

This report was prepared from the 2018 OECD/IEA World Energy Balances, combined with data and information provided by the IEA Bioenergy Executive Committee and Task members. Reference is also made to Eurostat. All individual country reports were reviewed by the national delegates to the IEA Bioenergy Executive Committee, who have approved the content. General background on the approach and definitions can be found in the central introductory report¹ for all country reports.

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NATIONAL POLICY FRAMEWORK IN GERMANY

Germany has a national target of 18% share of renewable energy in the gross final energy consumption by 2020 which has been set in the EU Renewable Energy Directive (RED) in 2009. The contribution from each of the sectors heating and cooling, electricity and transportation is displayed in the table below.

Table 1: Germany's 2020 renewable energy targets.

Sector	Targets set in the RED and NREAP (Share in gross final energy consumption per sector)	
	Reference scenario	Scenario "with additional energy efficiency measures"
Overall target	18%	19.6%
Heating and cooling	14%	15.5%
Electricity	30%	38.6%
Transport	10%	13.2%

Source: National Renewable Energy Action Plan (NREAP) of Germany (2010)²

The corresponding national **German Energy Concept** from 28 September 2010³ sets the long-term strategy for the development and implementation of the future energy supply in Germany by 2050. Thereby, the Energy Concept aims to address a future energy supply that is both secure and affordable while fulfilling the ambitious climate protection targets of the coalition agreement (minus 80% GHG emissions by 2050). At its core it has several policy goals: protecting the climate, increasing energy

¹ Available at <https://www.ieabioenergy.com/iea-publications/country-reports/2018-country-reports/>

² <https://ec.europa.eu/energy/en/topics/renewable-energy/national-action-plans>

³ <https://www.bmwi.de/Redaktion/DE/Downloads/E/energiekonzept-2010.html> (in German)

efficiency and a larger share of renewable energy sources in the final energy consumption, while at the same time promoting the growth and competitiveness of the German industry. Climate protection targets agreed under the Energy Concept are to achieve a 40% cut in greenhouse gas emissions by 2020, 55% by 2030, 70% by 2040 and between 80% and 95% until 2050 (reference year 1990). An overview of the different targets is provided in Table 2.

Table 2 Germany's GHG emission targets, renewable energy and energy efficiency targets by 2050

"Energy Concept for an Environmentally Sound, Reliable and Affordable Energy Supply" – Targets 2050:	
•	60% of the gross final energy consumption from renewable energy sources
•	80% of the gross electricity consumption from renewable energy sources,
•	40% reduction in gross final energy consumption in the transport sector (year of reference 2005)
•	50% reduction in the total primary energy consumption (year of reference 2008)
•	80-95% reduction in GHG-emissions (year of reference 1990)

In 2013 the German government has enacted a national policy strategy on bioeconomy in order to promote consistent regulatory measures for supporting biomass use for material and energy purposes.⁴

In September 2017 a new parliament (Bundestag) has been elected in Germany; a new government has been formed finally in March 2018. The coalition agreement of the new government provides some guidance on the future development and support of renewables, including bioenergy and bioeconomy.⁵ The federal budget for 2018 entered into force in July 2018.

Electricity

In the electricity sector, the current **Renewable Energy Sources Act** (Erneuerbare-Energien-Gesetz – EEG)⁶ is the main policy instrument promoting the production of electricity from renewable energy sources. It has been adopted as a feed-in tariff (FIT) system in 2000. With the latest amendment in 2017⁷ an auction system has been introduced implying public tender procedures for onshore wind, offshore wind, solar and biomass projects in the country's efforts to shift from FIT support renewable energy deployment to a market orientated price finding mechanism. With that, projects will no longer be eligible for statutory feed-in tariff remuneration but will have to bid for it in public auction organised and monitored by the Federal Network Agency (Bundesnetzagentur). The amendment stipulates capacity thresholds for technology deployment in order to control capacity volumes commissioned each year.

The EEG is supplemented by the Biomass Ordinance (Biomasseverordnung – BiomasseV)⁸ and the Biomass Electricity Sustainability Ordinance (Biomassestrom-Nachhaltigkeitsverordnung – BioSt-NachV)⁹ defining the types of biomass that are eligible for receiving support under the EEG.

⁴ Available here:

https://www.bmel.de/SharedDocs/Downloads/EN/Publications/NatPolicyStrategyBioeconomy.pdf?__blob=publicationFile

⁵ Available here (in German) https://www.bundesregierung.de/Content/DE/Anlagen/2018/03/2018-03-14-koalitionsvertrag.pdf;jsessionid=31F1CD2FA8745151F15C31B1E3103659.s6t2?__blob=publicationFile&v=5 (last access on May 25, 2018, cf. pp. 57 ff.)

⁶ Available here (in German): http://www.gesetze-im-internet.de/eeg_2014/ (last access May 25, 2018).

⁷ Available here (in German): <https://www.bmwi.de/Redaktion/DE/Artikel/Energie/eeg-2017-start-in-die-naechste-phase-der-energiewende.html> (last access May 25, 2018)

⁸ Available here (in German): <http://www.gesetze-im-internet.de/biomassev/index.html> (last access May 25, 2018).

⁹ Available here (in German): <http://www.gesetze-im-internet.de/biost-nachv/index.html> (last access May 25, 2018).

Next to the Renewable energy Sources Act (EEG) there is the **Combined Heat and Power Act** (Kraft-Wärme-Kopplung-Gesetz – KWKG)¹⁰ in place. This Act aims to increase electricity generation from CHP plants, to support the launch of the fuel cell sector and funding for construction and expansion of heating and cooling systems. The law intends to contribute to an increase in electricity generation from CHP by 25 % by 2020 through the modernisation of existing and construction of new CHP plants. In January 2016, the CHP-Act (KWKG 2016) entered into force. To date CHP plants in Germany have received funding support for cogeneration with a capacity of ≤50 kW and over a period of 10 years. While the eligibility period in the new CHP Act for CHP plants >50 kW with 30,000 full load hours has not changed, for CHP up to 50 kW this amount has been adjusted to 60,000 full load hours.¹¹ Since both the EEG and the KWKG support cogeneration but have their own underlying conditions conflicts may occur.

Heating & Cooling

In the **Renewable Energies Heating Act** (EEWärmeG, 2008) the German Federal government defined the target of meeting 14% of the heat market demand with renewable energy sources by 2020. In 2011 the renewable energies share was 10.4%. The transformation of district heating to higher percentages of renewable energy can contribute to achieving the targets set. The purpose of the act is to promote renewable energies in the heat sector to achieve a sound management of fossil resources and lower dependency on energy imports. The EEWärmeG aims to facilitate a sustainable development of energy supply and further development of technologies generating heat from renewable energy sources. In the heating/cooling sector, the main policy measures include a financial subsidy through the **Market Incentive Program (Marktanzreizprogramm – MAP)**¹², a building regulation in form of the Renewable Energies Heat Act (Erneuerbare-Energien-Wärmegesetz – EEWärmeG)¹³, as well as further support programs of the public bank KfW¹⁴ and the Energy Saving Ordinance (Energieeinsparverordnung – EnEV)¹⁵. These instruments have allowed for a significant expansion in the use of renewable energies in recent years.

Transport sector

In context with the implementation of §17 of the 19-point **Integrated Energy and Climate Programme** (IECP)¹⁶ of the German government, the federal cabinet approved a national ordinance on requirements regarding the sustainable generation of biomass to be applied as biofuel. The **Biomass Sustainability Ordinance** (BioNachV, 2009) defines minimum requirements for the generation of biomass as biofuels are defined; this ordinance is accompanied and supplemented by the Biofuel Quota Act (BioKraftQuG, 2007). In addition, in accordance with § 10 of the IECP an Energy Saving Ordinance regarding the energy efficiency of buildings was established. As the first EU Member State Germany shifted from an energy-related quota to a GHG-related quota starting in January 2015 with the German **Biofuels Quota Act** (Biokraftstoffquotengesetz – BioKraftQuG)¹⁷ and thus making the FQD leading instead of the RED. This means that fossil fuel supplier companies are obligated to sell the respective biofuel or renewable fuel with its fossil counterpart gasoline or diesel (which is usually done through blending), in order to produce a fuel mix which achieves a 6% GHG mitigation (compared to fossil gasoline and diesel mix) for the entire fuel sector from 2020 onwards. Because only actual emission

¹⁰ Available here (in German): http://www.gesetze-im-internet.de/kwkg_2016/index.html (last access May 25, 2018).

¹¹ <https://www.bhkw-infozentrum.de/rechtliche-rahmenbedingungen-bhkw-kwk/chp-act-2016-summary-of-regulations-within-the-new-chp-act.html> (last access May 25, 2018)

¹² For more information see: <http://www.bmwi.de/EN/Topics/Energy/Buildings/market-incentive-programme.did=707926.html> (last access May 25, 2018).

¹³ Available here (in German): http://www.gesetze-im-internet.de/eew_rmeg/index.html (last access May 25, 2018).

¹⁴ For more information see (in German): <https://www.kfw.de/inlandsfoerderung/Unternehmen/Energie-Umwelt/Erneuerbare-Energien/#> (last access May 25, 2018).

¹⁵ Available here (in German): http://www.gesetze-im-internet.de/enev_2007/index.html (last access May 25, 2018).

¹⁶ <https://www.bundesregierung.de/Content/EN/StatischeSeiten/Schwerpunkte/Energie-der-Zukunft/einstiegsartikel-energie-der-zukunft.html> (last access May 25, 2018)

¹⁷ Available here (in German): <https://www.jurion.de/Gesetze/BioKraftQuG> (last access May 25, 2018).

savings count towards the quota, the exact increase of biofuels depends on its specific GHG intensity: the higher the specific GHG mitigation potential the lower the required physical renewable fuel consumption to fulfil the quota. This quota system will also be existing post-2020. Biofuels that are counted within the quota are fully taxed.

In the transport sector the European directives and regulations are implemented by § 37a of the Federal Immission Protection Act (Bundesimmissionsschutzgesetz – BImSchG)¹⁸ including the Biofuel Sustainability Ordinance (Biokraftstoff-Nachhaltigkeitsverordnung – Biokraft-NachV)¹⁹ related to EU Renewable Energy Directive (RED, 2009/28/EC)²⁰, § 36 Federal Immission Protection Ordinance (Bundesimmissionsschutzverordnung – BImSchV)²¹ related Fuel Quality Directive (FQD, 2009/30/EC)²², and Energy Tax Act (Energiesteuerengesetz – EnergieStG)²³ related to Energy Taxation Directive (2003/96/EC)²⁴.

The main public driver or threat in the German policy landscape regarding the transport sector is the Renewable Energy Directive II (RED II).²⁵ German market players are predicting a challenging situation both for conventional and advanced biofuels, due to the cap/phasing out of food crop based biofuels under RED II, as well as the price of conventional fossil fuels which remains low. Only a committed policy to support advanced motor fuels can strengthen an advanced fuel market.

In January 2018, the **Upstream Emissions Reductions** (UER)²⁶ ordinance, implementing EU legislation, was published. From the year 2020 on, the oil industry is allowed to apply UER measures to comply with legal requirements. The Federal Government promotes climate protection and renewable energies in the transport sector by requiring the oil industry to reduce its greenhouse gas (GHG) emissions by 6% from 2020 on, taking 2010 as the basis into account. Furthermore, the latest amendment to the German Emission Control Act (Bundes-Immissionsschutzgesetz-BImSchG, December 2014, from July 2017)²⁷ has banned all double-counting and excludes animal fats from the quota eligibility. However, recent regulations expand the list, including bio-based co-refined hydrated oils that have been produced sustainably, Power to X (PtX),²⁸ and the use of electricity in electric vehicles (EVs).²⁹

¹⁸ Available here (in German): <http://www.gesetze-im-internet.de/bimschg/index.html> (last access March 1, 2016).

¹⁹ Available here (in German): <http://www.gesetze-im-internet.de/biokraft-nachv/index.html> (last access May 25, 2018).

²⁰ Available here: <http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32009L0028> (last access May 25, 2018).

²¹ Available here (in German): http://www.gesetze-im-internet.de/bimschv_4_2013/index.html (last access May 25, 2018).

²² Available here: <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32009L0030> (last access May 25, 2018).

²³ Available here (in German): <http://www.gesetze-im-internet.de/energiestg/index.html> (last access May 25, 2018).

²⁴ Available here: <http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1456911765879&uri=CELEX:32003L0096> (last access May 25, 2018).

²⁵ Available here: <https://ec.europa.eu/energy/en/topics/renewable-energy/renewable-energy-directive> (last access May 25, 2018).

²⁶ Available here: https://www.bgbl.de/xaver/bgbl/start.xav?startbk=Bundesanzeiger_BGBL#_bgbl__%2F%2F*%5B%40attr_id%3D%27bgbl118005.pdf%27%5D__1520407817723. (last access May 25, 2018)

²⁷ Available here: <https://www.gesetze-im-internet.de/bimschg/BJNR007210974.html>. (last access May 25, 2018)

²⁸ Available here: <https://www.gesetze-im-internet.de/biokraft-nachv/BJNR318200009.html>. (last access May 25, 2018)

²⁹ Available here: <https://www.gesetze-im-internet.de/emog/BJNR089800015.html>. (last access May 25, 2018)

TOTAL PRIMARY ENERGY SUPPLY (TPES) AND THE CONTRIBUTION OF BIOENERGY

The total primary energy supply of Germany in 2016 amounted to 12,984 petajoule (PJ) with an export surplus of electricity of 182 PJ (1.4% of TPES). The energy system is still dominated by fossil fuels with around 80% of TPES: 4,247 PJ (32.7%) oil products, 3,234 PJ (24.9%) coal products, and 2,945 PJ (22.7%) natural gas. Energy from non-renewable waste accounts for 189 PJ (1.5%). The statistic also features 923 PJ (7.1%) of electrical energy coming from nuclear power stations. Renewable energy sources have a share of 12.5% or 1,629 PJ - 8.4% bioenergy and 4.1% other renewable energy sources.

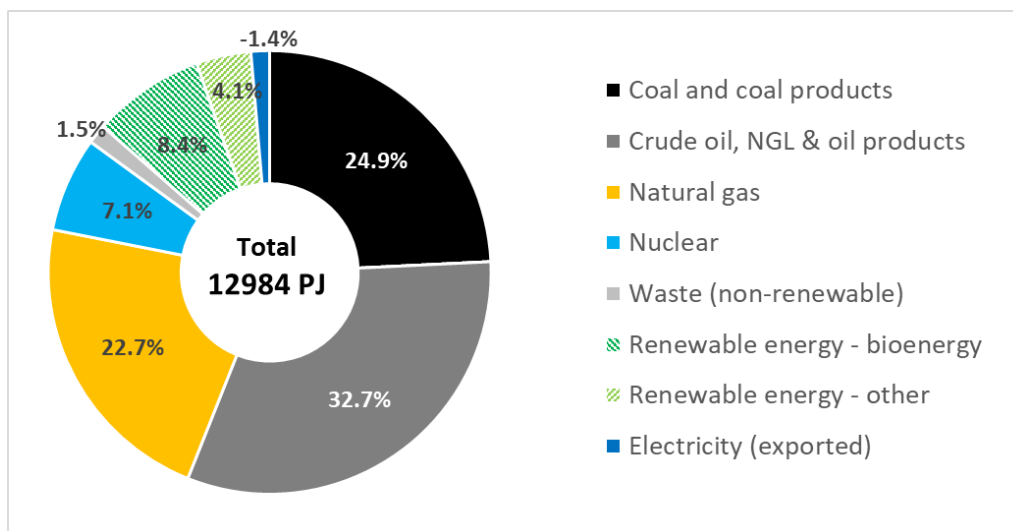


Figure 1: Total primary energy supply³⁰ in Germany in 2016 (Source: World Energy Balances © OECD/IEA 2018)

Compared to 5 years earlier (2011) the share of all fossil products (coal, oil, natural gas, waste) remained relatively stable, while the share of nuclear energy has gone down from 9.1% to 7.1%. In the same period the share of renewable energy increased from 9.5% to 12.5%. Electricity exports also increased substantially from 0.1% to 1.4% of TPES.

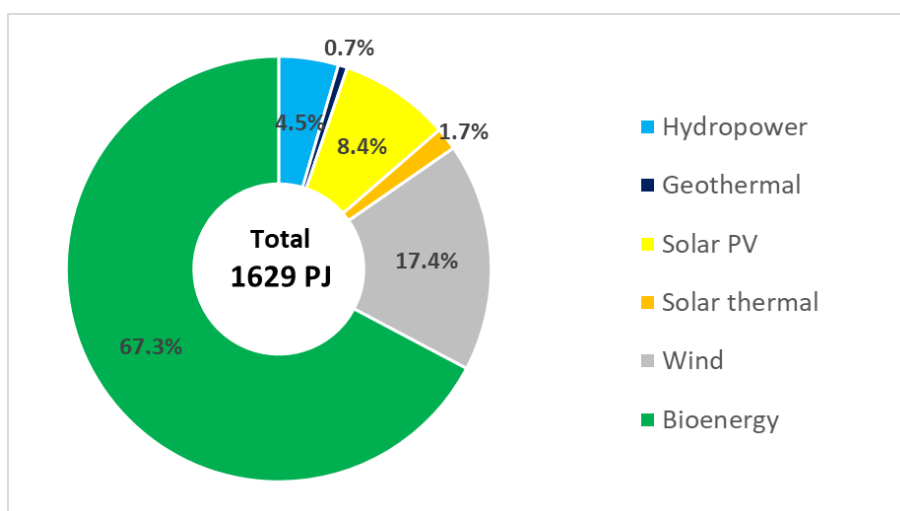


Figure 2: Total primary energy supply of Renewable Energy Sources in Germany in 2016 (Source: World Energy Balances © OECD/IEA 2018)

³⁰ TPES underestimates the actual role of pure electricity sources like PV, wind or hydro energy, and overestimates the role of resources producing electricity with a high share of unused waste heat (like nuclear, coal).

The total primary energy supply of renewable energy sources is for about two thirds covered by bioenergy, with 1,096 PJ. Wind energy accounts for 283 PJ, solar energy for 165 PJ and hydropower for 74 PJ. Geothermal energy reached 11 PJ.

About half of the bioenergy consumed in Germany comes from solid biomass (510 PJ) of which 245 PJ is used in the residential sector. The role of biogas is substantial, with 339 PJ (31%). Other contributors are renewable municipal waste (130 PJ), biodiesel (81 PJ), biogasoline (31 PJ) and other liquid biofuels (6 PJ).

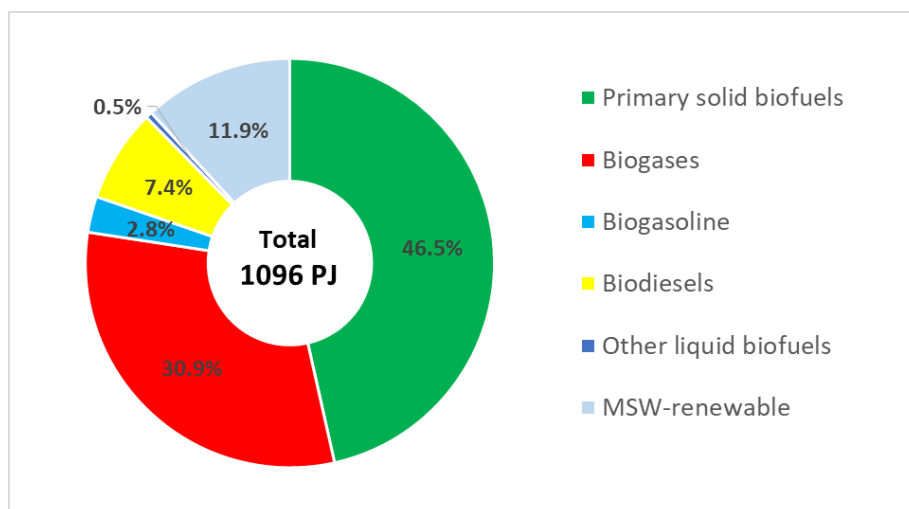


Figure 3: Total primary energy supply from bioenergy in Germany in 2016 (Source: World Energy Balances © OECD/IEA 2018)

Bioenergy consumption in Germany increased more than fivefold from 1995 to 2016. The share in total primary energy supply climbed from 1.2% to 6.4% from 1995 to 2010, and further to 8.4% in 2016.

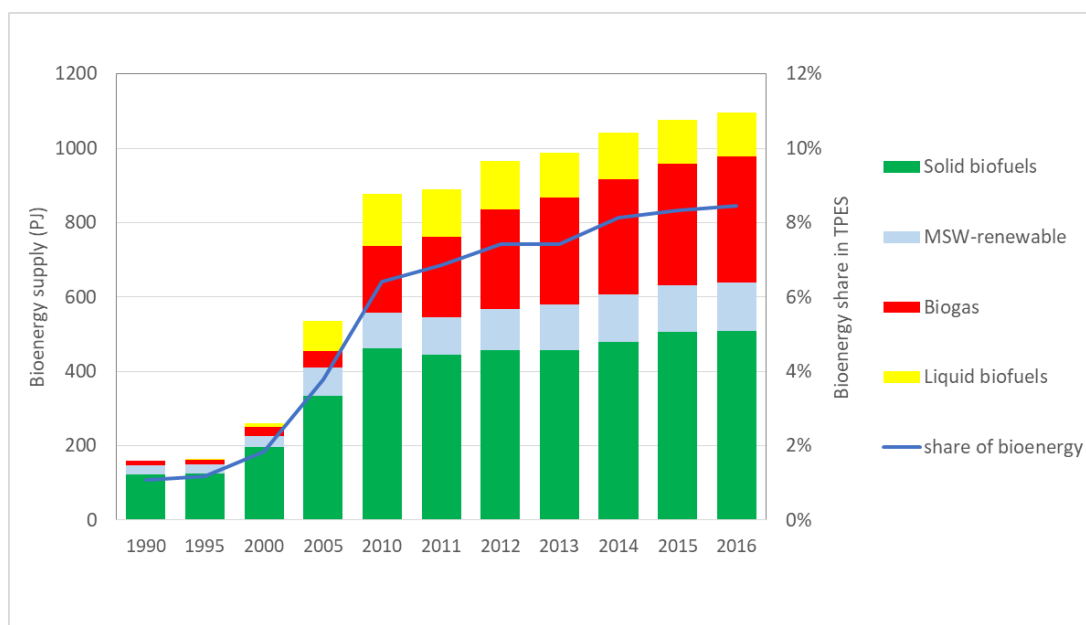


Figure 4: Development of total primary energy supply from bioenergy in Germany 1990 – 2016 (Source: World Energy Balances © OECD/IEA 2018)

In the early 1990s bioenergy came predominantly from solid biomass, with some small fractions of biogas, renewable MSW and liquid biofuels. Solid biomass particularly increased from 1995 to 2010, and

stabilized around 450 PJ between 2010 and 2013. In the past years energy from solid biomass is again increasing. Biogas has seen an enormous increase between 2005 and 2010 from 42 PJ to 177 PJ, and a steady growth (around 10% rate per year) afterwards to 340 PJ in 2016. Liquid biofuels were already introduced in the 1990s, but experienced a spectacular growth between 2000 and 2010, from 10 PJ to 140 PJ. After 2010 liquid biofuels have stabilized around 120-130 PJ per year. Renewable MSW had a major increase from 30 PJ in 2000 to 80 PJ in 2005 and has stabilized around 120-130 PJ since 2013.

Table 2 expresses the 2016 TPES figures per capita, considering the German population of 82.3 million people. Compared to the other 22 member countries of IEA Bioenergy (expressed per capita), Germany ranks first for biogas, at the top 10 for renewable waste, and halfway for solid biofuels and liquid biofuels.

Table 3: Total primary energy supply per capita in Germany in 2016

	GJ/capita
Total energy	157.7
Bioenergy	13.3
Solid biofuels	6.2
Renewable MSW	1.6
Biogas	4.1
Liquid biofuels	1.4

Source: World Energy Balances © OECD/IEA 2018

Role of bioenergy in different sectors

In 2016, 8.8% of Germany's final energy consumption in the heat, electricity and transport sectors is covered by biomass resources.³¹

Germany has an important share of renewable electricity, distributed over the different renewable energy forms (wind, solar, biomass, hydro). More than half of the biomass contribution to renewable electricity comes from biogas.

The share of biofuels for transport is around 5%. Mind that this figure was already reached in 2010 and hasn't increased since.

Overall, the direct share of biomass for heating in the different sectors is a little over 10%. Heat output generated and sold by CHP plants and heat plants represents around 10% of fuel/heat provided, of which on average 14% is produced from biomass. In the residential sector biomass represents about 13% of fuel/heat consumption.

³¹ BMWi (2017): Erneuerbare Energien in Zahlen, nationale und internationale Entwicklung in 2016

Table 4: Role of bioenergy and renewable energy in electricity production, transport energy consumption and fuel/heat consumption in 2016

Sector	Share of bioenergy	Share of renewable energy	Overall production/ consumption
Electricity production	7.9%	29.3%	644 TWh (2,317 PJ)
Transport energy (final consumption)	4.5%	5.0%	2,380 PJ
Overall fuel and heat consumption³²	Direct biomass: 10.7% Biobased heat: 1.3%	12.8%	4,270 PJ

Source: World Energy Balances © OECD/IEA 2018

According to Eurostat³³, the following renewable energy shares in gross final energy consumption were reached in Germany in 2016:

- Overall share: 14.8%
- In heating and cooling: 13.0%
- In electricity: 32.2%
- In transport: 6.9%

Most sectors seems to be on track towards their 2020 target (see Table 1), but additional efforts are still to be made, particularly in transport. Mind that some of these figures can differ from the IEA derived data because of different accounting rules, particularly in relation to advanced biofuels.

RESEARCH FOCUS RELATED TO BIOENERGY

Germany has implemented an active policy for the transition of the energy system towards greater use of renewable energy sources more than a decade ago, which has led to a strong increase in the amount of biomass used for electricity, heat and the provision of transport fuel.³⁴ At the same time bioenergy research is fostered by several research programmes on the national level provisioned e.g. by the German Federal Ministry of Research and Education (BMBF)³⁵, the Ministry for Economy Affairs and Energy (BMWi)³⁶, and the Ministry of Food and Agriculture (BMEL) which has the lead for bioenergy research on the federal level³⁷. The funding areas in the area of bioenergy in Germany are biomass from agriculture, forestry and aquatic sources, the utilisation of biogenic waste from agriculture and forestry, aquaculture, the processing industry, commerce and households, and the generation, handling, processing and use of renewable resources, as well as cross-cutting issues in the area of bioenergy such as a dialogue with society.

³² This includes final consumption of fuels and heat in industry, the residential sector, commercial and public services and agriculture/forestry. Transport fuels are excluded. Energy used for transformation and for own use of energy producing industries is also excluded.

³³ http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=nrg_ind_335a&lang=en

³⁴ Thrän, D. (2015): Introduction. In D. Thrän (ed.): Smart bioenergy: technologies and concepts for a more flexible bioenergy provision in future energy systems (p. 1). Cham: Springer.

³⁵ Focussing on bioeconomy and the use of plant biomass; for an overview see: <https://www.bmbf.de/en/sustainable-development-2312.html> and <https://www.ptj.de/bioeconomy> (last access May 25, 2018).

³⁶ Focussing on biomass for energy use; for more information see: <https://www.energetische-biomassennutzung.de/en/start/> (last access July 27, 2018).

³⁷ Focussing on bioenergy as well; for more information see: <http://international.fnr.de/renewable-resources/bioenergy/> (last access May 25, 2018).

Germany has a rather complex bioenergy research landscape with a multitude of activities on federal and state level, and smaller and larger industries in many different application areas. Some examples of main actors:

- The Agency for Renewable Resources (Fachagentur Nachwachsende Rohstoffe e.V., FNR) is the coordinating agency for bioenergy and bioproducts in Germany, a key task is the administration of the R&D budget of the BMEL amounting to EUR 89 million in 2018 provided via two funding programmes (renewable resources programme on bioenergy and bioproducts; no fixed budget share for one or the other; energy and climate funds). FNR represents Germany in IEA Bioenergy. See www.international.fnr.de
- The German Biomass Research Centre (Deutsches Biomasseforschungszentrum – DBFZ) was founded in 2008 by the BMEL and was commissioned to theoretically and practically promote the efficient use of biomass as a renewable energy source of the future within the scope of applied sciences.³⁸ <http://www.dbfz.de/en/the-dbfz.html>
- The Federal Thuenen Institute covers other aspects of bioenergy, e.g. plant production, renewable resources forest management, GHG emissions, etc. See <http://www.thuenen.de/en/>
- The Karlsruhe Institute of Technology (KIT) is one of Europe’s leading energy research establishments with huge expertise, e.g. on thermochemical conversion routes. See www.kit.edu
- The Technology and Support Centre (TFZ) is an institution of the Bavarian Ministry of Food, Agriculture and Forestry (Bayerisches Staatsministerium für Ernährung, Landwirtschaft und Forsten). The main goals of the TFZ are the support of the agricultural production, the processing and utilization of renewable resources by applied research, the development and testing of products and methods, and the transfer of technology by demonstration and education. See <http://www.tfz.bayern.de/en/index.php>

RECENT MAJOR BIOENERGY DEVELOPMENTS

In the heating sector, the energy supply from renewable energy sources from 1990 to 2016 increased more than five times from just over 32 TWh to about 168 TWh, thereof 148 TWh from biomass.^{39, 35} Thus, this share significantly increased from approximately 68% in 2009 to 88% in 2016.

Electricity production from bioenergy has increased during past years as well: While in the year 2000 just 0.21 TWh electricity was produced from biomass⁴⁰, bioenergy power plants produced 38.36 TWh electricity under the Renewable Energy Sources Act. In 2016 the produced electricity increased to approx. 51.6 TWh.⁴¹

Transport sector: The development of production and the use of conventional biofuels such as biodiesel (FAME), bioethanol, HVO/HEFA and biomethane are a story of ups and downs, highly affected by policy frame and market developments (e.g. prices for feedstock and revenues for by-products as well as increasing role of actual GHG emission savings per fuel portfolio). In Germany 56.7 million t fuels were used in the transport sector in 2016. Besides diesel with 63.4 % and gasoline with 30.1 % the share of biofuels amounted to 4.7 % or rather 3.4 million t.³⁵ Biomethane is produced in significant

³⁸ For more information on the DBFZ research see: <https://www.dbfz.de/en/research.html> (last access May 25, 2018).

³⁹ Please note that the informational base was adjusted within the reporting period.

⁴⁰ BMWi – Bundesministerium für Wirtschaft (Ed.) (2018): Zahlen und Fakten Energiedaten, available here: <https://www.bmwi.de/Redaktion/DE/Artikel/Energie/energiedaten-gesamtausgabe.html> (last access May 25, 2018).

⁴¹ Available here: http://www.fnr.de/fileadmin/allgemein/pdf/broschueren/broschuere_basisdaten_bioenergie_2017_engl_web.pdf (last access May 25, 2018)

capacities but for different markets. In Germany, a network of more than 900 natural gas filling stations is available for currently more than 98,000 natural gas vehicles. Thereof 150 filling stations offer 100 % biomethane and more than 300 filling stations mixtures from biomethane and natural gas. The sales of biomethane as fuel was 370 GWh in 2016, and is decreasing after the peak in 2013 (at 557 GWh in 2013).

LINKS TO SOURCES OF INFORMATION

Detailed description of all fiscal and non-fiscal supports for bioenergy development:

<http://www.iea.org/policiesandmeasures/renewableenergy/?country=Germany>

National renewable energy plan (NREAP): <http://ec.europa.eu/energy/en/topics/renewable-energy/national-action-plans>

Energy Policies of IEA Countries - Germany 2013 Review:

<http://www.iea.org/publications/freepublications/publication/energy-policies-of-iea-countries---germany-2013-review.html>

Renewable energy statistics: [http://www.erneuerbare-](http://www.erneuerbare-energien.de/EE/Navigation/DE/Service/Erneuerbare_Energien_in_Zahlen/erneuerbare_energien_in_zahl_en.html)

[energien.de/EE/Navigation/DE/Service/Erneuerbare Energien in Zahlen/erneuerbare energien in zahl en.html](http://www.erneuerbare-energien.de/EE/Navigation/DE/Service/Erneuerbare_Energien_in_Zahlen/erneuerbare_energien_in_zahl_en.html)

Working group on renewable energy statistics: <https://www.umweltbundesamt.de/tags/agee-stat>

Bioenergy portal of FNR with brochures for download, statistics, etc.: <http://bioenergie.fnr.de/>

Website of DBFZ with bioenergy reports etc.: www.dbfz.de/en/

Overview of BMWi on all energy related legislation in Germany:

<https://www.bmwi.de/Redaktion/DE/Publikationen/Energie/gesetzeskarte.html>