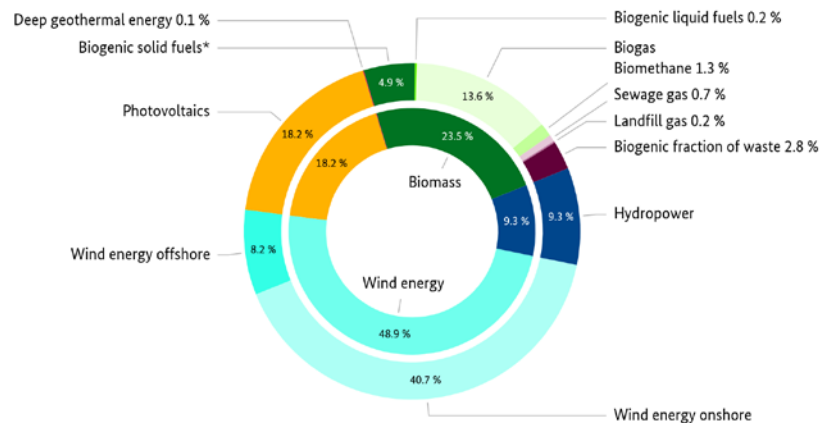


Renewables-based electricity generation in Germany 2017

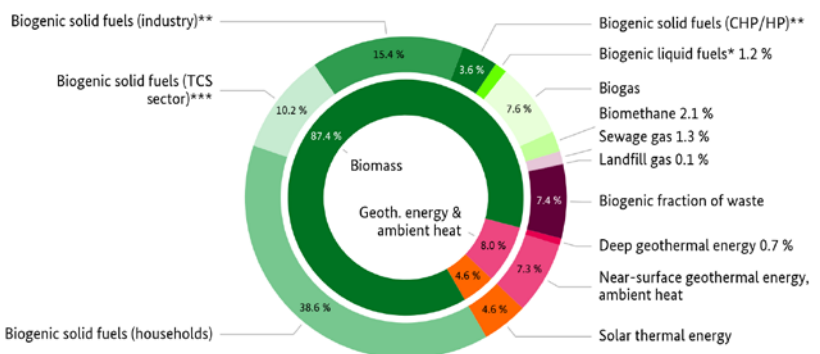
Total: 216.3 billion kilowatt hours



* incl. sewage sludge; BMWi based on Working Group on Renewable Energy-Statistics (AGEE-Stat); as at December 2018; all figures provisional

Renewables-based heat consumption in Germany 2017

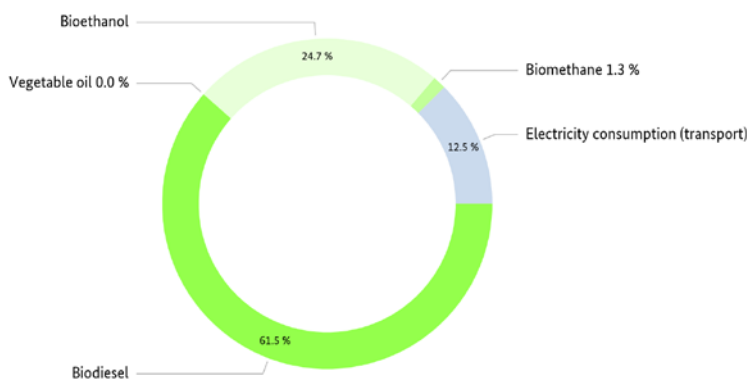
Total: 170.8 billion kilowatt hours



* incl. biodiesel used in farming; ** incl. sewage sludge; *** GHD corresponds to trade, commercial and services sector; BMWi based on Working Group on Renewable Energy-Statistics (AGEE-Stat); as at December 2018; all figures provisional

Renewables-based final energy consumption in transport sector in Germany 2017

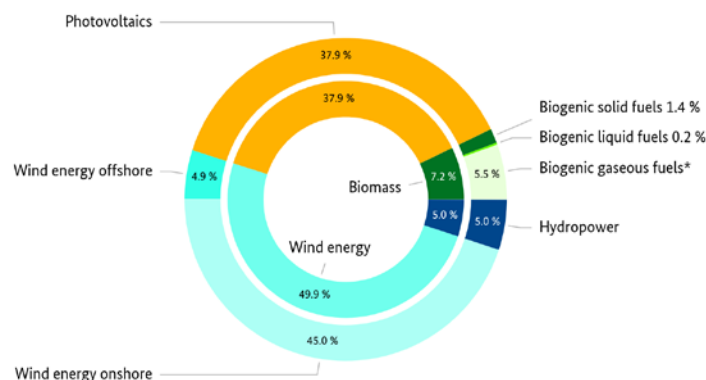
Total: 34.5 billion kilowatt hours



BMWi based on Working Group on Renewable Energy-Statistics (AGEE-Stat); as at December 2018; all figures provisional

Installed capacity for renewables-based electricity generation in Germany 2017

Total: 111.7 million kilowatt



Geothermal power plants are not shown here because of their very small share; * Biogas, biomethane, landfill gas and sewage gas; BMWi based on Working Group on Renewable Energy-Statistics (AGEE-Stat); as at December 2018; all figures provisional



Federal Ministry for Economic Affairs and Energy

Renewable Energy Sources in Germany
Key information 2017 at a glance



BMWi based on Working Group on Renewable Energy-Statistics (AGEE-Stat) as at December 2018

Development of renewable energy sources in 2017

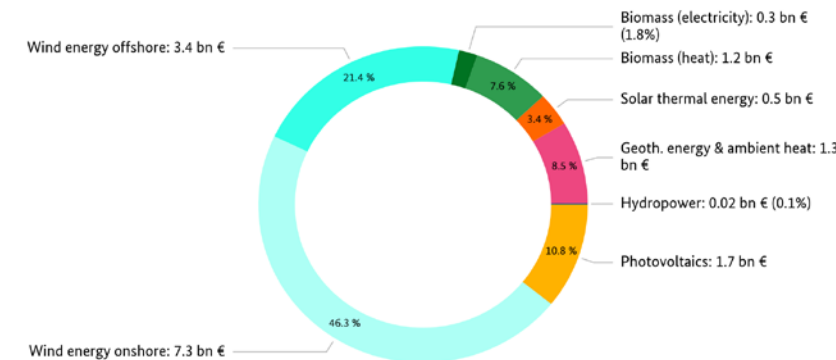
	RES 2017 [GWh]	Renewables based share [%]	GHG emissions avoided [1,000 t CO ₂ -Eq.]
Gross electricity consumption			
Hydropower	20,150	3.4	15,209
Wind energy on land	88,018	14.6	58,691
Wind energy offshore	17,675	2.9	11,927
Photovoltaics	39,401	6.6	24,199
Biogenic solid fuels incl. sewage sludge	10,658	1.8	7,333
Biogenic liquid fuels	437	0.1	245
Biogas	29,325	4.9	10,542
Biomethane	2,757	0.5	1,265
Sewage gas	1,460	0.2	928
Landfill gas	338	0.06	214
Biogenic fraction of waste	5,956	1.0	4,522
Geothermal energy	163	0.03	93
Total	216,338	36.0	135,167
Final energy consumption (heat)			
Biogenic solid fuels (households)	65,840	5.4	12,002
Biogenic solid fuels (TCS sector)	17,383	1.4	4,858
Biogenic solid fuels incl. sewage sludge (industry)	26,326	2.1	7,151
Biogenic solid fuels incl. sewage sludge (HP/CHP)	6,193	0.5	1,327
Biogenic liquid fuels	2,124	0.2	481
Biogas	12,991	1.1	1,988
Biomethane	3,527	0.3	485
Sewage gas	2,144	0.2	487
Landfill gas	126	0.01	37
Biogenic fraction of waste	12,669	1.0	2,788
Solar thermal energy	7,853	0.6	1,950
Deep geothermal energy	1,168	0.1	337
Near-surface geothermal energy and ambient heat	12,442	1.0	1,318
Total	170,786	13.9	35,210
Final energy consumption (transport)			
Biodiesel	21,248	3.2	5,156
Vegetable oil	10	0.00	2
Bioethanol	8,530	1.3	2,123
Biomethane	445	0.1	99
Electricity consumption (transport)	4,305	0.7	
Total	34,538	5.2	7,380

Share of renewable energy sources in Germany (in %)

	1990	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	
of gross final energy consumption	-	-	-	-	-	-	-	-	-	6.2	7.1	8.5	10.3	10.2	10.7	
of gross electricity consumption		3.4	3.6	4.1	4.5	5.2	6.3	6.6	7.7	7.6	9.3	10.3	11.6	14.3	15.2	16.4
of final energy cons. (heat)		2.1	2.3	3.4	3.9	4.3	4.4	4.7	4.8	7.5	7.6	8.0	8.8	10.8	10.8	11.7
of final energy cons. (transport)		0.1	0.1	0.3	0.3	0.3	0.5	0.7	1.1	1.5	1.9	3.7	6.5	7.5	6.0	5.4
of primary energy consumption		1.3	1.4	2.4	2.6	2.8	2.9	2.9	3.2	3.8	4.5	5.3	6.3	7.9	8.0	8.9

Investment in construction of renewable energy plants in Germany 2017

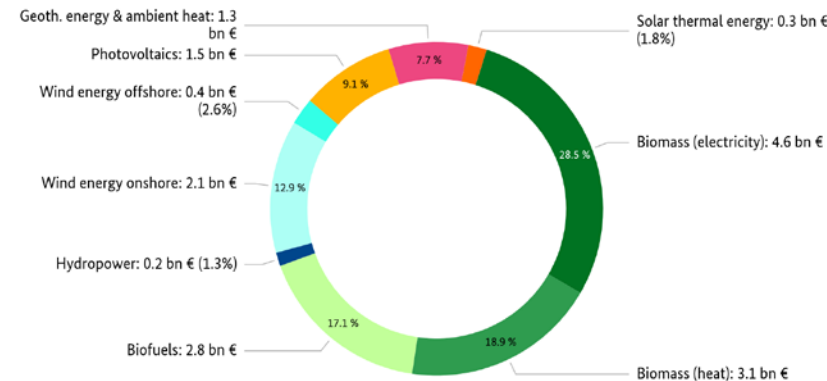
Total investment: 15.4 billion Euro



BMWi based on Centre for Solar Energy and Hydrogen Research Baden Wuerttemberg (ZSW); as at December 2018; all figures provisional

Economic stimuli from the operation of renewable energy plants in Germany 2017

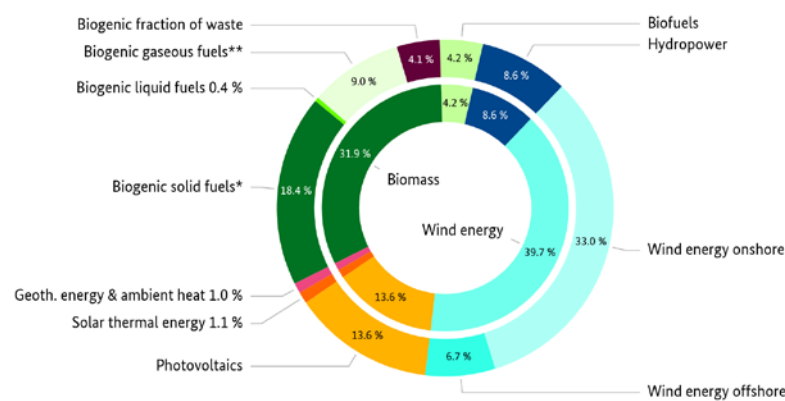
Total: 16.2 billion Euro



BMWi based on Centre for Solar Energy and Hydrogen Research Baden Wuerttemberg (ZSW); as at December 2018; all figures provisional

Greenhouse gas emissions avoided through use of renewable energy sources 2017

Total: 177.8 million tonnes CO₂-equivalents



* incl. sewage sludge; ** incl. biogas, biomethane, sewage gas and landfill gas; BMWi based on Working Group on Renewable Energy-Statistics (AGEE-Stat) using data of the Federal Environment Agency (UBA); as at December 2018; all figures provisional

Development of renewable energy sources in Germany

Figures in [GWh]	1990	2000	2005	2010	2015	2017
Gross electricity production	18,934	36,226	63,400	105,181	188,786	216,338
Final energy consumption for heating and cooling	32,516	58,429	102,008	166,108	168,449	170,786
Final energy consumption in the transport sector ¹	465	3,752	23,226	35,951	33,366	34,538

¹ consumption of biogenic fuels and renewables-based electricity in the transport sector (excluding consumption in agriculture, forestry and military)