	2,070	3,386	5,032	9,071
LPG	1	1	1	1
CNG	2,219	2,397	2,475	2,456
H <sub>2</sub>	0	3	6	13
Bivalent gasoline/ ethanol (E85)	6,397	6,380	6,254	6,165
Bivalent gasoline/ LPG	250	279	311	341
Bivalent gasoline/ CNG	1,432	1,865	2,300	2,574
Hybrid gasoline/ electric	10,049	12,232	14,785	18,696
Hybrid diesel/ electric	455	591	1,077	1,337
Total	4,641,308	4,694,921	4,748,048	4,821,508

<sup>a</sup> Includes gasoline/ethanol (E85).

Source: Statistics Austria, KFZ Bestand as per the end of 2013 through December 31, 2016.<sup>3</sup>

<sup>2</sup> [http://www.statistik.at/web\\_de/statistiken/energie\\_umwelt\\_innovation\\_mobilitaet/verkehr/strasse/kraftfahrzeuge\\_-\\_bestand/index.html](http://www.statistik.at/web_de/statistiken/energie_umwelt_innovation_mobilitaet/verkehr/strasse/kraftfahrzeuge_-_bestand/index.html).

<sup>3</sup> [http://www.statistik.at/web\\_de/statistiken/energie\\_umwelt\\_innovation\\_mobilitaet/verkehr/index.html](http://www.statistik.at/web_de/statistiken/energie_umwelt_innovation_mobilitaet/verkehr/index.html).

### **Development of Filling Stations**

Generally, established trends in the saturated domestic petrol market of petrol stations continued in 2016. By the end of 2016, Austria had a total of 2,622 publicly accessible petrol stations. As an annual average, the price of Eurosuper at the petrol station was €1.11 (\$1.21 US) per L; for diesel, the price was €1.03 (\$1.12 US) per L. The EU average continued to be clearly above the Austrian average, by €0.19 (\$0.21 US) per L for Eurosuper and by €0.11 (\$0.12 US) per L for diesel.

The number of natural gas filling stations has slightly decreased in recent years. However, with 171 CNG stations in 2016, 5 of which are biomethane stations, the number of public CNG filling stations compared to the size of the country is still far above the European average. By the end of 2016, three H<sub>2</sub> refueling stations, but no public LNG filling stations, were in operation in Austria.

## **Research and Demonstration Focus**

### **Federal Funds and Supporting Programs**

Since 2007, the Austrian Government has more than tripled public funding in the energy research, development and demonstration (RD&D) sectors, adopted a new energy research strategy, and launched several priority programs. In 2015, Austria's public expenditures for energy-related R&D amounted to €128.4 million (\$139 million US), a decrease of €14.7 million (\$16.0 million US) compared to 2014. The research areas of energy efficiency (44.4%), smart grids and storage (27.9%), and renewables (17.2%) define the priorities of publicly financed energy research within Austria.

With €10.1 million (\$11.1 million US) in 2015, the funding volume for bioenergy slightly increased in comparison to 2014. About 50% of the bioenergy funding was used for applications for heat and electricity. For research in the fields of liquid biofuels and biogas, about €410.000 (\$445.000 US) and €510.000 (\$554.000 US), respectively, were allocated.

Austria has several programs that fund and support the implementation of advanced fuels and drivetrains. One launched in 2004, called “klima:aktiv Mobil,” is Austria’s action program for mobility management to reduce CO<sub>2</sub> emissions and to promote environmentally friendly and energy-efficient mobility. The program provides free advice and financial support to help businesses, fleet operators, and property developers, as well as cities, municipalities, regions, and tourism operators to develop and implement sustainable mobility projects and transport initiatives.

In order to develop a sustainable energy system, the “e!MISSION.at” program was funded in 2012 by the Climate and Energy Fund. It supports innovations that make a significant contribution toward protecting the climate and increasing efficiency. The focus of funding is on energy efficiency, renewable sources of energy, smart energy systems, and eco-mobility.

In 2006, bmvit established the Austrian Association for Advanced Propulsion Systems (A3PS) as a strategic public-private partnership for close cooperation among industry, research institutions, and the ministry, with the goal of developing and launching alternative propulsion systems and fuels.

“Mobility of the Future,” Austria’s national transportation research funding program (2012–2020), was developed and adopted by bmvit. It is a mission-oriented R&D program to help Austria create a transport system designed to meet future mobility and social challenges by identifying and refining middle- to long-term technological improvements. It includes four complementary areas in which different research themes are addressed: personal mobility, transport infrastructure, vehicle technologies, and mobility of goods.

## **Outlook**

Currently, most funding programs and incentives focus on electromobility. Nevertheless, advanced motor fuels are still seen as an important part of the transition toward sustainable mobility in Austria. Some logistic companies run their fleets on biodiesel. However, because of the low price of diesel in Austria and a lack of incentives that cover investment costs, it is unlikely that the trend toward more biofuel vehicles will advance rapidly. Despite well-established CNG infrastructure and existing

technological and regulatory framework conditions, market development of CNG vehicles is sluggish. Austria is planning further development of the H<sub>2</sub> infrastructure linked to market development of vehicles running on H<sub>2</sub>.

### ***Additional Information Sources***

Relevant institutions and programs:

- Austrian Ministry for Transport, Innovation and Technology, <https://www.bmvit.gv.at/>
  - Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management, <https://www.bmlfuw.gv.at/en.html>
  - Mobility of the future, <https://mobilitaetderzukunft.at/en/about/>
  - klimaaktiv mobil, <http://www.klimaaktiv.at/english/>
  - Climate and Energy funds, <https://www.klimafonds.gv.at/home-en-US/>
- Austrian Association for Advanced Propulsion Systems, <http://a3ps.at>