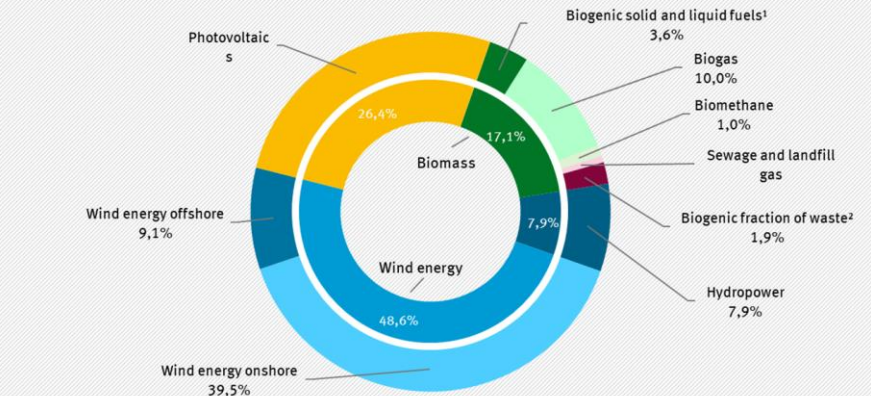


Gross electricity production from renewable energy sources in Germany in the year 2024

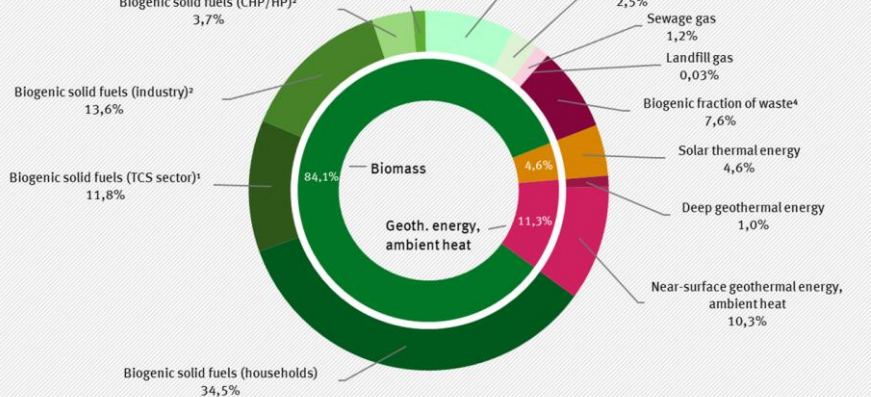
Total: 285,9 Terawatthours (TWh)



¹ Incl. sewage sludge; ² biogenic fraction of waste in waste incineration plants estimated at 50 %
Notice: electricity production from geothermal power plants (0,1%) not shown because of very small share
Source: Working Group on Renewable Energy-Statistics (AGEE-Stat); as of September 2025

Final energy consumption from renewable energy sources for heating and cooling in Germany in 2024

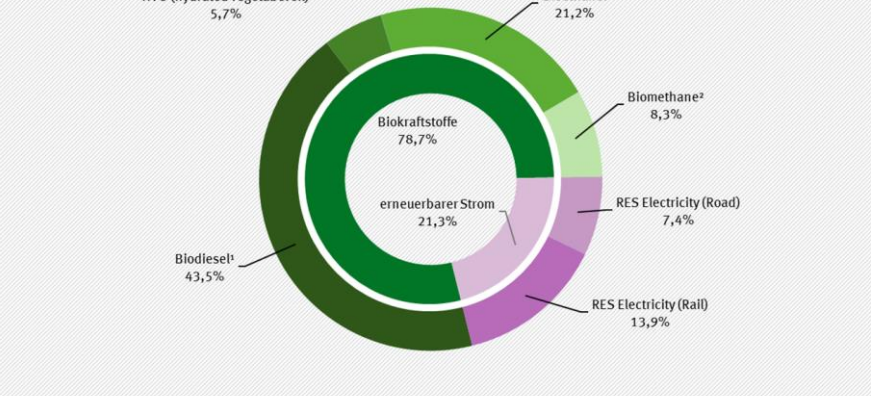
Total: 191,5 terawatthours (TWh)



¹ TCS corresponds to trade, commercial and service sector; ² Incl. sewage sludge and charcoal; ³ Incl. biofuels used in agriculture, forestry, construction and military;
Source: Working Group on Renewable Energy-Statistics (AGEE-Stat); as of September 2025

Final energy consumption from renewable sources in the transport sector¹ in Germany in the year 2024

Total: 43 terawatthours (TWh)



¹ consumption fuel in the transport sector (excl. agriculture, forestry, construction and military), plus electricity
² based on heating value, from 2023 incl. Bio-LNG
Notice: share of vegetable oil and RFNBO not shown because of very small contribution
Source: Working Group on Renewable Energy-Statistics (AGEE-Stat); as of September 2025

Umwelt
Bundesamt

AGEE
Stat
Arbeitsgruppe Erneuerbare Energien - Statistik

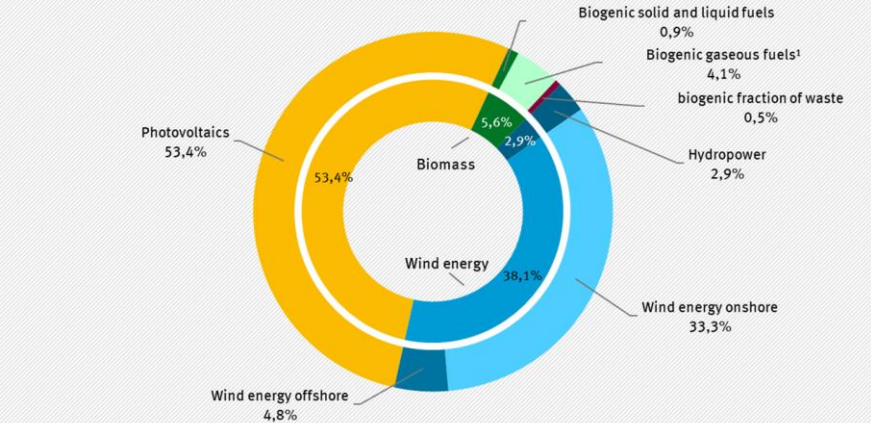
Renewable Energy Sources in Germany Key information of the year 2024 at a glance

Working Group on Renewable Energy-Statistics (AGEE-Stat)
Status: September 2025

Renewable energy sources in the year 2024		RE 2024	Share of renewable energy	avoided GHG-emissions
		[GWh]	[%]	[1.000 t CO ₂ -Äq.]
Gross electricity production	Hydropower	22.477	4,3	18.101
	Wind energy onshore	112.846	21,4	85.176
	Wind energy offshore	26.068	4,9	20.024
	Solar Photovoltaic	75.379	14,3	51.615
	Solid biofuels & sewage sludge	10.147	1,9	7.621
	Liquid biofuels	96	< 0,1	13
	Biogas	28.641	5,4	15.232
	Biomethane	2.796	0,5	1.551
	Sewage gas	1.529	0,3	1.086
	Landfill gas	177	< 0,1	120
	Biogenic fraction of waste	5.533	1,0	4.480
	Geothermal energy	215	< 0,1	144
Total		285.904	54,1	205.163
Final energy consumption for heating and cooling	Solid biofuels & charcoal (households)	66.088	6,1	10.848
	Solid biofuels & charcoal (TCS sector)	22.663	2,1	4.950
	Solid biofuels & sewage sludge (industry)	25.950	2,4	7.322
	Solid biofuels & sewage sludge (HP/CHP)	7.010	0,7	1.835
	Liquid biofuels	2.166	0,2	456
	Biogas	15.432	1,4	2.603
	Biomethane	4.768	0,4	691
	Sewage gas	2.330	0,2	723
	Landfill gas	62	< 0,1	19
	Biogenic fraction of waste	14.535	1,3	3.567
	Solar thermal energy	8.795	0,8	2.393
	Deep geothermal energy	1.915	0,2	572
Final energy consumption transport	Near-surface geothermal energy & ambient heat	19.791	1,8	4.029
	Total	191.505	17,8	40.008
	Biodiesel	21.135	3,6	6.170
	Vegetable oil	10	< 0,1	2
	Bioethanol	9.112	1,6	2.776
	Biomethane	3.549	0,6	2.038
	RE electricity consumption transport	9.171	1,6	2.663
	Total	42.977	7,3	13.649

Installed capacity for renewables-based electricity generation in Germany in the year 2024

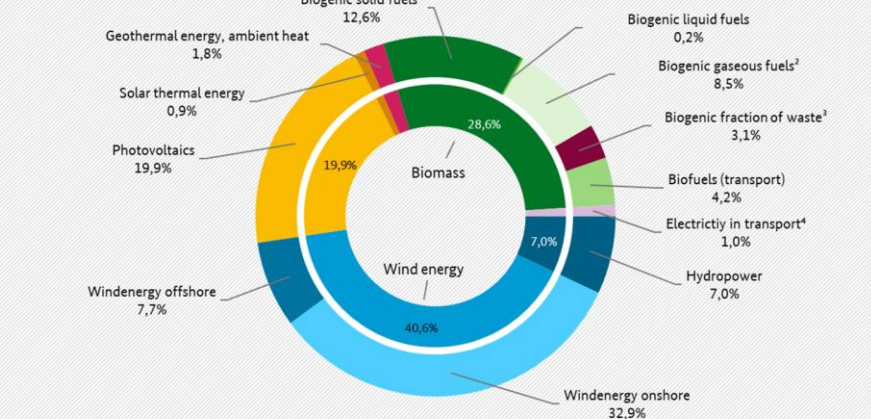
Total: 191 Gigawatt (GW)



¹ Biogas, biomethane, landfill gas and sewage gas
Notice: geothermal power plants are not shown here because of their very small share (0,03%).
Source: Working Group on Renewable Energy-Statistics (AGEE-Stat); as of September 2025

Greenhouse gas emissions avoided through the use of renewable energy sources in the year 2024

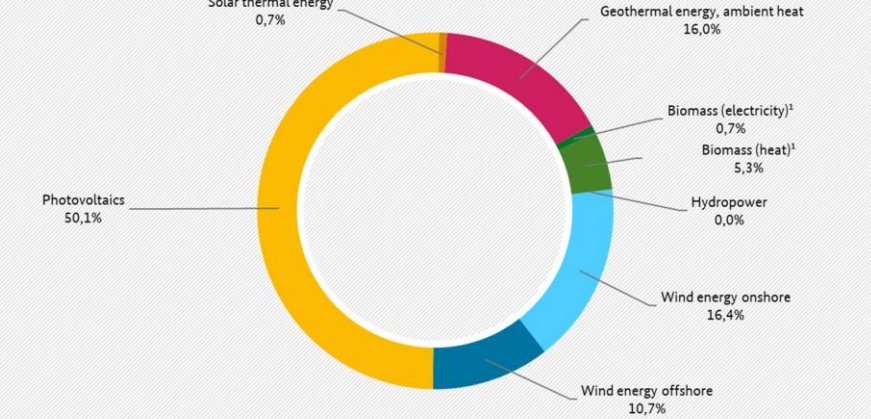
Total: 258,8 million tons CO₂-equivalents



¹ Incl. sewage sludge, without charcoal; ² biogas, biomethane, sewage gas and landfill gas; ³ biogenic fraction of waste in waste incineration plants estimated at 50 %; ⁴ electricity consumption in the transport sector according to German electricity mix
Source: AGEE-Stat based on data of the German Environment Agency (UBA); as of September 2025

Investment in construction of renewable energy plants in Germany in the year 2024

Total investment: 33,3 billion Euro



¹ Solid, liquid and gaseous biomass
Source: Centre for Solar and Hydrogen Research Baden-Württemberg (ZSW); as of September 2025

Development of renewable energy sources		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Gross final energy consumption ¹⁾	TWh	387,6	389,3	420,8	434,5	456,3	472,1	472,1	497,4	502,0	514,3
Gross final energy consumption EU-Directive ²⁾	TWh	382,3	388,6	407,4	432,5	446,4	465,4	484,6	512,3	502,8	519,3
Gross electricity production	TWh	190,1	191,1	217,7	225,3	243,6	253,5	239,7	255,6	275,6	285,9
Final energy consumption for heating and cooling	TWh	165,6	166,0	170,5	174,9	179,1	176,9	195,1	204,1	186,8	191,5
Final energy consumption in the transport sector ³⁾	TWh	33,3	33,6	34,6	36,0	36,0	44,3	39,9	41,4	44,8	43,0
Primary energy consumption	PJ	1.682	1.687	1.798	1.832	1.909	1.974	1.970	2.050	2.054	2.094

1) according to the German government's Energy Concept; 2) according to the European Directive 2009/28/EC;
3) consumption of biogenic fuels and renewables-based electricity in the transport sector (excluding consumption in agriculture, forestry and military)

Shares of renewable energy sources in %		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
of gross final energy consumption EU-Directive	%	14,9	14,9	15,5	16,7	17,3	19,1	19,3	20,9	21,6	22,4
of gross national electricity consumption	%	31,6	31,8	36,2	37,9	42,2	45,4	41,7	46,3	52,9	54,1
of final energy consumption for heating and cooling	%	13,6	13,4	13,7	14,5	14,6	14,7	15,4	17,5	17,4	17,8
of final energy consumption in the transport sector	%	5,2	5,2	5,2	5,6	5,5	7,5	6,7	6,9	7,6	7,3
of primary energy consumption	%	12,6	12,5	13,3	13,9	14,9	16,6	15,8	17,5	19,3	19,9