

# Germany - Energy System Overview



## General information

Country size  
Population (2016)  
GDP (2016)

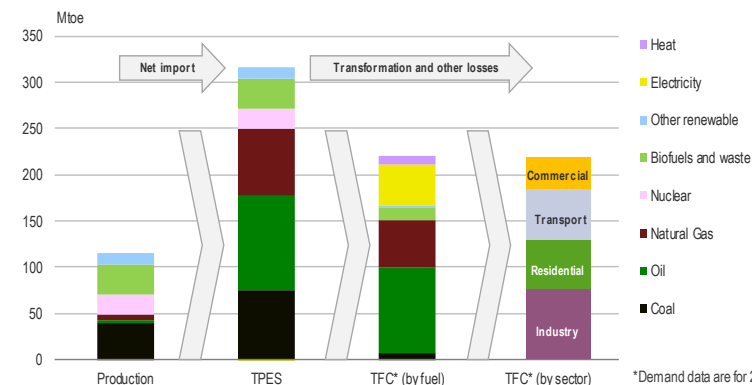
**Germany**  
349 000 km<sup>2</sup>  
82.7 million  
3538 billion USD 2010 prices and PPPs

9th compared to IEA countries  
7.3% of IEA population  
\* PPP = Purchasing Power Parities

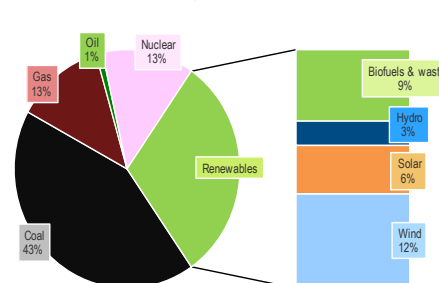
## Energy system transformation

### SUPPLY AND DEMAND 2016

TPES: 311.5 Mtoe, 14% renewables (IEA average 10%)



**ELECTRICITY GENERATION: 642.9 TWh**  
31% renewables (IEA average: 24%)



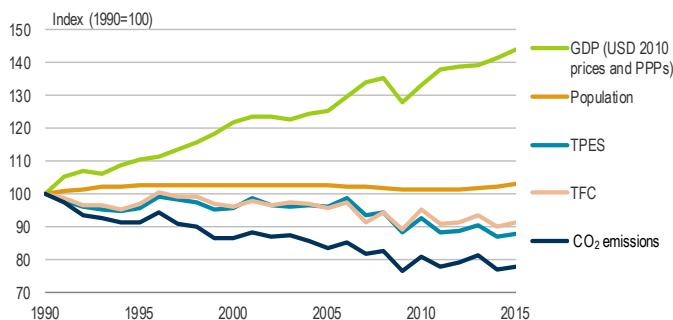
\*Demand data are for 2015

### Fuel shares compared to IEA average

Fuel	TPES (%)	IEA average* (%)	IEA range (%)	Electricity (%)	IEA average (%)	IEA range (%)
Coal	24	17	0-69	43	28	0-84
Oil	32	36	7-58	1	2	0-10
Gas	23	27	2-40	13	27	1-51
Hydro	1	2	0-43	3	13	0-96
Nuclear	7	10	0-44	13	19	0-73
Biofuels	10	6	2-27	9	3	0-26
Wind	2	1	0-7	12	6	0-42
Geothermal	0	1	0-23	0	0	0-18
Solar	1	1	0-3	6	2	0-13

\* IEA Average - total supply per fuel / TPES for 29 IEA countries

### KEY ENERGY INDICATOR DEVELOPMENT, 1990-2015



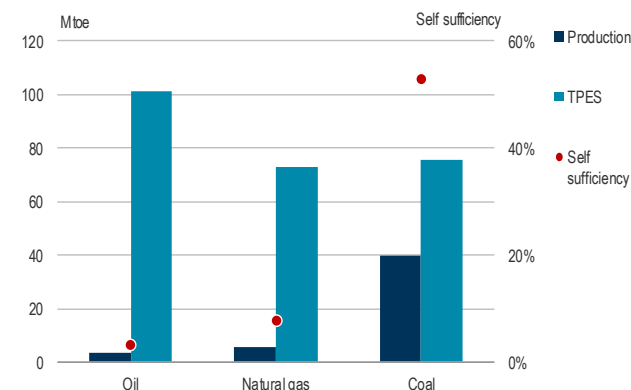
### ENERGY AND CARBON INTENSITY (2016)

	Germany	IEA average
TPES per capita (toe/cap)	3.77	4.42
Electricity consumption per capita (MWh/cap)	6.92	8.69
Emissions* per capita (tCO <sub>2</sub> /cap)	8.93	9.88
Energy intensity (TPES) (Mtoe/USD PPP million)	88	96
Emission* intensity (tCO <sub>2</sub> / USD PPP million)	210	193

\* CO<sub>2</sub> emissions from fuel combustion (2015 data)

## Energy Security

### PRODUCTION AND SELF SUFFICIENCY, 2016



### ENERGY IMPORT/EXPORT

FUEL	QUANTITY	IMPORT/EXPORT COUNTRY
<b>Crude Oil</b>		
Imports	91.2 Mt	Russian Federation (39.5%)
Exports	0.1 Mt	United Kingdom (100%)
<b>Oil Products</b>		
Imports	38.7 Mt	Netherlands (48.3%)
Exports	22.7 Mt	Netherlands (21.5%)
<b>Natural gas</b>		
Imports	101.7 bcm	Russian Federation (46.6%)
Exports	23 bcm	-
<b>Coal</b>		
Imports	53.6 Mt	Russia (30.3%)
Exports	0.3 Mt	Netherlands (33.5%)
<b>ELECTRICITY</b>		
Imports	37 TWh	France (32.7%)
Exports	85.3 TWh	Netherlands (28.1%)

Note: 2016 data are estimated

Source: IEA World Energy Balances 2017