

Employees (end of year) <sup>1)</sup>				
Mining area	1989 <sup>2)</sup>	2016	2017	2018
Rhineland <sup>3)</sup>	15,565	9,716	9,739	9,986
Lusatia <sup>3)</sup>	79,016	8,765	8,639	8,375
Central Germany	59,815	2,414	2,367	2,379
Helmstedt	1,693	199	146	111
Small firms	642	-	-	-
<b>Germany</b>	<b>156,731</b>	<b>21,094</b>	<b>20,891</b>	<b>20,851</b>

1) including employees in own public power stations

2) Annual average – without employees in own public power stations

Lignite reserves in bn t			
Mining area	Geological reserves	Economically minable reserves	Approved and developed opencast mines
Rhineland	50.9	30.9	2.6 <sup>1)</sup>
Lusatia	11.5	3.0	0.8 <sup>2)</sup>
Central Germany	10.0	2.0	0.3
<b>Germany</b>	<b>72.4</b>	<b>35.9</b>	<b>3.7</b>

1) Based on a decision of the federal state North Rhine-Westphalia made in 2016 the approved reserves will be diminished by 0.4 bn t

2) available reserves per 31.12.2017 by lignite plans of 1994 = 0,8 bn t ; additional reserves by in 2015 officially approved lignite plans: Welzow-Süd open cast mine sector II = 0,2 bn t; additional reserves by current lignite mining plan procedure: Nochten open cast mine, subfield Mühlrose = 0,15 bn t

Production of lignite products (in mt)				
Products	1989	2017	2018	Changes 2018/2017 in %
Briquettes	49.39	1.68	1.59	- 5.7
Dry and pulverized/Fluidized-bed coal	4.41	4.87	4.87	+ 0.0
Coke	5.09	0.15	0.16	+ 1.9

Selected coal qualities operational and planned mining areas				
Mining area	Calorific value kJ/kg	Ash content in %	Water content in %	Sulphur content in %
Rhineland	7,800-10,500	2.5-8.0	50-60	0.15-0.5
Lusatia	7,800-10,000	2.5-15.0	49-58	0.2-1.5
Central Germany	9,000-11,300	6.5-12.0	48-54	1.3-2.1

**Deadline:** March 2019 (Data preliminary for 2018)

Source, if not specified: Statistik der Kohlenwirtschaft  
Summed deviations due to roundings

## 10 FACTS ON LIGNITE

1. Lignite is and continues to be the only fossil fuel in Germany which does not have to be imported. It is abundantly available, and it is extracted without subsidies.
2. With a total output of about 166 mt (2018), lignite makes a significant contribution to a safe and secure energy and power supply. With an electric power production of about 145 TWh from secure generation capacities that are constantly available, lignite-fired power plants are indispensable in supplying energy to industry, commerce, and private households, and they will continue to do so for many years to come.
3. According to the recommendations of the Structural Commission appointed by the Federal Government, the extraction of lignite and its conversion into electricity in Germany are to end in 2038. Until this point in time and given that there is assured and guaranteed planning and investment security, lignite will continue to be important for the energy supply and development in the individual mining districts.
4. The termination of lignite utilization, which will be earlier than had previously been anticipated and planned by the companies, requires reasonable compensation payments as well as extensive financial aid in order to implement the structural change in the mining districts.
5. Guaranteeing a secure and reliable standby, as was agreed between the lignite industry and the Federal Government, will result in a 2.7 GW decrease in the lignite-based electricity production capacity by 2022 and in savings of about 14 mt of CO<sub>2</sub> by 2020.
6. German lignite accounts for less than 0.5 % of the global CO<sub>2</sub> emissions. A national abandonment will not have any sustainable impact on the anthropogenic influences on climate change.
7. Modern lignite-fired power plants are as flexible as combined cycle power plants (CCPP); they provide system services to compensate for the fluctuating grid feeding and network supply of wind turbines and PV plants.
8. The recultivation efforts following lignite mining are considered to be exemplary around the entire globe, compensate for mining-related, limited land utilization, and create new cultural and natural environments.
9. The close technical and local combination of open-pit mines and power plants provides maximum security, economic efficiency, and value creation.
10. Lignite safeguards and assures around 70,000 jobs in Germany. The fossil fuel phaseout recommended by the Structural Commission will lead to massive job reductions in mines and power plants as well as among suppliers and service providers. In addition, increasing electricity prices will threaten jobs in energy-intensive industries.

### Bundesverband Braunkohle

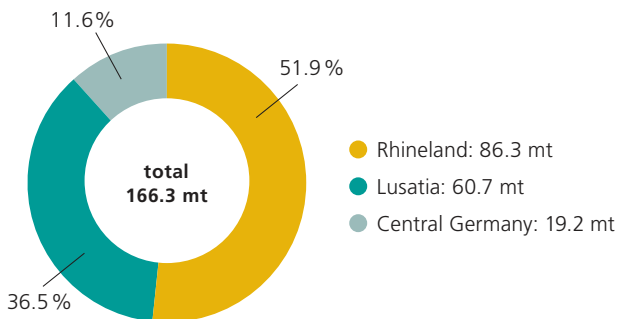
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# LIGNITE IN GERMANY

Facts and Figures 2018

## Lignite production according to mining areas

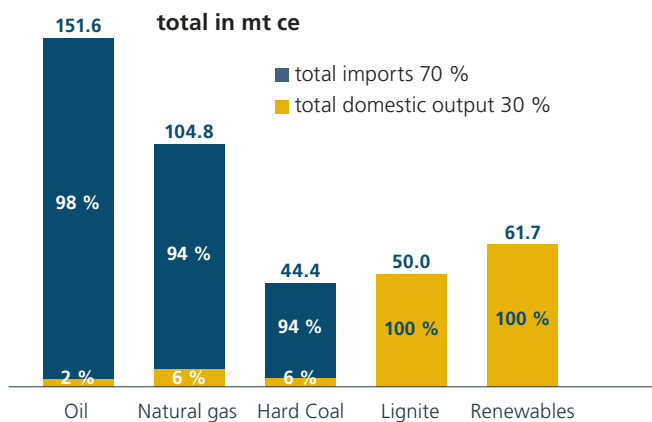


### Utilisation of lignite 2018

Mining areas	use <sup>1)</sup>		
	Generation of electricity and heat	Refining	Others <sup>2)</sup>
in million tons			
Rhineland	75.8	10.3	0.2
Lusatia	56.9	3.7	0.1
Central Germany	18.0	0.6	0.6
Helmstedt	-	-	-
<b>Germany</b>	<b>150.7</b>	<b>14.6</b>	<b>0.9</b>

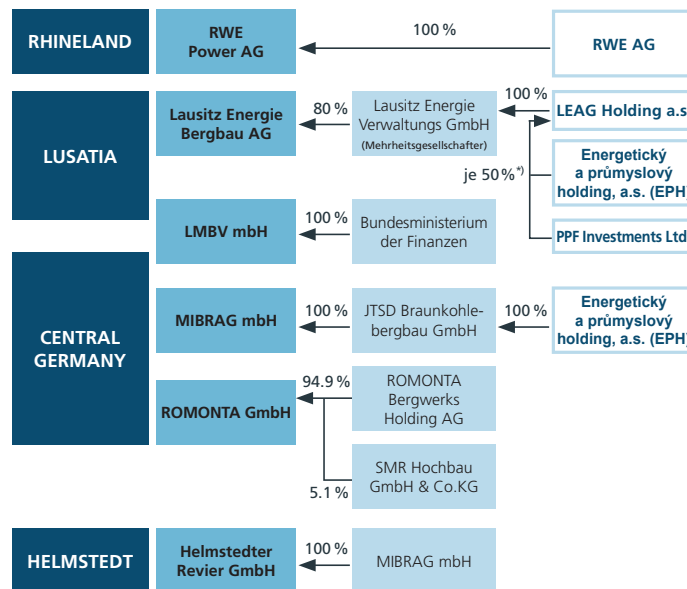
- 1) Deviations between production and utilisation caused by change in stocking and deliveries between the mining areas  
 2) without deliveries to other lignite companies

## Share of domestic output in primary consumption 2018\*



\*) provisional  
 Source: Arbeitsgemeinschaft Energiebilanzen

## Participation ratios of the lignite companies



\*) indirect holdings

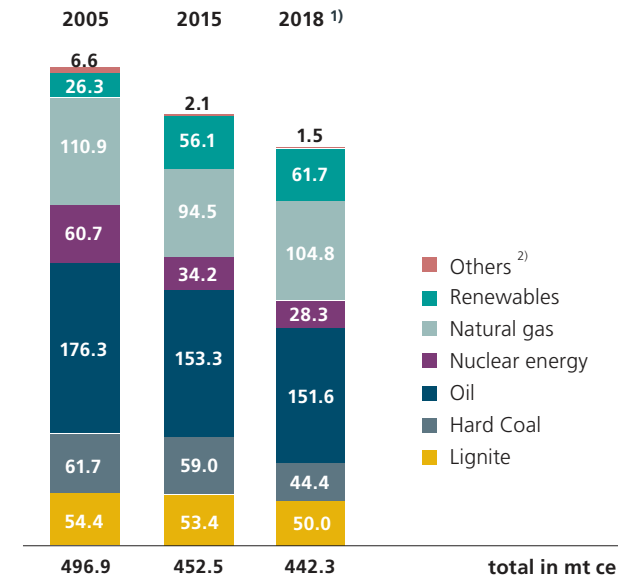
### Capacity and generation of lignite powerstations

Federal State	Gross installed power Jan. 1, 2019	Gross electricity generation 2018 <sup>5)</sup>
	MW	TWh
North Rhine-Westphalia	11,489 <sup>1)</sup>	72.0
Brandenburg	4,705 <sup>2)</sup>	33.9
Saxony	4,580 <sup>3)</sup>	32.3
Saxony-Anhalt	1,221 <sup>4)</sup>	7.2
Lower Saxony	407	0.1
Hesse	42	
Bavaria	2	
Baden-Wuerttemberg	2	
<b>Total</b>	<b>22,448 <sup>6)</sup></b>	<b>145.5</b>

including newly built power stations (since 1995):

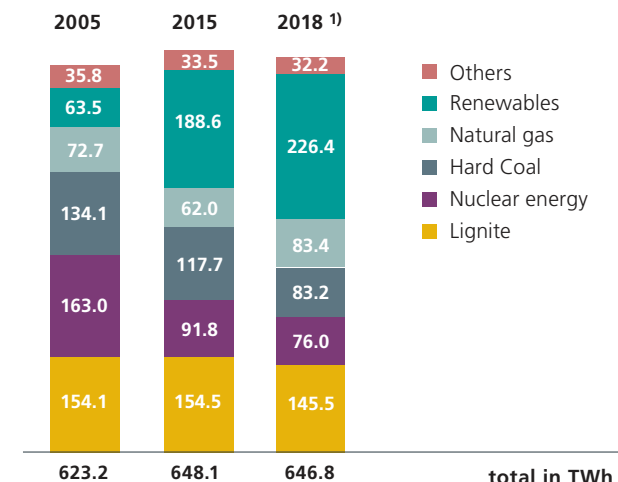
- 1) Niederaußem (1,012 MW)  
 Neurath (2,200 MW)  
 2) Schwarze Pumpe (1,600 MW)  
 3) Boxberg (900 MW and 675 MW)  
 Lippendorf (1,840 MW)  
 4) Schkopau (980 MW)  
 5) estimated  
 6) thereof 1,973 MW security standby reserve

## Primary energy consumption



1) provisional/forecast  
 2) including power exchange balance  
 Source: Arbeitsgemeinschaft Energiebilanzen

## Total gross electricity generation



1) provisional/forecast  
 Source: Arbeitsgemeinschaft Energiebilanzen, BDEW