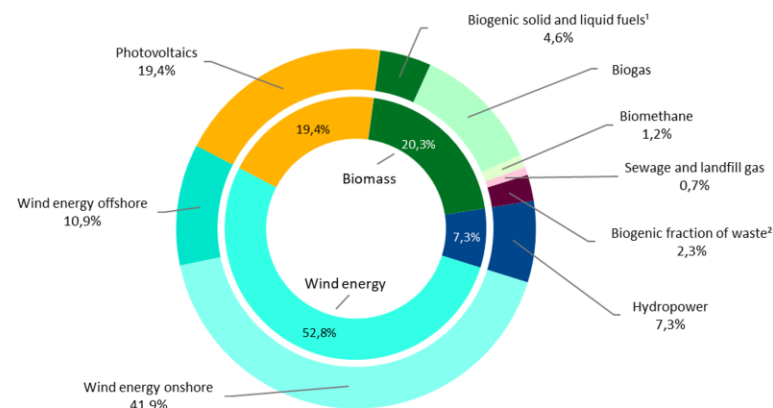


Gross electricity production from renewable energy sources in Germany in the year 2020

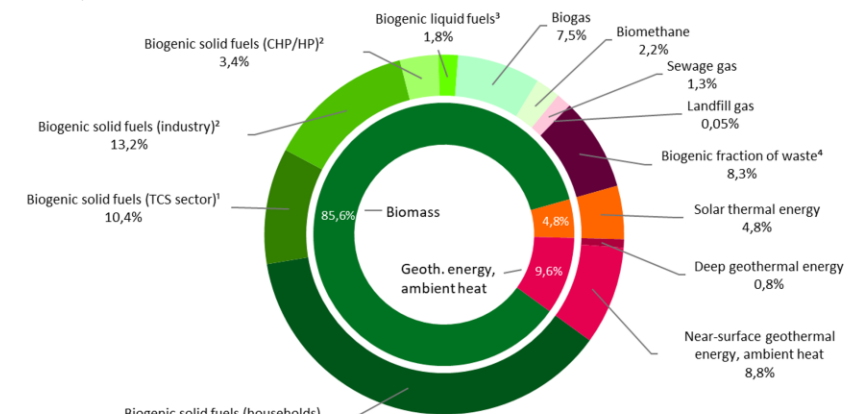
Total: 250,2 billion kilowatt hours



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
BMWi based on Working Group on Renewable Energy-Statistics (AGEE-Stat); as of September 2021

Final energy consumption from renewable energy sources for heating and cooling in Germany in 2020

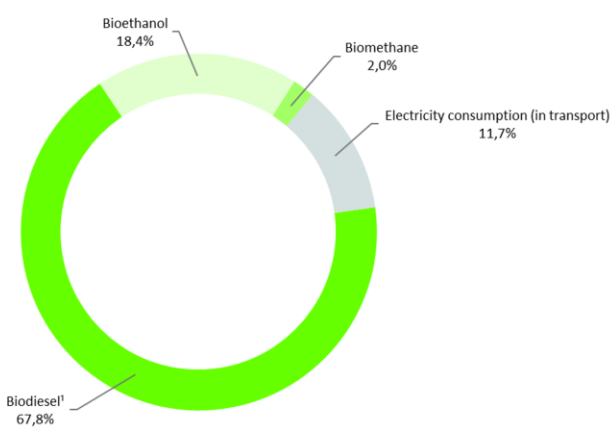
Total: 181,7 billion kilowatt hours



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; ⁴ biogenic fraction of waste in waste incineration plants estimated at 50 %
BMWi based on Working Group on Renewable Energy-Statistics (AGEE-Stat); as of September 2021

Final energy consumption from renewable sources in the transport sector in Germany in the year 2020

Total: 43,7 billion kilowatt hours



¹ consumption of biodiesel (including HVO) in the transport sector (excluding consumption in agriculture, forestry, construction and military)
Notice: share of vegetable oil (0,05%) not shown because of very small contribution
BMWi based on Working Group on Renewable Energy-Statistics (AGEE-Stat); as of September 2021

Renewable Energy Sources in Germany
Key information of the year 2020 at a glance

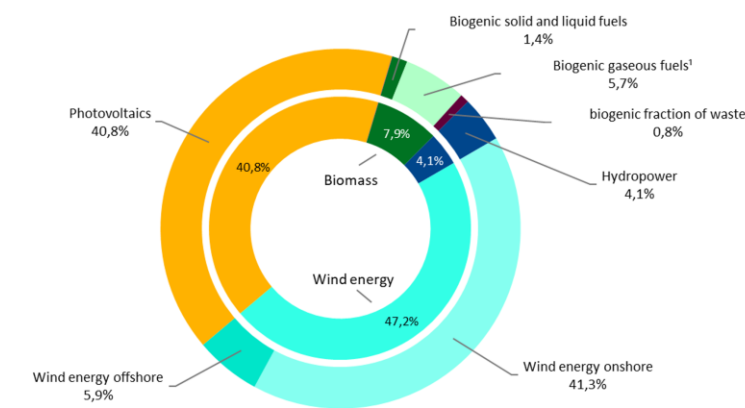
BMWi based on Working Group on Renewable Energy-Statistics (AGEE-Stat)
Stand: September 2021



Renewable energy sources in the year 2020	RE 2020	Share of renewable energy	avoided GHG-emissions		
	[GWh]			[%]	[1.000 t CO ₂ -Äq.]
Gross electricity production	Hydropower	18.322	3,3	14.759	
	Wind energy onshore	104.796	19,0	79.053	
	Wind energy offshore	27.306	4,9	21.025	
	Solar Photovoltaic	48.641	8,8	33.337	
	Solid biofuels & sewage sludge	11.228	2,0	8.431	
	Liquid biofuels	308	0,1	105	
	Biogas	28.757	5,2	14.270	
	Biomethane	2.914	0,5	1.580	
	Sewage gas	1.578	0,3	1.130	
	Landfill gas	247	0,0	204	
	Biogenic fraction of waste	5.829	1,1	4.726	
	Geothermal energy	231	0,04	155	
	Total	250.157	45,3	178.775	
	Final energy consumption for heating and cooling	Solid biofuels & charcoal (households)	67.897	57,4	12.222
Solid biofuels & charcoal (TCS sector)		18.953	16,0	5.048	
Solid biofuels & sewage sludge (industry)		24.029	20,3	6.855	
Solid biofuels & sewage sludge (HP/CHP)		6.267	5,3	1.486	
Liquid biofuels		3.207	2,7	691	
Biogas		13.549	11,5	3.316	
Biomethane		4.045	3,4	985	
Sewage gas		2.381	2,0	757	
Landfill gas		89	0,08	36	
Biogenic fraction of waste		15.160	12,8	3.489	
Final energy consumption transport	Solar thermal energy	8.707	7,4	2.475	
	Deep geothermal energy	1.370	1,2	383	
	Near-surface geothermal energy & ambient heat	16.049	13,6	2.933	
	Total	181.703	153,6	40.676	
	Final energy consumption transport	Biodiesel	29.647	2,5	8.227
		Vegetable oil	21	0,002	5
		Bioethanol	8.021	0,7	2.478
		Biomethane	884	0,1	271
		RE electricity consumption transport	5.131	0,4	
		Total	43.704	3,8	10.982

Installed capacity for renewables-based electricity generation in Germany in the year 2020

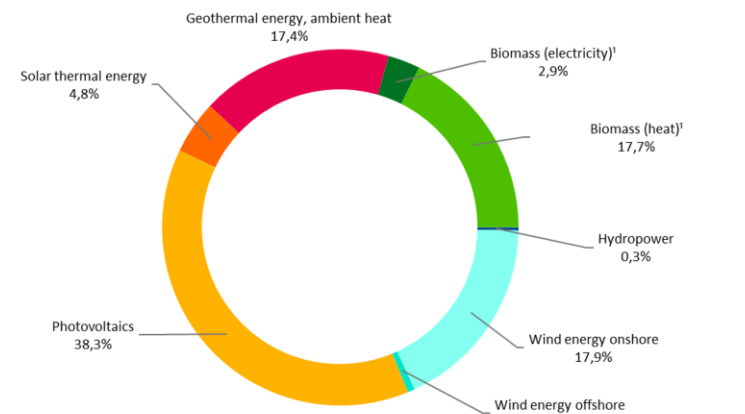
Total: 131,7 million kilowatt



¹ Biogas, biomethane, landfill gas and sewage gas
Notice: geothermal power plants are not shown here because of their very small share (0,04%).
BMWi based on Working Group on Renewable Energy-Statistics (AGEE-Stat); as of September 2021

Investment in construction of renewable energy plants in Germany in the year 2020

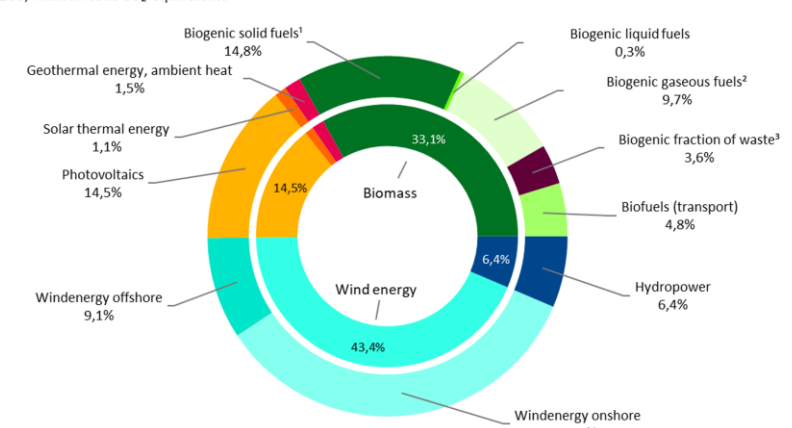
Total investment: 11 billion Euro



¹ Solid, liquid and gaseous biomass
BMWi based on Centre for Solar and Hydrogen Research Baden-Württemberg (ZSW); as of September 2021

Greenhouse gas emissions avoided through the use of renewable energy sources in the year 2020

Total: 230,4 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 %
BMWi based on AGE-Stat using data of the German Environment Agency (UBA); as of September 2021

Development of renewable energy sources		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Gross final energy consumption ¹⁾	TWh	316,9	353,4	366,0	358,7	389,3	389,2	420,7	434,5	455,8	472,7
Gross final energy consumption EU-Directive ²⁾	TWh	316,6	350,7	364,7	362,1	382,3	388,6	407,4	432,5	446,4	463,9
Gross electricity production	TWh	124,4	143,4	151,9	161,0	187,2	188,2	214,8	222,1	240,3	250,2
Final energy consumption for heating and cooling	TWh	158,4	174,1	181,1	163,5	170,3	168,9	173,3	178,4	182,1	181,7
Final energy consumption in the transport sector ³⁾	TWh	35,3	37,2	34,2	35,3	33,3	33,6	34,6	36,0	36,0	43,7
Primary energy consumption	PJ	1.463	1.385	1.499	1.519	1.678	1.677	1.789	1.823	1.898	1.965

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 ¹⁾	%	12,5	13,7	13,8	14,2	15,2	14,9	16,0	16,7	17,6	19,6
of gross final energy consumption EU-Directive ²⁾	%	12,5	13,5	13,8	14,4	14,9	14,9	15,5	16,7	17,3	19,2
of gross national electricity consumption	%	20,4	23,6	25,1	27,2	31,3	31,5	35,9	37,5	41,8	45,3
of final energy consumption for heating and cooling	%	12,8	13,9	13,9	14,0	14,1	13,7	14,0	15,0	15,1	15,6
of final energy consumption in the transport sector	%	5,6	6,0	5,4	5,6	5,2	5,2	5,3	5,6	5,6	7,5
of primary energy consumption	%	10,8	10,3	10,8	11,5	12,6	12,4	13,2	13,9	14,8	16,5

1) according to the German government's Energy Concept 2) according to the European Directive 2009/28/EC