| Employees (end of year) | | | | |
|---|---|---|---|---|
| Mining area | 1989 [1] | 2015 [2] | 2016 [2] | 2017 [2] |
| Rhineland [3] | 15,565 | 9,410 | 9,716 | 9,739 |
| Lusatia [3] | 79,016 | 8,316 | 8,765 | 8,639 |
| Central Germany | 59,815 | 2,656 | 2,414 | 2,367 |
| Helmstedt | 1,693 | 453 | 199 | 146 |
| Small firms | 642 | - | - | - |
| **Germany** | **156,731** | **20,744** | **21,094** | **20,891** |

*1) Annual average – without employees in own public power stations*
*2) including employees in own public power stations*
*3) Not comparable with previous years due to restructuring from 2016 onwards*

| Lignite reserves in bn t | | | |
|---|---|---|---|
| Mining area | Geological reserves | Economically minable reserves | Approved and developed opencast mines |
| Rhineland | 51.0 | 31.0 | 2.7 [1] |
| Lusatia | 11.6 | 3.1 | 0.8 [2] |
| Central Germany | 10.0 | 2.0 | 0.3 |
| **Germany** | **72.6** | **36.1** | **3.8** |

*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 | 2016 | 2017 | Changes 2017/2016 in % |
| Briquettes | 49.39 | 1.54 | 1.68 | + 8.8 |
| Dry and pulverized/Fluidized-bed coal | 4.41 | 4.71 | 4.87 | + 3.3 |
| Coke | 5.09 | 0.16 | 0.15 | - 2.9 |

| **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 | 7,900 - 10,000 | 2.5 - 14.0 | 49 - 58 | 0.2 - 1.5 |
| Central Germany | 9,000 - 11,300 | 6.5 - 12.0 | 48 - 54 | 1.3 - 2.1 |

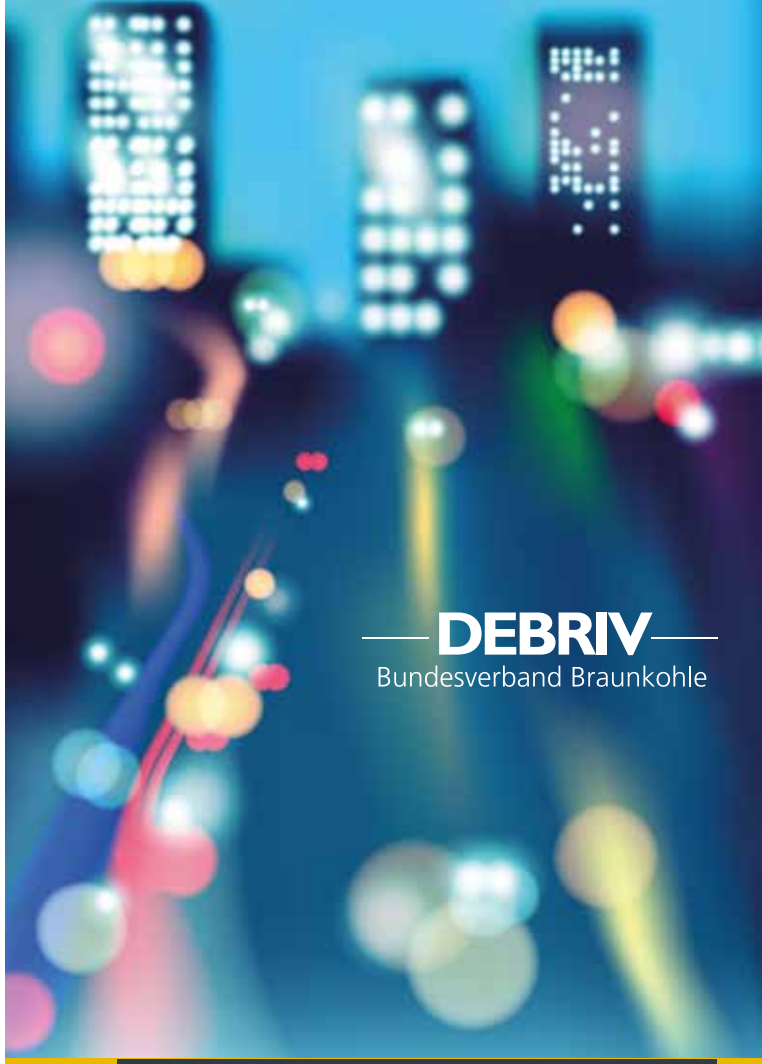
## **10 FACTS** ON LIGNITE

1. For many years to come, lignite is the only domestic energy supplier that is available in large amounts without subsidies on **competitive** terms.
2. With an output of approx. 171 mill. tonnes (2017), lignite contributes almost 40 % to Germany's primary energy generation and is thus **an important domestic energy supplier**.
3. High-quality and by worldwide standards, exemplary **recultivation** is compensation for land required for mining operations.
4. About 90 % of total lignite output is used for domestic **power and district heat** generation. All power plants have highly efficient systems for flue gas desulphurisation, dust removal and $NO_x$ reduction.
5. Thanks to the combination of opencast mines and power plants, lignite-based plants offer a maximum of **security of supply**. There are no **transport risks**.
6. In 2017, lignite-fired power plants generated some 148 bn. kilowatt hours of power. **Every fourth kilowatt hour** of power consumed in Germany is derived from domestic lignite.
7. In Germany, almost **70,000 competitive jobs** are secured by the lignite mining and lignite-based power generation industry. The lignite mining sector provides top-quality primary professional training to round **1,300 young people**.
8. **Industrial safety** has attained a high development level: With 2,0 notifiable accidents at work per 1 mill. working hours (2017), the lignite mining sector ranks far below the average of the total German industry (2016: 14,0).
9. The lignite mining industry stands for preventive climate protection. With high investment in the power plant population, i.e. new power plants and modernisation, **efficiency of power generation** was and still is **continuously being stepped up** while the emissions are being lowered simultaneously.
10. The **flexibility** of modern lignite-fired power plants is comparable to gas and steam plants and provides cost-effective system services to compensate the fluctuating electricity generation from wind and solar.


DEBRIV
**Bundesverband Braunkohle**

Am Schillertheater 4
10625 Berlin
Telefon +49 30 315182-22
Telefax +49 30 315182-52
debriv@braunkohle.de
**www.braunkohle.de**

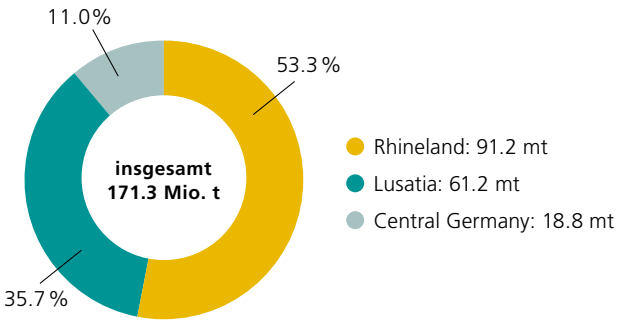

***Deadline:*** *March 2018 (Data preliminary for 2017)*
*Source, if not specified: Statistik der Kohlenwirtschaft*




# LIGNITE IN GERMANY

Facts and Figures 2017

## Lignite production according to mining areas

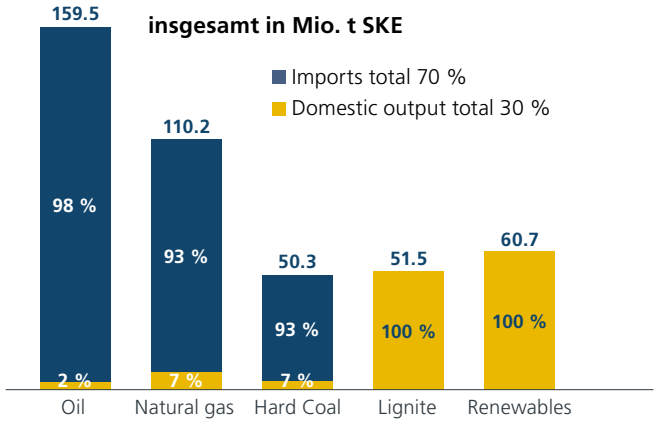



**Utilisation of lignite 2017**

| Mining areas | use [1] | | |
|---|---|---|---|
| | Generation of electricity and heat | Refining | Others [2] |
| | in million t | | |
| Rhineland | 80.7 | 10.2 | 0.2 |
| Lusatia | 57.5 | 3.8 | 0.0 |
| Central Germany | 17.5 | 0.7 | 0.6 |
| Helmstedt | - | - | - |
| **Germany** | **155.7** | **14.7** | **0.8** |

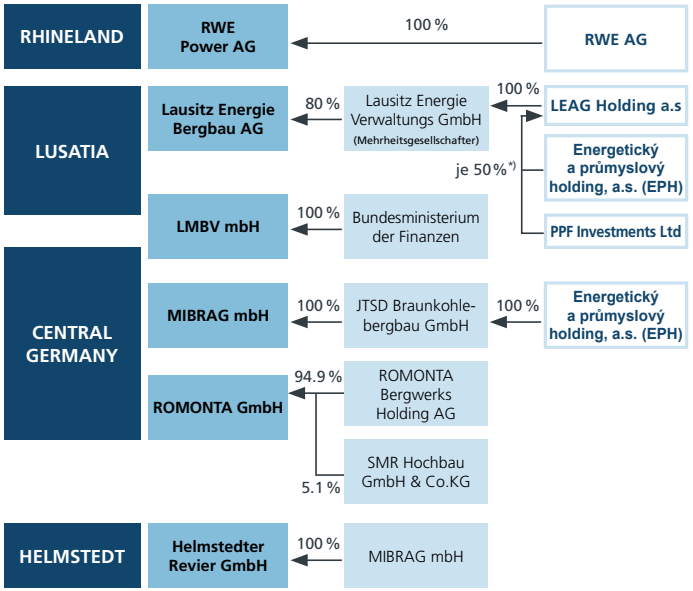
*1) Deviations between production and utilisation caused by change in stocking and deliveries between the mining areas*
*2) without deliveries to other lignite companies*

## Share of domestic output in primary consumption 2017*



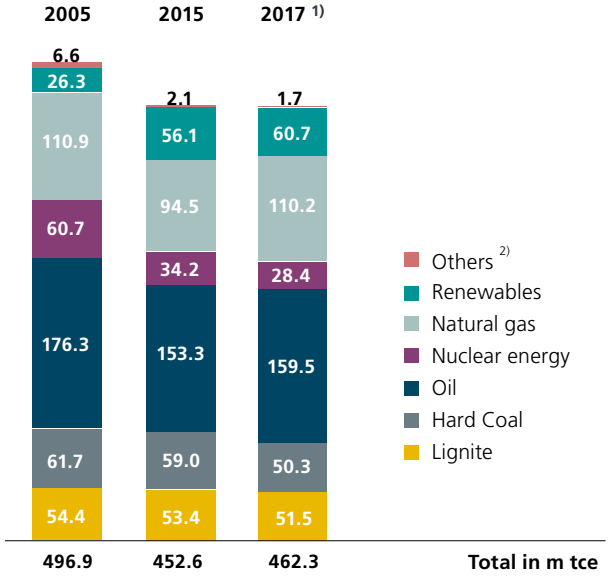

**) provisional*
*Source: Arbeitsgemeinschaft Energiebilanzen e.V.*

## Participation ratios of the lignite companies




**) indirect holdings*

## Primary energy consumption




*1) provisional/forecast*
*2) including power exchange balance*
*Source: Arbeitsgemeinschaft Energiebilanzen, summed deviations due to roundings*

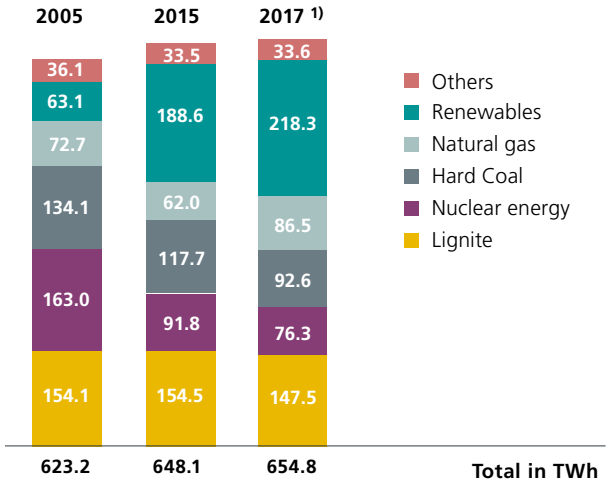
**Capacity and generation of lignite powerstations**
(Kraftwerke der allgem. Versorgung, Industrie- und Heizkraftwerke)

| Federal State | Gross installed power Jan. 1, 2018 | Gross electricity generation 2017 [5] |
|---|---|---|
| | **MW** | **TWh** |
| North-Rhine/Westphalia | 11,463 [1] | 75.4 |
| Brandenburg | 4,705 [2] | 32.7 |
| Saxony | 4,640 [3] | 32.2 |
| Saxony-Anhalt | 1,220 [4] | 6.7 |
| Lower Saxony | 407 | 0.5 |
| Hesse | 42 | |
| Bavaria | 2 | |
| Baden-Wuerttemberg | 2 | |
| **Total** | **22,481** [6] | **147.5** |

*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 1,044 MW security standby reserve*

## Total gross electricity generation




*1) provisional/forecast*
*Source: Arbeitsgemeinschaft Energiebilanzen, summed deviations due to roundings*