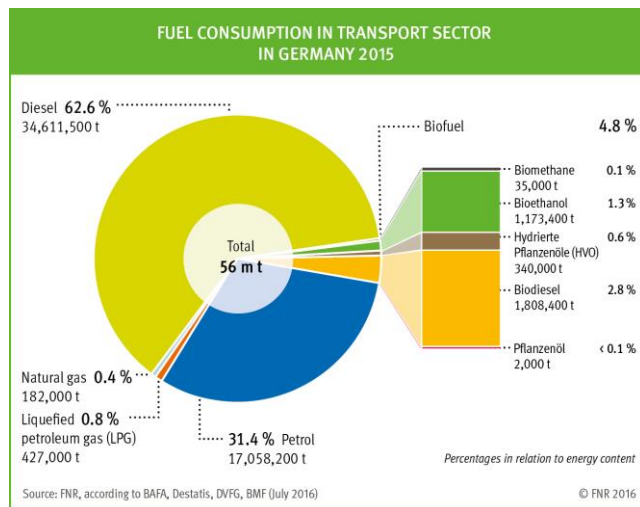


Biofuels in Germany

Overview of Biofuels in Germany

Currently, around 3.4 Mio t biofuels are being used in Germany (2015) which equals 4.8 % of the total used fuel in the transport sector. The share of the different biofuels can be seen in the graph below. The market is mainly based on conventional fuels which will still be dominant at least until 2020.



Biofuels policy, regulations, market development

In Germany the European directives and regulations are implemented adequately by the Federal Emission Protection Act (BImSchG). Since January 2015, the benchmark for biofuel quotas has been converted from energy content to a net greenhouse gas (GHG) reduction. The net quota will increase from a rate of 3.5 % in 2015, to 4 % in 2017 and to 6 % in and post 2020. BImSchG bans all double-counting and excludes animal fats and bio-based oils that are co-refined with fossil-based oils from the quota eligibility. There are provisions for other alternative fuels or the use of upstream emissions reductions (UERs) to fulfil the target.



Country information

Germany	
Population	80,716,000
GDP (per capita)	\$46,896
Final Energy Consumption (Mtoe)	213,08
Final Energy Consumption in Transport (Mtoe)	61,47
Final Energy Consumption in Transport Share	29 %
Biofuels share in Transport Fuels	5.2 %
Fuel-Mix	Diesel Petrol Natural Gas Liquefied petroleum gas Bioethanol Biodiesel Biomethane HVO

Advanced biofuels demonstration and R&D Projects

Forty R&D biofuels projects received funding of €14 million by BMEL in 2015. With regard to advanced biofuels, project support was focused on biomass-to-liquid (BTL) fuels, which have not been introduced to the market yet but are considered a promising option because of their broad raw material base and chemical composition. In addition, the production of hydrocarbons from biochemical pathways is playing an increasingly important role with regard to funding activities. Another funding focus is on developing ways to deploy energy from renewable resources, such as algae.

Clariant (formerly Süd-Chemie), sunliquid® demonstration plant of cellulosic ethanol from agricultural residues. Planned development of a large-scale demonstration plant (~€225 million) is partly supported by the EC FP7 SUNLIQUID Project (€23 million) 2014-2018, including participants from Austria, Germany and Hungary, with Clariant as the Coordinator. The process converts wheat straw into cellulosic ethanol. Mercedes-Benz decided to run fleet tests for 1 year with Sunliquid 20 (E20).

The **bioliq®** pilot plant at Karlsruhe Institute of Technology (KIT) combines flash pyrolysis, high-pressure entrained flow gasification, hot gas cleaning, and synthesis.

Concord Blue Energy planned facility at Herten, using a thermolysis process based on heat transfer to convert waste feedstocks to syngas (a number of facilities are already in operation globally).

Biofuels ministries, organisations and agencies in Germany

Agentur für Erneuerbare Energien e.V.
AGQM Arbeitsgemeinschaft
Qualitätsmanagement Biodiesel e.V.
aireg - Aviation Initiative for Renewable Energy in Germany e.V.
Bundesverband BioEnergie eV (BBE)
Bundesverband der deutschen Bioethanolwirtschaft (BDBe)
Bundesverband Erneuerbare Energie (BEE)
C.A.R.M.E.N.
Deutsche Energie-Agentur GmbH (dena)
Fachagentur Nachwachsende Rohstoffe e.V. (FNR)
Federal Ministry for Economic Affairs and Energy
Federal Ministry of Food and Agriculture
Federal Ministry of Transport and Digital Infrastructure
German Biogas Association
Union for the Promotion of Oil and Protein Plants (UFOP)
Verband der Deutschen Biokraftstoffindustrie e.V. (VDB)

Key biofuels industry and research stakeholders

Bauhaus Luftfahrt
Clariant
Crop Energies AG
DBFZ
DECHEMA e.V.
DLR e.V.
Forschungszentrum Karlsruhe
Fraunhofer ISI
Fraunhofer UMSICHT
Forschungszentrum Jülich GmbH
IFEU
IINAS