ANNUAL REPORT 2020

FACTS AND TRENDS 2019/20

VEREIN DER KOHLENIMPORTEURE

Import Coal Market at a Glance

		2017	2018	2019
World				
Hard Coal Production	Mill. t	6,852	7,064	7,257
World Hard Coal Trade	Mill. t	1,267	1,324	1,336
of which seaborne hard coal trade	Mill. t	1,157	1,208	1,221
of which internal hard coal trade	Mill. t	110	116	115
Hard Coal Coke Production	Mill. t	633	646	682
Hard Coal Coke World Trade	Mill. t	26	28	26
European Union (28)				
Hard Coal Production	Mill. TCE	81	76	67
Hard Coal Imports (incl. internal trade)	Mill. t	172	166	134
Hard Coal Coke Imports	Mill. t	9.1	9.0	9.5
Germany				
Hard Coal Use	Mill. TCE	50.0	48.7	38.7
Hard Coal Volume	Mill. TCE	51.6	47.1	37.9
of which import coal use	Mill. TCE	47.9	44.4	37.9
of which domestic hard coal production	Mill. TCE	3.7	2.7	0.0
Imports of Hard Coal and Hard Coal Coke	Mill. t	51.4	47.0	42.2
of which steam coal [1]	Mill. t	36.3	32.5	29.2
of which coking coal	Mill. t	12.9	12.4	11.2
of which hard coal coke	Mill. t	2.3	2.1	1.9
Prices				
Steam Coal Marker Price CIF NWE	US$/TCE	98	108	72
Border-crossing Price Steam Coal	€/TCE	92	95	79
CO_2 emission rights (EEX EUA settlement price)	EUR/EUA	5.83	15.82	24.84
Exchange rate (US$1 = €....)	EUR/US$	0.89	0.85	0.90

[1] Including anthracite and briquettes

AN INTRODUCTORY WORD

In 2020, it will be decided to end coal-fired power generation. Whatever one's view on the issue, fair treatment of all parties involved should have been expected. In the present draft bill hard coal has the role of a stopgap.

The inauguration of a small fleet of ultra-modern coal-fired power plants was celebrated only a few years ago in the presence of high-ranking politicians, in particular the German Chancellor. Now they are to be forced out of the market with expropriation-like measures. The law provides for very low payments for hard coal-fired power plants in a decommissioning tender, which are completely inadequate for new power plants. In particular, this will devalue municipally owned plants that ensure the heating supply in their region. The Federal Government has thus not followed the recommendation of the Commission on Growth, Structural Change and Employment to create legal certainty in the decommissioning process.

The German electricity supply is thus burdened with incalculable risks. In addition, there is no compensation in sight for the lost secured power plant capacity. Even at the current historic low in the price of natural gas, gas-fired power stations in the electricity generation sector are not earning back their investment. And above all this hovers the sword of Damocles of the European Green Deal: gas-fired power plants are expected to reach CO_2 limits in the next few decades that can only be achieved with CO_2 capture and storage (CCS). However, the EU Commission wants to reserve this technology only for industrial process emissions, while the German government does not think much of CCS for power plants. Who in the market would still invest in a gas-fired power plant without heat extraction, whose half-life could be similar to that of a modern coal-fired power plant? (This does not include subsidised "network equipment" under the supervision of the Federal Network Agency). The German Bundestag would be well advised to plan modern hard coal-fired power plants at least for an appropriately remunerated reserve. The Deloitte study "Assessing the Flexibility of Hard Coal-fired Power Plants for the Integration of Renewable Energy in Germany", which we discuss in this annual report, has shown that they can do this excellently.

World hard coal production rose by around 200 million tonnes to 7.3 billion tonnes in 2019, thus reaching a new record level. In the post-Covid-19 era, it will be increasingly perceived in many parts of the world as what it has always been: a cost-effective and reliable source of energy for rebuilding economies.

Berlin, July 2020

Dr. Wolfgang Cieslik
– Chairman –

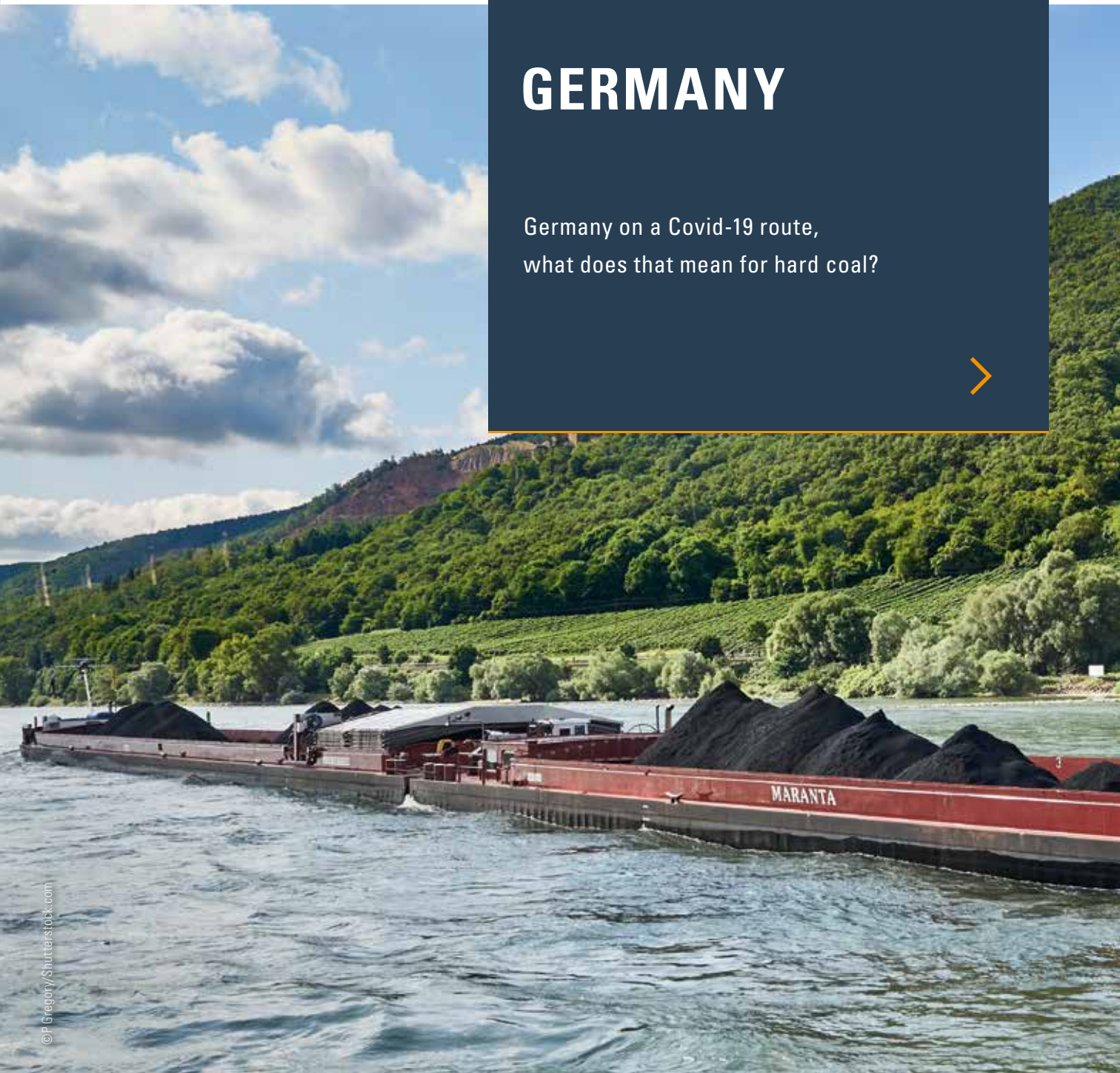
Prof. Dr. Franz-Josef Wodopia
– Managing Director –

TABLE OF CONTENTS

Glossar/Institutionen/Links:
siehe www.kohlenimporteure.de - Publikationen - Glossar zum Jahresbericht

GERMANY

Germany on a Covid-19 route,
what does that mean for hard coal?



FEDERAL REPUBLIC OF GERMANY

General Conditions of the Overall Economy

The title of the 2019/20 annual assessment issued by the Council of Economic Experts is "Mastering structural change." The long-lasting economic upswing in Germany has come to an end for the time being. Not only has the global economic situation dimmed; various structural factors are also hampering growth. A further escalation of trade conflicts could have a severe impact on the export-oriented German economy. Although these are very important topics, this year we will not focus on the annual assessment, but on the special assessment of the "Corona crisis".

In the basic scenario favoured by the Council of Experts, it is assumed that the economic situation will normalise over the summer of 2020. Overall, gross domestic product (GDP) is expected to decline by 2.8 % in 2020 and to recover in 2021 with +3.7 % growth. The corona shock would thus lead Germany into recession in 2020, while recuperative effects would lead to an economic recovery in 2021.

The two other risk scenarios, "pronounced V" (restrictions longer than currently planned, extensive production shutdowns, GDP 2020 = -5.4 %, 2021 +4.9 %) and "long U" (restrictions beyond summer 2020, late recovery only in 2021, GDP 2020 = -4.5 %, 2021 +1.0 %) will move into the background. The "pronounced V" stands for a sudden drop in economic growth followed by a steep climb, the "long U" for a slowed down fall and delayed catch-up effects.

Investments and exports - so far always a pillar of the economic development in Germany - will drop by 6.8 % and 4.4 % respectively. In contrast to "normal situations", private consumption expenditures will decline less drastically in 2020 at -3.0 %. The government's support measures are reflected, among other things, in the fact that government consumption expenditure will grow by 2.3 % in 2020.

The number of gainfully employed reached its peak in 2019, while the number of workers subject to social security will continue to increase even during the crisis until 2021. The current account balance keeps declining and will reach a value of 6.5 % in 2020.

The restrictions on people's freedom of movement and on production process inevitably have an impact on the energy industry. The Council of Economic Experts anticipates a further decline in electricity consumption, mainly due to production restrictions or disruptions, especially in the automotive industry. This would then mainly be at the expense of conventional power plants.

In April 2020, the German government expected a "collapse in growth" of 6.3 %, thus higher than in the 2009 financial crisis. However, estimates and forecasts vary widely. In April, the OECD also estimated the minus at 7 %, the joint diagnosis of the leading economic research institutes in Germany forecast -4.2 % in April. Leading indicators from the transportation sector also give reason to hope. Leading indicators from the transportation sector also give reason to hope. For example, although the index of truck tolls has fallen to 85 % from the level of early February 2020, it is now forming ground. After having reached a collapse of more than 20 %, the air freight transports have almost reached the previous year's level again.

Key Economic Data — German Council of Economic Experts' Assessment of Economic Development

	Unit	2018	2019	2020 [1]	2021 [1]
Gross Domestic Product [2]	%	1.5	0.6	-2.8	3.7
Expenditures for Consumption	%	1.3	1.8	-1.5	3.8
Expenditures for Private Consumption [3]	%	1.3	1.6	-3.0	4.5
Expenditures for Public Consumption	%	1.4	2.6	2.3	2.0
Gross Installation Investments	%	3.5	2.6	-0.2	3.0
Equipment Investments [4]	%	4.4	0.6	-6.8	4.3
Construction Investments	%	2.5	3.9	2.7	2.2
Other Investments	%	4.3	2.7	3.6	3.2
Domestic Utilisation	%	2.1	1.0	-1.2	3.6
Trade Balance	% -Pts.	-0.4	-0.4	-1.7	0.4
Exports	%	2.1	0.9	-4.4	3.6
Imports	%	3.6	1.9	-0.9	3.1
Current Account Balance [5]	%	7.4	7.1	6.5	6.5
Workforce	Thousands	44,854	45,251	45,232	45,266
Employees Subject to Social Security Contributions	Thousands	32,964	33,521	33,769	34,057
Persons Registered as Unemployed	Thousands	2,340	2,267	2,393	2,354
Unemployment [6]	%	5.2	5.0	5.3	5.2
Consumer Prices [7]	%	1.8	1.4	1.1	1.7
Public Fiscal Balance [8]	%	1.9	1.4	-0.8	-1.0
Per Capita Gross Domestic Product [9]	%	1.2	0.3	-3.0	3.5

[1] Projection of the Council of Economic Experts according to baseline scenario
[2] Adjusted for price. Change over previous year. Applies to all component elements of the GDP shown here.
[3] Including non-profit private organisations
[4] Including military weapons systems
[5] In relation to nominal GDP
[6] Registered unemployed persons in relation to complete civil labour force
[7] Change over previous year
[8] Regional authorities and social security in delineation of national economic total account; in relation to nominal GDP.
[9] Population develpment according to medium-term projection of the Council of Economic Experts.

Sources: Council of Economic Experts, Special Report to Corona Crisis, March 2020 /German Federal Statistical Office

HT-D1

Despite the "Corona crisis", it would make sense to discuss the competitivity of the German economy in detail. This can be seen in the "Global Competitiveness Report 2019", which the World Economic Forum (WEF) publishes annually in Geneva. In the much-acclaimed ranking, Germany came seventh in 2019, a poorer ranking than the previous year by four places. It may come as a surprise that Germany scores particularly unfavourable in the area of public safety.

Situation for Energy Business in Germany

The lion's share of the primary energy consumption (PEC) is accounted for by half to heat and cold generation. That is why the mineral oil with a share of 35.3 % (2018: 33.9 %) in Germany is by far the primary energy source, while the share of natural gas is 24.9 % (2018: 23.6 %). The renewable energy sources are in third place with 14.8 % and increased by 5.2 % or 1 percentage point. This is followed by lignite (9.1 %) and hard coal (8.8 %). Nuclear energy accounts for 6.4 %.

In 2019, the fossil fuels natural gas and mineral oil grew by +3.3 % (+3.4 mill. TCE) and +2.0 % (+3.0 mill. TCE) respectively. In contrast, the contribution of lignite and hard coal to PEV declined by 20 % each (-10 mill. TCE)! Decisive factors in the case of hard coal were the significant increase in electricity generation from renewable energy sources and the price level of the Clean Spreads for electricity generation (including the price of CO_2 certificates).

Greenhouse gas emissions in Germany have fallen by 6.3 % compared to 2018. In 2019, according to calculations by the Federal Environment Agency (UBA) 805 million tonnes. This means that the emissions of greenhouse gases have fallen by 35.7 % since 1990.

Primary Energy Consumption in Germany 2017 to 2019

Energy Source	2017	2018	2019	Changes 2019/ 2018		2018	2019
		Mill. TCE		Mill. TCE	%	Share in %	
Oil	159.5	151.6	154.6	3.0	2.0	33.9	35.3
Natural Gas	106.5	105.4	108.9	3.4	3.3	23.6	24.9
Hard Coal	50.0	48.7	38.7	-10.0	-20.5	10.9	8.8
Lignite	51.5	50.0	39.8	-10.1	-20.3	11.2	9.1
Nuclear Energy	28.4	28.3	28.0	-0.3	-1.1	6.3	6.4
Renewable Energy Sources	61.1	61.5	64.7	3.2	5.2	13.8	14.8
Electricity Exchange Balance	-6.8	-6.0	-4.0	2.0	…	-1.3	-0.9
Other	8.4	7.6	7.2	-0.3	-4.5	1.7	1.7
Total	**458.6**	**447.0**	**437.8**	**-9.2**	**-2.1**	**100.0**	**100.0**

Source: AGEB, "Energy Consumption in Germany in 2019 - Annual Report" for 2018 / 2019

HT-D2

At 14.8 %, the importance of renewables at the macroeconomic level is significantly lower than in the electricity sector. They cover only one seventh of the energy consumed in Germany. More and more electricity generation from renewable energy sources are facing modest contributions from the transport and heating sectors. This casts a shadow over the German self-portrait of an ecological forerunner.

Electric Power Generation

While the energy transition has not yet left its mark on the heating market and the transport sector, it is having a massive impact on the energy mix for electric power generation. Renewable energy sources have already taken the lead in gross electricity generation since 2014, and their share now stands at 40 % (+8.3 % year-on-year).

Gross Electric Power Generation in Germany per Energy Source

Energy Source	2017	2018	2019	2019 Shares	Change 2019/2018
	TWh			%	%
Lignite	148.4	145.6	113.9	19	-21.8
Nuclear Energy	76.3	76.0	75.1	12	-1.2
Hard Coal	92.9	82.6	57.3	9	-30.6
Natural Gas	86.7	82.5	91.0	15	10.3
Oil	5.6	5.2	5.1	1	-1.9
Renewable Energies	216.3	223.3	241.9	40	8.3
Other	27.5	20.5	19.7	3	-3.9
Total	**653.7**	**635.7**	**604.0**	**100**	**-5.0**

Sources: AGEB / BDEW, Fakten und Argumente, März 2020

HT-D3

Lignite is in second place with a share of 19 %. Natural gas follows with a 15 % share and an increase of 10.3 %. As in the previous year, nuclear power accounted for 12 %. The share of hard coal decreased to 9 %. This corresponds to a decline of 30.6 %.

Gross Power Generation from Renewable Energy Sources

Energy Source	2016	2017	2018	2019	2019 Shares	Change 2019/2018
	TWh				%	%
Hydroelectric Power	20.5	20.1	17.9	20.1	8	12.3
Wind Onshore	67.8	87.9	90.9	101.4	42	11.6
Wind Offshore	12.3	17.7	19.5	24.7	10	26.7
Biomass	45.0	45.0	44.6	44.5	18	-0.2
Municipal Wastes (50 %) [1]	5.9	6.0	6.2	5.7	2	-8.1
Photovoltaics	38.1	39.4	44.0	45.3	19	3.0
Geothermal Energy	0.2	0.2	0.2	0.2	0	0.0
Total	**189.8**	**216.3**	**223.3**	**241.9**	**100**	**8.3**
Share of Renewables in Gross lectric Power Generation	29 %	33 %	35 %	40 %		

[1] Biogenic share of household wastes

Sources: BDEW, u. a. Fakten und Argumente, März 2020

HT-D4

Wind onshore accounted for 42 % of electricity generated from renewable energy sources, followed by photovoltaics and biomass with 19 % and 18 % respectively. Wind onshore developed very dynamically with a growth rate of 11.6 %. The growth rate for wind offshore was more than twice as high at 26.7 %.

According to the Fraunhofer Institute for Energy Economy and Energy System Technology, the installed wind power capacity (on- and offshore) increased in 2019 by around 2 GW to 60.9 GW, of which 53.4 GW onshore and 7.5 GW offshore.

Status of the Grid Extension Pursuant to EnLAG and BBPIG

The expansion of the power grid is decisive for the success of the energy transition and the further expansion of renewable energy sources, but also for ending coal-fired power generation.

The projects pursuant to the Energy Line Expansion Act (EnLAG) cover a total length of 1,826 km. At the end of 2019, 425 km thereof are in the regional planning or planning approval process, 495 km are approved and prior to construction or under construction, and 906 km are completed. Thus, 50 % of the total length was completed compared to 45 % in the previous year.

The projects in accordance with the Federal Requirements Planning Act (BBPIG) comprise with a total length of 5,830 km, the larger part of the expansion projects. 331 km of which are approved and prior to or under construction. 372 km or 6.4 % have been realised so far. In the previous year it was 4.2 %.

It remains to be seen whether the Act to Expedite the Expansion of the Power Grid (NABEG), which passed the Bundesrat on 12 April 2019, can expedite the lagging expansion of the power grid by simplifying authorisation procedures.

Although the expansion of the power grid ensures the north-south transport of electricity from renewable energy sources, it does not protect against their fluctuating supply. This does not change in the European network either, since the weather situation in Europe is characterised by a high degree of concurrency, as the following study, to name one example, shows.

Deloitte Study about the flexibility of Hard Coal-fired Power Plants

The Deloitte Study "Assessing the Flexibility of Hard Coal-fired Power Plants for the Integration of Renewable Energy in Germany" (Deloitte Finance, Paris, November 2019) was to answer two central questions on behalf of the VDKi:

1. How will the need for flexibility in the German electricity system develop as wind and solar energy continue to expand?

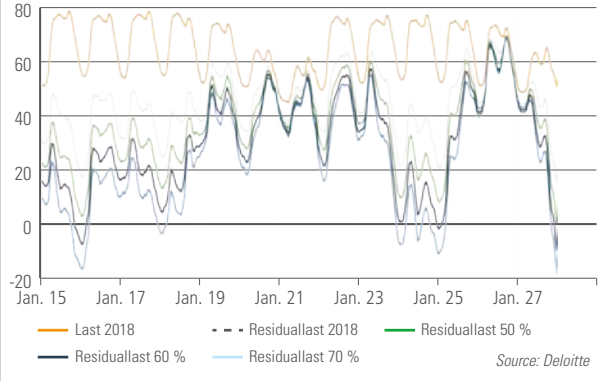
2. Can the existing hard coal-fired power plant park in Germany compensate for and integrate growing shares of fluctuating renewable energies without jeopardising the safety of the power supply?

For the power plant park of the year 2018, an analysis of the "cold dark doldrum episodes" was conducted. These are times when the renewable energies feed-in is very low, while there is a considerable demand for electricity at the same time. Such periods may occur in a variety of intensity and duration several times a year. Based on data from the ENTSO-E transparency platform, there was for instance in the second week of January 2018 a 72-hour period, in which the feed-in of fluctuating renewable energies was relatively low, while the electricity demand was largely above the annual average. During this three-day period, the decline in the feed-in of renewables also led to a decline in electricity exports. Partially, Germany even imported from its neighbouring countries. Even there, electricity from fluctuating renewables was hardly available. Their availability shows similar patterns across national borders. Already in 2018, Germany could thus meet peak electricity demand only by means of nuclear and fossil power plants in neighbouring European countries.

The integration of a growing share of renewables in the power plant park of 2018 was examined with the aid of a simulation model. Within the context of the simulation, three expansion

stages of renewables were considered: shares of 50 %, 60 % and 70 % of domestic electricity generation. This "what-if" analysis assumed the same fuel prices as in 2018. The CO_2 prices are based on the forecasts of the New Policies Scenario of the World Energy Outlook of the International Energy Agency (IEA, Paris, 2018). The installed renewable energy capacity in Germany was taken from the B-scenarios of the Network Development Plan Electricity 2030 (www.netzentwicklungsplan.de). The analysis focused on the effects of increasing the fluctuating share of renewables on the use of coal-fired power plants. The analysis isolated effects of external factors, such as the energy policies of European neighbouring countries. It was therefore a typical "what-if" scenario analysis.

Load and residual load curves of different shares of renewable energies for a selected week



HT-B1

Figure HT-B1 shows that the feed-in from renewable energies on January 26, 2018 was negligible, **regardless of their share of electricity generation** in the simulation. To cover the electricity demand, almost exclusively controllable power plants were necessary. Further, the observation of the annual duration curves of residual loads for the entire year showed that the load peaks to be covered were hardly reduced by increasing the share of renewable energies. In the simulation with shares of up to 70 % of domestic electricity generation, Germany became a net importer during "cold dark doldrum episodes". The leeway for even higher imports was limited by the lack of availability of disposable plants in Germany's neighbouring countries and the overload of the interconnectors.

In the hours of the highest residual load, more than 69 GW of controllable generation capacity was needed to cover the load, regardless of the amount of wind and PV power installed. This illustrates that controllable power plants continue to play a key role in the security supply of the system, even though the majority of annual electricity generation came from renewable sources. In the simulation, increasing the capacity of fluctuating renewables by up to 70 % of domestic electricity generation did not lead to the decommissioning of a significant number of controllable power plants, even though their operating times were massively reduced. The average utilisation rate of hard coal-fired power plants dropped to 15 % in the scenario with 70 % renewables (2018: 35 %).

Conclusion: Hard coal-fired power plants do not stand in the way of the expansion of renewables, rather they contribute to their integration by adjusting output and operation accordingly. Despite the planned phase-out of coal-fired power plants, they remain indispensable in the long term - they are relevant to the system. Their CO_2 emissions fall considerably with the decline in electricity generation - by around 60 % in the 70 % renewables scenario. From a climate policy perspective, such a system would be a success.

Development of Greenhouse Gas Emissions

Top producer of CO_2 emissions from the generation of energy was in 2019 again oil with a share of 38 %, followed by natural gas (26 %) and lignite (19 %). Hard coal accounted for merely 13.6 % of total emissions, and its emissions declined by 23.4 % by a quarter in comparison with 2018.

CO_2 Emissions from Energy Generation in Germany by Energy Source

	CO_2 Emissions 2018	2019	Change 2019/2018	Emission Shares 2018	2019
	Mill. t		%	%	
Oil	244.2	250.0	2.4	34.8	38.3
Hard Coal [1]	116.2	89.0	-23.4	16.5	13.6
Natural Gas [2]	162.3	168.0	3.5	23.1	25.7
Lignite	158.9	125.0	-21.3	22.6	19.1
Other [3]	20.6	21.0	1.9	2.9	3.2
Total	**702.2**	**653.0**	**-7.0**	**100.0**	**100.0**

[1] Incl. furnace and coke oven gas [2] Incl. mine gas [3] Incl. volatile emissions

Source: Schiffer, Hans-Wilhelm, "German Energy Market 2018", et 03/2020

HT-D5

This decline and an almost equal reduction in emissions from lignite led to a 7.0 % decrease in energy-related CO_2 emissions in 2019, despite higher emissions from the other energy sources. In May 2019, the German Emissions Trading Authority reported that the CO_2 emissions of German installations in the European Emissions Trading Scheme (ETS) fell by 14 % in 2019. This underlines the effectiveness of the ETS and the reduction contributions of hard coal and lignite.

Climate Protection Program 2030/ Climate Protection Act

On 20 September 2019, the German government presented key points for a climate protection programme for 2030. The climate protection programme 2030 was adopted by the cabinet on 9 October 2019. The proposed measures will be successively implemented through legislation and support programmes.

The €54 billion climate protection package aims to ensure that Germany achieves its climate targets for 2030 and that until then, greenhouse gas emissions are reduced from 870 to 560 million tonnes of CO_2. A milestone is the introduction of a national CO_2 price for the sectors not yet covered by the ETS, namely the transport, building and agriculture sectors. As of 2021, suppliers of fossil fuels will have to purchase CO_2 certificates, the price of which will rise from 10 € to 35 €/tonne CO_2 in 2026. Only afterwards should the price on the market develop between a lower and an upper limit.

The Federal Climate Protection Act was passed on 12 December 2019. Among other things, it defines how CO_2 emissions are to be reduced in which sectors and to what extent, so that national and international climate targets can be achieved. Compliance with the respective emission targets in the energy, industry, building, transport, and agriculture sectors is the responsibility of the Federal Ministry to whose domain the relevant sector belongs. There is a particular need for action in the building, transport and agriculture sectors, as emissions are not declining there. Otherwise the reduction of CO_2 emissions by 55 % compared to 1990, and climate neutrality by 2050 would not be achievable. At the United Nations Climate Summit in New York on 23 September 2019, Germany committed itself to this long-term goal.

It can be assumed that Germany will achieve its national targets by 2030. On behalf of the Federal Ministry of Economics and Energy (BMWi), Prognos AG conducted an assessment stating that, without a climate protection program, greenhouse gas emissions will be reduced by only 41 % by 2030. The government's new climate programme is thus a substantial package for meeting the climate protection targets. With a 52 % decrease in emissions compared to 1990, as estimated by Prognos, Germany is in the top ranks on an international level. "The energy sector is making a significant contribution to this," explained Federal Minister of Economics Altmaier. Greenhouse gas emissions from the energy

industry are projected to decrease by about 61 % until 2030. This would result in a ratio of target achievement of more than 97 %. In the transport sector, the aimed for reduction is of at least 42 %. According to Prognos' calculations, this sector will only reach about half of its objective.

With this background, the severity with which the hard coal power generation is confronted with, cannot be justified by facts.

Coal Electricity Generation Completion Act (KVBG)

The Commission Growth, Structural Change and Employment (KWSB) agreed on a final report on 26 January 2019, which made recommendations for a "gradual and as steady as possible" phase-out of coal-fired power generation. This was discussed in detail in our last annual report. The recommendations of the WSB Commission focused mainly on regional and structural political considerations. The important role that hard coal could have played as a bridging solution in the context of energy transition was not recognised. The WSB Commission recommended negotiations with lignite and tenders for the decommissioning of hard coal-fired power plant capacity. Coercive instruments should only be used in an emergency.

Despite these recommendations, the German government formulated a phase-out law for **hard coal-fired power plants** in the summer of 2019 with **annualised target** levels for decommissioning, which were to be achieved both through tenders and through "statutory reduction", thus also through coercive instruments. In the political discussions that followed, some points were partly removed from the law, while others were added. Delays on the original time schedule occurred because the German government focused on the fact that there was a governmental resolution to end the lignite and hard coal power generation. On 16 January 2020 a corresponding draft law was presented. Back then it was already ambitious to want to pass the law before the summer break. More importantly, however, from the point of view of hard coal the draft was **discriminatory and subject to legal challenge.**

According to a timetable published on 16 January 2020 for lignite-fired power plants, coal-fired power generation in Germany is to be reduced as follows:

- Until 31.12.2022 to 30 GW, of which 15 GW hard coal
- Until 31.12.2030 to 17 GW, of which 8 GW hard coal, and
- Until latest 31.12.2038 to 0 GW.

Hard coal takes on the role of a stopgap.

The reduction of coal-fired power generation is to be achieved for hard coal by the deadline of 2026 through tenders for hard coal-fired power plan capacity. Afterwards, compulsory measures should be taken. However, if in 2026 the tenders would have not yet reached the target level, compulsory measures would already be implemented in 2024. A shortened tendering procedure should still be carried out in 2020. Tender volume: 4 GW net nominal capacity. The marketing ban on hard coal-fired power plants should still take effect in 2020.

The following are excluded from tenders

- Plants that cannot be decommissioned due to their systems relevance or
- Plants that convert to gas cogeneration with subsidies.
- Only in the first tendering procedure are power plants in the so-called "southern region" excluded in order to guarantee security of supply there. It was assumed that the grid expansion would then be successfully completed (see above for the factual development).

In particular, the exclusion of hard coal-fired power plants in the "southern region" regarding tenders for decommissioning is discriminatory and therefore legally contestable. But this also shows that hard coal-fired power plants are needed as partners of renewables. This fact is supported by the results of the above presented Deloitte study "Assessing the Flexibility of Hard Coal-fired Power Plants for the Integration of Renewable Energy in Germany" (Deloitte Finance, Paris, November 2019). From a purely technical point of view, the existing coal-fired power plant park in Germany (2018) could absorb and integrate growing renewable energy shares of 50 %, 60 % or 70 % without jeopardizing the reliability of the electricity supply. Between 2013 and 2015, state-of-the-art hard coal-fired power plants went to the grid with an efficiency of 46 %, which would be threatened with compulsory shutdown without compensation before the end of their depreciation period – and Datteln 4 would add another. This would do a disservice to climate protection.

The Coal Importers' Association stands by the Paris Climate Convention and Germany's contributions to its implementation. It will not help the global climate, however, if the newest hard coal-fired power plants in Germany are shut down without compensation and replaced by poorer power plants in Europe. Even the decommissioning of emission certificates does not change the fact that, in order to maintain security of supply, coal-fired power plants of our European neighbours must be resorted to. What is certain is that security of supply will then be more expensive.

Therefore, the Coal Importers' Association (VDKi) pleads for a non-discriminatory and judicially compliant law, which uses and honours the flexibility of hard coal-fired power plants.

In a statement dated January 23, 2020, the VDKi intensified the criticism of the then latest draft law of the Federal Ministry of Economics and Energy for a Coal Electricity Generation Completion Act (KVBG):

- The KVBG is **discriminatory and unfair.**
- Both between hard coal-fired power plants and lignite-fired power plants as well as within hard coal-fired power plants there is **blatant unequal treatment.**
- Especially **communal shareholders** of hard coal-fired power plants, which are often operated in combined heat and power generation, are being **damaged** in this way.
- Should the federal government adhere to the tendering procedure despite growing criticism from several state governments then it would have to be applied at least until 2013. But even this arrangement would unduly interfere with the ownership rights of the operators of hard coal-fired power plants. Tenders are not a suitable instrument to grant as a constitutionally binding compensation for suffered financial losses. In the first year there is supposed to be a maximum of 165.000 €/MW, then every year less, and in 2026 only 49.000 €/MW. This does not take sufficient account of the protection of property and the trust of operators in the existence of permits on the basis of which they have made investments.
- The rapid transition to a forced shutdown would put modern, low-emission power plants in particular at a disadvantage compared to CO_2-intensive power plants. They receive less or no financial compensation, while the emission-intensive plants are financially compensated and remain longer on the market. Thus, any climate political justification for this encroachment on property rights is futile.
- It is unacceptable that power plants in the "southern region" are discriminated against because of their geographical location or because of their systems relevance as determined by the Federal Network Agency.

Even though the law speaks of a "gradual and as steady as possible" reduction in coal-fired power generation, hard coal has in fact become a gap-filler to enable a smooth shut down for the lignite-fired power plants.

Interventions similar to expropriation will compel legal action to protect the rights of shareholders. However, municipal shareholders have limited protection of fundamental rights and cannot rely on legal recourse. For them especially a fair legal solution is of significant importance. The hardship clause contained in the KVBG is completely inadequate, as it merely provides postponement but no compensation.

The VDKi derives the following demands from the arguments and points of criticism listed above:

1. Consensual solutions must be found with all operators of hard coal-fired power plants, especially those of more recent power plants.

2. The security readiness in accordance with section 13g of the Energy Industry Act must be granted to hard coal-fired power plants that have successfully participated in the auction in order to both enable these plants to transfer personnel and to withdraw from the unconditional access of the transmission system operators (grid reserve).

On February 27th, 2020, the operators of coal-fired power plants had the opportunity at the Ministry of Economics (BMWi) to exchange views with Federal Minister Altmaier on the coal phase-out law. The VDKi was also involved in this discussion. A willingness to change conduct was not apparent.

The adoption of Coal Electricity Generation Completion Act (KVBG), originally planned for the first half of this year, became critical at the time of finalising the editorial of this report. On May 25th, the economic committee of the Bundestag will address the KVBG in a hearing, and on June 12th it could be passed in the Bundestag. Besides the Covid-19 pandemic, the notification of the law to the EU Commission delayed its adoption. The notified law may not be adopted before three months have elapsed since the Commission received the nomination. During this period, the EU Commission and EU member states are given the opportunity to comment on the German KVBG.

Originally, the Bundesrat was to approve the law mid-May 2020. But there was no way of it being approved. For example, it had demanded that operators of hard coal-fired power plants could participate in tenders until 2030 instead of 2026, and that the maximum compensation for younger power plants should not be degressive. However, the federal government has been adamant against the wishes of the Federal Council.

If the adoption of the coal phase-out law is delayed until autumn, the goal of taking 4,000MW of hard coal from the grid via tenders would not be attainable anymore. According to the law, the tender deadline, in the shortened procedure planned for 2020, will be two months after the law comes into effect, which means that if the law is passed in September, it will not be passed until November. The Federal Network Agency will then have to review the proposals, which will also take several weeks.

Parallel to the KVBG, a Structure Reinforcement Act (Strukturstärkungsgesetz) for the coal regions is to provide up to € 14 billion in direct financial aid for the affected lignite mining areas and support the expansion of the infrastructure and the establishment of federal authorities and research institutions with a total of € 26 billion. In addition, structurally weak locations of hard coal-fired power plants and the former Helmstedt lignite mining area can receive a subsidy of a solid € 1 billion. Eligible sites are Wilhelmshaven, Unna, Hamm, Herne, Duisburg, Gelsenkirchen, Rostock, Saarlouis and Saarbrücken.

Daniel Wetzel described in the newspaper "Welt" of January 30th, 2020, the simultaneous phase-out of nuclear energy and coal-fired power generation as an "Exit with seven flaws":

1. no additional climate benefit,
2. questionable backup power,
3. lack of role model function,
4. legal uncertainties,
5. the burden on industry,
6. unclear supply,
7. no pacification.

These seven points are self-explanatory.

Hard Coal Market

Primary consumption of hard coal (HT-D6) decreased by 10.0 million TCE or 20.5 % from 48.7 million TCE (2018) to 38.7 million TCE in 2019. The use of hard coal in power plants declined by 33.5 %. The steel industry's input was down by 3.9 %. Overall, this resulted in the considerable decline of 20.5 %. Hard coal consumption in 2019 (in million TCE) was covered as follows:

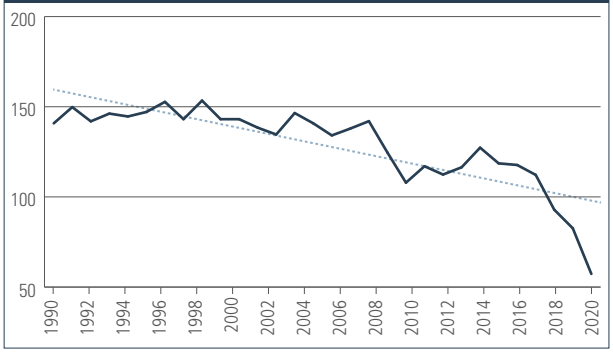
Utilisation of Hard Coal in Germany

Utilisation	2017	2018	2019	Change 2019/2018
		Mill. TCE		%
Power Plants	31.2	27.2	18.1	-33.5
Steel Industry	17.6	20.4	19.6	-3.9
Heating Market	1.2	1.1	1.0	-9.1
Total	**50.0**	**48.7**	**38.7**	**-20.5**

Source: AGEB

HT-D6

Power Generation from Hard Coal 1990 – 2019 in TWh



HT-B2

The use of hard coal for power generation follows a long-term downward trend, which has been exacerbated by the strong growth in solar and wind energy, which is primarily supplied to the grid, and, in recent years, the rise in the price of CO_2 (Figure HT-B2).

The share of domestic production in coal supply (Figure HT-D7) fell from 2.7 million TCE to 0 million TCE in 2019.

The scheduled socially acceptable adjustment and phase-out process of the German hard-coal industry was concluded at the end of the year 2018. This marked the end of an important chapter of German industrial history.

The contribution of imported quantities to coal supply decreased in accordance with Arbeitsgemeinschaft Energiebilanzen (AGEB) from 47.1 million TCE in 2018 to 37.9 million TCE in 2019 (-14.6 %). Since the beginning of 2019, the German market has only been supplied by imports, which have consistently guaranteed a reliable and high-quality supply to the German market.

Volume of Hard Coal in Germany

	2017	2018	2019	Change 2019/2018
	Mio. t SKE			%
Import Coal	47.9	44.4	37.9	-14.6
Domestic Production	3.7	2.7	0.0	-100.0
Total	**51.6**	**47.1**	**37.9**	**-19.5**

Source: VDKi, own calculations

HT-D7

The difference in quantities between Tables D6 and D7 is explained by the fact that one is based on supply and the other on consumption, so that differences are possible as a result of stock fluctuations.

The difference in volume between the supply of imported coal in table D7 and total imports in table D8 is due to the use of different measurement units. The AGEB calculates volumes in "TCE", while imports are calculated in "t = t" according to foreign trade statistics. They are broken down per quality grade as follows:

Imports per Grade in Mill. t (t = t)

Products	2017	2018	2019
	Mill. t		
Steam Coal [1)]	36.3	32.5	29.2
Coking Coal	12.9	12.4	11.2
Coke	2.3	2.1	1.9
Total	**51.4**	**47.0**	**42.2**

[1)] Including anthracite and briquettes

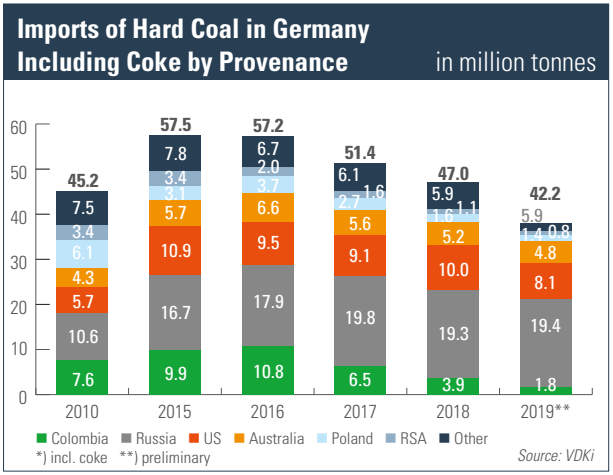
Sources: Federal Statistical Office / own calculations

HT-D8

The share of imports of steam coal account for 69,0 %, coking coal for 26,5 % and coke for 4,5 %. In view of the declining demand from power plants and the growing share of coal used by the steel industry in total consumption, it must be pointed out that injection coal (PCI coal), which is statistically included in steam coal, is to be allocated to the steel industry. Unfortunately, there is no category for injection coal in the official customs nomenclature and accordingly in the eight-digit DESTATIS product list. It is mainly recorded as steam coal, but also as anthracite. The estimated share of coking coal, coke and injection coal in German hard coal consumption is probably around 50 %.

Figure HT-B3 shows the origins of the imported quantities. Russia is in first place with 19.4 million tonnes or 46 %. Russia's exports to Germany increased slightly by 0.6 %. Imports from all other countries decreased. Those from the USA fell from 10.0 million tonnes to 8.1 million tonnes. The USA thus still achieved a market share of 19 %. Supply from Australia fell from 5.2 million tonnes to 4.8 million tonnes. The market share remained at the previous year's level of 11 %. As in the previous year, Colombia continued to lose market share (2019: 4.3 %). Imports declined from 3.9 million tonnes (2018) to 1.8 million tonnes.

Imports from Poland decreased by 14,5 % and still contribued 3,3 % to the supply of the German market. Supplies from the Republic of South Africa fell from 1.1 million tonnes (2018) to only 0.8 million tonnes.



HT-B3

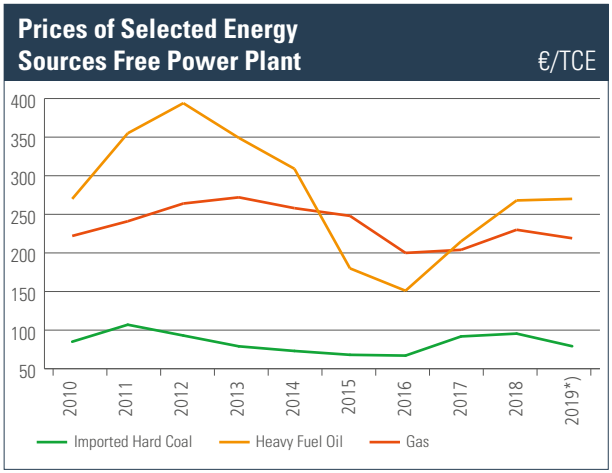
With 17.1 million tonnes, Russia is the largest supplier of steam coal. Followed by the USA with 4.6 million tonnes and Colombia with 1.8 million tonnes. Regarding coking coal, the main suppliers were Australia with 4.7 million tonnes, the USA with 3.5 million tonnes, Russia with 1.4 million tonnes and Canada with 1.2 million tonnes.

The predominant share of German coke imports came with 63 % from Poland. The Czech Republic follows with a share of 13 %, Russia with a 10 % share of the market supply and the People's Republic of China with a share of 3 %.

The coal imports to German by country of origin are broadly distributed across all grades. The vast majority of these are politically stable countries. The logistics in Germany's seaports and in the ARA ports, which are key for German imports, functioned reliably and without interruption. Temporary disruptions were caused by low water levels, but to a lesser extent than in 2018. The extent to which individual buyers were affected varied and depended on the precautions taken for the case (storage, alternative modes of transport).

Development of Energy Prices

The annual average price for heavy fuel oil in 2019 was 270 €/TCE, the natural gas price for power plants was 219 €/TCE, and the VDKi price for imported coal (continuation of the BAFA price) was 79 €/TCE.

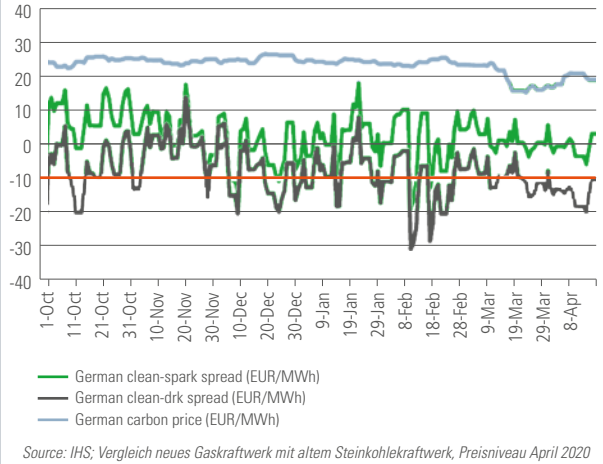


HT-B4

Not only the energy price is decisive for the use of energy sources in power plants, but also the interaction of several influencing factors, summarized in the Clean Dark Spread and Clean Spark Spread, the gross margins of hard coal and gas-fired power plants, which also depend on the price of CO_2 and the price of electricity.

The illustration in Figure HT-B5 is based on a comparison of a new gas-fired power plant with an old hard-coal-fired power plant, in order to show in which situations a fuel switch occurs. It shows that the Clean Dark Spread (gross margin hard coal) was often negative and the clean spark spread (gross margin natural gas) was almost consistently above the clean dark spread.

Clean Spark Spread (Gross Margin Natural Gas) and Clean Dark Spread (Gross Margin Hard Coal)



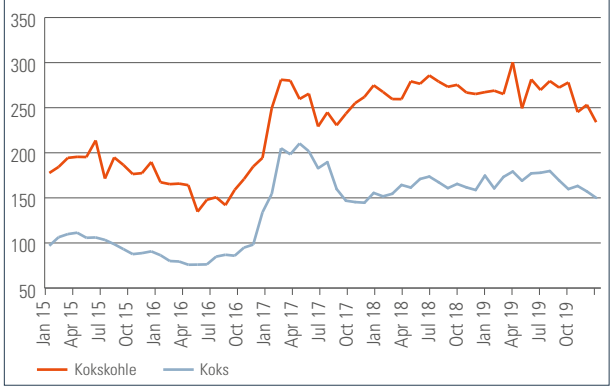
Source: IHS; Vergleich neues Gaskraftwerk mit altem Steinkohlekraftwerk, Preisniveau April 2020

HT-B5

Electricity prices are under pressure, particularly due to the Covid-19 pandemic. However, for the first time on a working day, the day-ahead baseload price became negative at -16.15 €/MWh on 21 April 2020. Negative electricity prices in spot trading are generally favoured by high renewable energy feed-in with simultaneous low demand for electricity. The system's remoteness from the market can also be seen from the fact that the Renewable Energies Act levy is rising with falling market prices, and consumers are additionally burdened in the Corona crisis.

The cross-border prices for coking coal and hard coal coke are shown in figure HT-B6. The price of coking coal in 2019 ranged from 180 €/t in July to 150 €/t in December. Thus, the price level of 2017 was reached again.

Cross-border Prices of Coking Coal and Hard Coal Coke €/t



HT-B6

The price development of coke followed a similar trend as that of coking coal. The price ranged from €300 per tonne in March 2019 and €234 per tonne in December 2019. The price of coke also fell back to the 2017 level.

Steel production

The steel industry in Germany is affected by an economic downturn in important sales areas. In 2019, crude steel production declined for the second year in a row and fell below 40 million tons for the first time since 2009. While global crude steel production increased by 3.4 % in 2019, crude steel production in Germany declined by 6.4 % to 39.7 million tonnes. Pig iron output declined by 6.6 % to 25.5 million tonnes in the year 2019.

Crude Steel and Pig Iron Production				
	2017	2018	2019	Change 2019/2018
		Mill. t		%
Crude Steel	43.3	42.4	39.7	-6.4
Pig Iron	27.8	27.3	25.5	-6.6
Source: Steel Federation				

HT-D12

According to the German Steel Federation, the German steel industry has been severely affected by the Covid-19 pandemic due to its close integration into European value chains. The demand for steel could therefore shrink to an even lower level than during the financial crisis in 2009. Steel companies in Germany and Europe are reacting to these developments with individual adjustments to their production.

Despite the global economic slump, production in important steel-producing countries is currently not being adjusted to the changed demand situation, but in some cases even expanded. This applies in particular to the People's Republic of China, where crude steel production is at a record level and increased further in the first quarter of 2020. High inventories were built up there which, as a result of a too low domestic demand, are now pressing on world markets. The situation is similar for Turkey and Russia. It is to be feared that the already existing global structure crisis as a result of the Covid-19 pandemic, and the worldwide overcapacities will continue to increase.

The German Steel Federation is of the opinion that, in accordance with World Trade Organisation (WTO) rules, "major adjustments to the EU safeguards should be made". In this crisis situation, "other countries should not be allowed to unload their structural problems on the European steel market".

The German steel industry therefore has no need for special climate political burdens. All companies in the German steel industry take the climate political challenges seriously and are pursuing ways to reduce CO_2 emissions in steel production. Since the steel industry uses coal as a reducing agent rather than for steam generation as in power plants, fundamental process changes can only be achieved by the use of alternative reducing agents. A possibility that is already being worked on, is the replacement of injection coal (PCI) by hydrogen.

In November 2019, Thyssenkrupp Steel reported that it had succeeded to convert a blast furnace to hydrogen. However, a complete replacement of coke by hydrogen is a futuristic dream. Voestalpine's CEO Herbert Eibensteiner explained in November 2019 that the company had been working on a hydrogen solution for some time and commissioned a demonstration plant on October 18, 2019. However, hydrogen would only be a "very long-term option", he said. "I do not expect us to use hydrogen on a large scale before 2035", said the board spokesman of the largest single-CO_2-emitter in Austria. For this, "green electricity" must be affordable and available in sufficient quantities via a power supply system equipped for this purpose.

In view of the severe crisis in the industry due to the corona pandemic, NRW Minister President Armin Laschet made a strong case for the steel industry in his address to the WAZ on 15 May 2020. "Our state has a substantial interest in maintaining the competitiveness of this industry and securing the jobs associated with it. ... Stability in times of crisis and independence from geopolitical distortions are imperative requirements for the security of supply of entire industry branches and make the German steel industry systemically relevant for Germany."

EUROPEAN UNION

Green Deal – Just transition for the European coal production?

EUROPEAN UNION

Economic Growth in Europe

The growth rate of the real gross domestic product (GDP) was in the European Union (EU 28) in 2019 came to 1.5 % in contrast to 2.0 % in the previous year (2018). Economic growth in the eurozone declined from 1.9 % in 2018 to 1.2 % (2019), and thus remains below the average for the EU 28 as a whole.

Table HT-EU1 shows the largest EU countries (2019 still including the UK) with their share of EU-28 or EU-27 GDP after the UK's withdrawal. Germany is in the lead with a share of 21 % of EU-28 GDP. At 0.6 %, economic growth continues to lag behind that of the other Member States. Following the departure of Great Britain, the second largest economic nation in the EU-28, the share of German GDP in the economic leadership of the EU increases to one quarter.

In 2019, the United Kingdom accounted for 15 % of EU GDP. In 2017 and 2018 growth on the island was well below the EU average. For 2019 it was feared that the long-running and hardly comprehensible discussion about the nature and implementation of a Brexit would cause even more damage to the British economy. Indeed, growth has now largely aligned itself with the EU level.

France, which will soon be the number two in the EU in terms of GDP share, was almost on a par with the UK in 2019 with a share of just under 15 %. In 2019, Germany and France together will account for a good third of Europe's economic output, after the withdrawal of the United Kingdom on January 31st, 2020 even for 42 %.

From the smaller of the large European economies in Table HT-EU1, Spain and the Netherlands showed above-average growth. Their growth rates in 2019 were +2.0 % and +1.8 % respectively. Italy developed below average (+0.3 %).

Share in GDP of EU 28/27 and Economic Growth in EU 28/27/Eurozone in %

Member States	Share in GDP 2019 in EU 28	Share in GDP 2019 in EU 27	2017	2018	2019
EU 28	100.0		2.6	2.0	1.5
United Kingdom	15.3		1.9	1.3	1.4
EU 27		100.0	2.7	2.1	1.5
Eurozone (19 Countries)			2.5	1.9	1.2
Germany	20.9	24.7	2.5	1.5	0.6
France	14.7	17.4	2.3	1.7	1.3
Italy	10.9	12.8	1.7	0.8	0.3
Spain	7.6	8.9	2.9	2.4	2.0
The Netherlands	4.9	5.8	2.9	2.6	1.8

Source: Eurostat, per: 17/05/2020

HT-EU1

The fight against the Covid-19 pandemic has severely restricted European economic activity. At the time of the editorial deadline, actual figures from Eurostat were published only for the first quarter of 2020. They show that the German economy has so far made it through relatively unscathed, with a decline of -2.2 %, measured against the setbacks suffered by the economies of other EU countries. According to a Eurostat estimate, GDP in the eurozone fell by 3.8 % in the first quarter of 2020 and in total by 3.3 % in the EU-27. The French economy suffered the deepest slump, with a decline of 5.8 %. In Spain, GDP fell by 5.2 % and in Italy by 4.7 %. In Sweden, which took a different path during the crisis and pursued a liberal, more permissive strategy, GDP shrank by only 0.3 % compared to the previous quarter. The “Berliner Zeitung” reported on 18 May 2020 that at that time Sweden had 3,646 deaths -

compared with 537 deaths in Denmark, where about half as many people live. In reference to the population, the death rate would thus be around five times higher than in the neighbouring country. Whether the Swedish policy was "unrealistic and dangerous", as 22 Swedish researchers declared, or just liberal and headstrong, will only become clear in retrospect.

In April 2020, the forecast of the EU Directorate General for Economic and Financial Affairs (DG ECFIN) for the consumer confidence indicator fell both in the euro zone (-11.1 points) and in the EU-27 (-11.6 points). At -22.7 points (euro zone) and -22.0 points (EU-27), both indicators were significantly below their long-term averages of -11.1 (euro zone) and -10.4 (EU-27), and thus close to the record lows during the Great Recession in 2009.

In April 2020, the economic sentiment indicator (ESI) of DG ECFIN collapsed both in the euro zone (by -27.2 points to 67.0) and in the EU-27 (by -28.8 to 65.8 points). This was the steepest monthly decline in the ESI since 1985, exceeding the previous negative record from March by far. The indicators are now far below their long-term average of 100 and very close to the lowest values that were recorded during the major recession in March 2009. The indicator for DG ECFIN's Employment Expectations (EEI) fell to the lowest value ever recorded (by 30.1 points to 63.7 in in the euro zone and by 31.2 points to 63.3 in the EU-27).

Among the largest economies of the eurozone the ESI plummeted in the Netherlands (-32.6), Spain (-26.0), Germany (-19.9) and France (-16.3), while data could not be collected in Italy due to severe constraints.

The measures taken by the European Member States to combat the Covid-19 pandemic ranged from self-responsible hygiene measures to lockdowns. In an economic area without internal borders, however, there should be no national solitary action in closing borders. In fact, one-sided border closures hit the interconnected European economy hard - in particular, the logistics chain of the automotive industry collapsed. It should be emphasised that the global, European and also German logistics chain for coal imports consistently functioned perfectly.

Energy Consumption

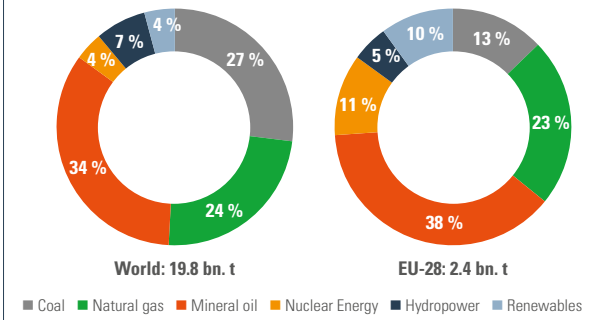
At 2.4 billion TCE, primary energy consumption (PEC) in the EU-28 in 2018 was exactly the same as in the previous year - with a drop in economic growth from 2.6 % (2017) to 2.0 % (2018). The share of mineral oil increased from 37 % in 2017 to 38 % in 2018, while natural gas lost one percentage point and reached a share of 23 %. The share of coal continued to decline from 14 % in 2017 to 13 % in 2018. The share of renewables (excluding hydropower) was 10 % in 2018, as in the previous year, while the share of hydropower increased from 4 % to 5 %. Nuclear power in 2018 was 11 %, as in the previous year. Hydropower and renewables together achieved a share of 15 % (previous year: 14 %). Thus, conventional energies (fossil fuels and nuclear power) still accounted for 85 % of the European Union's energy supply. The share of renewable energy sources has changed only slightly compared to the previous year - and this is only because of the increased availability of hydropower.

The structure of the EU-28 PEC differs significantly from the structure of the global PEC only in relation to coal and renewables. In contrast, the shares of natural gas and mineral oil are at a global level, mineral oil even slightly higher (Figure HT-B7).

The share of coal in the EU-28 was less than half as high as on a global scale, in contrast to the share of renewable energy sources (excluding hydropower), which is more than twice as high in the EU (10 %).

Regarding the subsidisation of the use of renewable energy sources, a particular direction is emerging on a global scale only for the electricity generation sector.

Share of Coal in Primary Energy Consumption World and EU-28 2018



Source: BP Statistical Review of World Energy 2019

HT-B7

Hard Coal Market

European hard coal production continued to decline significantly in 2019. It fell by 11 % from 75.8 million tonnes to 67.2 million tonnes. In Germany, where the two *Prosper-Haniel* mines in Bottrop and the anthracite colliery in Ibbenbüren were closed in 2018, the production was thereby entirely stopped. The same applies to Spain, where the expiry of the European subsidy regime led to the decommissioning of almost all mines (except for one small mine). Hard coal production in the UK is currently still at 2.2 million tonnes, while in the Czech Republic it fell from 4.5 million tonnes to 3.4 million tonnes.

Hard Coal Production in the EU

	2017	2018	2019
		Mill. t (t=t)	
Germany	3.8	2.8	-
Spain	2.8	2.5	-
Great Britain	3.0	2.6	2.2
Poland	65.5	63.4	61.6
Czech Republic	5.5	4.5	3.4
Total	**80.6**	**75.8**	**67.2**

Source: EURACOAL, May 2020

HT-EU2

In the Czech Republic, a "Coal Commission" was set up on the German example. It consists of three working groups that deal with the timeframe, legislation and social and economic effects of the phase-out of lignite and hard coal mining. First results are due to be presented in September 2020. Three scenarios with the following decommissioning periods are currently under discussion: 2030/35, 2035/45 and 2045/50.

Only the production of the Polish coal industry is still in the double-digit million tonne range. In 2019, production fell by 2.8 % to 61.6 million tonnes. Further information on the situation in Poland can be found in the country report for that country.

Table HT-EU3 shows the total hard coal volume of the European Union. Table HT-EU3 shows the total coal volume of the European Union. With declining imports (-19 %) and reduced hard coal production (-11 %), EU-28 hard coal volumes also fell to around 201 million tonnes (-17 %).

Hard Coal Volume in the EU 28			
	2017	2018	2019
		Mill. t (t=t)	
Hard Coal Production	87.2	75.8	67.2
Hard Coal Imports	171.9	165.6	133.8
Total - Hard Coal Volume	**259.1**	**241.4**	**201.0**

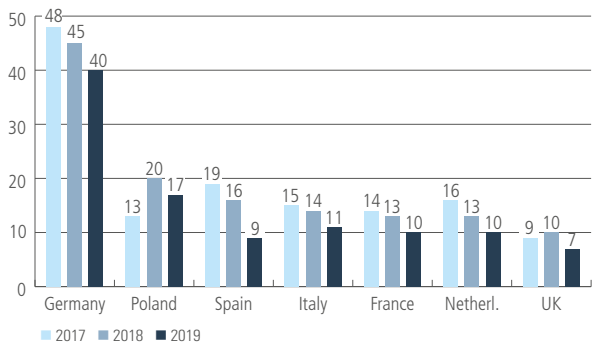
Source: EURACOAL, May 2020

HT-EU3

Despite declining imports since 2015, Germany is by far the largest hard coal importing nation in Europe (Figure HT-B8). In 2018 Poland had taken second place. There, imports rose sharply because domestic production was in part unable to compete with hard coal from the global market. In 2019 imports fell from 20 million tonnes to 17 million tonnes. Followed by the imports from Spain, Italy, France, the Netherlands, and Great Britain. Demand declined in all the countries listed above.

In 2019, the Spanish company Endesa announced the decommissioning of its coal-fired power plant fleet. In March 2020, it was made public that 4.6 GW of capacity is to be decommissioned as early as 2021. After that, Endesa will merely have one hard coal-fired power plant with a capacity of 241 MW, which is to be closed in 2030.

The 7 Largest Import Countries of Hard Coal in the EU Mill. t



HT-B8

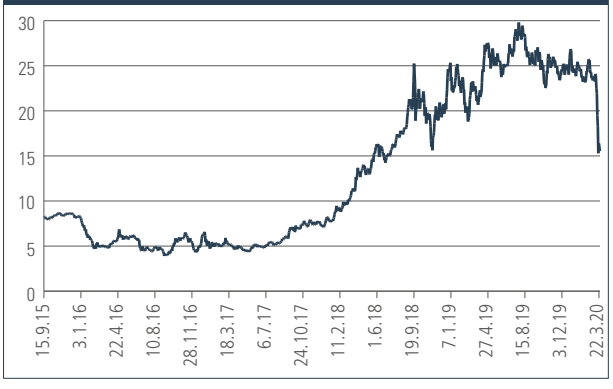
Emissions Trading

The European Emissions Trading System (ETS) is still the main instrument for climate protection in the European Union. The ETS, introduced in 2005, is a "cap and trade" system, which means that upper limits (caps) are set and that the participants engage trade in selling excess emission quantities or buying quantities to make up shortfalls. The amount of CO_2 that may be emitted has been determined for around 11,000 plants in the energy business and energy-intensive industry across Europe. Since all coal-fired power plants in particular are also covered by this regulation, the compatibility of electric power generation from hard coal and lignite with the targets for European climate protection is always ensured.

Figure HT-B9 shows the price development since 2015. The prices for certificates issued under the ETS rose to almost €30/t CO_2 in 2019, following the introduction of a market stability reserve in a revision of the ETS Directive.

The collapse in energy prices as a result of the reactions to the Covid-19 pandemic also affected the price of CO_2. At the beginning of May 2020, it was around 19 €/t CO_2. As the ETS is a market-conforming climate political control instrument, the burden on energy consumers is reduced in an economic downturn. Nevertheless, the ETS ensures compliance with the upper limits (caps), as it is a "cap & trade system".

Price for EU emission allowances on the futures market



HT-B9

The CO_2 emissions of the sectors covered by the ETS will have fallen by 8.7 % in 2019, as reported by the EU Commission at the beginning of May 2020. With a 15 % reduction in CO_2 emissions, the electricity sector has contributed the most to the decrease in greenhouse gas emissions. CO_2 emissions from industrial installations fell by 2 %. Emissions from aviation, on the other hand, rose by 1 % compared to 2018. Frans Timmermans, Executive Vice-President of the European Commission, sees the figures as proof that EU emissions trading is working.

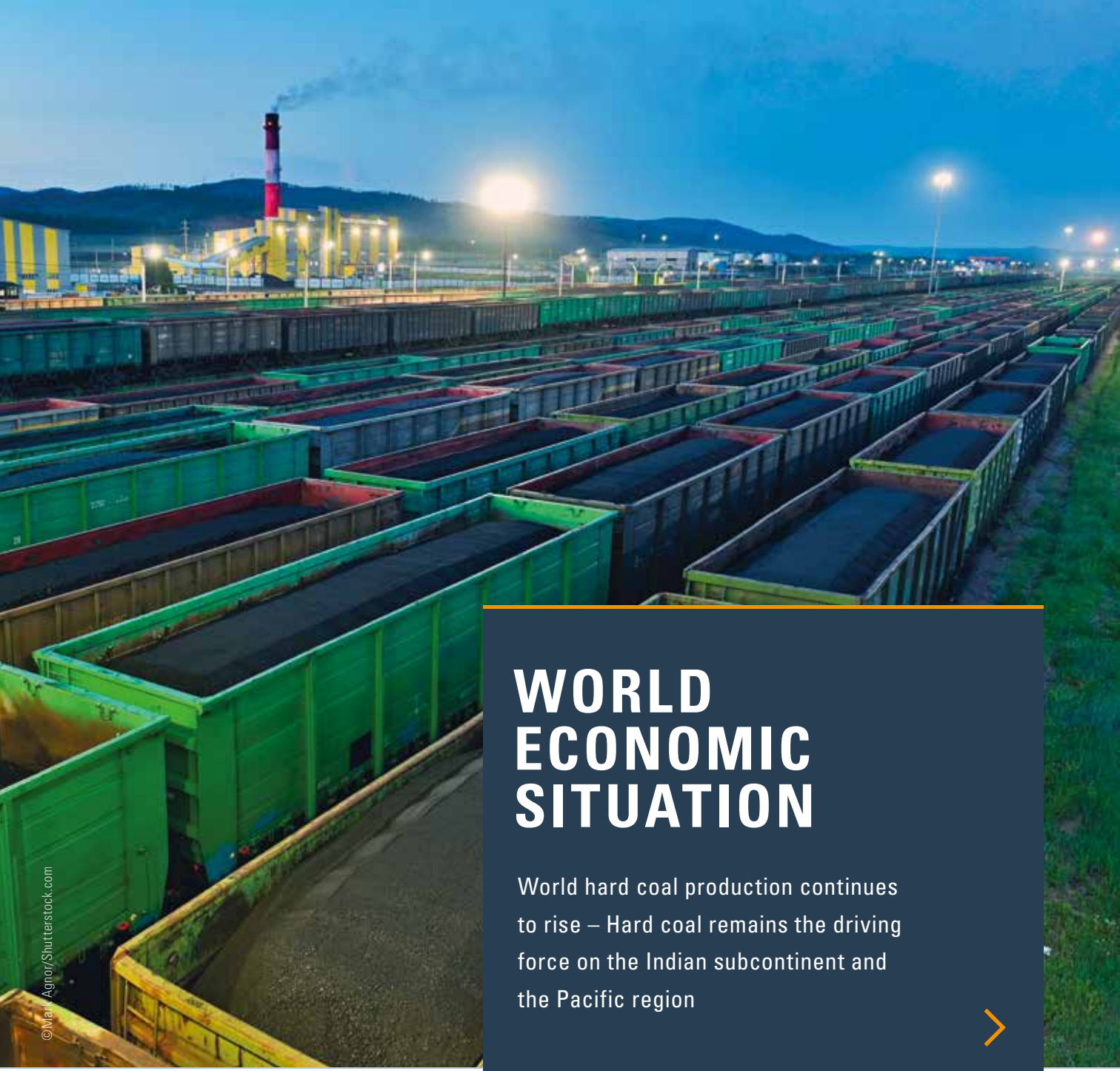
Green Deal

With the European Green Deal, the European Commission reaffirms its ambitious goal of making "Europe the first climate-neutral continent by 2050". It proposed a comprehensive package of measures under this promising name. The listing of the individual proposals alone takes up several pages.

The core element is the climate law already presented by the Commission for anchoring climate neutrality by 2050. In summer 2020, a comprehensive plan is to be presented "to raise the EU's climate target for 2030 to at least 50 % with a tendency to 55 % in a responsible manner". Other topics include the review of the ETS Directive and the associated burden share regulation as well as a proposal for a CO_2 border adjustment system for selected sectors.

A proposal to promote CO_2-free steel production by 2030 is also to be submitted. According to business consultancy Roland Berger, the switch to carbon-free production would cost the European steel industry more than €100 billion.

From documents that have already made public it is clear that in order to achieve climate neutrality by 2050, the energy sector would have to have almost reached this goal by 2040. Fossil natural gas could only become a bridging technology if CCS technology were used. This technology is to be implemented as early as 2035, but only to capture and store process-related emissions from industrial processes. The German government currently sees no prospects for CCS in the energy sector. Investors in natural gas power plants must therefore be prepared for a very limited lifespan of their plants or already design and build them to be "hydrogen-ready".

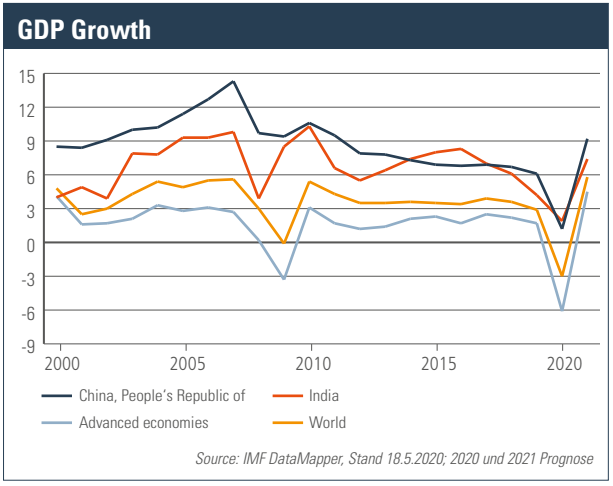


WORLD ECONOMIC SITUATION

World hard coal production continues to rise – Hard coal remains the driving force on the Indian subcontinent and the Pacific region

WORLD ECONOMIC SITUATION

World Production and World Trade



HT-B10

According to the International Monetary Fund (IMF), real gross domestic product (GDP) has increased by +2.9 % worldwide in 2019. In the highly developed economies[1], the growth rate of real GDP was +1.7 %, in China +6.1 % and in India +4.2 %. The IMF expects a global economic collapse in 2020 as a result of the measures to fight the Covid-19 pandemic, which is more severe than after the financial crisis in 2009 (Figure HT-B10). Worldwide, GDP is expected to fall by -3 % and then rise by +5.8 % in 2021. The collapses in Europe and the highly developed economies are particularly severe, at -7.1 % and -6.1 %, while the recovery will lead to estimated GDP growth of +4.8 % and +4.5 % in 2021.

According to IMF estimates, the People's Republic of China will survive the economic setbacks resulting from the pandemic much better: GDP growth of +1.2 % is expected for 2020 and +9.2 % for 2021. According to the IMF, India could also avoid a collapse in 2020. Here the figures for 2020 and 2021 are +1.9 % and +7.4 %. Vietnam (see country report) also gets off more than fairly unscathed (+2.7 %/+7.0 %). This also applies in general to the developing economies of Asia with growth of +1.0 % in 2020 and +8.5 % in 2021.

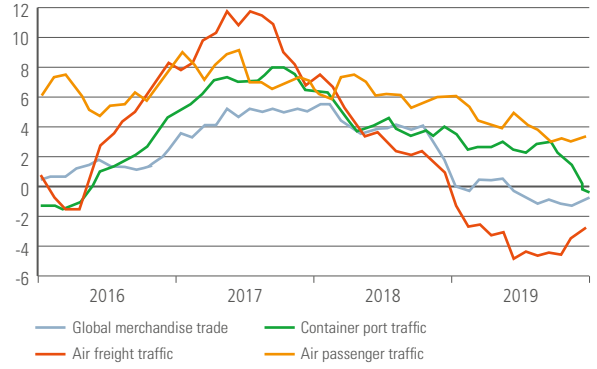
In a special report "Coronavirus: The world economy at risk" of 2 March 2020, the OECD warned that trade and political uncertainties could exacerbate the negative growth prospects for 2020. Figure HT-B11 (left) shows very clearly that world trade is already in sharp decline. The volume of trade goods contracted in the fourth quarter of 2019 and continued to decline throughout 2019. 2019 is the first year with a decline in the volume of trade goods since 2009. Container traffic in ports was also weak even before the outbreak of the Covid-19 pandemic. Even stronger was the decline in air freight traffic, and further substantial declines seem likely in the near future from the OECD's perspective.

The higher tariffs introduced in bilateral trade between the US and China in the last two years are an important factor in explaining the weakness of global demand, trade and investment. The "Phase One" trade agreement between the US and China in January 2020 is a positive development that should help mitigate some of these negative effects.

[1] *Mit Stand 2020 stuft der IWF 40 Nationen als Advanced economies ein (Kriterien: https://www.imf.org/external/pubs/ft/weo/2020/01/weodata/groups.htm)*

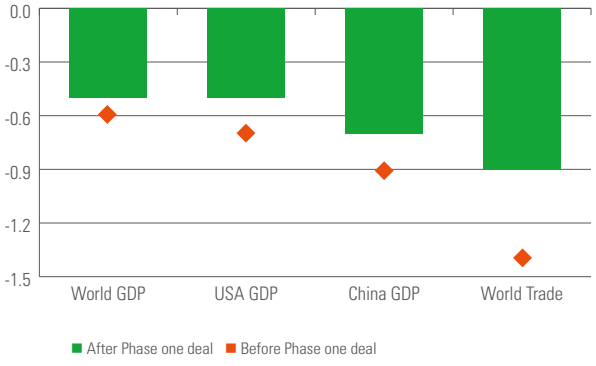
A. Global trade growth is already weak

Y-o-y % changes, 3-mma



B. Impact of US-China trade tensions

% difference from baseline in 2021-22



Source: OECD Interim Economic Assessment, Coronavirus: The world economy at risk, 2. March 2020

HT-B11

Overall, according to OECD estimations, this agreement should reduce the burden on global GDP growth by about 0.1 percentage points per year in 2020 and 2021 (Figure HT-B11 (right)). Nevertheless, it should be noted that this bilateral trade dispute has reduced not only the GDP growth of the two countries, but also global GDP growth, and this has had an even greater impact on world trade.

World Energy Consumption and CO_2 Emissions

According to the BP Statistical Review 2019, world primary energy consumption (PEC) rose by 2.9 % to 19.8 billion TCE in 2018. This is almost twice the 10-year average growth rate of 1.5 % per year and is the highest growth rate since 2010.

In the Asia-Pacific region, PEC even rose by 4.1 %. This region now accounts for 43.2 % of world energy consumption. It is higher than in North America (20.4 %), Europe (14.8 %) and the CIS (6.7 %) combined.

China, the USA and India together accounted for more than two thirds of the global increase in energy demand, although consumption in the USA increased in 2018 with the highest growth rate in 30 years (3.5 %). In India, PEC grew by 7.9 % in 2018 and by 4.3 % in China, where China alone accounts for 23.6 % of world PEC.

Primary Energy Consumption (PEC) in Billion TCE - Major Energy Sources -

	2015	2016	2017	2018	Change 2018/2017	Share of PEC 2018
Coal*	5.485	5.294	5.312	5.389	1.4 %	27.2 %
Natural Gas	4.479	4.390	4.488	4.728	5.3 %	23.9 %
Oil	6.188	6.510	6.581	6.660	1.2 %	33.6 %
Nuclear Energy	0.833	0.845	0.853	0.873	2.4 %	4.4 %
Hydroelectric Power	1.276	1.305	1.314	1.355	3.1 %	6.8 %
Renewable Energies and Others	0.521	0.596	0.700	0.802	14.5 %	4.0 %
Total	**18.782**	**18.940**	**19.249**	**19.807**	**2.9 %**	**100.0 %**

* Hard coal and lignite

Source: BP, Statistical Review 2019

HT-W2

The development according to energy sources (HT-W2) shows that mineral oil is the number one energy source with a share of good one third. In 2018, the consumption of mineral oil rose by 1.2 %, and the consumption of natural gas by as much as 5.3 %. Coal consumption increased by 1.4 %. The share of coal is 27 %, that of natural gas 24 %.

Renewables (including Others) grew most strongly at + 14.5 %, albeit starting from a very low level. Their share of consumption coverage worldwide is only 4.0 %. However, the share of hydro-electric power is still at 6.8 %, giving a total of 10.8 %.

According to the International Energy Agency (IEA), global energy-related CO_2 emissions levelled off in 2019 after two years of growth to 33.3 billion tonnes and were exactly the same as in the previous year. A decline of -3.4 % in the highly developed economies was offset by an increase of +1.9 % in the developing economies.

The global decline was mainly due to a steep drop in CO_2 emissions from the power sector in the highly developed economies. This was due in particular to the growing importance of wind and solar energy, but also to higher production from nuclear power plants.

The milder weather in many major economies compared to 2018 had a significant impact on trends and reduced emissions by around 150 million tonnes of CO_2. The energy sector was responsible for 85 % of the decline, while the other sectors contributed very little to CO_2 reduction.

Emissions from developing economies increased by almost 400 million tonnes, with Asia accounting for almost 80 % of the increase. Demand for coal continued to grow in this region, covering over 50 % of energy consumption there. In China emissions kept rising, in spite of the ongoing expansion of renewable energies there, and 2019 was the first year in which seven new large nuclear reactors were available.

World Climate Policy

In August 2019, the Intergovernmental Panel on Climate Change (IPCC) presented a special report on the achievement of the Paris climate targets. The IPCC called for a reorientation of land use and nutrition. By reforestation measures and the renunciation of uprooting for new pastures and areas for the cultivation of animal feed and energy crops, up to 35 % of CO_2 emissions could be avoided by 2030.

Three years after the enactment of the Paris Climate Treaty, the US government resigned from the treaty on 4 November 2019 and officially initiated the process of withdrawal from the international climate agreement.

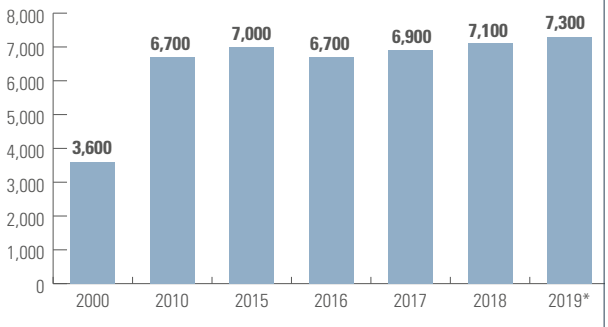
The 25th UN Climate Summit (COP 25) took place in Madrid from 2 to 15 December 2019, after Chile had to cancel the conference planned there due to violent demonstrations. The most important item on the agenda were the new regulations for emissions trading. In 2020, the member states of the Paris Climate Agreement are to submit new national climate protection plans for 2030. In individual "Nationally Determined Contributions (NDCs)", all countries set out how they intend to achieve their CO_2 reduction targets. One of the disputed points was that certificates from climate protection projects in other countries can also be purchased for CO_2 compensation. It had to be ensured that these emission reduction credits could not be counted and credited twice. No compromise was found on this matter, for which particularly Brazil was criticised. Negotiations are now to be continued in 2020, after the issue was already adjourned a year ago in Poland.

The VDKi is committed to fair climate protection which must not place an excessive burden on the German economy and is based on undogmatic climate science.

World Hard Coal Production

World hard coal production reached a new record level of 7.3 % billion tonnes in 2019. A few years ago, the year 2015 (7.0 billion tonnes) was presumably interpreted as a turning point in world hard coal production, after falling to 6.7 % billion tonnes in 2016. Since then, however, it has been rising steadily again. "Peak Coal" was therefore not reached in 2015. Even the term "high plateau" coined by the IEA at the time no longer applies from today's perspective.

World Hard Coal Production Mill. t

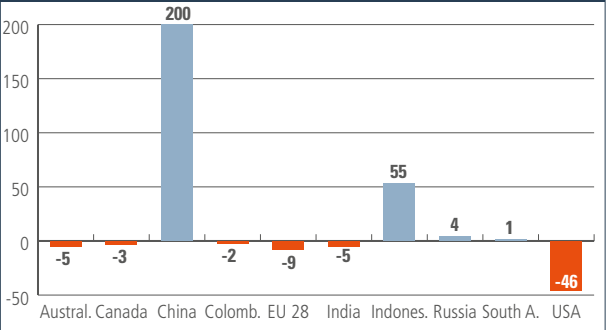


*Source: VDKi, own calculations; *2019 preliminary*

HT-B12

The significant increase in the reporting period was mainly due to the developments in China (+200 million tonnes) and Indonesia (+53 million tonnes), while production in India slightly declined (-5 million tonnes). The absolutely biggest production decline was recorded in the USA with -46 million tonnes, followed by the EU-28 with -9 million tonnes.

Change in Hard Coal Production in 2019 in Individual Countries Mill. t



Source: VDKi, own calculations; Data for 2019 preliminary

HT-B13

Table HT-W3 lists the main coal producing countries in the Pacific Rim. In addition to the Asian countries already mentioned, the list also includes Australia. Production there fell by 1.1 %. In 2018 Indonesia was still on a par with Australia and overtook the latter country in 2019 with an increase of 11.7 %. The background to these developments is provided in the country reports.

Hard Coal Production of Important Countries in the Pacific Region in Million Tonnes

Producing Countries	2017	2018	2019	Change 2019/2018
PR China	3,445	3,546	3,746	5.6 %
India	667	716	711	-0.6 %
Australia	449	470	465	-1.1 %
Indonesia	391	471	526	11.7 %

Source: VDKi own analyses

HT-W3

In relative terms, the biggest increase in production was in Indonesia, compared to +5.6 % in China. The largest relative decreases were in the EU-28 (-11.6 %), the USA (-6.7 %) and Canada (-5.5 %).

World Hard Coal Market

The global hard coal market grew by 12 million tonnes or 0.9 % in 2019. While domestic trade declined slightly, seaborne trade rose by 13 million tonnes or 1.1 %. World hard coal trade in 2019 therefore developed as follows:

World Hard Coal Trade

	2016	2017	2018	2019	Change 2019/2018	
	Mill. t				Mill. t	%
Seaborne Trade	1,116	1,157	1,208	1,221	13	1.1
Internal Trade	110	110	116	115	-1	-0.9
Total	**1,226**	**1,267**	**1,324**	**1,336**	**12**	**0.9**

Source: VDKi own analyses

HT-W4

In seaborne trade, despite the increase in worldwide steel production, exports of coking coal fell by 2 million tonnes (-0.7 %) (Table HT-W5). The increase in steel production mainly happened in countries such as China and India with their own production (see Table HT-W11).

In contrast, the steam coal market grew by 15 million tonnes (+1.7 %). Growth on the global hard coal market was thus driven exclusively by the growth in demand for steam coal. Seaborne trade of 1,221 million tonnes comprises 917 million tonnes of steam coal and 304 million tonnes of coking coal.

World Seaborne Hard Coal Trade

	2016	2017	2018	2019	Change 2019/2018	
	Mill. t				Mill. t	%
Steam Coal	831	869	902	917	15	1.7
Coking Coal	285	288	306	304	-2	-0.7
Total	**1,116**	**1,157**	**1,208**	**1,221**	**13**	**1.1**

Source: VDKi own analyses

HT-W5

World production will increase by 2.7 % in 2019, and world trade by 0.9 %, as already mentioned. As a result, the share of world trade in production fell moderately to 18.4 %.

World Production/ World Trade

Hard Coal	2016	2017	2018	2019	Change 2019/2018	
	Mill. t				Mill. t	%
World Production	6,728	6,852	7,064	7,257	193	2.7
World Trade	1,226	1,267	1,324	1,336	12	0.9
Share World Trade in Production	**18.2 %**	**18.5 %**	**18.7 %**	**18.4 %**		

Source: VDKi own analyses

HT-W6

Figure HT-B14 (pages 34-35) shows the primary seaborne trade flows. In 2019, Indonesia delivered almost exclusively to Asia with 99 % of its exports. Australia's seaborne trade is also very strongly oriented towards Asia with 93 %.

Likewise, South Africa delivered mainly to Asia in 2019 (85 %). 55 % of total exports went to India alone. Only 5 % of hard coal exports went to Europe (including countries bordering the Mediterranean).

Russia, Canada, and the USA can supply both markets due to their geographical location, and trade is increasingly shifting to Asia.

In 2019 Colombia supplied 8 million tonnes or 10 % of its total exports to Asia and 29 million tonnes to America. Europe (including countries bordering the Mediterranean) remains Colombia's main market with 38 million tonnes, with 19 million tonnes exported to Turkey alone.

The largest importing nations are without exception to be found in the Southeast Asian region. This region accounts for around 80 % of seaborne hard coal transport.

India is in the lead with 240 million tonnes, of which 184 million tonnes are steam coal and 56 million tonnes are coking coal. It is followed by Japan with 186 million tonnes, China with 161 million tonnes and South Korea with 142 million tonnes.

Seaborne Imports of Major Hard Coal Importing Countries/Regions 2019 in Million Tonnes

	Total	Steam Coal [1]	Coking Coal
Asia, of which	948	757	191
Japan	186	143	43
PR China [2]	161	112	49
India	240	184	56
South Korea	142	119	23
EU 28, of which	119	87	32
Germany	40	29	11

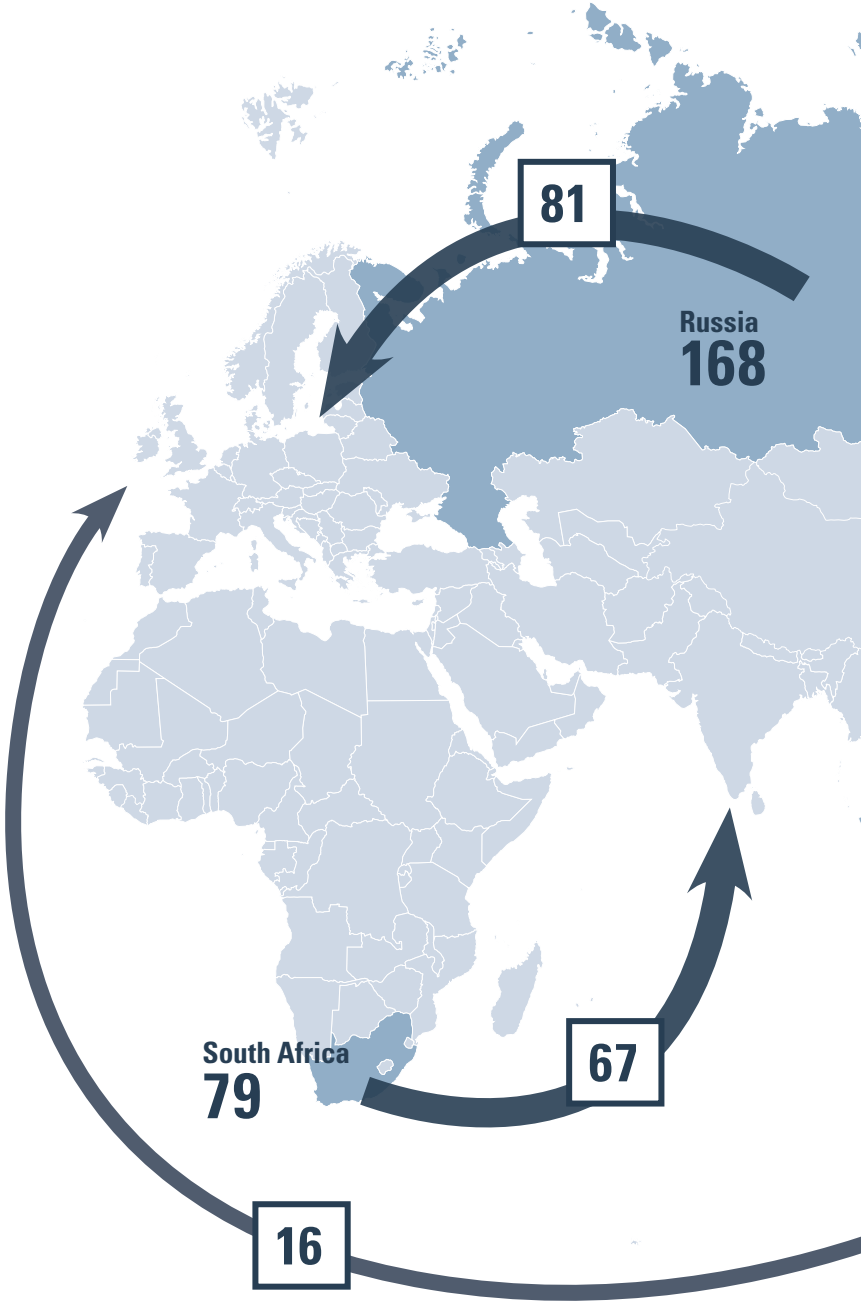
[1] Incl. anthracite [2] Excl. lignite

Source: Own calculations

HT-W7

EU-28 imports (119 million tonnes) in 2019 were significantly lower than those of the Asian countries mentioned above. Within the EU-28, Germany, as largest member state and largest industrialised country, imported the most coal.

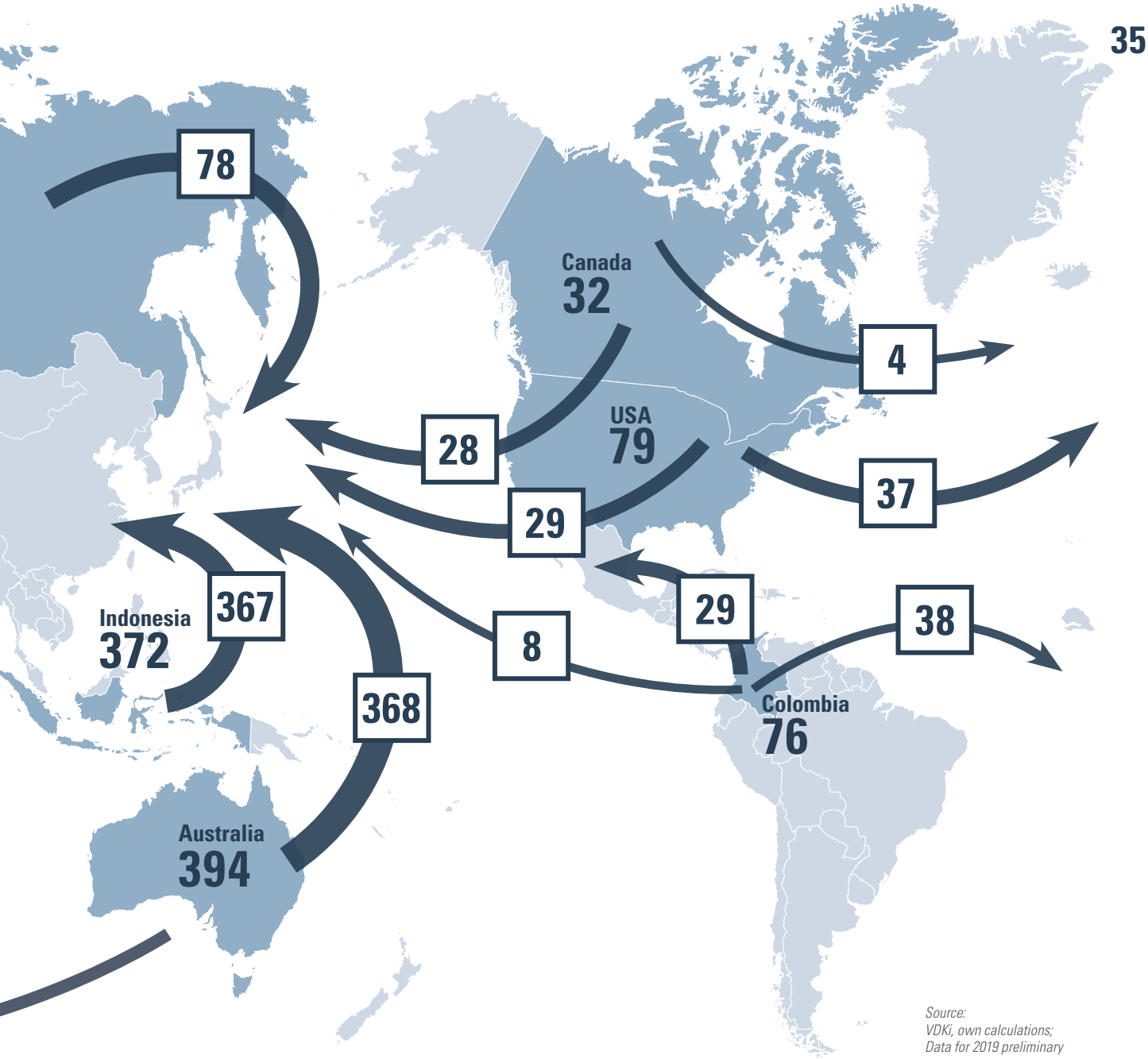
MAIN SEABORNE COAL TRADE FLOWS



Legend:

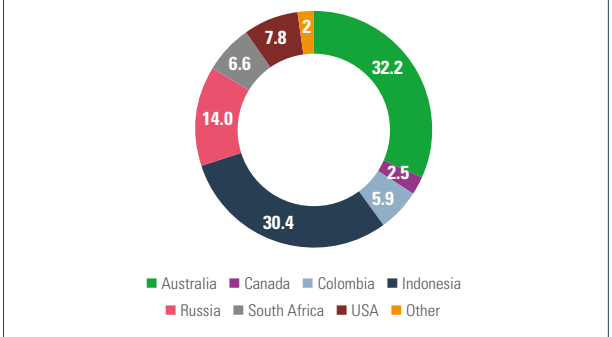
- 8 → Hard Coal Exports (in million tonnes)
- 394 Total Export (in million tonnes)
- Export Countries

HT-B14



Source:
VDKi, own calculations;
Data for 2019 preliminary

Shares of seaborne hard coal exports in %



Source: VDKi, own calculations; Data for 2019 preliminary

HT-B15

Again in 2019, Australia was the largest hard coal exporter with 394 million tonnes or 32 % market share. Of this amount, 213 million tonnes were steam coal and 181 million tonnes were coking coal. It is followed by Indonesia (372 million tonnes) and Russia (167 million tonnes). The USA (79 million tonnes) is barely ahead of Colombia (76 million tonnes) and on a par with South Africa (79 million tonnes).

The Largest Hard Coal Exporting Countries in 2019 in Million Tonnes [1)]

	Total	Steam Coal	Coking Coal
Australia	394	213	181
Indonesia	372	372	0
Russia	168	146	21
USA	79	33	46
Colombia	76	75	1
South Africa	79	79	0
Canada	32	2	30

[1)] Seaborne only

Source: VDKi own analyses

HT-W8

World Market for Steam Coal

Demand for steam coal in the Pacific market is dominated by India, Japan, South Korea, China (Table HT-W7, column 2) and some ASEAN countries. Demand from India rose significantly from 166 million tonnes to 184 million tonnes. Imports from the People's Republic of China increased from 105 to 112 million tonnes. South Korea's steam coal imports went down from 123 to 119 million tonnes, while Japan's imports fell slightly from 146 to 143 million tonnes.

Overall demand for steam coal in Asia rose from 726 to 757 million tonnes. The growth of 31 million tonnes or 4.3 % is mainly attributable to India, China and the ASEAN countries back that are not listed separately.

Steam Coal Prices

The prices for steam coal have been on the decline since the beginning of 2018. But in early 2019 they plummeted as China increased its domestic production in 2019 and temporary market support factors declined. In addition, low LNG (Liquefied Natural Gas) prices, especially in Europe, put further pressure on steam coal consumption and stimulated the fuel switch from coal to gas. The price level stabilized in the autumn - apart from a one-off situation for South African deliveries to India (Figure HT-B16).

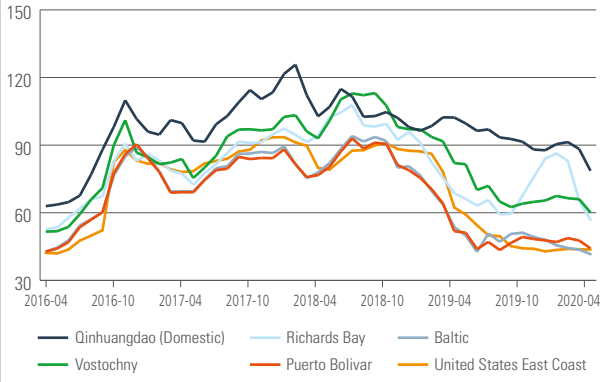
The Covid-19 pandemic affected steam coal prices at the beginning of 2020 - with a temporal lead time that can be seen by looking at the price on the domestic Chinese market. Not only domestic but also international Chinese benchmark prices have somewhat risen after the spread of the virus accelerated as of late January 2020 and China's domestic production was first impacted by the spread of the virus. At the same time, however, slower economic activity due to COVID-19 reduced electricity consumption and lowered the need for steam coal. This is further discussed in the China country report.

To date, COVID-19 appears to have had a modest influence on the balance between supply and demand on the markets for steam coal.

The *FOB-prices* for deliveries from Colombia and the USA were around US$ 44 per tonne in April 2019. Prices for steam coal from South Africa and for Russian supplies (Vostochny) to Asia were significantly higher at US$ 59-60 per tonne.

The *Future-prices* have been rising again since 2019, the further the delivery date lies in the future (Contango); this applies to the years 2021 to 2023, which is why storage space was in demand in Europe.

Development of fob prices for steam coal to Rotterdam in US$/t



HT-B16

World Crude Steel and World Pig Iron Production

Pig iron production, which is key to coking coal, PCI coal and coke consumption, increased by 31 million tonnes from 1,247 million tonnes in 2018 to 1,278 million tonnes (+2.5 %) in 2019. Crude steel production rose by 3.4 % (HT-W9).

Crude Steel and Pig Iron Production in the World

	2017	2018	2019	Change 2019/2018
	Mill. t			%
Crude Steel	1,730	1,808	1,870	3.4
Pig Iron	1,218	1,247	1,278	2.5
Share of Pig Iron in Crude Steel	70.4 %	69.0 %	69.3 %	-0.4

Source: World Steel Association

HT-W9

After an increase of 11.3 % in the previous year, China's crude steel production climbed by a further 8.3 % in 2019. China's pig iron production, which is relevant to the demand for coke and coking coal, increased by 5.0 %. China's world market share of crude steel production reached 53.3 % in 2019. Its share of world pig iron production rose further to 63.3 %, and thus nearly to two-thirds (HTW10).

Crude Steel and Pig Iron Production in PR China

	2017	2018	2019	Change 2019/2018
	Mill. t			%
Crude Steel	871	920	996	8.3
Pig Iron	714	771	809	5.0
Share of Pig Iron in Crude Steel	81.9 %	83.1 %	81.5 %	-4.2
Share of Crude Steel Prod. in World Prod.	50.3 %	51.3 %	53.3 %	2.4
Share of Pig Iron Prod. in World Prod.	58.6 %	61.8 %	63.3 %	2.5

Source: World Steel Association / Platts S&P Global

HT-W10

In 2019, world crude steel production increased from 1,808 million tonnes to 1,870 million tonnes, an increase of 3.4 %. The 10 major steel-producing countries achieved even stronger growth of + 5.0 % in 2019. This development was mainly driven by the surge in China (+76 million tons), Iran (+7 million tons) and India (+5 million tons).

By far the largest relative increase in 2019 was recorded by Iran, ranked 10th on the ranking list, with 30.2 %. It was followed by China - like already mentioned - with 8.3 %, India (+4.5 %) and the USA (+1.5 %).

All other countries in the TOP 10 recorded declines. Turkey was hit hardest with -9.5 %, Brazil with -7.6 % and Germany with -6.4 %.

The 10 Largest Steel-producing Countries in the World

Country	2017	2018	2019	Change 2019/2018
	Mill. t			%
PR China	871	920	996	8.3
India	102	107	111	4.5
Japan	105	104	99	-4.8
USA	82	87	88	1.5
Russia	72	72	72	-0.2
South Korea	71	73	71	-1.5
Germany	43	42	40	-6.4
Turkey	38	37	34	-9.5
Brazil	35	35	32	-7.6
Iran	21	25	32	30.2
Total	1,438	1,501	1,575	5.0
Total World	**1,730**	**1,808**	**1,870**	**3.4**

Source: World Steel Association

HT-W11

Coking Coal Market

While world pig iron production increased by 2.5 %, trade on the seaborne coking coal world market rose merely by +0.7 %.

Market Share Seaborne World Coking Coal Market

	2017		2018		2019	
	Mill. t	Share	Mill. t	Share	Mill. t	Share
Australia	173	61 %	179	60 %	183	61 %
USA [1]	46	16 %	52	17 %	46	15 %
Russia	35	12 %	40	13 %	42	14 %
Canada [2]	28	10 %	29	10 %	31	10 %
Total	**282**	**100**	**300**	**100**	**302**	**100**

[1] Excl. trade with Canada [2] Excl. trade with USA

Source: VDKi own analyses

HT-W12

With the exception of Iran, the countries with growing steel production also have their own coking coal deposits.

In the seaborne coking coal world market, the market shares of the individual countries have slightly shifted. Australia's seaborne coking coal exports rose by 4 million tonnes in 2019, its market share rising from 60 % to 61 %, while the USA lost two percentage points and now has a 15 % market share. Russia was again able to improve its market share to 14 %, while Canada maintained its share.

World Coke Market

Coke production worldwide climbed from 646 million tonnes to 682 million tonnes (+5 %). World trade in coke is at a much lower level, falling from 28 million tonnes to 26 million tonnes, so that the share of world trade in world coke production fell from 4.4 % to 3.7 %.

World Coke Market			
	2017	2018	2019
		Mill. t	
Total World Market	26	28	26
World Coke Production	633	646	682
% of World Coke Production	4.1 %	4.4 %	3.7 %

Source: Own calculations

HT-W13

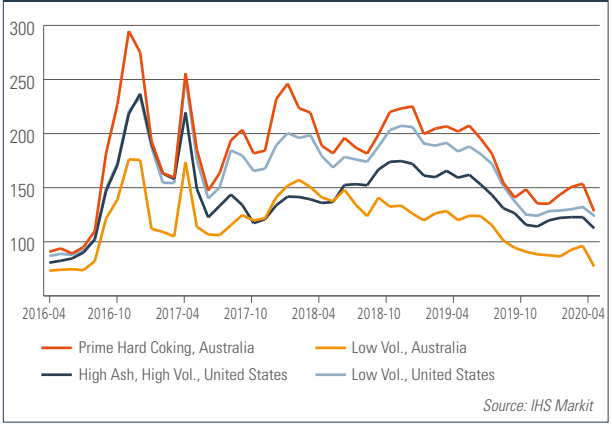
Chinese coke exports in 2019 amounted to 6.5 million tonnes (-34 %). China is not only by far the largest coke exporter, but also the largest coke producer. With 471 million tonnes, China produced 69 % of world production. In 2019 Europe produced 5.5 % of the world production with about 38 million tonnes, 8.6 million tonnes of which were produced in Poland. Russia produced 26.8 million tonnes in 2019.

The European coke market had a volume of 9.5 million tonnes in 2019, compared to 9.0 million tonnes in the year before. Apart from China, the main exporters of coke in 2019 were, in particular, Poland with 5.4 million tonnes after 5.8 million tonnes in the previous year. Colombia exported 3.2 million tonnes in 2019, Russia 2.7 million tonnes, Japan 1.4 million tonnes and the Czech Republic 0.6 million tonnes.

Coking Coal and Coke Prices

In 2019, seaborne trade demand for metallurgical coal (-7.2 %; Table HT-W5) was hampered by the slowdown in world economic growth. At the same time, further new mining capacities were put into operation in Australia, Russia and Mongolia, which led to an overall dampening of metallurgical coal prices.

Development of fob prices for coking coal to Rotterdam in US$/t



HT-B17

After the spot price for Australian premium hard coking coal (HCC) had fallen to lows of around US$ 135/t in the course of 2019 in November 2019, it stabilised in the first quarter of 2020 in the range between US$ 150 and 165/t, but then fell again significantly. The rise in metallurgical coal prices in early 2020 appears to have been caused by supply disruptions due to weather conditions in Canada and Queensland, and the subsequent decline by the COVID-19 outbreak.

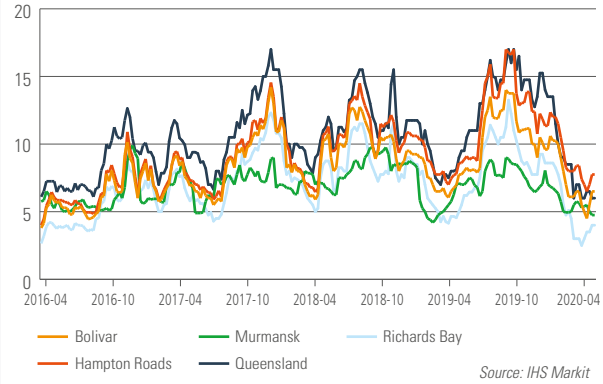
The blast furnace coke price FOB China (65 % CSR) was around US$ 265/t in April 2020, well below the previous year's level of US$ 315/t. In the same period the CFR ARA price dropped from US$340/t to US$245/t, initially US$25/t above and at the end US$20/t below the Chinese price level.

Freight Rates

The Baltic Dry Index (BDI) is calculated from the indices of the four ship groups Capesize, Panamax, Supramax and Handysize. In the mid-2000s it was used as an early indicator of global industrial production. Since the financial crisis, the BDI has lost its importance as a leading indicator, as it was determined more by an oversupply of ships than by the demand for freight. If it were now again to be regarded as a signal for global industrial production the situation would look alarming. But it is probably rather a signal for the raw materials industry.

The record low of 291 points was reached in February 2016, after which the BDI recovered to around 2,500 points in mid-2019 and has been in free fall ever since. On 11 May 2020 it fell to 474 points. The freight rate for Capesizer (180,000 DWT) collapsed by 21 % to US$ 3,842 per day within a single trading session on the same day.

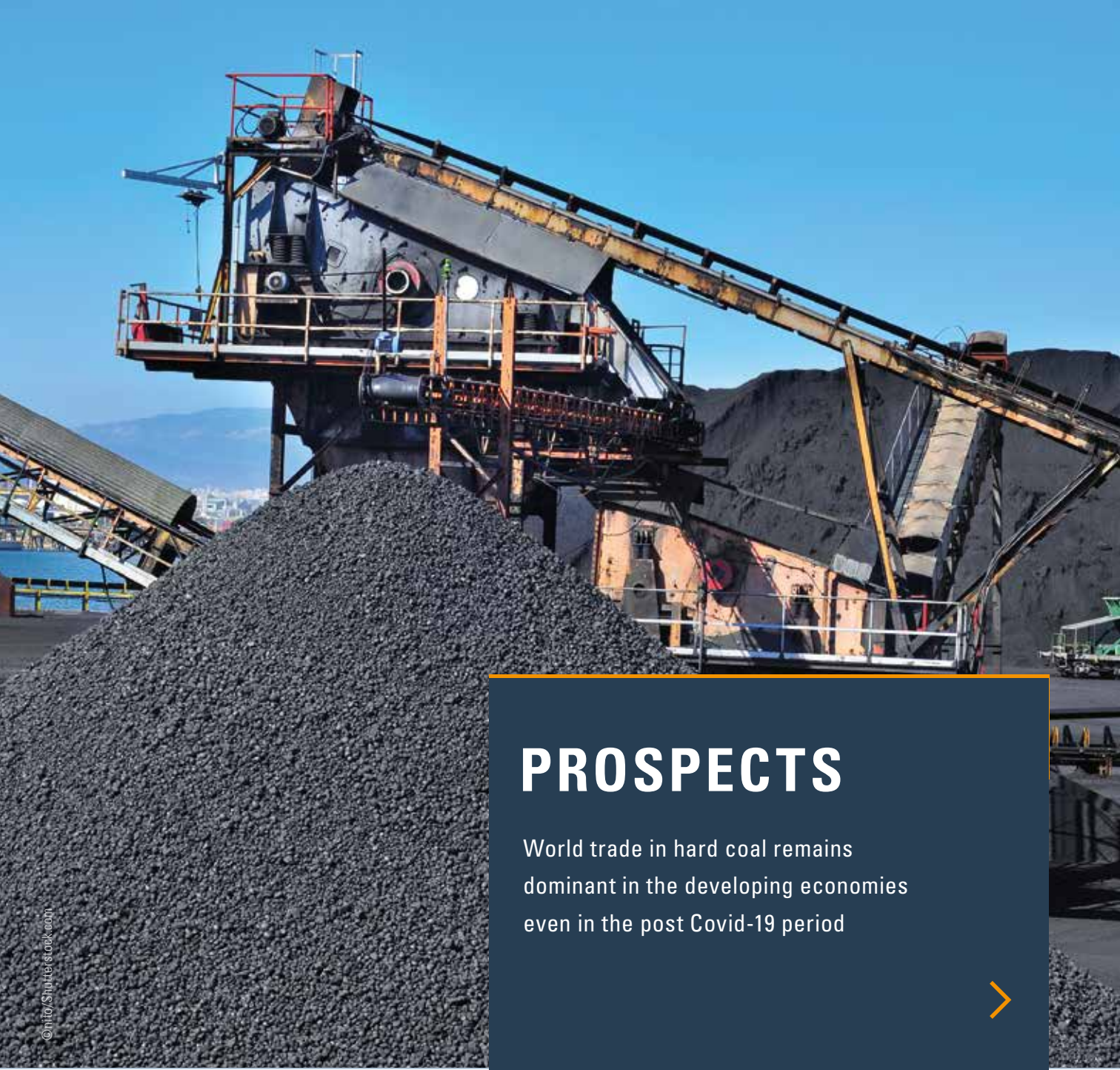
Seafreight rates (fob) for hard coal to ARA-ports



HT-B18

The freight rates in Figure HT-B18 essentially reflect the distance from the loading port to the ARA ports, but other effects such as the availability of freight capacity and the general market situation play a role. Consequently, Figure HT-B18 tends to reflect the development of the BDI described above.

Freight rates were usually very close to each other at low price levels and diverged at higher price levels. The lowest freight rate is at the end of April 2020 for the Richards Bay-ARA route. As the steam coal price CIF ARA (22.05.2020: US$ 38.79/t) was significantly lower than the FOB price Richards Bay (22.05.2020: US$ 54.83/t) during this period, it would have been theoretically possible to supply South Africa with coal from ARA. This speculation shows how low freight rates are at present.



PROSPECTS

World trade in hard coal remains dominant in the developing economies even in the post Covid-19 period

PERSPECTIVES

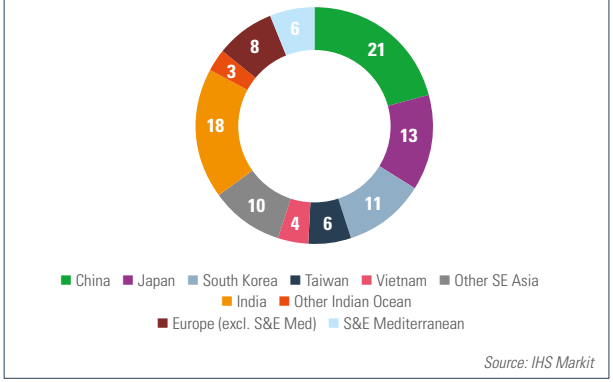
In the autumn of 2019, it looked as if the global hard coal market could be undersupplied in 2020 due to strong Asian demand and slower production growth, according to Noble Resources. The additional demand from Southeast Asia and India with newly built coal-fired power plants could, in the view at that time, have compensated for the lower imports from the other key markets China, Japan, South Korea, Taiwan and Europe.

But then the Covid-19 pandemic broke out and many forecasts lost their validity. As explained in detail in the chapter World, the IMF sees the global economy in a deep recession and speaks of the biggest crisis since the "Great Depression". Even the financial crisis is fading behind it. On the other hand, the IMF sees China and developing economies in Southeast Asia experiencing a much milder course of the crisis. The current status and development of the global purchasing managers' index (Bloomberg, 22.5.2020) show that China is two months ahead of the West in the Covid-19 crisis and is already recovering very strongly economically. Central banks and governments around the world are going "full speed" ahead - inflation is nevertheless unlikely (UniCredit Research, May 15, 2020). But this means that there is a glimmer of hope.

In April 2020, however, IHS Markit still came to the conclusion that the COVID-19 pandemic would reduce global coal import demand by more than 80 million tonnes. About 65 million tonnes of this accounted for steam coal, and the market for metallurgical coal could shrink by 14 - 15 million tonnes.

This is based, among other things, on the assumption that an expected oversupply for China could prompt the NDRC (National Development and Reform Commission) to take action against imports again. Figure HT-B19 shows how the import shares could turn out in 2020.

Forecast of steam coal imports in 2020 in %



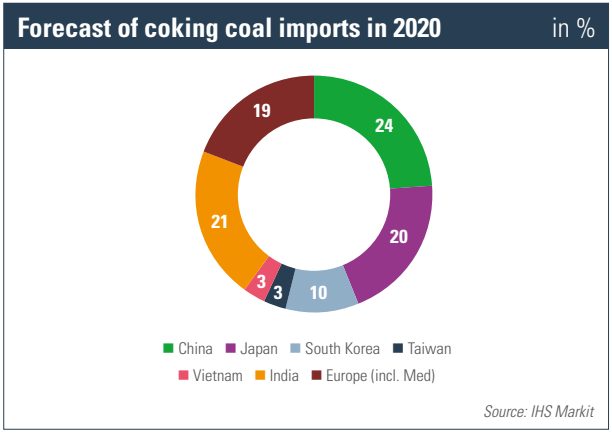
Source: IHS Markit

HT-B19

In 2020, imports of steam coal in Europe (excluding countries bordering the Mediterranean) will decline most (-19 %), not only because of the effects of COVID-19, and will still account for 8 % of global demand after that. On the other hand, Vietnam (+6 %) and the other, not separately listed South-East Asian countries (+3 %) are expected to increase their steam coal imports. Together they will account for 14 % of steam coal imports in 2020. According to the IHS prognosis of March 2020, steam coal imports are expected to decline by 6.5 % in total.

IHS Markit acknowledges that there is a high degree of uncertainty in this prognosis. If, for example, the Indian coal mining industry were to be hit harder by the crisis than the Indian economy as a whole, the country may have to rely more than anticipated on imported coal to meet its electricity demand.

Figure HT-B20 shows the expected shares of the global demand for coking coal in 2020. China is also expected to account for two-thirds of pig iron production in 2020. As China cannot meet its immense demand for coking coal on its own, China will account for 24 % of global coking coal demand in 2020. It will be followed by India with 21 %, Japan with 20 % and South Korea with 10 %.



HT-B20

A generally weaker global economy and large steel stocks are the driving forces behind the expected 4.3 % decline in global demand for coking coal this year. The declines in the countries shown in the graph are likely to range between -3 % and -8 %. The only exception is Vietnam with +12 %.

The collapse of crude oil prices in spring 2020 led to great global uncertainty. For the first time in history, the price of West Texas Intermediate (WTI) was negative on the futures market. The May contract was quoted at US$ -37.63/bbl on 20 April 2020. Besides overcapacities, one effect that was hardly noticed publicly also played a significant role: the Contango[1] market. The storage capacities were therefore largely filled.

A negative side of the fall in commodity prices is that gas prices were also unable to escape the downward pull. Recently, the market situation for gas-fired power plants had improved significantly, so that in some countries they were able to move ahead of older coal-fired power plants in the merit order (fuel switch). Gas-fired power stations are currently benefiting from historically low gas prices. However, since even this price level is in many cases not yet sufficient to cover the costs of operating gas-fired power plants and the gas industry is not talking about historic, permanently low prices the situation will have to be newly evaluated every year. So, the question is whether this fuel switch effect can be sustainable at all.

The positive side of the drop in oil prices, a global economic stimulus package free of charge for governments, has meanwhile been rewarded by the stock markets. As oil is also used as a feedstock in coal mining, Rystad Energy estimates that this could reduce production costs "by a few dollars per tonne".

Hard coal is one of the few raw materials that did not experience a massive drop in prices in the wake of the COVID-19 pandemic. Hard coal prices were already under pressure before the Corona crisis, and the decline in demand in China during the lockdown was accompanied by a decline in domestic production, which tended to balance the market.

Hard coal could even emerge stronger from the crisis. This is not only due to lower operating costs such as oil. In the current state of the market, it is also hard to imagine that ARA prices could

[1] *The price increases the further the physical delivery date lies in the future.*

fall even further. This could at least give the producers supplying the European market a moment to breathe. The sharp fall in the currencies of exporting countries such as Australia and Russia should also be acknowledged; Russia, for instance, was affected by the collapse of the oil price. As international coal trading is conducted in US$, but part of the production costs is in local currency, it is an advantage for suppliers outside the $ area. Merely the coal producers based in the USA cannot benefit from this effect. The decline in demand on the domestic market and the particularly fierce gas competition there is putting pressure on producers.

In Germany, there are warnings that in the Covid-19 crisis, climate policy should not be allowed to take a back seat. The fundamental importance of a fair climate protection policy is also recognized by the VDKi. However, the warning that German efforts should not lessen, especially now, pre-empts a subtle change in public opinion that could at least prevail in the poorer regions of the world. In the post-Covid-19 period, coal is likely to be increasingly perceived as what it has always been: a low-cost and reliable source of energy for the reconstruction of economies.

CORPORATE SOCIAL RESPONSIBILITY

Taking voluntary responsibility –
even without the Due Diligence Act

CORPORATE SOCIAL RESPONSIBILITY

National Action Plan for the Economy and Human Rights

In our last annual report, we mentioned the Federal Ministry for Economic Cooperation and Development's (BMZ) draft for a Sustainable Value Chain Act. On June 27th, 2019, the Federal Government stated in an answer to a minor question of the AfD parliamentary group that it "does not currently plan to prepare a draft for a Sustainable Value Chain Act". The basis for its actions would be the National Action Plan for the Economy and Human Rights (NAP) as well as the coalition agreement.

On the basis of the results of the 2020 NAP monitoring, the Federal Government intends to take further steps up to legal examinations. In the coalition agreement it was agreed that the Federal Government would only take legislative action at national level and would only support EU-wide regulation if the comprehensive review of the NAP 2020 came to the conclusion that the voluntary commitment of companies was insufficient. In the view of the German government, social and environmental standards in sustainable value chains can best be strengthened through an intelligent combination of voluntary and binding approaches ("smart mix").

Although a comprehensive review of the NAP 2020 has not yet been completed, according to media reports, Development Minister Gerd Müller holds onto such a law in order to be able to impose regulatory and penal sanctions on companies based in Germany but producing abroad, and fail to comply with human rights, social and environmental due diligence obligations there.

The Coal Importers Association (VDKi) agrees with the German government that voluntary commitment by companies can make a considerable contribution to compliance with human rights and environmental due diligence obligations in global value chains. At a Members' Assembly in 2015, the VDKi already adopted the hereafter declaration of principles on social responsibility in these areas.

Statement of Principles of the VDKi

As far as possible for the Association, the VDKi assumes responsibility for social, ecological and ethical principles. The Association supports its members in their efforts to achieve a high level of corporate social responsibility (CSR) in all of their business activities. The VDKi and its members expect all of the parties participating in the hard coal supply chain (hereafter known as the suppliers) to observe and support the following basic principles as the fundamental ground rules for a business relationship based on trust. The VDKi therefore adopted a resolution recognising the following basic principles for responsible, social, ethical, environmentally sound actions in the hard coal supply chain during its Members' Assembly on 25 June 2015.

Basic Principles

We expect the compliance of all suppliers with any and all relevant laws and regulations of the country in which they operate. Moreover, we expect suppliers to orient their business to at least one of the following three international standards and guidelines:

- The Ten Principles of the United Nations Global Compact
- The OECD Guidelines for Multinational Enterprises
- The IFC Performance Standards on Environmental and Social Sustainability

We monitor the further development of standards specific to mining and coal and maintain an ongoing dialogue with our suppliers so that we can support them in the fulfilment of their social responsibility.

We expect our suppliers to advocate sustainable business activities within the full scope of their responsibilities and interest and not to limit their efforts to establishing sustainable business models for themselves alone. In this sense, we expect our suppliers to communicate the basic principles declared here as their expectation of their own suppliers and market partners.

We are open for dialogue with all of the relevant stakeholders who wish to contribute to responsible corporate action in the hard coal supply chain in the sense of a continuous improvement process.

We expect our suppliers to commit to the basic values of the following four areas set forth in the UN Global Compact and to strive to implement these principles in practice.

1. Human Rights

We expect all suppliers to support and respect the United Nations Universal Declaration of Human Rights and to ensure that they themselves are not party to any violations of human rights. The reference framework for responsible handling of human rights is established by the "UN Guiding Principles on Business and Human Rights" and any national action plans based on these principles for the relevant region.

2. Labour Standards

We expect the compliance of all of our suppliers with the laws and regulations of their country, including those related to occupational safety and health protection on the job.

Moreover, we expect compliance with the following basic principles and related core labour standards of the International Labour Organisation (ILO):

- Freedom of association and the right to collective bargaining
- Abolition of forced labour
- Elimination of child labour
- Prohibition of discrimination in employment and profession

3. Environmental Protection

We expect all of our suppliers to ensure their responsible treatment of the environment and to work continuously on reducing the environmental impact of their activities on water, land, in the air and on biodiversity. Moreover, we expect them to encourage the development and distribution of technologies to protect the environment and to use natural resources efficiently.

4. Ethical Business Standards

We expect all of our suppliers to comply with a high level of business ethics and to combat every form of corruption or bribery, including fraud and extortion. The reference frame for ethical business standards is found in the UN Convention Against Corruption.

The VDKi has created a work group on this subject, and CSR is a regular point on the agenda of the meetings of the Board of Directors. The VDKi is open to sharing of experience with all groups and associations interested in CSR.

COUNTRY REPORTS

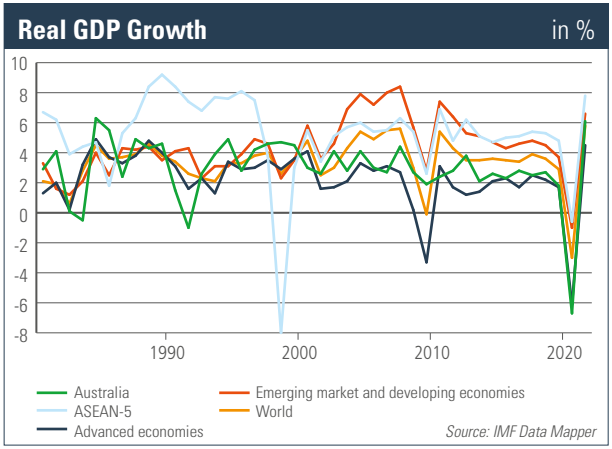
From Australia to Vietnam:
a wide spectrum of topics –
from production through trade and
logistics, to consumers

AUSTRALIA

General

The Australian economy has been growing continuously for 29 years now. According to the International Monetary Fund (IMF), gross domestic product (GDP) increased by 1.8 % in real terms in 2019 (World Economic Outlook, WEO, April 2020) compared to 2.7 % in 2018. For 2020, due to the Covid-19 pandemic, a decline of 6.7 % is expected, as for 2021, again a growth of 6.1 %. GDP per capita will amount to US$ 52,952 in 2020, which is considerably above the global average of US$11,856. According to the IMF, the consumer price index will rise by 1.4 % - well below the global average of 3 %. The current account surplus in % of GDP amounts to +0.5 % in 2019. By 2021, a current account deficit of -1.8 % will emerge.

According to the chief economist in the Australian Department of Industry, Innovation and Science, Australia's export revenues from metallurgical coal will decline in real terms from a record AU$ 44 billion in fiscal year 2018-19 to AU$ 35 billion in fiscal year 2021-22. A projected price recovery may lead to an increase in export earnings to AU$ 38 billion in fiscal year 2024-25. The real value of Australian steam coal exports is likely to fall sharply from AU$ 26 billion in 2018-19 to AU$ 21 billion in 2019-20 as a result of the recent price decline.



LB-B1

Production

Australia's hard coal comes almost entirely from eastern parts of the country, from New South Wales (NSW) and Queensland (QLD). Coking coal comes mainly from QLD, steam coal mainly from NSW. Smaller quantities of hard coal were also still produced in 2019 in Western and Southern Australia and Tasmania (total 21 million tonnes). These were exclusively delivered to the domestic market.

Usable Production of the Major Production States of Australia

	2017 Mill. t	2018 Mill. t	2019 Mill. t
New South Wales (NSW)	192	198	201
Queensland (QLD)	236	251	244
Total NSW /QLD	**428**	**449**	**444**
Rest of Australia	21	21	21
Total	**449**	**470**	**465**

Source: Queensland Department of Natural Resources, Mines and Energy/IHS Markit

LB-T1

About 80 % of the total usable production comes from opencast pits, 20 % from underground mines. Total coal production fell slightly from 470 million tonnes in the previous year to 465 million tonnes - a decline of 0.9 %.

The Forward Price Curve of the Australian Department of Industry, Innovation and Science currently projects prices until 2025 of an average real US$60 to US$75/t, compared to US$76/t in 2019 (Newcastle 6,000kcal/kg). It is expected that overseas trade will drop slightly, but the lack of new steam coal projects should support prices somewhat.

According to the same source, the Australian premium spot price for hard coking coal (HCC) will fall from US$183/t in 2019 to an average of around US$155/t in 2022 (in real terms), due to a combination of subdued demand growth and the commissioning of new production capacity. It is expected that the price will gradually recover in subsequent years.

The Australian Department of Industry, Innovation and Science regularly publishes the status of coal mining projects in Resources and Energy Major Projects, distinguishing between announced projects, feasibility studies, projects in progress and completed projects. The following projects are listed in the December 2019 publication:

- 13 coal projects have been announced, 2 in NSW, 11 in QLD. The estimated investment volume amounts to between AU$ 10 and 17 billion.

- Most of the projects for the expansion or new development mines are in the phase of feasibility studies. There are 46 coal projects at this stage with a total value of AU$ 58 – 76 billion, 12 of which are in NSW and 34 in QLD.

- 2 coal projects are currently under development:

  - The Carmichael Coal Project (mine and rail link) of Adani at QLD (160 km NW of Clermont) with a capacity of 10 million tonnes of steam coal and an estimated investment volume of AU$ 1.5 - 2.5 billion. Completion: 2021.

  - The Hydrogen Energy Supply Chain Pilot Project of Kawasaki Heavy Industries in Victoria (Latrobe Valley, lignite) and an estimated investment volume of AU$ 496 million. Completion date: 2021.

- The Byerwen Coal Project in QLD with a value of AU$ 1.8 billion was not completed in 2018 as announced, but only in 2019. Both steam coal and coking coal are produced in this mine.

In August 2019, the Independent Planning Commission (IPC) of New South Wales (NSW) gave conditional approval to Glencore's AU$381 United and Wambo coal project in the Hunter Valley. The integration of the United and Wambo sites will create a "super mine" with a added value of AU$414. The most important customers for Wambo coal come from Japan, South Korea and China. United Wambo is planning to develop a new opencast mine with a capacity of 10 million tonnes.

After the IPC stated that the project was in the public interest, it added in an "unprecedented step" (according to the report of the ABC channel) the condition that coal from the "super mine" may only be exported to countries that have either ratified the Paris Climate Change Convention or taken appropriate measures to reduce greenhouse gases.

This is remarkable inasmuch as the IPC has already blocked three new mining projects for climate protection reasons in 2019 under

the influence of the Fridays for Future movement. On 18 September 2019, the Bylong project of Korea Electric Power Corp. (KEPCO) in NSW was rejected.

KEPCO is aiming for a permit for the mining of 6.5 million tonnes since 2014. In a 146-page document, the IPC argued that the project was not in the public interest because, at the same time, it violated the principle of intergenerational justice. However, the permit application did not only address climate protection, but also, among other things, water permits.

The resumption of operations at the mothballed Dartbrook Mine was also not approved by the IPC because the anticipated CO_2 emissions were considered insufficiently substantiated. Again, it was explained that the project was not in the public interest.

In September 2019, the Minerals Council of New South Wales announced a campaign for the protection of jobs and the economy of New South Wales.

In March 2020, it was announced that the Independent Planning Commission of New South Wales IPC had granted permission to expand the Barrett Mine at Glendell Coal Mine. Glencore's subsidiary, Mt Owen Pty, has thus been given approval to mine a further 2 million tonnes of coal in the Hunter Valley. Although 25 public objections were raised against the project, the Commission found that it is in the public interest and that the benefits outweigh the costs.

The efforts of some of the world's largest banks to stop financing coal projects for the sake of climate protection could have cause Whitehaven Coal Ltd. major problems. Nevertheless, in March 2020 the Australian mining company announced the refinancing and extension of a credit line of AU$ 1 billion (US$ 650 million), which is mainly supported by Chinese and Japanese lenders. While banks like Goldman Sachs or BNP Paribas no longer support coal projects, others fill in the breach. The Export-Import Bank of China and the Japan Bank for International Cooperation are leading consortiums that have pledged US$ 29 billion for new coal-fired power projects in Vietnam and Indonesia alone.

Infrastructure

In September 2019, the left-liberal British Guardian reported that there were negotiations between Queensland authorities and Adani to postpone payment of royalties, and that in this context the general access to Adani's infrastructure, such as the railway line mentioned hereafter, played a particular role.

In October 2019, the Indian company Adani Mining from Queensland commissioned the Australian company Martinus Rail to build a 200 km long railway line to the value of AU$ 100 million (approx. US$ 68 million). This railway line will connect the Carmichael coal mine in the Galilee basin with the existing Goonyella railway network. The coal production of the Carmichael coal mine, initially estimated at around 10 million tonnes, is to be exported via the Abbot Point Coal Terminal. So far, contracts worth more than AU$ 450 million (approx. US$ 306 million) have been allocated for the Carmichael project. According to the company, construction work on the Carmichael Mining and Railway Project is in full swing. Adani Mining expects to commence coal production from the Carmichael Mine in 2021.

Export

Australia bore the main burden of China's import restrictions in 2019. Despite an overall increase in Chinese imports, imports from Australia decreased. In contrast, imports from Russia rose suddenly, but imports from Mongolia and Indonesia also increased significantly.

The Chinese government regularly adjusts its import restrictions to protect the domestic mining industry on the one hand, but to also guarantee reliable supplies to power plants and steelworks. However, since there are no official government announcements, there is a high degree of non-transparency. For instance, the Chinese government allowed low-priced imports in order to prevent growth losses in China, but it was all the more rigorous in controlling the ports through which imported coal for the Chinese steel regions is delivered.

Deliveries of Australian coking coal especially were negatively affected by this development. The Australian-Chinese trade conflict certainly played a decisive role here. It principally concerned Australian import restrictions on Huawei Technologies Co. In September, the Australian Minister for Resources, Matt Canavan, declared that the problem had now been largely resolved.

An 85 % share of Australian hard coal production was exported in 2019. Table T2 hereafter shows the loading ports used for the coal export. It should be noted that the transhipment figures from the coal loading ports do not always correspond precisely to the export figures. There may be customs-related reasons for this.

Exports of the Largest Coal Loading Ports

Coal Loading Ports	2018 Mill. t	2019 Mill. t
Abbot Point	29.8	29.3
Dalrymple Bay	72.3	67.7
Hay Point	49.3	51.0
Gladstone	58.4	60.7
Brisbane	7.0	6.5
Total Queensland	**216.8**	**215.2**
PWCS	106.7	110.4
Port Kembla	6.7	8.4
NCIG	50.7	53.1
Total New South Wales	**164.1**	**171.9**
Total	**380.9**	**387.1**

Source: IHS (Monthly throughput from key export ports)

LB-T2

Australia's exports rose by 2.1 % to 394 million tonnes in 2019. Of this, 212 million tonnes were steam coal (+5 million tonnes) and 182 million tonnes coking coal (+3 million tonnes).

Hard Coal Exports According to Grade

Coal Grade	2017 Mill. t	2018 Mill. t	2019 Mill. t
Coking Coal (HCC)	110	119	122
Semi-soft Coking Coal and PCI Coal	61	60	60
Steam Coal	201	207	212
Total	**372**	**386**	**394**

Source: Australian Department of Industry, Innovation and Science, Office of the Chief Economist / IHS Markit

LB-T3

India, China and Japan are currently the largest importers of Australian coking coal. India alone imported 46.1 million tonnes, China 42.5 million tonnes (LB-T4), and Japan 35.3 million tonnes. South Korea followed with 17.2 million tonnes and Taiwan with 10.6 million tonnes.

Japan is by far the largest importer of steam coal with 74.8 million tonnes. China follows with 49.9 million tonnes (LB-T4), South Korea with 33.1 million tonnes and Taiwan with 23.8 million tonnes.

Development of Australia's Exports to PR China

	2018 Mill. t	2019 Mill. t
Coking Coal (HCC)	31.1	34.1
Semi-soft Coking Coal and PCI Coal	8.4	8.4
Steam Coal	49.8	49.9
Total	**89.3**	**92.4**

Source: IHS Markit

LB-T4

Australia's key figures are summarized below:

Key Figures Australia

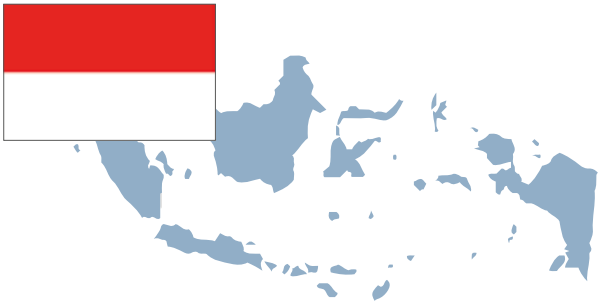
	2017 Mill. t	2018 Mill. t	2019 Mill. t
Hard Coal Production	**449**	**470**	**465**
Hard Coal Exports	**372**	**386**	**394**
Steam Coal	201	207	182
Coking Coal	171	179	212
Imports Germany	**5.6**	**5.2**	**4.7**
Steam Coal (incl. Anthracite)	0.1	0.0	0.0
Coking Coal	5.5	5.2	4.7
Export Ratio	**83 %**	**82 %**	**85 %**

Source: Own calculations/DESTATIS

LB-T5

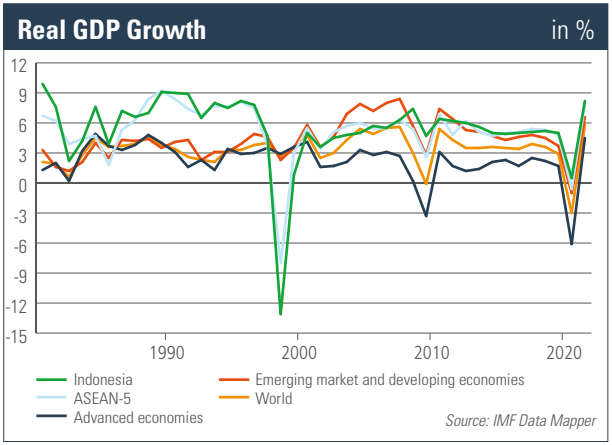
The German imports from Australia of 4,7 million tonnes are entirely made of coking coal.

INDONESIA



General

Indonesia is part of the Association South-East Asian Nations (ASEAN), and is by far the largest economy within this group. The World Bank classifies Indonesia as a so-called "Lower Middle-Income Country".



LB-B2

According to the IMF, gross domestic product increased by 5.0 % in 2019 (WEO, April 2020). In 2020, an increase of only 0.5 % is expected due to the Covid-19 pandemic. Growth of 8.2 % is expected again for 2021. This puts growth above the level of the developing and emerging countries and almost exactly at the level of the ASEAN 5 countries (Indonesia, Malaysia, Philippines, Thailand, Vietnam). GDP per capita would then amount to US$ 4,465 in 2019, which is still considerably below the world average of US$ 11,856. According to Germany Trade and Invest (GTAI), the urban regions have the economic performance of an emerging economy. In some of the rural regions, conditions are still comparable to a developing country. But in comparison with other countries rich in raw materials such as Brazil or Venezuela, Indonesia, with its high real economic growth, is in an excellent position. According to the IMF, the consumer price index will rise by 2.9 % in 2020 - the same level as the global average of 3 %. The current account deficit in % of GDP stands at -2.7 % in 2019 and will also reach this level in 2021.

According to the WEF's Global Competitiveness Index 2019, the country ranks 50th out of 141 countries, up from 45th last year and 36th two years ago. Indonesia ranks in the middle of the World Bank's Ease of Doing Business Index 2020 and ranks 73rd out of 190 countries. Transparency International's Corruption Perceptions Index 2019 ranks it 85th out of 180 countries.

In March 2018, Indonesia introduced a price cap of US$ 70/t FOB (calorific value 6,322 kcal/kg) for coal sales to domestic electricity suppliers due to the rising coal price at that time. This scheme has been extended by the Indonesian authorities for one year and will remain in effect in 2020. Although the government did not give any reason for the extension, the cap is the basis for subsidised electricity tariffs of the state-owned electricity supplier Perusahaan Listrik Negara (PLN).

The state-owned electricity company PLN estimates that coal consumption for electricity generation in Indonesia in 2019 will increase due to additional demand by about 12 % through new power plants. The Jawa 7 and Jawa 8 power plants, which together have a capacity of 2 GW, went into commercial operation in September 2019. The energy sector's coal consumption, including power plants operated by the private sector, would increase to 109 million tonnes in 2020. By contrast, demand for gas would probably fall by 5.6 % in 2020.

The existing provisions of the Indonesian Mining Act stipulate that in the case of Coal Contracts of Work (CCoW, old mining law), companies can obtain an extension of their mining rights by 2 x 10 years, subject to government approval. However, in July 2019, the Indonesian authorities refused in one case to either extend the CCoW mining permit or grant the companies a (new) Mining Business Licence. For clarification, the Mining Act of 2009 is to be revised. But demonstrations by university students impaired plan for the adoption of amendments to the Mining Act.

According to Reuters, Indonesia is planning to set more favourable prices for the coal to be used as part of an incentive programme to promote the construction of coal gasification plants. It is said to be between 20 and 21 US$/t or even less. Also, the reduction of royalties is supposed to make coal gasification more attractive. The state-owned mining company PT Bukit Asam is planning to build a gasification plant in South Sumatra, which is expected to come into operation between 2023 and 2024. The country's largest mining company, PT Bumi Resources, is conducting a feasibility study for a gasification plant.

The Indonesian capital Jakarta will sink so much due to heavy groundwater abstraction that it will come dangerously close to sea level. In August 2019 President Joko Widodo announced that the new capital would be located in the province of East Kalimantan. Several large mines are located there, including Adaro and Indika. Construction of the new capital would probably begin in 2021 and be completed by 2024. The new capital would then be located near Indonesia's main coal terminal near Samarinda and the country's oil hub near the port city of Balikpapan. Some companies expect the government to step up its response to illegal mining and thus the statistical coverage of mining data would be improved. After all, the construction of the capital would increase the demand for energy.

Reuters reported in February 2020 that Indonesia plans to relax environmental regulations to encourage investment in the country. A draft law on "job creation" was submitted to Parliament in February 2020. Environmental impact assessments will only be required for a reduced number of companies. President Joko Widodo's 80-law collection bill aims to amend a large number of existing laws to reduce bureaucracy and attract investment in the largest economy in South East Asia. This should also lead to a loosening of the regulations for coal mining. Currently, companies that mine natural resources are required to conduct an environmental impact assessment to evaluate the impact of the investment on the environment and communities in the region.

Another Reuters report in February 2020 said that mining companies had welcomed the proposed changes to Indonesia's mining regulations. They are most supportive of a provision in the law that determines the size of a mining area based on a work plan submitted by the government for approval. The measure would replace the current provisions, which limit the size of coal mines to 15,000 hectares when companies convert their contracts into a new licence. The draft law would also allow those companies investing in ore smelting or coal gasification to obtain an initial 30-year mining permit, which could be periodically extended for the entire life of the mine.

Production

Indonesia's coal production has so far been largely driven by exports. However, domestic consumption has grown steadily in recent years. Information from the Indonesian Ministry for Energy and Mineral Resources (EDSM) indicates that it came to 128 million tonnes in 2019, 12 % higher than in the previous year (Table T8). The export ratio was still 84.3 % in 2017, 77.0 % in 2018 and, for the above reason, fell to 74.8 % in 2019. According to VDKi estimates, coal production (hard coal including lignite for domestic consumption) in 2019 amounted to 610 million tonnes, which would represent an increase of 9.5 % on the previous year's value of 557 million tonnes.

After the Indonesian government had significantly reduced provincial production quotas in March 2019, it announced in August that production quotas for 2019 could be increased in the second half of the year if market demand so warranted. However, it would be unlikely that the government would be able to repeat its demand raised at the end of 2018 after a strong increase in exports. Companies pursing higher production quotas would be assessed on the basis of, in part, their performance in the first half of 2019 and the fulfilment of their financial and environmental obligations.

The 12 % production cut was part of the sanctions imposed on companies that did not meet the required quota of 25 % for deliveries to the domestic market (Domestic Market Obligation, DMO) in 2018. The problem for mining companies is that they are supposed to sell 25 % of their production to domestic end consumers, but most potential buyers have already signed long-term supply contracts. The Single Market Obligation DMO was nevertheless re-approved by the Ministry of Energy and Resources (ESDM) and will continue in 2020.

According to a report by HIS Markit in January 2020, the Indonesian government withdrew the quota cuts for mining companies that do not meet the DMO. Instead, a levy will henceforth be imposed on the companies that do not meet their quota. At a meeting between the Directorate-General for Mining and Coal (DGMC) and the producers, a three-stage levy was presented. It is between 0.50 US$/t and 1.50 US$/t for calorific values between 4,200 kcal/kg and 5,000 kcal/kg. The reactions were varied. On the one hand, it is a cost burden, and on the other hand it removes the obligation to sell 25 % of production to domestic end consumers.

The Indonesian government is forecasting coal consumption of 155 million tonnes in 2020, compared to 128 million tonnes in 2019. The government further stated that it intends to limit the total national coal production to a volume of 550 million tonnes in 2020. This would be well below the estimated production in 2019 of 610 million tonnes. In this way the government wants to avoid "oversupply" and ensure "price stability". The country's largest coal producers have been asked to reduce production by 10 to 15 % in 2020. The smaller coal producers, on the other hand, hope for more favourable allocations. Of the 550 million tonnes to be mined in 2020, 340 million tonnes are managed by the central government, while the remaining 210 million tonnes are allocated by local authorities.

However, the Indonesian government announced in April 2020 that as a result of the Covid-19 pandemic it expected domestic coal consumption to fall by up to 5 % in 2020 as the use of coal-fired power stations declined. The Ministry of Energy and Resources stated that consumption is expected to fall to 147 million tonnes in 2020 - compared to an original expected DMO of 155 million tonnes for the domestic market. The coverage of domestic demand was assured. The Ministry did not comment on the exports.

Export

In 2014, a law came into force in Indonesia that progressively bans the export of some unprocessed raw materials in order to encourage domestic processing. Indonesia had enacted regulations in 2018 requiring exporters of coal and palm oil to use local insurance and shipping companies. The insurance obligation was introduced in 2019 and the shipping obligation began on 1 May 2020. Buyers from overseas had to wait a long time for the decree of technical guidelines by the Ministry of Commerce. Customers from Japan are said to have already started to change destinations. According to information from associations, the technical guidelines for the insurance policy were published so late last year that this led to queues in the ports. Delays in the technical guidelines for shipping companies would have even greater negative effects.

Many importers state that they cannot comply with these new rules because of the cabotage rules in their own country. They feared that the lack of Indonesian ships would hinder the transport of coal to their countries. Moreover, Indonesia disposes of only a few ships that meet international shipping standards for transporting coal overseas. So far, the Indonesian Ministry of Trade has rejected all protests from the industry.

In 2019 Indonesian coal exports continued to rise significantly. Hard coal exports rose by 8.5 % from 343 million tonnes in 2018 to 372 million tonnes (Table T6). Exports of lignite dropped from 86 million tonnes to 84 million tonnes following the sharp increase in the previous year (Table T8).

Indonesia has maintained its role as the dominant steam coal exporter for the Asia-Pacific region. Around 370 million tonnes - and thus 99.5 % of exports - go to this economic region (Table T6).

Indonesia's Hard Coal Exports by Market

	2017 Mill. t	2018 Mill. t	2019 [1] Mill. t
Pacific	312.7	337.8	370.4
Europe	4.9	4.3	1.2
USA	0.7	0.8	0.6
Total	**318.3**	**342.9**	**372.2**

[1] Estimated

Source: Prepared HIS Markit figures

LB-T6

India, China, Japan, South Korea, and Taiwan account for 263 million tonnes (Table T7). The remaining demand from the Asia-Pacific region comes from high-growth ASEAN countries.

The Largest Buyers of Indonesian Hard Coal

	2017 Mill. t	2018 Mill. t	2019 [1] Mill. t
India	98.6	110.4	121.6
PR China	47.3	48.1	65.5
Japan	31.4	28.7	27.4
South Korea	38.1	37.2	29.6
Taiwan	17.5	17.9	18.7

Source: IHS Markit

LB-T7

Continued strong demand from India (122 million tonnes; +10 %) and China (66 million tonnes; +36 %) mainly contributed to the increase in exports of hard coal, while exports to Japan (-5 %) and South Korea (-20 %) fell significantly (Table T7).

Key Figures Indonesia

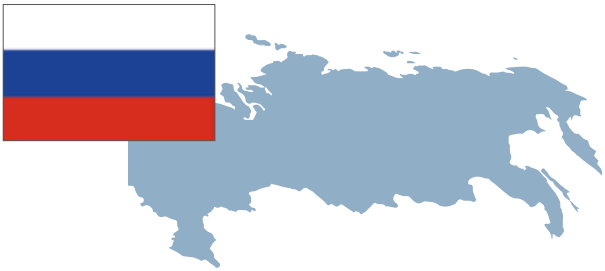
	2017 Mill. t	2018 Mill. t	2019 Mill. t
Coal Production [2]	**461**	**557**	**610**
Hard Coal Production [1]	**391**	**471**	**526**
Exports of Lignite	70	86	84
Exports of Hard Coal	318	343	372
Coal Exports [2]	**389**	**429**	**456**
Domestic Consumption [2]	97	114	128
Imports Germany	0	0	0
Export Ratio [2]	**84.3 %**	**77.0 %**	**74.8 %**

[1] Production including domestic lignite consumption, but excluding lignite exports,
[2] Hard coal and lignite

Source: Indonesian Coal Mining Association (APBI) & ESDM/IHS Markit/DESTATIS/ Own calculations

LB-T8

RUSSIA

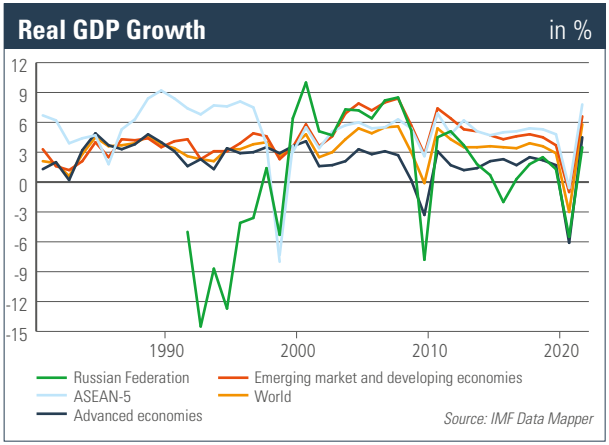


General

According to the IMF, Russia's gross domestic product increased by 1.3 % (WEO, April 2020). For 2020, a decline of 5.5 % is expected - due to the Covid-19 pandemic - and growth of 3.5 % is again expected for 2021. GDP per capita would then be 11,305, slightly below the global average of US$ 11,856. Economic growth decoupled from the global trend at the beginning of this decade due to political developments and amounted to -2 % in 2015. By 2018, the economy had recovered again. Since then, however, new political and trade tensions have emerged.

According to the GTAI, Russia's foreign trade is expected to remain in decline in 2020 - due to the intensifying trade wars and the weakened global economy. In the first three quarters of 2019, foreign trade turnover fell by 3.2 % to US$ 485.5 billion compared to the same period of the previous year. Trade turnover with Germany fell by 12.7 % to US$ 38.5 billion. Russia's trade volume with its most important trading partner China increased slightly by 0.5 % to US$ 79 billion compared with the same period last year.

In order to become less dependent on the US dollar, Russia would like to increasingly settle its trade on a euro and yuan basis. By 2024, the rouble's share of foreign trade is expected to rise to 30 %. According to the IMF, the current account surplus in % of GDP will be +3.8 % in 2019 and will decline to +0.6 % by 2021.



LB-B3

Russia was ranked 28th out of 190 countries in the Ease of Doing Business Index in 2020 (compared to 31st in the previous year and 112 in 2012). In the Global Competitiveness Index in 2019, Russia is doing similarly well, ranking 43rd out of 141 countries. However, in 2019 Russia was only ranked 137th out of 180 countries on the Corruption Perceptions Index.

Production

Russia is one of the largest hard coal producers in the world. Only China, the USA, India, Australia and Indonesia have higher production. Hard coal mining is the only sector in the Russian energy industry that is fully owned by private companies.

According to official reports, steam coal production from the important Russian mining region of Kusbass in 2019 will have fallen by slightly more than 4 % compared with the previous year. The production of steam coal was 174.50 million tonnes, compared

to 182.10 million tonnes in 2018, and coking coal reached 75.60 million tonnes, compared to 73.20 million tonnes in 2018. Total coal production amounted to 250.10 million tonnes, 2 % less than in 2018.

According to the Russian Energy Minister Alexander Valentinovich Novak, Russia has increased its coal production by 30 % in the last ten years. Of the 58 mines that will be in operation in 2019, almost half had only been opened in the last 20 years. In the last ten years, some 300 million tonnes of new coal production capacity had been brought on stream.

In view of this historic trend, 2019 was at first glance not an ideal year for the Russian coal industry. In summer 2019, prices in both Europe and Asia reached a several-year-long low. In Asia in particular, prices collapsed in the middle of a coal-to-gas conversion dynamic. After a recovery in the autumn months of 2019, Europe experienced another sharp decline in January 2020. Russian domestic demand for coal also stagnated, as coal use in power plants fell by 3 % year-on-year and demand for coking coal remained virtually unchanged.

Coal production nonetheless increased by 0.9 % compared to 2018 to 437 million tonnes. The largest share, 326 million tonnes, was steam coal. Coking coal production amounted to 111 million tonnes.

Hard Coal Production Russia

	2017 Mill. t	2018 Mill. t	2019 Mill. t
Coking Coal	104	110	111
Steam Coal [1]	304	323	326
Total	**408**	**433**	**437**

[1] Incl. anthracite and lignite

Source: Rosinformugol, from 2018 SUEK

LB-T9

The Russian coal industry remains optimistic with respect to Asian demand. In August 2019, in a context of falling prices, Russian Energy Minister Alexander Valentinovich Novak declared that coal production would be almost 10 % higher than planned by 2030. The coal plan for 2035 was revised upwards to 670 million tonnes. Although this prognosis is ambitious, the forecasts of the mining companies are even 100 million tonnes higher than those of the Ministry of Energy.

At a meeting with the governors of the mining regions in August 2019, President Putin stressed the importance of environmental protection. It is not acceptable that the increase in production is at the expense of the environment, so the Russian president.

Infrastructure

Russia's plans to modernise and expand its port infrastructure at its Baltic terminals run the risk of becoming uneconomic for the reason of Europe's declining consumption of steam coal. Three major port expansion projects are to be completed by 2022. In Primorsk, a coal terminal with a capacity of 25 million tonnes/year worth US$1.5 billion is planned for completion in 2022. A terminal with a capacity of 15 million t/year in Vysotsk is planned to be completed in 2021. Novotrans has already started construction of a coal handling facility in Ust-Luga, which will cost US$740 million and is scheduled for completion by 2022. This would increase Ust-Luga's coal handling capacity by a further 30 million tonnes/year. The current coal handling capacity for the Baltic Sea ports is about 42 million tonnes/year. If all three new projects were developed, capacity could increase to 112 million tonnes/year. However, as mentioned above, European demand is declining.

After a meeting of President Vladimir Putin with the governors of the mining regions in August 2019, Putin stated that Russia wants to invest in and develop its coal infrastructure in order to be able to focus increasingly on the growing demand of the Asia-Pacific

region. "The growing dependence on foreign markets creates certain threats and risks, considering the volatility of these foreign markets," Putin said. Russia's main competitors in the coal seaborne trade, Australia and Indonesia, would have better logistical conditions, as their mines would be closer to the export terminals than Russia's. 60 % of total coal production and 75 % of exported coal is produced in the Kusbass region in the centre of the country. This explains why the Russian government is promoting the development of coal infrastructure as an important task. The current 6-year plan envisages that 80 million tonnes will be shipped via the Arctic route by 2024.

In September 2019, the third loading unit of the largest coal terminal in the port of Vostochny on the Russian Pacific coast was commissioned. This doubled the port's loading capacity to 50 to 55 million tonnes per year. The first delivery for the Indian company JSW Steel was loaded there in a symbolic way. This underlines the improved relations between Russia and India, while relations between Russia and the Western industrialised countries have cooled down because of the Ukraine crisis and, in the case of the USA, also because of Moscow's alleged interference in the presidential elections there. Russia and India are aiming for an annual trade volume of 30 billion dollars by 2025. Indian investors are interested in investing in the Russian coal industry. For example, the state coal producer Coal India signed a contract for the mining of coking coal in Russia's far East.

In January 2020, the agency Reuters reported that a decision on the future of the Elga coal project, one of the largest coking coal deposits in the world, could still be made in 2020. The reserves of the Elga mine are estimated at 2.2 billion tonnes. Reuters referred to statements by Nikolaev, governor of the region Yakutia. The expansion of the mine, which was developed by the Russian steel and coal producer Mechel, has come to a standstill in recent years because the project in the remote region of Yakutia in the Far East of Russia requires considerable investment to reach the planned annual capacity of 30 million tonnes. A great challenge, which requires major funds, is the expansion of the mine's transport infrastructure. A 320 km long railway line built by Mechel could only transport 5-6 million tonnes of coal per year.

In March 2020, says Reuters, the company A-Property of Russian businessman Albert Avdolyan agreed to purchase a 49 % share in the Elga coal project from Gazprombank. The company is still in discussion to acquire the remaining 51 % of the project from the Russian steel and coal producer Mechel. Although Elga is Mechel's largest growth stock, the sale is intended to reduce the company's debts.

The extension of the Trans-Siberian Railway is likely to be delayed. The initial plan was to increase capacity to 125 million tonnes per year by 2021 and then to 180 million tonnes per year. An exact completion date is not yet known.

In the course of 2019, SUEK acquired 16,024 high-capacity railway wagons, thus increasing its operating fleet to more than 53,000 wagons, giving SUEK one of the largest high-capacity wagon fleets in Russia and covers over 80 % of its transport needs by itself.

Export

Russia is the third largest exporter of hard coal worldwide, after Australia and Indonesia. Russian coal is exported to almost 80 countries, including South Korea, China, Japan, Poland, Turkey and especially Germany. Exports to the Asia-Pacific region continue to grow. The upward trend in exports via the country's eastern seaports is therefore of particular importance for the development of sales.

Key Figures Russia

	2017 Mill. t	2018 Mill. t	2019 Mill. t
Coal Production	**408**	**433**	**437**
Hard Coal Exports Seaborne	**160**	**164**	**168**
Steam Coal	125	124	126
Coking Coal	35	40	42
Imports Germany	**19.8**	**19.2**	**19.3**
Steam Coal	17.9	17.7	17.7
Coking Coal	1.8	1.3	1.4
Coke	0.1	0.1	0.2
Export Ratio	**39 %**	**38 %**	**39 %**

Source: IHS Markit/DESTATIS/Own calculations

LB-T10

Russian seaborne steam coal exports increased by 1 % in 2019 from 124 million tonnes in 2018 to 126 million tonnes in 2019, while seaborne coking coal exports rose by 5.8 % to 42 million tonnes.

Since 2019, the most important sales country in Asia has been China with 26.7 million tonnes. 24.0 million tonnes of seaborne Russian exports went to South Korea. Exports to Japan amounted to 20.0 million tonnes.

Exports to the EU-28, the other European countries to North Africa and the Mediterranean region, on the other hand, were mostly in decline. In 2019, 68.9 million tonnes were still exported to the EU-28, compared with 78.1 million tonnes in the previous year. Exports to Ukraine fell by 44.1 % to 7.8 million tonnes. 10.9 million tonnes were still sold to Poland in 2019. Against the previous year, sales to Poland decreased by 17.9 %. Due to declining domestic production, however, Poland must continue to rely on competitive imported coal.

Exports to Turkey will decrease by 20.7 % to 9.4 million tonnes in 2019. Exports to Morocco, on the other hand, rose by 39.8 % to 4.4 million tonnes, and those to Israel by 34.9 % to 3.2 million tonnes.

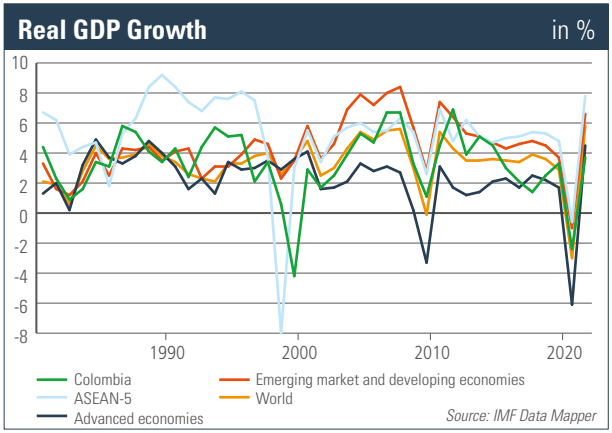
German imports from Russia increased against the trend by 0.6 % compared to the previous year to 19.4 million tonnes. Their share of German imports rose to 45.8 % in 2019, mainly steam coal. This makes Russia by far Germany's most important supplier of coal.

COLOMBIA

General

Colombia is the fifth largest coal exporter in the world, and hard coal is the second largest provider of foreign exchange there after oil. According to the IMF, Colombia's gross domestic product increased by 3.3 % in 2019 (WEO, April 2020). In 2020, a decline of 2.4 % is expected as a result of the Covid-19 pandemic, while GDP in the world average will fall by 3 %. GDP per capita is expected to be US$ 6,744 in 2020, which is well below the world average of US$ 11,856, but above the average of the developing and emerging countries, which is US$ 5,651. According to the IMF, the consumer price index is set at 3.5 % in 2020 – and thus above the global average of 3 %. The current account deficit in % of GDP reached -4.3 % in 2019 and will remain at this level until 2021.

In the Ease of Doing Business Index 2020, Colombia was ranked 67th (previous year 65th) out of 190 countries, making it at the end of the first third. In the Global Competitiveness Index 2019 (rank 57 (+3) out of 141 countries) and in the Corruption Perceptions Index 2019 (rank 96 out of 180 countries), the country occupied a middle place.



LB-B4

Colombia is the fastest-growing country in Latin America. According to the GTAI, private consumption was again the growth driver in 2019. Immigration from Venezuela and Peru played an important role here. This however put pressure on the labour market in Colombia, with unemployment rising to 10.5 % in 2019.

In November 2019 demonstrations took place nationwide. They were directed against the social situation and were organised by students, trade unions, peace movement, indigenous groups and environmental activists. In contrast to demonstrations in other South American countries, these were predominantly non-violent.

According to the GTAI, the Colombian government passed a tax reform in December 2019. The corporate tax is to be reduced from 33 % to 32 % in 2020 and finally to 30 % from 2022 onwards. Investment activity is therefore expected to increase.

Production

According to government reports, the production of steam coal and coking coal in Colombia has fallen by 2.3 % to 82.4 million tonnes in 2019.

Drummond's steam coal production rose by 6 % to 32.64 million tonnes in 2019 and, contrary to the trend in the total market, recorded a record high for a single producer in Colombia - and this despite difficult market conditions. The main reason for the increase compared to the previous year was the uninterrupted production throughout 2019. In 2018, however, production was hampered by above-average rainfall.

According to the National Mining Agency (ANM), the Cerrejón mine in the province of La Guajira in Colombia produced 25.8 million tonnes of coal in 2019, a 16 % decline compared to 2018. Unfavourable weather conditions were partly responsible for the decline in the third quarter of 2019. Longer dry spells had a negative impact because open-cast mines must reduce production at high temperatures in order to reduce dust emissions. A court order prevented the expansion of the mining operation in Cerrejón.

According to the estimation of Silvana Habib, president of the National Mining Agency, coal mining is at a crossroads after the drastic drop in the price of steam coal in 2019, especially if climatic effects and restrictions due to court rulings are added at the same time.

In response to the Covid-19 pandemic, President Ivan Duque ordered a national quarantine for an initial period of 19 days starting on 24 March 2020. It was then extended until 27 April 2020. The Colombian Mining Association (ACM) announced on March 24, 2020 that it would significantly restrict operations in the mines. According to the announcement, about 15,000 direct and 18,000 indirect employees in the industry had to stop working.

The Cerrejón coal mine significantly reduced its activities, concentrating only on the maintenance of equipment and infrastructure, as well as on compliance with legal regulations on environmental issues and the implementation of preventive measures. Employees not required for this were granted paid leave.

Cerrejón continued to support the communities in the La Guajira mining region during the quarantine measures. In strict compliance with the clearance and hygiene regulations 359 municipalities received 25,000 food baskets ("mercados") and hygiene products to mitigate the impact of the setbacks on the local economy. The Cerrejón Foundation also cooperated with the United Nations World Food Programme (WFP). Within this framework, US$242,237 will be used to restore the traditional agricultural livelihoods of the indigenous Wayuu if national restrictions are relaxed again.

On April 8, the Colombian coal producer Drummond declared, according to a Reuters report, that some activities in the province of Cesar would be restarted. Cerrejón announced on April 17, 2020 that scenarios and additional preventive measures would be analysed in order to resume operations responsibly.

Export

Total steam coal exports fell by 6.8 % to 76.2 million tonnes in 2019. Cerrejón's exports in 2019 amounted to 26.8 Mt, a decrease of 3.5 Mt compared to 30.3 Mt in 2018. Drummond's exports decreased from 32.5 million tonnes in 2018 to 31.2 million tonnes in 2019. The Prodeco Group represents Glencore's activities in Colombia

for the export of steam and metallurgical coal. According to IHS Markit, Glencore was the only exporter whose volume increased in 2019 (13.4 million tonnes compared to 12.1 million tonnes in 2018). Murray Energy's CNR exports in 2019 totaled 3.0 million tons in 2019 compared to 3.3 million tons in 2018, while the smaller producers (including Central Colombia) exported 1.8 million tons via the ports of Santa Marta, Puerto Brisa and Barranquilla, among others.

Steam Coal Exports by Company

Exporter	2017 Mill. t	2018 Mill. t	2019 Mill. t
Cerrejón	31.9	30.3	26.8
Drummond	32.5	32.5	31.2
Prodeco	14.6	12.1	13.4
Colombia Natural Resources (CNR)	3.6	3.3	3.0
Other (incl. central Colombia)	0.6	1.8	1.8
Total	**83.2**	**80.0**	**76.2**

Source: Own analysis; rounding-off differences possible

LB-T11

Exports to Europe fell by 13.6 % to 37.6 million tonnes, with exports to the Mediterranean region falling sharply (-15.1 %) and exports to north-western Europe declining less (-11.4 %). Exports to America dropped slightly by 0.3 % to 28.7 million tonnes, with exports to North America rising by 6.4 % and those to South and Central America falling by 1.7 %. Exports to Asia followed the trend of the previous year and increased by 15.6 % to 8.9 million tonnes.

In 2019, 50 % of Colombia's exports went to Europe, compared to 54 % in 2018, followed by 38 % of total exports to America, compared to 36 % in 2018. The balance of 12 % went to Asia in 2019, compared to 10 % in 2018.

Structure of the Colombian Steam Coal Exports [1)]

	2017 Mill. t	2018 Mill. t	2019 Mill. t
America	**28.1**	**28.8**	**28.7**
North America (USA+Canada)	5.7	4.7	5.0
South and Central America	22.4	24.1	23.7
Asia	**6.2**	**7.7**	**8.9**
Europe	**48.9**	**43.5**	**37.6**
Mediterranean Region [2)]	27.2	25.9	22.0
North-West Europe	21.7	17.6	15.6
Total	**83.2**	**80.0**	**75.2**

[1)] Coking coal and coke not included in the export figures.
[2)] Delimitation: France, Greece, Italy, Spain, Turkey

Source: IHS Markit, own calculations

LB-T12

The five largest target countries for Colombian coal in 2019 were Turkey with 18.6 million tonnes or 24 % of total exports, followed by Chile with 8.1 million tonnes (11 % of total exports), Mexico with 5.4 million tonnes (7 % of total exports), Israel with 5.0 million tonnes (7 %), and South Korea with 4.8 million tonnes (6 % of total exports).

In February 2020 Platts reported that Chinese buyers wanted to take advantage of low freight rates for Capesizer and increase their imports of Colombian coal. This was because Chinese production was slow to recover from the effects of the coronavirus.

An arbitrage window had opened for Colombian coal of similar qualities to Australian coal. Traditionally, Colombian exports to Asia are rather uninteresting due to the lengthy transport times. However, the restrictive customs clearance of Australian

steam coal (40-60 days clearance time) gives Colombian coal a competitive advantage, as only about 30 days of transport time are required for non-Australian imports.

The following general overview shows that Colombia's exports of steam and coking coal continue to decline (-6.8 %). German imports in particular sank by 52.6 % to 1.8 million tonnes. Colombia's export ratio is 92 %.

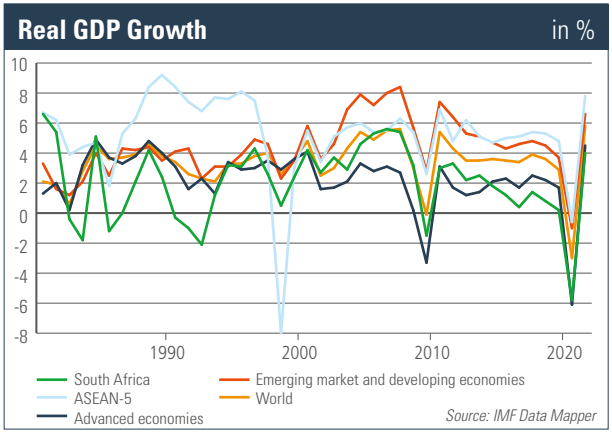
Key Figures Colombia

	2017 Mill. t	2018 Mill. t	2019 Mill. t
Hard Coal Production	**91.1**	**84.3**	**82.4**
Hard Coal Exports	**84.7**	**81.8**	**76.2**
Steam Coal	83.2	80.0	75.2
Coking Coal	1.5	1.8	1.0
Imports Germany	**6.4**	**3.8**	**1.8**
Export Ratio	**93 %**	**97 %**	**92 %**

Source: Various analyses

LB-T13

REPUBLIC OF SOUTH AFRICA



LB-B5

General

The economic growth of the important mining country South Africa has been subject to major fluctuations since 1980. It lies significantly below the real growth of the gross domestic product (GDP) of developing and emerging countries, but also below the global average, and is more in line with advanced national economies. According to the IMF, GDP grew by only 0.2 % in 2019 (WEO, April 2020). For 2020, a decline of 5.8 % is expected - due to the Covid-19 pandemic - and growth of 4 % again in 2021. GDP per capita would then amount to US$ 6,193 and thus be significantly below the world average of US$ 11,856 but above the average of US$ 5,651 for emerging and developing countries.

According to the IMF, the consumer price index is at 2.4 % in 2020 and thus below the global average of 3 %. The current account deficit in % of GDP is at -3.0 % in 2019 and will decrease to -1.3 % by 2021.

On the African continent, especially in the sub-Saharan region, South Africa occupies a leading position. In international rankings, however, South Africa's position is rather mixed. In the World Bank's Ease of Doing Business Index 2020, for example, the country at the Cape, which ranks 84th out of 190 countries, does poorer than all other hard coal exporting nations. In its Global Competitiveness Report 2019, the World Economic Forum compares the competitiveness of 141 nations. Hier liegt Südafrika mit Rang 60 ebenfalls hinter den meisten Steinkohleexporteuren, verbesserte sich aber um 7 Plätze und liegt noch vor Vietnam (Rang 67), der Mongolei (Rang 102) und Mosambik (Rang 137). In Transparency International's Corruption Perceptions Index 2019, South Africa still ranks 70th among over 180 countries.

The Integrated Resource Plan (IRP), published in 2018, envisages the expansion of electricity generation capacity by 8.1 GW of wind energy, 8.1 GW of natural gas, 5.7 GW of photovoltaics, 2.5 GW of hydro-electric power and 1 GW of coal by 2030.

A CO_2 tax was introduced in South Africa on 26 May 2019, which came into force on 1 July 2019. It is intended to provide an incentive for substitution of coal according to the IRP. A Bloomberg report from August 2019 states that this could cost the state-owned electricity supplier Eskom Holdings SOC Ltd. around Rand 11.5 billion (US$ 751 million) per year. At present, coal still accounts for almost all power generation.

Although the capacity of coal-fired power plants will fall to less than half of the country's total installed power generation capacity by 2030, coal will still account for more than 65 % of power generation. Renewable energy is not available around the clock in South Africa either. Nevertheless, the state-owned company Eskom faces growing competition from private power generation from renewable energy sources. Eskom's coal consumption over the last ten years has fluctuated very little in the range of 116 million tonnes. However, Eskom will decommission six of its 15 coal-fired power plants by 2030. The two newest plants have not yet been connected to the grid, have a capacity of 4,800 MW and are thus among the largest coal-fired power plants in the world.

The *Frankfurter Allgemeine Zeitung* reported in December 2019 that Eskom had to announce "Level 6" power cuts for the first time. Power cuts, known as "load shedding", are part of everyday life in South Africa. Up to now, however, "Stage 4" was already considered an emergency. In this case the power is switched off three times a day for two and a half hours each time. In "Stage 6" about 15 % of the power plant capacity is not available. The production of platinum and diamonds was immediately stopped after this announcement. The failure to enable the state corporation to maintain, renew and expand the infrastructure is coming at a high cost for South Africa. According to an energy expert from the German Chamber of Commerce in South Africa, the infrastructure is so outdated that even rain could trigger a collapse. Financial aid is not enough, though. After years of mismanagement and corruption, many experts have left the once highly respected company.

The South African government is in talks with representatives of the mining industry with the aim of capping the coal price for deliveries to Eskom in order to stabilise the company. According to estimation of the president Cyril Ramaphosa no mining company will be in the loss-making position as a result. On the mining side, on the other hand, the opinion is that this would not solve Eskom's complex problems.

Bloomberg reported in March 2020 that Standard Bank Group Ltd., Africa's largest bank by assets, published its policy for financing projects in the field of hard coal mining and power plants as the first South African financer. Standard wants to evaluate projects on a case by case basis. Electricity consumption in the country concerned would be assessed and compliance with environmental and social laws would have to be ensured. However, the Bank would not finance mountain-top removal projects.

Following an increase in coronavirus cases, President Cyril Ramaphosa imposed a 21-day lockdown on 23 March 2020, which took effect from midnight on 26 March 2020. Blast furnaces and underground mines are to be maintained and repaired so that they could be put back into operation shortly. The South African Minerals Council stated that there are small and deficit-making mines that are unlikely to be reopened without support measures.

The National Union of Mineworkers (NUM) declared in early April 2020 that those coal mining companies that supplied the power plants operated by the state-owned energy company Eskom would be considered as "essential service operations" during the

lockdown. All other companies would be subject to the 21-day lockdown. Any export of coal would have to be approved by the Ministry of Resources. Glencore stated that the supply of coal to Eskom would be subject to strict social distancing measures.

The lockdown, originally intended to last 21 days, was extended by two weeks - until 30 April 2020. This again raised concerns about the survival of smaller coal mining companies. In view of the weak demand, however, the export supply is still sufficient. Most major mining companies have received government permission to continue exporting at reduced quantities.

Eskom suspended power plants due to the decline in demand and therefore claimed force majeure against its customers. Eskom stated that the quantities agreed in the coal supply contracts for the supply of power plants for the period between 16 April 2020 and one month after the national restriction would not be fully collected.

South Africa is the African country hardest hit by the Covid-19 pandemic (status end of April 2020). Although South Africa's central bank is known for keeping monetary policy strictly within an inflation corridor of between 3 and 6 %, it cut the interest rate on securities repurchase agreements (repo rate) by 100 basis points to 4.25 % in April. This brings interest rates in South Africa to the lowest value in history.

Production

South African hard coal production in 2019 was roughly on a par with the previous year at around 254 million tonnes (+0.4 %). Around 31 % of that was exported, and the vast majority being steam coal (97.8 %). The remainder is anthracite.

According to the industry union Minerals Council, formerly the Chamber of Mines, about half of the coal production was delivered to the energy supplier Eskom in 2019. Sasol's demand for coal liquefaction is around 40 - 45 million tonnes and that of industrial users around 8 - 10 million tonnes. In terms of value, coal sales in 2019 totalled Rand 139 billion (US$ 9.3 billion), a drop of almost 5 % compared to the previous year. Of this, 39 % or Rand 54 billion was accounted for by (US$ 3.61 billion) on exports.

In July 2019 it became known that the Minerals Council withdrew its complaint against the mining charter. This charter regulates the fundamentals of the activities of mining companies in South Africa.

President Cyril Ramaphosa's administration was then able to start implementing most of the provisions of South Africa's new mining charter. By late 2018, the government had already adopted the third version of the charter. While the majority of the Charter received broad support, the Minerals Council objected to certain parts of the Charter and was able to obtain a judicial order to stop its implementation. The Minerals Council withdrew its complaint after the government gave assurances that the disputed provisions would not be implemented until a compromise could be reached between the two sides. The criticism was mainly directed against the fact that in the case of an extension of a mining licence, the companies applying for an extension will in future have to comply with the same rules as companies receiving a new licence. Also subject to debate are the new procurement rules, which provide a certain proportion of input purchases in the region. President Ramaphosa urged the rapid implementation of the new mining charter to reduce regulatory uncertainty and stimulate much needed investment in South Africa.

The South African power company Eskom declared in the summer of 2019 that it would no longer require coal suppliers to be majority-owned by people of colour. This put an end to a policy that had led international trading houses to withdraw from the sector. Eskom announced it would comply from now on with the 30 % threshold of the Black Economic Empowerment (BEE) regulation, which is mandatory in the new mining charter. The BEE regulation aims at eliminating discrepancies welfare caused by apartheid.

Infrastructure

Although the Witbank coal fields are the country's most important coal basin, 40 % of future coal reserves are located in the Waterberg area, which is at a considerable distance from any existing railway and port infrastructure. There is also a discrepancy between the railway capacity of the state-owned railway company Transnet and the port capacity for exporting coal from the Richards Bay Coal Terminal (RBCT). Transnet, the monopoly railway operator, had already previously presented plans to expand the capacity of the railway network by 25 million tonnes by 2025, which envisaged a new 450 km long heavy-duty line for coal transportation from the Waterberg region. However, the success in creating a rail link between the Waterberg region and the RBCT has been modest so far.

Export

In 2019, South Africa exported a total of 78.5 million tonnes, 3.1 % less than in the previous year, almost exclusively steam coal. In 2019, South Africa exported a total of 78.5 million tonnes, 3.1 % less than in the previous year. This was almost exclusively steam coal. 68.1 million tonnes went to Asia and only 3.0 million tonnes to Europe (including neighbouring Mediterranean countries).

Structure of South Africa's Exports in 2019

	Total Mill. t	Europe [1] Mill. t	Asia Mill. t	Other Mill. t
Steam Coal	76.8	3.0	66.9	6.9
Anthracite	1.7	0.0	1.2	0.5
Total	**78.5**	**3.0**	**68.1**	**7.4**

[1] Incl. neighbouring Mediterranean countries (Turkey, Israel)

Source: IHS Exports: Coal and coke by country and type

LB-T14

As in the preceding years, India remained the largest customer with 43.2 million tonnes, compared with 36.3 million tonnes in the previous year. This represents 55 % (previous year 45 %) of total exports. In second place are the deliveries to Pakistan with 11.9 million tonnes. Compared to 2018, deliveries increased by 19.3 %. In third place are exports to South Korea in the amount of 3.9 million tonnes, after 6.8 million tonnes in the previous year. Vietnam follows with 2.6 million tonnes, followed by Sri Lanka with 1.7 million tonnes and Mozambique with 1.6 million tonnes. Deliveries to Taiwan fell by 59 % to 1.1 million tonnes, while exports to Bangladesh increased by 40 % to 1.1 million tonnes.

FOB prices Richards Bay climbed to a one-year high in late 2019 due to supply interruptions of steady Indian purchases. Heavy rainfall in South Africa's main coal mining areas led to a sharp drop in production. This supported export prices, while stocks at the Richards Bay Coal Terminal (RBCT) at the end of 2019 fell by 1 million tonnes within one week. Indian purchases of South African coal for the production of sponge iron - a rare ray of hope on the world coal market - also played a significant role. This 'exceptional economic situation' supported the South African price level and

allowed prices to exceed fob prices of other destinations. However, after reference prices had risen by 22 % in January 2020 compared to the end of 2019, Indian sponge iron producers withdrew from the market. They account for around one third of exports from Richards Bay.

Exports to Germany declined by 28 % to 0.76 million tonnes. This means that only 1.8 % of coal imports to Germany now come from South Africa.

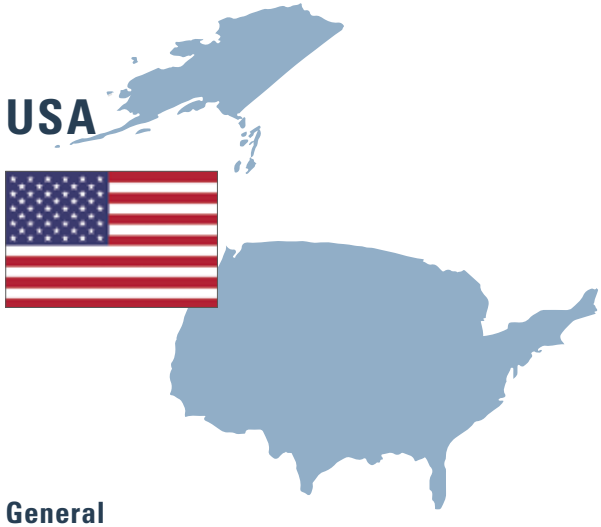
Key Figures South Africa

	2017 Mill. t	2018 Mill. t	2019 Mill. t
Hard Coal Production	**252.3**	**253.4**	**254.4**
Steam Coal	249.1	250.1	251.3
Anthracite	3.2	3.3	3.1
Hard Coal Exports [1]	**83.1**	**81.0**	**78.5**
Steam Coal	81.5	79.8	76.8
Anthracite	1.6	1.2	1.7
Imports Germany	**1.6**	**1.0**	**0.8**
Steam Coal	1.4	1.0	0.8
Anthracite	0.2	0.0	0.0
Export Ratio	**32.9 %**	**32.0 %**	**30.9 %**

[1] Seaborne only

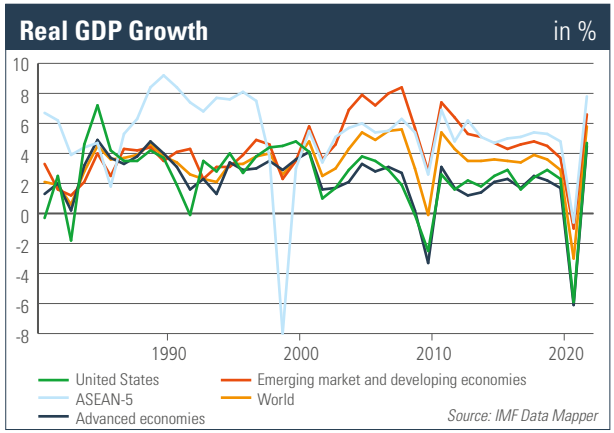
Source: IHS Markit/DESTATIS

LB-T15



General

The gross domestic product (GDP) of the USA has developed in the past decades in line with the average of the advanced economies. According to the IMF, GDP rose by 2.3 % in 2019 (WEO, April 2020). In 2020, a decline of 5.9 % is expected as a result of the Covid-19 pandemic, and in 2021 again a growth of 4.7 %. GDP per capita would then amount to US$ 67,427, well above the global average of US$ 11,856.



LB-B6

According to the IMF, the consumer price index is only at 0.6 % in 2020 - well below the global average of 3 %. The current account deficit in % of GDP is at -2.3 % in 2019 and will increase to -2.8 % by 2021. It is difficult to say whether President Trump's protectionist activities have worsened the US current account deficit. In any case, it has not improved.

The U.S. Energy Information Administration (EIA) reported in February 2020 that the price of natural gas has fallen to its lowest level in 20 years. Adjusted for inflation, the gas price has fallen by about 80 % since its peak of US$ 13.60 per million BTU 12 years ago. Compared with 2005, when prices reached almost US$20/ million BTU, the price has actually fallen by 90 %. One of the causes for this is that US natural gas production reached an all-time high in 2019.

In the extremely cyclical US gas business, a flood of cheap natural gas caused great "devastation" in the energy industry. Chevron, the country's second largest oil and gas company after Exxon, announced that it would write off assets worth $10 to $11 billion. Although the cheap natural gas of coal continues to be a sales driver in the electricity sector the industry is struggling with overcapacity. As a result, the once booming gas fields in Arkansas, Louisiana and Texas have become decommissioned areas.

Reuters reported in January 2020 that in 2019, US coal-fired power plants would experience the second-largest capacity reduction since records first began. Despite the efforts of President Donald Trump to support the coal mining industry, about 15 GW of coal-fired power generation was decommissioned. This was the second largest capacity reduction after the "record-breaking" 19 GW, which were shut down in 2015 during the term of President Barack Obama.

Some companies have also been severely affected by the sharp fall in the price of coal since its peak in 2018. At least eight US coal producers became insolvent in 2019. Others cut their dividends in order to have enough liquidity available for a hoped-for new upswing in 2020. However, this was before the outbreak of the coronavirus.

Murray Energy filed for bankruptcy protection in October 2019 (Chapter 11). Robert Murray, a strong supporter of Trump's economic policies, hoped to the last, that the U.S. government would support coal mining. He gives Trump's predecessor Barack Obama and his regulation partly the blame for the decline of the industry. The metallurgical coal division of Murray Energy filed for bankruptcy in March 2020. It now also has remediation status. The lenders have agreed to provide advance financing to keep the business operating without interruption. Murray's coal operations include a joint venture formed in April 2019 between Murray Energy and Javelin Investment Holdings.

Other major producers who have applied for bankruptcy protection in 2019 include Blackjewel Mining in West Virginia and Cloud Peak Energy in Wyoming.In March 2020 it became known that Foresight Energy also filed for bankruptcy protection. In March 2020 it became known that Foresight Energy also filed for bankruptcy. The reason for this was the economic downturn resulting from the coronavirus pandemic. The restructuring plan foresees major cutbacks.

The employment figures do not yet reflect a traumatic decline. While the number of employees in February 2020 was 50,600, it was only 300 more three years ago.

In march 2020, the US-state Pennsylvania declared that all mines producing metallurgical or steam coal, as well as metal ore mines and large industrial companies should cease operations with effect from 20 march 2020 until further notice in order to limit the spread of the coronavirus. Governor Tom Wolf ordered the closure of all "non-life supporting" businesses in Pennsylvania. The mines in Pennsylvania produce low, medium and high volatile coking coal for the Atlantic and Asian markets. Major companies operating coal mines include Consol Energy, Rosebud Mining and Corsa Coal. According to Corsa Coal, not only several mines are affected, but also all coal preparation plants. Consol Energy stated that production at the Bailey coal mine with an annual capacity of 11.5 million tonnes would be temporarily restricted for two weeks after two employees tested positive for coronavirus. Also, several anthracite coal mines produce in Pennsylvania. This should lead to significantly reduction in the supply of high-quality metallurgical coal to the steel industry in the USA. Primary iron and steel production, the manufacture of steel products and aluminium production and processing in Pennsylvania are still permitted.

In spring 2020, Moody's Investors Services stated that US domestic demand for steam coal would decline in the near future since individual states, as a result of measures taken to contain the coronavirus pandemic, a large part of industrial production would be shut down. Economic activity is expected to slow down in the first half of 2020, not only in the US but globally. In addition, Environmental, Social and Governance-related (ESG) issues in the US coal industry would make access to the capital market more difficult.

Production

For many years, the USA was the second largest coal producer in the world. In 2019, India overtook the USA from this position. According to the EIA, US coal production in 2019 was 639 million tonnes, 6.7 % below the previous year. For 2020, it expects to

produce around 521 million tonnes (EIA Short-Term Energy Outlook, March 2020), which would mean a decline of 19 % compared to 2019. For 2021 the EIA forecasts production of about 527 million tonnes of coal.

Table LB-T16 shows the allocation of coal production by region. The 6.8 % decline in the Midwest is in line with the trend in the American coal industry; the decline in the West was even greater at 8.0 %. Contrary to the trend, production in the Appalachian Mountains decreased by 3.9 %

Production in the USA by Region

	2017 Mill. t	2018 Mill. t	2019 Mill. t
Appalachians	180	182	175
Middle West	132	124	116
West	390	380	349
Total	**702**	**685**	**639**

Source: DOE-EIA

LB-T16

While prices are falling and bankruptcies are increasing, a few mining companies are nevertheless pursuing new projects. Bloomberg reported in November 2019 that Arch Coal and Consol Energy continue to pursue projects to extract metallurgical coal from West Virginia. They are counting on the market picking up again and on the currently overcapacity finding back its demand.

A new US coking coal mine project in West Virginia has found support from the Japanese Itochu Corp. with the aim of helping to meet coal demand in Asia. The US$ 450 million project has an annual capacity of 4 million tonnes and is expected to be completed in 2023.

Infrastructure

Platts reported in September 2019 that the drop in demand for coal has also had a massive impact on rail operators. The decline in revenue would amount to around US$5 billion in 2020. CSX, BNSF, Norfolk Southern and Union Pacific were particularly affected, with coal accounting for 12-16 % of sales. However, the Canadian companies Canadian Railroads, Canadian Pacific and Canadian national are the most dependent on the American coal business, with sales shares of 80 - 87 %.

More and more US port cities are resisting coal exports to Asia. Richmond, California, voted to ban coal in January 2020. The terminal handles about a quarter of its exports from the US West Coast. Richmond joined several cities on the West Coast that have banned the transportation of coal through their ports. This is blocking the route to one of the few still growing coal markets in the world.

In a March 2020 speech to the Atlantic Council, the United States Secretary of Energy, Dan Brouillette, said the United States should step up its efforts to find export opportunities on the Pacific coast in Mexico and Canada to bring coal mined in Colorado, Utah and the Powder River Basin to the rapidly growing Asian markets. His proposal came shortly after the signing of a new agreement between the United States, Mexico and Canada (USMCA). (Page 76) It can be used as a countermeasure to the behaviour of California's municipalities as well as the state and local governments in Washington and Oregon, which are trying to prevent coal transport to the West Coast. This applies to existing plants in California and terminal projects in Washington and Oregon. However, it is not only legal disputes that are causing delays in projects, but also the deterioration in export opportunities for steam coal. Brouillette also announced that the Department of Energy (DOE) will release up to 64 million US$ for research and development under the

"Coal FIRST" initiative: "Coal FIRST will help us to produce more electricity from coal more efficiently and to transform it into a virtually emission-free energy source for our country, but also for the rest of the world". The aim is to develop clean but smaller coal-fired power plants, primarily as export technology.

Export/Import

US steam coal exports declined significantly in 2019 due to the fierce competition with Russian and Colombian coal. Exports from the Central Appalachian and Northern Appalachian regions to Europe were affected, as was coal from the Illinois Basin.

In 2019, US coal exports fell by 20 % to 83.5 million tonnes. 60 % of this is coking coal, 40 % steam coal. Exports of steam coal fell by 31 %, while the decline in exports of metallurgical coal was relatively moderate at -11 %.

Exports of American coal are mainly by sea (79 million tonnes) and a smaller proportion by land to Canada (4.6 million tonnes).

Exports USA 2019

	Coking Coal Mill. t	Steam Coal [1] Mill. t	Total Mill. t
Seaborne	46.1	32.8	78.9
Overland (Canada)	3.8	0.8	4.6
Total	**49.9**	**33.6**	**83.5**

[1] Including anthracite coal

Source: IHS Markit

LB-T17

Following the increase in the previous year, the export balance fell to 73 % and thus reached approximately the 2017 value again.

Import-Export Balance USA (Seaborne)

	2014 Mill. t	2015 Mill. t	2016 Mill. t	2017 Mill. t	2018 Mill. t	2019 Mill. t
Export (seaborne)	82	62	50	83	100	79
Import (seaborne)	9	9	9	7	5	6
Export Balance	**73**	**53**	**41**	**76**	**95**	**73**

Source: IHS Markit

LB-T18

The export ratio in 2019 was 13.1 % after 15.3 % in the previous year (Table T19).

Key Figures USA

	2017 Mill. t	2018 Mill. t	2019 Mill. t
Hard Coal Production	**702**	**685**	**639**
Hard Coal Exports	**88**	**105**	**84**
Steam Coal	38	49	34
Coking Coal	50	56	50
Hard Coal Imports	**7**	**5**	**6**
Imports Germany	**9**	**10**	**8**
Steam Coal	6	6	5
Coking Coal	3	3	3
Export Ratio	**12.5 %**	**15.3 %**	**13.1 %**

Source: Various and own calculations

LB-T19

In 2019 India, Japan, Brazil and South Korea were the top destinations for US coal exports. These four countries together accounted for 41 % of exports. 11.6 million tonnes were exported to India, 7.4 million tonnes of which were steam coal. 10.0 million tonnes went to Japan, including 6.0 million tonnes of coking coal. The 6.8 million tonnes imported by Brazil were mainly coking coal. In the case of South Korea, imports of 6.2 million tonnes were made up almost equally of coking coal and steam coal.

The EU-28 received 24.0 million tonnes, or 29 % of total exports. The largest EU-28 customer country was Germany with 8.1 million tonnes, of which 4.6 million tonnes were steam coal and 3.5 million tonnes were coking coal.

Among the other European countries, Ukraine led the way with 4.5 million tonnes. Larger quantities also went to the countries bordering the Mediterranean. 4.2 million tonnes were exported to Egypt, 3.1 million tonnes to Morocco and 1.6 million tonnes to Turkey.

The tensions in the trade war between China and the USA have eased. From 14 February 2020, China reduced the tariff on coking coal imports from the USA from 33 % to 30.5 %. The tariff rate for steam coal and other types of coal remained unchanged. The increased tariff was introduced in September 2019 as the trade war intensified. US coal exports were particularly affected by the trade dispute. Only 1.1 million tonnes were exported to China in 2019, compared with 2.4 million tonnes in the previous year.

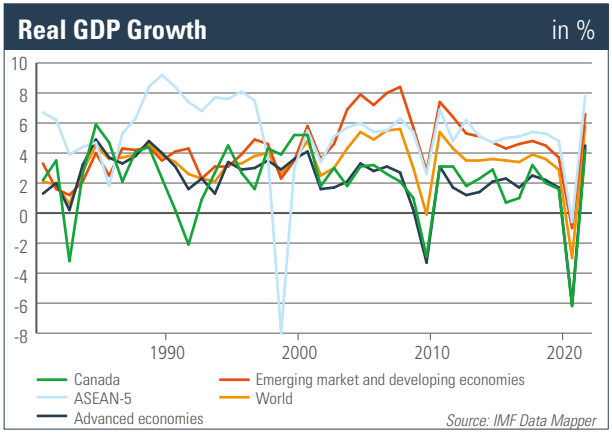
CANADA

General

Canada is a medium-sized mining country and a major exporter of coking coal by sea. Most production and export mines are located in British Columbia and Alberta.

According to the IMF, Canada's gross domestic product increased by 1.6 % in 2019 (WEO, April 2020). For 2020, a decline of 6.2 % is expected - due to the Covid-19 pandemic - and growth of 4.2 % is again expected for 2021. GDP per capita would then amount to US$ 47,931 and would thus be well above the global average of US$11,856.

According to the IMF, the consumer price index will rise by 0.6 % in 2020 - well below the global average of 3 %. The current account deficit in % of GDP amounts to -2.0 % in 2019, -3.7 % in 2020 and will return to the 2019 level by 2021.



LB-B7

Mining in Canada, like many other sectors, was severely affected by the Covid 19 pandemic. Mines, smelters and refineries reduced their production or stopped it completely. This led to hundreds of redundancies of directly and indirectly employed workers. However, the Canadian federal government then decided to include large companies in its wage subsidy, which is part of a Covid 19 reform package. Since mining in Canada, with 626,000 employees, provides one in every 30 jobs across the country, the wage subsidy plays a significant role in stabilizing not only the mining industry but the entire Canadian economy.

Production

Production of steam coal and coking coal in Canada in 2019 was 51.8 million tonnes, 5.1 % lower than in 2018.

The Coalspur mine in Alberta started operations in May 2019 and initially produced 3 million tonnes of steam coal annually. 2020 production will initially increase to 6 million tonnes and finally reach a capacity of 10 million tons.

Infrastructure

For the Coalspur mine, the capacity of the Ridley terminal at Prince Rupert was increased from 14 million tonnes per year to 16 million tonnes per year. A second transhipment point will increase the throughput to 34 million tonnes per year for bulk exports.

As part of a new partnership between the rail network operator (CN) and Teck, CN will transport the metallurgical coal from Teck to Prince Rupert. A new expanded facility at the Neptune terminals will allow the throughput capacity to be increased from 12 million tons per year to 18.5 million tons.

In February 2020, protests against the construction of gas pipelines by indigenous peoples took place across Canada. Members of "First Nation" had organized the protests. However, this also led to the blockade of the railway network of the operator CN. CN described the blockades as illegal and called on the Canadian government for support. This was because the blockades considerably hindered the transport of Western Canadian coal to the country's Pacific ports. CN announced that it would suspend railway operations in eastern Canada and lay off 1,000 workers. The government then took measures to increase the throughput of trains. After that the situation eased up again.

Export

Canadian hard coal exports increased from 30.9 million tonnes in 2018 to 32.8 million tonnes in 2019. They are divided into 1.8 million tonnes of steam coal and 31.0 million tonnes of coking coal. Exports are still on an upward trend as hard coal production decline. Overall, they have increased by 0.8 million tonnes (6.1 %) compared to 2018. While steam coal exports more than doubled to 1.8 million tonnes, the significantly higher coking coal exports rose by 2.6 % to 31.0 million tonnes.

The quantities of steam coal imported in 2019 rose to 4.3 million tonnes, imports of coking coal fell to 3.8 million tonnes. A total of 8.1 million tonnes were imported - 6.6 % more than in the previous year. The increase in steam coal was even more significant at 26.5 %.

This leaves an export balance of 24.7 million tonnes, which is 6.0 % above the level of the previous year (LB-T20).

Export / Import Balance Canada

	2016 Mill. t	2017 Mill. t	2018 Mill. t	2019 Mill. t
Exports Steam Coal	2.2	2.0	0.7	1.8
Exports Coking Coal	28.0	28.4	30.2	31.0
Total	**30.2**	**30.4**	**30.9**	**32.8**
Imports Steam Coal	2.9	3.6	3.4	4.3
Imports Coking Coal	3.4	3.8	4.2	3.8
Total	**6.3**	**7.4**	**7.6**	**8.1**
Export/Import Balance	**23.9**	**23.0**	**23.3**	**24.7**

Source: IHS Markit

LB-T20

The largest buyers of coking coal were Japan with 7.9 million tonnes (+5.5 %), South Korea with 5.6 million tonnes (+4.1 %), India with 4.9 million tonnes (+19.4 %), the People's Republic of China with 4.8 million tonnes (+54.2 %) as well as Taiwan with 1.7 million tonnes, Vietnam with 1.0 million tonnes and Brazil with 0.8 million tonnes.

At 1.8 million tonnes, exports of steam coal are not very high in absolute terms. It is therefore easily possible that extreme changes may occur in relative terms. This was again the case in 2019. Deliveries to South Korea doubled to 0.7 million tonnes, while deliveries to Taiwan (0.7 million tonnes) and Vietnam (0.3 million tonnes) rose very sharply from a very low level.

1.3 million tonnes were delivered to Germany, of which almost all consisted of coking coal.

Key Figures Canada

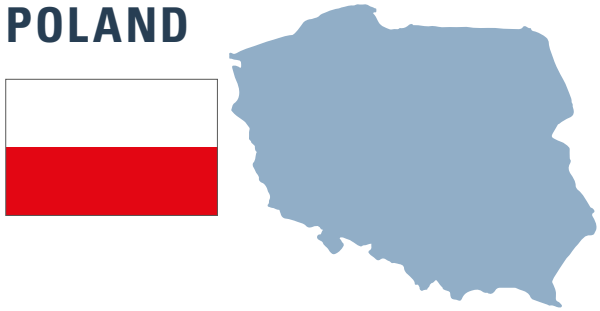
	2017 Mill. t	2018 Mill. t	2019 Mill. t
Hard Coal Production [1]	**60.9**	**54.6**	**51.8**
Hard Coal Exports	30.4	30.9	32.8
Steam Coal	2.0	0.7	1.8
Coking Coal	28.4	30.2	31.0
Imports Germany	**1.5**	**1.6**	**1.3**
Coking Coal	1.5	1.6	1.3
Export Ratio	**50 %**	**57 %**	**63 %**

[1] Incl. hard lignite

Source: IHS Markit/DESTATIS/Own calculations

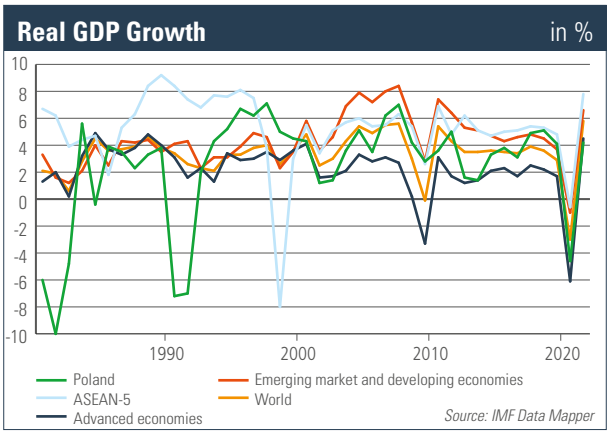
LB-T21

POLAND



General

According to the IMF, Poland's real gross domestic product increased by a remarkable 4.1 % in 2019 (WEO, April 2020). For 2020, a decline of 4.6 % is expected - due to the Covid 19 pandemic - and growth of 4.2 % is expected again in 2021. GDP per capita would then amount to US$ 15,988, which would be above the global average of US$ 11,856, but well below the average of US$ 49,666 for the developed economies. In contrast, real economic growth is well above the average of the developed economies (2019: 1.7 %). According to the IMF, the consumer price index is at 3.2 % in 2020 - slightly above the global average of 3 %. The current account surplus in % of GDP amounts to +0.5 % in 2019 and will decline to +0.1 % by 2021.



LB-B8

Electricity generation in Poland fell by 3.9 % to 159 TWh in 2019. At 5.1 %, the decline in electricity generation from hard coal was greater, but hard coal is still the most important energy source in Polish electricity generation, accounting for 49 %. At 15.4 %, the decline in electricity generation from lignite was significantly higher. In contrast, electricity generation from gas increased by 26 % and electricity generation from wind and other renewable energy sources by 20 %. The electricity exchange balance rose particularly strongly. Electricity imports almost doubled to 10.6 TWh.

In February 2020, the Polish company ENEA announced that the construction plans for the Polish Ostroleka C coal-fired power plant had been halted and construction work suspended for up to 90 days. Originally, the two state-owned companies Energa and ENEA had intended to jointly finance the 1,000 MW project in northern Poland. Ostroleka C has so far been described as the last coal-fired power plant in Poland. The companies justified their move by pointing out that "circumstances" were arising, particularly at European level who would oppose that. In particular, there is talk of the Green Deal and the plan to make the EU carbon neutral by 2050. The credit policy of the European Investment Bank also played a role under the auspices of the Green Deal. Therefore, the financing had "not been finally clarified". In the meantime, it has been heard that the construction of a gas power plant is now planned.

Although Poland had introduced a number of restrictions for citizens in order to contain the spread of the Covid-19 virus, the Polish mining sector, which still meets a significant proportion of the country's coal requirements, was able to continue production. To this end, measures were introduced to reduce the risk of infection for workers.

The Polish company JSW, the largest coking coal producer in the European Union, reported a 40 % drop in production in early April 2020 after JSW reduced the number of shifts and many miners had to stay at home due to the coronavirus pandemic. Despite the drop in production, the company first stated that it was able to meet

all its contractual obligations thanks to high inventories. Shortly afterwards, however, JSW had to announce force majeure.

The state-owned Polish company PGG, which produces almost 30 million tonnes of coal a year in eight mines, had to temporarily close two of its coal mines in Poland because of the spread of the Covid 19 virus among miners. PGG announced on 28 April that most of the workers at the two mines are now quarantined at home. The two mines remained closed until 3 May.

Production

According to information from Węglokoks, Polish hard coal production will decline by 1.8 % to 61.6 million tonnes in 2019. It is thus following the downward trend that has been going on for years, which was marked by decommissioning. In 2012, production was still at 79.2 million tonnes. Steam coal accounted for the largest share of hard coal production in 2019, at 49.5 million tonnes or 80 %.

Export and Import

Polish coal production has declined in recent years, partly due to geological problems. Some major Polish coal consumers, especially the state-owned energy companies, signed long-term contracts for coal imports from Russia in 2017 and 2018, fearing that the state-owned coal producer PGG would not be fully able to meet demand. This actually led to higher imports in 2018 (+49 % to 19.7 million tonnes).

At the end of January 2020, according to Reuters, Polish miners blocked trains carrying coal to a power station near Katowice to protest against coal imports from Russia. The unions claim that the long-term contracts would restrict domestic production and thus endanger jobs. In reality, however, the performance of the Polish state enterprise PGG is not good.

Poland has been a net importer since 2017. In 2019, imports fell by 12.7 % to 17.2 million tonnes. According to Węglokoks two thirds of the imports came from Russia with 10.8 million tonnes, Australia imported 2.1 million tonnes, Colombia 1.2 million tonnes, Kazakhstan 0.9 million tonnes, 0.8 million tonnes from the USA and 0.4 million tonnes from Mozambique.

Polish steam coal imports could fall by more than 25 % in 2020, as the government is working to reduce coal imports on one hand, and on the other hand, cheap gas and a mild winter put pressure on coal-fired power generation at the beginning of the year. In 2019, Polish mines produced around 2 million tonnes less than in 2018, but the gap that resulted was filled not by increased coal imports but by natural gas and renewable energies. The Polish government nevertheless announced at the beginning of 2020 that state-owned companies such as the coal importer Węglokoks and the electricity producer Polska Grupa Energetyczna (PGE) would avoid importing coal this year. Jacek Sasin, Vice Prime Minister and Minister of State Assets, explained in a radio interview in early February 2020: "Energy companies were forced to import coal, because there was none in Poland. Now the situation is different, and I can explain that they will not buy coal from abroad. We want to concentrate first on Polish coal". This statement applies to spot contracts. Longer-term contracts are not affected.

According to IHS, total Polish hard coal exports declined by 13.7 % to 4.4 million tonnes in 2019. Steam coal accounted for 1.79 million tonnes of this. The largest customers were the Czech Republic with 0.87 million tonnes, Slovakia with 0.30 million tonnes and Austria with 0.26 million tonnes. Exports to Germany amounted to 0.19 million tonnes, which corresponds to a decline of 17 %.

Poland's Steam Coal Exports

	2017 Mill. t	2018 Mill. t	Change over PY
Total	**2.06**	**1.79**	**-13.1 %**
of which:			
Czech Republic	0.76	0.87	14.5 %
Germany	0.23	0.19	-17.4 %
Austria	0.33	0.26	-21.2 %
Slovakia	0.33	0.30	-9.1 %
Ukraine	0.06	0.09	50.0 %

Source: IHS, DESTATIS

LB-T22

Poland's coking coal exports decreased by 12.2 % to 2.58 million tonnes. Most of the coking coal went to the Czech Republic (1.39 million tonnes). Exports to Austria increased by 6 % to 0.72 million tonnes. Further quantities went to Slovakia, Ukraine and Hungary.

Poland's Coking Coal Exports

	2017 Mill. t	2018 Mill. t	2019 Mill. t	Change over PY
Total	**2.75**	**2.94**	**2.58**	**-12.2 %**
of which:				
Czech Republic	1.60	1.62	1.39	-14.2 %
Ukraine	0.40	0.26	0.15	-42.3 %
Austria	0.38	0.68	0.72	5.9 %
Slovakia	0.35	0.34	0.24	-29.4 %
Hungary	0.02	0.04	0.08	100.0 %

Source: IHS, DESTATIS

LB-T23

Coke exports amounted to 5.4 million tonnes (-6.9 %). About 1.2 million tonnes went to Germany (-14.9 %).

Key Figures Poland

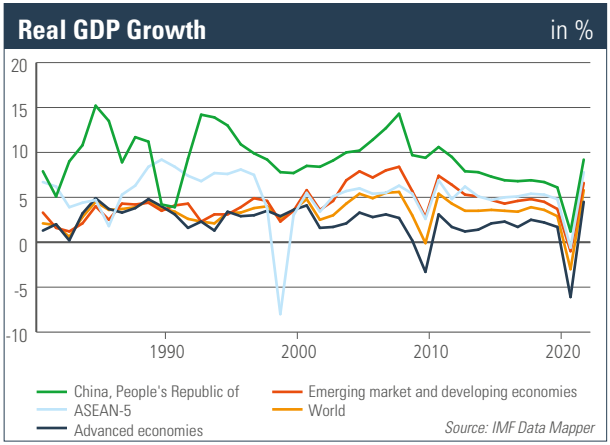
	2017 Mill. t	2018 Mill. t	2019 Mill. t
Hard Coal Production	**65.5**	**63.4**	**61.7**
Hard Coal Exports	**7.1**	**5.1**	**4.4**
Steam Coal [1]	4.4	2.2	1.8
Coking Coal	2.7	2.9	2.6
Coke Exports	**5.8**	**5.8**	**5.4**
Hard Coal Imports	**13.2**	**19.7**	**17.2**
Imports Germany	**2.7**	**1.6**	**1.4**
Steam Coal	1.3	0.2	0.2
Coking Coal	0.0	0.0	0.0
Coke	1.4	1.4	1.2
Export Ratio (coke converted into coal)	**20 %**	**17 %**	**7 %**

[1] Including anthracite coal

Source: Various analyses

LB-T24

PEOPLE'S REPUBLIC OF CHINA



LB-B9

General

According to the IMF's Word Economic Outlook of April 2020, the gross domestic product of the People's Republic of China increased by 6.1 % in 2019. In 2020, growth is expected to be lower at 1.2 % - due to the Covid-19 pandemic - and to return to 9.2 % in 2021. China would thus be the only major economic nation to not only survive the consequences of the virus outbreak but could return to the growth rates of 2008 to 2011.

GDP per capita would amount to US$ 10,873 in 2020, just below the global average of US$ 11,856.

According to the IMF, the consumer price index will rise by 3 % in 2020 – the same as the global average of 3 %. The current account surplus in % of GDP is at +1.0 % in 2019 and will remain at this level until 2021.

In the World Bank's Ease of Doing Business Report 2020, China is among the countries that have made the most progress in three or more of the areas analysed, ranking 31st out of 190, and according to the WEF's Global Competitiveness Index 2019, it ranks 28th out of 141 countries. In the Corruption Perceptions Index 2019 by Transparency International, China reaches rank 80 out of 180 countries.

Crude steel production rose by 7.0 % in 2019, while pig iron production, which is the main input for coke, increased by 5.0 %.

Electricity/Crude Steel/Pig Iron Production PR China				
		2017	2018	2019
Electric Power Generation	TWh	6,276	6,791	7,142
Crude Steel Production	Mill. t	870.9	928.3	992.9
Pig Iron Production	Mill. t	713.6	771.1	809.4

Source: National Bureau of Statistics of China, world-steel, ArgusMedia

LB-T25

According to the National Bureau of Statistics of China, China's power generation rose by 5.2 % to 7,142 TWh in 2019. Thermal power plants generated 5,165 TWh (+3.7 %), hydropower 1,153 TWh (+4.6 %), while wind energy contributed 0.358 TWh (+10.0 %) and solar energy 0.117 TWh (+31.1 %). Although the growth rates of renewable energy sources are high, the starting level is still comparatively low.

Chinese industry associations expect coal-fired power plant capacity to increase further in the coming years. In July 2019, the research department of the Chinese State Grid Agency predicted that the peak power plant capacity would be 1,230-1,350 GW, an increase of 200-300 GW compared to 2019. The Chinese government is convinced that its "ultra-low emissions" technology would enable it to reduce emissions despite growing coal consumption. 810 GW of power plant capacity would already fall into this category.

According to a Reuters report from September 2019, the planned power plant projects in China would add 226 GW of capacity, which fits the above-mentioned bandwidth. This is about twice as much as is planned in India. These projects would create more coal-fired power plant capacity than would be shut down by the German coal phase-out.

The increase followed an "approval surge" by the provincial governments over the period 2014-2016, which was intended to secure sustained economic growth. Previously suspended projects had been resumed. The "energy revolution" promised by China is indeed aimed at further reducing its dependence on coal. But despite a rapid increase in renewable energy capacities and the transition to natural gas for heating homes, coal consumption has continued to rise.

In August 2019, the Indian newspaper Business Standard reported on a joint study by Chinese and American scientists. The result: China could achieve its commitments at the Paris Climate Conference 5-10 years earlier than planned. The peak in emissions could already be reached in the years 2021-2025. The background to this result is that emissions would peak in most Chinese cities if GDP were to reach a value of US$ 21,000 per capita (for comparison: the national average in 2020 is US$ 10,873, the global average is US$ 11,856 and the average for developed economies at US$ 49,666). As the study covers 50 Chinese cities, which account for 35 % of the country's total CO_2 emissions and 51 % of GDP, this study is certainly representative. It remains to be seen, however, whether the standard of living in China's major cities will continue to adjust to the level of the developed economies.

Production

According to the National Bureau of Statistics of China, hard coal production in 2019 increased by 5.6 % from 3.54 billion tonnes (2018) to 3.75 billion tonnes (LB-T28).

Production is highest in Inner Mongolia with 1035 million tonnes. At 11.8 %, it grew at an above-average rate there. It is followed by Shanxi with 971 million tonnes (+8.7 %) and Shaanxi with 634 million tonnes (+1.7 %). Production in Xinjiang province is much lower at 237 million tonnes, but still considerable on a global scale.

As in the previous year, the largest capacity increase took place there. This year the increase amounted to as much as 24.7 %.

In the other major mining provinces of Guizhou, Shandong, Anhui and Henan, production in 2019 was on the decline as in 2018 (LB-T26). The focus on large and efficient mines and the closure of older and unsafe mines therefore does not affect the regions to the same extent. The Chinese government is therefore endeavouring to support structural change in the old mining regions.

Coal Production in the Largest Mining Provinces in PR China

	2017 Mill. t	2018 Mill. t	2019 Mill. t
Inner Mongolia	879	926	1,035
Shanxi	854	893	971
Shaanxi	570	623	634
Xinjiang	167	190	237
Guizhou	166	139	130
Shandong	129	122	119
Anhui	117	115	110
Henan	117	114	109

Source: National Bureau of Statistics of China

LB-T26

According to a Reuters report, the number of permits for new mines in China has increased significantly. In the period January to June 2019, an additional capacity of 141 million tonnes was approved, compared to 25 million tonnes in the entire previous year. The new mines are located in Inner Mongolia, Xinjiang, Shanxi and Shaanxi. These are the regions which, according to the National Energy Authority (NEA), are expected to form the future core of China's coal industry and, according to Table LB-T26, have achieved the highest production growth.

Despite announced savings in coal consumption, the Chinese government is giving room for further growth, at least in the short term. While hundreds of smaller mines and power plants have been closed in smog-prone regions such as Hebei and Beijing, the Chinese government continues to promote the efficient and clean use of coal. In 2019, 100 million tonnes per year of new mining capacity is expected to be added to compensate for the closure of older inefficient mines.

On 31 July 2019, a serious mining accident occurred in a relatively small mine (150,000 tonnes per year) in Guizhou. After this and other accidents, the safety inspections particularly in the case of private mines, resumed at a higher rate on 12 August 2019 and lasted until the end of September. During the celebrations of the 70th anniversary of the founding of the People's Republic of China in October 2019, mining accidents were to be avoided as far as possible. Nearly all private mines in Inner Mongolia, would thus have ceased production during this period. Nearly all private mines in Inner Mongolia, for example, would have ceased production during this period. In particular, action should have been taken against the illegal expansion of mine capacity. These measures restricted domestic production possibilities and improved the conditions for coal imports.

The outbreak of the coronavirus (Covid-19) in Wuhan at the end of 2019 affected the entire economy, as millions of workers were not allowed to leave their homes. Power generation, power consumption, mining and transportation - everything was affected by the lockdown. Yancoal resumed steam coal production on January 27, 2020, while Shandong Energy's operations were closed until February 10, 2020. The Shanxi-based Datong Mining Group kept 34 mines closed until February 9, 2020. Coke deliveries were the most affected as they were dependent on truck transport. Production in China's state-owned coal mines, which had resumed supplies to power plants and steelworks, were closely monitored. The provincial governments of Inner Mongolia and Shanxy urged

the major producers in their region to limit their supplies to the province in order to prevent the spread of the virus.

Reuters reported on February 1, 2020 that the Chinese government put pressure on mining companies to resume production after the production restrictions. The government also announced that it would take strict action against price increases as a result of the impending supply crisis. Nevertheless, the spread of the corona virus led to a coal price rally of a special kind in China. After the Chinese New Year, business activities in the country usually pick up again. While other raw material prices came under pressure as a result of the massive restrictions on business activities in China, coal prices initially rose. According to Daiwa Capital Markets, the effect was intensified by the reduction in production of around 145 million tonnes as part of the safety inspections in 2019.

The soaring coal prices on the Chinese domestic market did not last long. The collapse in demand brought them down to a level that would fundamentally require government intervention to bring the price back into the "green zone" between 500 and 570 Yuan. In recent years, spot prices have mostly remained above the lower limit, due to strict controls on local mines, the dismantling of older production capacity and restrictions on imports. According to analysts, the Chinese government is likely to try to keep electricity prices low in order to stimulate the economy again. This goal would be supported by the decline in benchmark coal prices to the lower end of the "green zone" at 500 yuan/t.

On 18 April 2020, the China Coal Transport & Distribution Association (CCTD) called on its own industry on the CCTD website to cut production by 10 % in view of weak demand. The producers of anthracite coal were specifically addressed. In a separate statement, producers of coking coal were also asked to make similar production cuts in May 2020 in order to support prices. CCTD announced that it would appeal to the government to restrict imports.

While anthracite production has returned to last year's level, the recovery in demand has been delayed, leading to a 'serious imbalance' in the market fundamentals, the CCTD statement states. Among other things, coal producers should reduce obsolete capacities in order to redress the imbalance between supply and demand. They should also cease discounts and other sales promotions so that "reasonable" profit margins could be maintained.

China's cumulative coal production from January to March 2020 reached 830 million tonnes according to the Chinese Statistical Office, which is 2.1 % or 17 million tonnes more than in the first quarter of 2019. January and February 2020 together produced only 489 million tonnes compared to 514 million tonnes in 2019, so the Covid-19-related decline was more than balanced out in March 2020!

It is crucial that demand also recovers. Power generation can be taken as an indicator of this. In the first quarter of 2020, this fell by 9.4 % compared with the same quarter in the previous year, and by 3.0 % in March 2020 compared with the same month in the previous year. The "catch-up process" has thus begun.

According to estimates by the Noble Group trading company, China's coal consumption in 2020 would be reduced by 180 million tonnes or 5 % of annual consumption, and subsequently Chinese coal production also. The company assumes that the world coal market is threatened by this "short-term shock". If the Chinese economy continues to develop as it did in March 2020, this estimate is too pessimistic.

Infrastructure

In autumn 2019, the 1,800 km long Haoji Railway Line was built to connect Erdos in Inner Mongolia with the southern provinces of Henan, Hubei, Hunan and Jiangxi. This railway line crosses

the Shanxi and Shaanxi mining regions. The US$30 billion project will increase transport capacity by 60 million tonnes in 2020. At full capacity, even 200 million tonnes per year would be possible. About 20 million tonnes each replace imported coal, the production of smaller Chinese mines and finally lead to an expansion of supply. The project was supported in particular by mining companies from Inner Mongolia. However, transport costs are not competitive, according to buyers. In any case, this project will lead to an increase in the security of supply, especially in winter.

Import/Export

China is included in the country reports because the country was once a major exporting country. However, China's gross export ratio was only 0.33 % in 2019 (LB-T28). 6.0 million tonnes of coal were exported. Coke exports declined from 9.9 million tonnes to 6.5 million tonnes (LB-T27).

The largest deliveries of steam coal went to Japan in 2019 with 1.2 million tonnes and to South Korea with 0.8 million tonnes. 0.4 million tonnes of coking coal went to North Korea in 2019, 0.2 million tonnes to Japan and 0.1 million tonnes to South Korea. Coke deliveries to Malaysia amounted to 1.3 million tonnes, to India 0.9 million tonnes, to Japan 0.7 million tonnes and to Vietnam also 0.7 million tonnes.

Chinese hard coal imports rose by 10.9 % in 2019 - after a decline of 2.2 % in the previous year - to 197.3 million tonnes. Imports of steam coal rose by 0.9 % and imports of coking coal even increased by 10.0 %.

Import/Export Development PR China

	2016 Mill. t	2017 Mill. t	2018 Mill. t	Difference 2019 / 2018 Mill. t
Imports Steam Coal [1]	118.7	121.7	122.6	0.9
Imports Coking Coal	69.9	64.7	74.7	10.0
Total Imports	**188.6**	**186.4**	**197.3**	**10.9**
Exports Steam Coal [1]	5.8	3.8	4.6	0.8
Exports Coking Coal	2.3	1.1	1.4	0.3
Export Coke	8.1	9.9	6.5	-3.4
Total Exports	**16.2**	**14.8**	**12.5**	**-2.3**

[1] Incl. anthracite, excl. lignite

Source: IHS Markit

LB-T27

For the first time, Indonesia was the largest importer of steam coal in 2019 with 65.5 million tonnes. An additional 81.7 million (metric) tonnes of lignite were imported from Indonesia. Australia came second with 50.0 million tonnes of steam coal. Russia supplied 15.7 million tonnes of steam coal. Coking coal was mainly imported from Australia (58.4 million tonnes) and Mongolia (33.8 million tonnes).

According to IHS Markit, Chinese hard coal imports reached a six-month high of 33 million tonnes in July 2019. In the course of the year, the above-mentioned restrictions imposed by safety checks in mines supported demand for imported coal. There was intense competition for steam coal between Indonesia, Australia and Russia. Towards the middle of 2019, the trade conflict with China

reduced the pressure on Australian coal exporters. This is due on the one hand to growing demand from the steel industry and on the other hand to the gradual settlement of the trade conflicts (see also the country report on Australia).

Mongolia developed into an important supplier of coking coal to China. Imports increased from 27.7 million tonnes in 2018 to 33.8 million tonnes in 2019, but the People's Republic imposed import controls on this important supplier of coking coal in November 2019 after failing to maintain a constant level of total Chinese imports. One reason why Mongolia has come into focus is the government's lack of options to restrict coal imports without risking a simultaneous disruption of market supply. It is easier for Chinese consumers to substitute Mongolian coal with domestic qualities than, say, Australian coal.

The Chinese government was also able to control coal imports by relaxing the above-mentioned safety controls in Chinese mines to prevent serious accidents in the run-up to the 70th anniversary of the founding of the People's Republic of China. As a result, production increased again in October. The increase in Chinese coal production continued in November.

At the same time, however, Chinese demand for coal also grew in 2019, so that the Chinese government was expecting a record year for coal imports. In January 2020, the restrictions were somewhat eased in order to secure market supply. However, the transition to normal conditions had to take some time at that stage. There was talk of delays of ten days for Indonesian coal and 40 days for Australian deliveries.

The coronavirus caused quite a stir in the government's approach to regulating coal imports. For its part, Mongolia closed its border crossings with China on 1 February 2020. The Mongolian-Chinese border crossings at Ganshuunsukhait/Ganqimaodu and Ceke were expected to reopen on 2 March 2020. Mongolia transports coal to China mainly by truck, and in "normal" times about 200 to 600 vehicles of about 90 tonnes each are dispatched per day. The risk of infection has been classified as high.

Outside China, international carriers have faced delays in ports due to the introduction of quarantine controls - up to 14 days in some cases - to prevent the spread of the virus. Australia and Indonesia have introduced precautionary measures. In Australia, vessels that left China after 1 February 2020 were not allowed to enter ports until 14 days after departure. Where there was a risk or suspicion that one of the crew members had contracted the virus, a further 14 days were added. However, the impact on the loading of coal is likely to have been small, as two weeks were needed anyway due to queues in the ports.

For Colombian suppliers, the crisis situation and simultaneously low freight rates created arbitrage opportunities for deliveries to the People's Republic. Due to the longer duration of transport, Colombian coal is generally a rather unusual product for Chinese customers. However, since a time delay of 40 to 60 days is to be expected for Australian coal due to the Chinese customs, but only 30 days are planned for non-Australian deliveries, Colombian coal loses a competitive advantage over Australian coal due to the faster customs clearance. Colombian exports to China have therefore increased from 0.3 million tonnes in 2018 to 1.6 million tonnes in 2019.

On 24 March 2020, Mongolia resumed coal exports to China via the Gashuun Sukhait border crossing after they had been suspended in February (see above) to prevent the spread of corona virus. This was reported by the Chinese state media agency Xinhua, citing the Mongolian Finance Minister. According to the Xinhua report, Mongolia expected to be able to fully guarantee coal supplies to China again soon.

Key Figures PR China [1)]

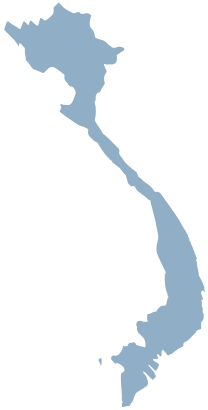
	2017 Mill. t	2018 Mill. t	2019 Mill. t
Hard Coal Production	**3,445**	**3,546**	**3,746**
Hard Coal Exports	**8.1**	**4.9**	**6.0**
Steam Coal	5.8	3.8	4.6
of which anthracite	2.3	1.7	2.0
Coking Coal	2.3	1.1	1.4
Coke Exports	**8.1**	**9.9**	**6.5**
Hard Coal Imports	**188.6**	**186.4**	**197.3**
Steam Coal	105.3	112.8	115.4
Coking Coal	69.9	64.7	74.7
Anthracite	13.4	8.9	7.2
Imports Germany	**0.18**	**0.15**	**0.07**
Steam Coal (incl. Anthracite)	0.01	0.01	0.01
Coke	0.17	0.14	0.06
Export Ratio (coke converted into coal)	**0.47 %**	**0.42 %**	**0.33 %**

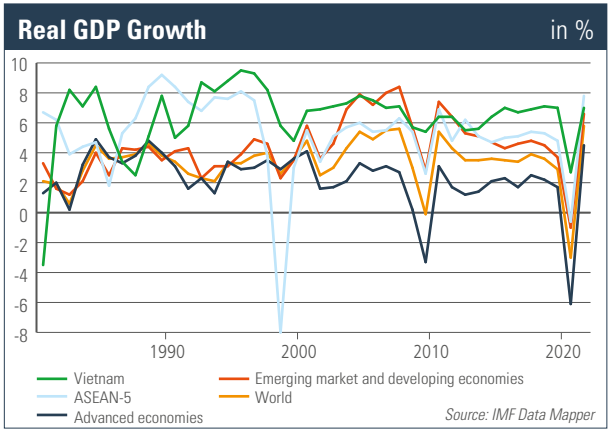
[1)] Excluding lignite

Source: Various analyses, IHS Markit

LB-T28

VIETNAM





LB-B10

General

According to the GIZ country information portal, Vietnam is comparable with Germany in terms of population and area.

After a long war, Vietnam has experienced a rapid upswing since 1986 following the introduction of market economy reforms ("**đổi mới**"). The socialist market economy of communist Vietnam developed very well. And the one-party state of Vietnam succeeded in developing from one of the poorest countries in the world into an internationally recognised, emerging market economy. According to the IMF, gross domestic product increased by 7.0 % in 2019 (WEO, April 2020). In 2020, growth is expected to be lower at 2.7 % - due to the Covid-19 pandemic - and to return to a 7 % growth in 2021. Like the People's Republic of China, Vietnam would thus have survived the consequences of the Covid-19 virus outbreak there relatively unscathed and could return to the growth rates of previous years. Per capita GDP would then amount to US$ 2,955, which is still well below the global average of US$ 11,856. However, per capita GDP is also still below the level of the developing and emerging countries of US$ 5,651 and that of the ASEAN 5 countries (Indonesia, Malaysia, Philippines, Thailand, Vietnam) of US$ 4,869.

By contrast, growth in 2020 will be 2.7 %, well above the level of the developing and emerging countries (-1.0 %) and also the ASEAN 5 countries (-0.6 %). The country is one of the most dynamic in Asia.

According to the IMF, the consumer price index is at a rise of 3.2 % in 2020 – slightly above the global average of 3 %. The current account surplus in % of GDP is at a remarkable +4.0 % in 2019 and will decline to +1.0 % by 2021.

In the Ease of Doing Business Index, Vietnam ranks 70th out of 190 countries in 2020, 67th out of 140 countries in the Global Competitiveness Index in 2019 (previous year 77th) and 96th out of 180 countries in the Corruption Perceptions Index in 2019 (previous year 117th).

According to the European Commission, Vietnam is the EU's second largest trading partner in the Association of South East Asian

Nations (ASEAN) after Singapore, with trade in goods worth €49.3 billion per year and trade in services worth €4.1 billion. The EU's main exports to Vietnam are high technology products, including electrical machinery and equipment, aircraft, vehicles and pharmaceutical products. Vietnam's main exports to the EU include electronic products, footwear, textiles and certain nutritional products. Hard coal is no longer a relevant export commodity because the country's high energy demand has made Vietnam a net importer.

The European Union and Vietnam had already agreed in 2015 on the framework for a free trade agreement. On February 12th 2020 the European Parliament adopted the EU-Vietnam Trade and Investment Agreement. The adoption was preceded by a heated debate involving the political party "*Grüne*", the Left (*Linke*), and also parts of the European Social democrats. They based their opposition on what they saw as persistent violations of human rights by the Vietnamese government, repression against workers and the lack of enforceable standards for human rights, environment and social affairs.

According to the Commission, the agreement is the EU's most comprehensive trade agreement with a developing country and removes virtually all customs duties on trade in goods between the two sides, and guarantees compliance with labour rights, environmental protection and in particular the Paris Convention on Climate Change through its strong, legally binding and enforceable commitments to sustainable development. The agreement ensures that trade, investment and sustainable development go hand in hand by ensuring high levels of labour, environmental and consumer protection standards, and assuring that there is no "race to the bottom" to attract trade and investment. The trade agreement would allow EU companies to participate on an equal footing with Vietnamese companies in tenders organised by Vietnamese authorities and state-owned companies. The EU-Vietnam trade agreement is expected to enter into force in 2020, once Vietnam has completed its ratification process.

In February 2020, the Global Times, one of the two nationwide English-language dailies in China, reported that Vietnam will more than double its power generation capacity over the next decade to support its rapidly growing economy. The newspaper refers to new guidelines for a national energy development strategy. The Southeast Asian country wants to increase its power generation capacity from the current 54 GW to between 125 and 130 GW by 2030. The Politburo of the Communist Party of Vietnam declared this in February 2020, stating that the strategy was "aimed at ensuring national energy security and providing sufficient electricity for rapid and sustainable socio-economic development".

Vietnam, one of the fastest growing economies in Asia, will face a severe energy shortage as from 2021, as demand for electricity threatens to exceed supply despite the construction of new power plants. Vietnam's goal is to increase the share of renewable energies up to 15 to 20 % by 2030. Vietnam is looking for support from foreign investors to push the development of new power plants and accelerate the privatisation of state-owned energy companies.

Key Figures Vietnam	2017 Mill. t	2018 Mill. t	2019 Mill. t
Hard Coal Production	**38.0**	**41.9**	**45.8**
Hard Coal Exports	**1.72**	**1.96**	**0.94**
of which PR China	0.25	0.17	0.07
Export Ratio	**4.5 %**	**4.7 %**	**2.0 %**
Imports	**13.13**	**22.39**	**40.71**

Source: IHS Markit

LB-T29

Export

Like China, Vietnam is included in the country reports because the country was once an important exporting country. However, due to strong economic growth, Vietnam's exports have been declining steadily in recent years, while domestic consumption and imports have increased. In 2019, imports increased strongly by 82 %, from 22.4 million tonnes to 40.7 million tonnes. This was contrasted by exports of around 0.9 million tonnes. The export ratio was thus halved to 2.0 %. The main suppliers of imported coal are Australia (16.1 million tonnes) and Indonesia (14.5 million tonnes). Australia supplied coking coal (5.5 million tonnes in total) and steam coal (10.5 million tonnes). Russia supplied a total of 5.8 million tonnes, including 4.7 million tonnes of steam coal. South Africa exported 2.6 million tonnes to Vietnam. Canada also supplied 1.3 million tonnes, of which 1.0 million tonnes was coking coal.

REPORT IN FIGURES

2019 provisional

World Energy Consumption by Energy Source and Region in Mill. TCE

Energy Source	2011	2012	2013	2014	2015	2016	2017	2018
Oil	5,836	5,913	5,970	6,074	6,188	6,510	6,581	6,660
Natural Gas	4,167	4,266	4,361	4,402	4,479	4,390	4,488	4,728
Nuclear Energy	859	800	805	822	833	845	853	873
Hydroelectric Power	1,136	1,191	1,231	1,263	1,276	1,305	1,314	1,355
Hard Coal and Lignite	5,189	5,320	5,524	5,587	5,485	5,294	5,312	5,389
Miscellaneous and Renewable Energies	286	342	404	452	521	596	700	802
Total	**17,473**	**17,832**	**18,295**	**18,600**	**18,782**	**18,940**	**19,249**	**19,807**
Primary Energy Consumption								Share in %
Consumption Regions	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
North America	22.7	21.8	21.8	21.8	21.3	20.8	20.4	20.4
Asia/Australia	39.1	40.3	40.7	41.3	41.6	42.1	42.7	43.2
European Union	13.9	13.0	13.1	12.5	12.4	12.6	12.6	12.2
CIS	8.3	8.5	7.9	7.7	7.4	7.3	6.6	6.7
Rest of World	16.0	16.4	16.5	16.7	17.3	17.2	17.7	17.5
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
								Mill. TCE
Coal Consumption (Hard Coal and Lignite)	**5,189**	**5,320**	**5,524**	**5,587**	**5,485**	**5,294**	**5,312**	**5,389**
								Share in %
Consumption Regions	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
North America	14.5	12.6	12.6	12.6	11.2	10.0	9.8	9.1
Asia/Australia	67.9	69.7	70.6	71.5	72.6	74.0	74.5	75.3
European Union	8.3	7.9	7.5	7.0	6.9	6.9	6.3	5.9
CIS	4.7	4.9	4.6	4.2	4.2	4.2	3.4	3.6
Rest of World	4.6	4.9	4.7	4.7	5.1	4.9	6.0	6.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Includes commercially traded energy sources only

Source: BP Statistical Review of World Energy 2018

Tabelle 1

World Hard Coal Production/Foreign Trade [1]

	2014			2015			2016		
	Production	Export	Import	Production	Export	Import	Production	Export	Import
Germany	8	0	54	8	0	56	4	0	54
France	0	0	14	0	0	14	0	0	13
Great Britain	12	0	38	9	0	22	4	0	7
Spain [2]	4	0	15	3	0	19	2	0	14
Poland	73	9	10	72	9	8	70	9	8
Czech Republic	9	4	3	8	4	3	7	4	3
Romania/Bulgaria	2	0	2	2	0	2	2	0	2
Rest of EU 28	0	0	69	0	0	60	0	0	55
EU 28	**106**	**13**	**205**	**100**	**13**	**184**	**89**	**13**	**157**
Russia	357	166	30	372	152	24	384	166	22
Kazakhstan	120	30	0	107	30	0	102	26	0
Ukraine	65	5	17	40	1	15	41	1	16
Designated Countries	**542**	**201**	**47**	**519**	**183**	**39**	**527**	**193**	**38**
Canada	69	34	8	62	30	8	61	30	6
USA	907	88	10	813	67	10	661	55	9
Colombia	89	77	0	86	82	0	91	90	0
Venezuela	2	2	0	2	2	0	0	1	0
Designated Countries	**1,067**	**201**	**18**	**963**	**181**	**18**	**813**	**176**	**16**
South Africa	**261**	**77**	**0**	**252**	**77**	**0**	**250**	**76**	**0**
Australia	**441**	**387**	**0**	**442**	**388**	**0**	**433**	**391**	**0**
India	612	0	215	626	0	220	639	0	198
PR China	3,598	5	228	3,545	5	156	3,364	9	183
Japan	0	0	188	0	0	191	0	0	190
Indonesia [3]	389	348	0	413	327	0	402	311	0
Designated Countries	**4,599**	**353**	**631**	**4,584**	**332**	**567**	**4,405**	**320**	**571**
Rest of Asia			287			285			298
Remaining countries/ Statistical difference	34	40	84	158	50	132	211	57	147
World	**7,050**	**1,272**	**1,272**	**7,018**	**1,224**	**1,224**	**6,728**	**1,226**	**1,226**

[1] Domestic and seaborne trade [2] Production incl. "Lignito Negro" [3] Indonesia: Production incl. dom. lignite consumption, but excluding lignite exports

Sources: Statistics from Kohlenwirtschaft, ECE, IEA, statistics of the importing and exporting countries, own calculations

Tabelle 2

Mill. t

2017			2018			2019			
Production	Export	Import	Production	Export	Import	Production	Export	Import	
4	0	49	3	0	44	0	0	40	Germany
0	0	15	0	0	13	0	0	10	France
3	0	7	3	0	9	2	0	5	Great Britain
3	0	19	3	0	16	0	0	8	Spain[2]
66	7	13	63	5	20	62	4	17	Poland
5	3	3	5	3	2	3	3	2	Czech Republic
0	0	2	0	0	5	0	0	2	Romania/Bulgaria
0	0	54	0	0	59	0	0	52	Rest of EU 28
81	**10**	**163**	**76**	**8**	**168**	**67**	**7**	**136**	**EU 28**
408	193	25	433	203	25	437	208	25	Russia
106	29	0	107	29	1	106	28	1	Kazakhstan
35	1	20	26	0	19	26	0	21	Ukraine
549	**223**	**45**	**566**	**232**	**45**	**569**	**236**	**47**	**Designated Countries**
61	30	7	55	31	8	52	33	8	Canada
703	88	7	685	105	5	639	84	5	USA
91	85	0	84	82	0	82	76	0	Colombia
0	0	0	0	0	4	0	0	1	Venezuela
855	**203**	**14**	**824**	**218**	**17**	**773**	**193**	**14**	**Designated Countries**
252	**83**	**0**	**253**	**81**	**0**	**254**	**79**	**0**	**South Africa**
449	**373**	**0**	**470**	**386**	**0**	**465**	**394**	**0**	**Australia**
667	0	198	716	0	221	711	0	240	India
3,445	8	189	3,546	5	186	3,746	6	197	PR China
0	0	192	0	0	189	0	0	186	Japan
415	318	0	471	343	0	526	372	0	Indonesia[3]
4,527	**326**	**578**	**4,733**	**348**	**597**	**4,983**	**378**	**623**	**Designated Countries**
		323			351			361	Rest of Asia
139	49	143	142	51	146	146	49	155	Remaining countries/ Statistical difference
6,852	**1,267**	**1,267**	**7,064**	**1,324**	**1,324**	**7,257**	**1,336**	**1,336**	**World**

Hard Coal Seaborne Trade [1)]

Exporting Countries	2014			2015			2016		
	Coking Coal	Steam Coal	Total	Coking Coal	Steam Coal	Total	Coking Coal	Steam Coal	Total
Australia	186	201	387	186	202	388	189	201	391
USA	53	29	82	38	24	62	34	16	50
South Africa	0	77	77	0	77	77	0	75	75
Canada	31	3	34	27	2	29	27	2	29
PR China	1	5	6	1	4	5	1	7	9
Colombia	1	75	76	1	81	82	1	89	90
Indonesia	0	348	348	0	327	327	0	311	311
Poland	0	3	3	0	5	5	0	4	4
Russia	33	110	143	17	120	137	30	115	144
Other (incl. Venezuela)	4	27	31	2	11	12	2	11	13
Total	**309**	**878**	**1,187**	**272**	**853**	**1,124**	**285**	**832**	**1,117**
Importing Countries/Regions									
Europe [2)], of which	70	140	210	43	179	222	40	154	194
EU 28	64	104	168	37	133	170	35	108	143
Asia, of which	199	694	893	172	665	837	178	665	843
Japan	43	145	188	41	150	191	43	146	190
South Korea	6	125	131	25	110	135	25	110	134
Taiwan	0	67	67	11	56	67	11	54	66
PR China	48	161	209	45	96	141	46	111	157
Hong Kong	0	14	14	0	11	11	0	11	11
India	37	178	215	48	172	220	49	148	197
Latin America	17	16	33	15	25	40	15	27	42
Other/Statistical Difference	23	28	51	4	21	25	-2	39	37
PCI coal included in steam coal [3)]				38	-38	0	54	-54	0
Total	**309**	**878**	**1,187**	**272**	**852**	**1,124**	**285**	**831**	**1,116**

Figures excl. overland traffic
[1)] Rounding-off differences possible, coking coal exports from Australia and Russia, including PCI coal
[2)] incl. neighbouring Mediterranean countries
[3)] coking coal exports from Australia and Russia, including PCI coal

Assessment of various sources

Tabelle 3

Mill. t

2017			2018			2019			Exporting Countries
Coking Coal	Steam Coal	Total	Coking Coal	Steam Coal	Total	Coking Coal	Steam Coal	Total	
173	200	373	179	208	386	183	212	394	Australia
46	37	83	52	48	100	46	33	79	USA
0	83	83	0	81	81	0	79	79	South Africa
28	2	30	29	1	30	30	2	32	Canada
2	6	8	1	4	5	1	5	6	PR China
2	83	85	2	80	82	1	75	76	Colombia
0	318	318	0	343	343	0	372	372	Indonesia
0	2	2	0	0	0	0	0	0	Poland
35	125	160	40	124	164	42	126	168	Russia
3	13	16	2	14	0	0	14	14	Other (incl. Venezuela)
288	**869**	**1,157**	**306**	**902**	**1,208**	**304**	**917**	**1,221**	**Total**
									Importing Countries/Regions
43	157	200	45	158	202	39	136	175	**Europe** [2], of which
37	109	146	37	111	148	32	87	119	EU 28
184	684	868	186	726	912	191	757	948	**Asia,** of which
42	150	192	43	146	189	43	143	186	Japan
24	123	147	25	123	148	23	119	142	South Korea
11	58	69	12	57	69	13	54	67	Taiwan
56	100	155	45	105	150	49	112	161	PR China
0	11	11	0	11	11	0	10	10	Hong Kong
48	151	199	55	166	221	56	184	240	India
15	21	36	15	20	35	13	20	33	**Latin America**
-5	57	52	5	53	58	6	59	65	Other/Statistical Difference
51	-51	0	55	-55	0	55	-55	0	PCI coal included in steam coal [3]
288	**869**	**1,157**	**306**	**902**	**1,208**	**304**	**917**	**1,221**	**Total**

Hard Coal Exports from Australia

1,000 t

Importing Countries	2013	2014	2015	2016	2017	2018	2019
Germany	4,739	5,673	5,737	6,608	5,634	5,196	4,771
Belgium	405	39	1,275	231	914	20	1,288
France	3,317	3,219	3,707	3,860	2,779	2,907	2,221
Great Britain	2,455	1,803	1,729	1,218	935	980	609
Italy	821	657	840	778	329	556	326
The Netherlands	2,658	2,778	2,504	3,684	1,813	3,007	2,331
Poland	421	1,278	1,346	1,460	1,160	1,486	1,748
Spain	1,057	1,438	1,340	1,197	870	1,372	302
Sweden	1,050	1,079	1,311	1,363	790	1,024	1,252
Other EU 28	273	82	380	579	631	255	388
EU 28	**17,199**	**18,045**	**20,169**	**20,979**	**15,855**	**16,802**	**15,234**
Israel	496	174	172	0	0	0	0
Turkey	311	633	1,987	1,505	570	424	857
Rest of Europe [1]	0	624	989	391	245	237	176
Europe [1]	**18,005**	**19,477**	**23,318**	**22,875**	**16,670**	**17,463**	**16,267**
Brazil	3,045	4,745	6,615	6,435	5,745	5,048	3,541
Chile	914	901	2,151	3,640	2,201	978	1,207
Mexico	1,072	2,437	3,638	2,710	0	0	133
PR China	87,581	93,351	71,416	74,898	83,300	89,491	92,582
India	34,674	46,826	48,115	48,468	44,269	50,072	49,601
Indonesia	458	1,478	2,275	2,702	3,104	4,086	4,221
Japan	123,433	119,553	125,619	121,648	117,433	116,734	110,077
Malaysia	3,974	6,003	6,173	6,925	6,295	6,549	6,912
South Korea	49,806	55,052	59,586	51,122	48,831	47,903	50,303
Taiwan	27,205	29,869	30,001	36,133	31,703	32,586	34,421
Thailand	3,531	3,948	3,777	3,585	3,914	3,444	4,094
Vietnam	429	544	1,302	4,097	4,025	6,953	16,060
Other Countries	3,443	3,276	4,986	6,278	5,474	4,884	4,181
Statistical differences	0	-182	-674	-929	-390	340	506
Total Exports	**357,571**	**387,280**	**388,298**	**390,586**	**372,574**	**386,530**	**394,105**

[1] Incl. countries bordering the Mediterranean

Source: IHS Markit/DESTATIS

Tabelle 7

Hard Coal Exports from Indonesia							1,000 t
Importing Countries	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Germany	0	0	53	180	31	0	0
Italy	3,017	3,516	3,106	1,686	891	718	0
Spain	4,078	4,071	4,826	4,944	3,232	2,464	685
Other EU 28	668	453	323	450	802	1,132	404
EU 28	**7,762**	**8,041**	**8,308**	**7,260**	**4,956**	**4,313**	**1,088**
Rest of Europe [1]	147	0	253	238	87	0	131
Europe [1]	**7,909**	**8,041**	**8,561**	**7,498**	**5,043**	**4,313**	**1,219**
Bangladesh	0	159	2,847	1,537	2,268	2,613	5,934
PR China	89,721	49,782	36,684	50,843	47,294	48,136	65,476
Hongkong	12,876	12,513	9,267	9,424	8,450	9,028	7,877
India	116,824	134,452	123,365	94,609	98,553	110,378	121,591
Japan	37,712	35,579	32,406	33,038	31,421	28,654	27,437
Cambodia	322	641	1,558	1,453	2,382	2,211	2,655
Malaysia	17,121	14,453	16,505	17,272	21,130	21,983	25,275
Pakistan	998	1,100	1,167	1,473	1,509	3,739	3,417
Philippines	14,509	15,021	15,804	17,503	18,978	22,595	27,156
South Korea	35,991	35,549	32,704	35,019	38,075	37,151	29,550
Taiwan	27,947	26,988	24,008	20,290	17,454	17,860	18,676
Thailand	14,258	16,196	17,730	16,384	16,375	19,964	17,600
Vietnam	1,820	1,529	1,988	2,852	6,340	11,668	14,895
Other Countries	3,162	4,244	2,620	2,209	3,064	2,589	3,414
Statistical differences	0	0	-53	-180	-31	0	0
Total Exports	**381,169**	**356,247**	**327,160**	**311,225**	**318,305**	**342,883**	**372,175**

[1] Incl. countries bordering the Mediterranean

Source: IHS Markit/DESTATIS

Tabelle 8

Hard Coal Exports from Russia

1,000 t

Importing Countries	2013	2014	2015	2016	2017	2018	2019
Germany	12,841	13,494	16,528	17,854	19,681	19,056	19,114
Belgium	2,243	2,256	2,239	1,299	838	710	1,520
Denmark	821	1,258	860	1,307	1,073	1,541	1,508
Finland	3,159	3,561	2,498	1,926	1,976	2,377	2,574
France	1,572	1,151	1,323	2,847	3,056	2,432	2,214
Great Britain	23,443	24,028	17,180	11,185	12,169	8,942	1,750
Italy	847	1,442	2,221	1,860	2,298	2,344	2,129
Poland	6,054	6,439	4,656	5,268	7,641	13,261	10,883
Romania	287	259	591	464	1,169	3,466	1,323
Slovakia	891	949	1,230	1,281	1,293	1,352	1,415
Slovenia	0	5	21	638	192	666	796
Spain	1,740	1,547	3,475	2,463	4,072	2,716	2,041
Other EU 28	13,336	13,973	16,637	15,435	18,135	19,299	21,604
EU 28	**67,233**	**70,362**	**69,458**	**63,826**	**73,593**	**78,162**	**68,871**
Israel	2,033	2,478	2,202	2,491	3,004	2,350	3,170
Morocco	127	1,400	1,596	2,639	3,215	3,166	4,427
Turkey	8,967	8,615	9,787	11,496	13,715	11,845	9,398
Ukraine	10,599	9,812	9,007	9,926	9,275	14,029	7,839
Belarus	496	550	817	470	357	1,051	3,537
Rest of Europe [1]	537	489	1,134	991	972	1,414	2,201
Europe [1]	**89,992**	**93,705**	**94,001**	**91,839**	**104,132**	**112,017**	**99,443**
Mexico	0	0	0	141	1	0	1,323
Brazil	207	239	334	1,152	1,190	1,374	1,333
PR China	25,077	25,776	16,370	15,991	22,626	22,547	26,695
Hongkong	116	414	753	944	1,189	1,093	1,124
India	623	1,635	3,039	3,191	3,460	4,306	7,448
Japan	12,513	14,657	15,965	18,544	17,426	18,131	19,968
Malaysia	365	1,500	2,504	3,151	3,064	3,133	3,305
South Korea	14,545	16,154	19,329	24,757	23,342	25,648	24,039
Taiwan	3,122	5,502	6,539	7,631	8,768	9,304	8,480
Vietnam	131	186	995	4,015	2,156	2,413	5,825
Other Countries	402	1,964	2,697	4,113	4,000	4,044	5,446
Statistical differences	-8,563	-8,884	-10,858	-9,550	1,256	-941	3,305
Total Exports	**138,531**	**152,849**	**151,669**	**165,919**	**192,609**	**203,069**	**207,736**

[1] Incl. countries bordering the Mediterranean

Source: IHS Markit/DESTATIS

Tabelle 9

Hard Coal Exports from USA							1,000 t
Importing Countries	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Germany	12,044	11,099	10,913	9,547	9,142	9,954	8,111
France	3,727	1,990	1,208	1,215	1,974	1,547	1,161
Great Britain	12,257	8,897	3,811	965	2,476	3,805	1,258
Italy	5,981	5,330	3,112	1,733	2,850	3,091	2,425
Croatia	978	1,455	1,411	1,173	1,748	2,107	1,628
The Netherlands	4,452	4,594	4,441	2,847	3,807	4,497	2,638
Austria	558	355	379	382	519	951	1,986
Poland	591	652	513	219	1,231	1,656	1,329
Spain	1,430	1,357	1,151	1,263	1,590	1,657	556
Other EU 28	4,427	3,450	2,843	2,113	4,098	3,135	2,911
EU 28	**46,447**	**39,180**	**29,781**	**21,458**	**29,435**	**32,402**	**24,005**
Egypt	305	375	148	1	1,769	3,475	4,242
Morocco	2,803	2,218	193	941	2,656	3,888	3,149
Turkey	4,520	4,045	1,863	1,349	2,326	2,778	1,637
Ukraine	2,626	2,573	2,549	1,868	4,049	4,370	4,462
Rest of Europe [1]	1,419	1,706	136	142	74	127	46
Europe [1]	**58,119**	**50,098**	**34,670**	**25,759**	**40,308**	**47,040**	**37,542**
Canada	6,479	6,089	5,403	4,545	4,794	5,188	4,633
Mexico	5,106	4,268	3,412	2,807	3,387	4,911	2,276
Brazil	7,764	7,245	5,750	6,294	6,859	7,796	6,817
PR China	7,465	1,477	208	902	2,936	2,368	1,062
India	3,556	4,199	5,794	5,015	10,399	15,591	11,643
Japan	4,783	4,504	4,224	4,133	6,957	9,426	9,968
South Korea	7,648	7,283	5,563	4,056	8,573	8,456	6,165
Other Countries	5,710	3,117	2,046	1,148	3,603	4,093	3,427
Statistical differences	10	0	0	0	119	0	0
Total Exports	**106,640**	**88,280**	**67,071**	**54,658**	**87,934**	**104,870**	**83,532**

[1] Incl. countries bordering the Mediterranean

Source: IHS Markit/DESTATIS

Tabelle 10

Hard Coal Exports from Colombia (only steam coal)							1,000 t
Importing Countries	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Germany	9,794	7,265	9,850	10,711	6,469	3,857	1,785
Denmark	1,927	1,248	574	548	158	449	168
France	1,765	695	756	1,077	1,832	1,010	33
Great Britain	6,195	6,867	4,100	598	329	745	108
Ireland	1,773	1,792	2,131	1,146	1,514	563	439
Italy	1,264	1,205	2,661	3,561	2,609	2,325	1,591
The Netherlands	10,305	8,503	8,463	6,824	3,301	2,373	5,036
Poland	0	88	154	172	357	554	1,008
Portugal	3,246	4,196	5,357	4,960	4,793	4,236	2,005
Spain	2,981	6,067	5,869	4,653	5,707	4,517	1,727
Other EU 28	840	479	372	911	639	241	71
EU 28	**40,090**	**38,405**	**40,285**	**35,162**	**27,708**	**20,869**	**13,970**
Israel	4,901	5,257	5,845	4,547	3,921	4,284	5,024
Turkey	7,660	9,300	11,414	16,115	17,031	18,058	18,643
Rest of Europe [1]	0	0	32	188	187	93	438
Europe [1]	**52,652**	**52,962**	**57,576**	**56,012**	**48,847**	**43,304**	**38,076**
Canada	1,593	1,516	1,711	1,445	1,733	2,138	2,075
USA	4,511	5,565	6,341	5,649	3,944	2,544	3,060
Dominican Republic	268	688	794	1,002	958	826	1,059
Guatemala	750	1,305	1,769	2,060	1,247	2,001	2,566
Mexico	593	353	242	2,038	6,832	6,015	5,379
Panama	371	413	349	325	110	333	925
Puerto Rico	1,369	1,413	1,390	1,564	1,096	1,170	1,594
Brazil	2,076	4,448	5,042	4,570	4,503	4,965	4,504
Chile	7,053	5,646	4,380	4,989	6,786	7,687	8,125
PR China	223	0	0	325	80	330	1,649
India	494	0	0	2,644	495	346	667
Japan	278	0	20	240	1,949	948	607
South Korea	0	0	0	3,771	2,938	5,382	4,773
Other Countries	1,415	727	887	1,934	1,650	2,012	1,381
Statistical differences	0	0	0	0	0	0	0
Total Exports	**73,647**	**75,036**	**80,500**	**88,569**	**83,168**	**80,002**	**76,441**

[1] Incl. countries bordering the Mediterranean

Source: IHS Markit/DESTATIS

Tabelle 11

Hard Coal Exports from South Africa							1,000 t
Importing Countries	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Germany	2,533	5,082	3,400	2,003	1,630	1,058	759
France	1,209	838	386	650	612	571	114
Italy	2,297	1,516	3,883	2,799	833	151	0
Spain	1,698	3,211	2,400	1,092	2,785	1,295	678
Other EU 28	6,355	7,058	635	2,246	1,018	3,370	739
EU 28	**14,091**	**17,705**	**10,704**	**8,791**	**6,877**	**6,445**	**2,290**
Israel	3,306	2,503	2,559	1,003	1,166	683	338
Morocco	300	1,338	4,325	2,243	757	353	447
Turkey	2,836	3,668	4,548	1,570	1,867	1,697	290
Rest of Europe [1]	0	742	1,586	1,856	1,134	1,571	269
Europe [1]	**20,533**	**25,957**	**23,722**	**15,463**	**11,801**	**10,749**	**3,636**
USA	511	574	504	250	405	475	432
Brazil	631	1,014	944	879	998	474	461
Bangladesh	0	79	804	617	541	750	1,051
PR China	13,535	3,260	0	60	0	6	0
India	20,894	30,574	35,299	37,567	36,511	36,344	43,249
Japan	549	145	150	0	311	135	310
Malaysia	1,893	1,610	1,069	1,062	774	571	649
Pakistan	2,308	3,367	3,720	4,922	8,617	9,982	11,912
Sri Lanka	182	0	1,188	2,043	2,270	2,014	1,723
South Korea	150	305	318	2,739	8,328	6,827	3,857
Taiwan	5,804	1,344	1,289	765	3,203	2,774	1,137
Vietnam	0	0	44	511	55	127	2,614
Other Countries	6,363	8,159	8,210	8,569	9,126	9,768	7,517
Statistical differences	0	0	0	0	197	0	0
Total Exports	**73,354**	**76,388**	**77,260**	**75,446**	**83,138**	**80,997**	**78,547**

[1] Incl. countries bordering the Mediterranean

Source: IHS Markit/DESTATIS

Tabelle 12

Hard Coal Exports from Canada

1,000 t

Importing Countries	2013	2014	2015	2016	2017	2018	2019
Germany	8	23	2	12	12	10	9
Finland	428	537	526	587	412	605	460
France	0	31	0	92	119	69	74
Italy	817	403	288	283	318	234	256
Croatia	0	0	0	0	0	0	0
Poland	120	122	294	367	690	760	602
Other EU 28	642	887	699	- 222	761	842	210
EU 28	**3,221**	**3,442**	**3,124**	**2,594**	**3,782**	**4,061**	**2,839**
Turkey	334	491	834	1,039	659	512	668
Ukraine	326	281	1,106	878	800	452	0
Rest of Europe [1]	232	59	195	180	119	122	30
Europe [1]	**4,114**	**4,274**	**5,259**	**4,690**	**5,360**	**5,147**	**3,537**
USA	911	834	980	893	735	695	667
Brazil	1,677	2,263	1,113	901	926	863	756
Chile	327	274	366	638	266	199	179
PR China	11,025	7,709	5,361	5,126	4,749	3,129	4,823
India	1,360	1,711	1,700	2,697	3,085	4,140	4,943
Japan	10,108	8,850	8,306	7,914	7,240	7,447	7,943
South Korea	7,594	6,675	5,777	5,702	5,681	5,720	6,288
Taiwan	1,151	1,509	1,252	1,417	1,622	1,462	2,312
Vietnam	0	0	90	172	521	1,205	1,317
Other Countries	278	159	185	95	256	937	0
Statistical differences	0	0	-268	-75	0	0	0
Total Exports	**38,546**	**34,260**	**30,120**	**30,170**	**30,441**	**30,944**	**32,764**

[1] Incl. countries bordering the Mediterranean

Source: IHS Markit/DESTATIS

Tabelle 13

Hard Coal Exports from China							1,000 t
Importing Countries	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Germany	8	23	2	12	12	10	9
Great Britain	0	0	0	0	77	0	0
The Netherlands	0	0	11	1	0	0	9
Other EU 28	0	0	0	1	0	0	0
EU 28	**8**	**23**	**13**	**13**	**89**	**10**	**18**
Rest of Europe [1]	4	0	0	0	0	95	0
Europe [1]	**12**	**23**	**13**	**13**	**89**	**105**	**18**
India	0	0	2	1	172	0	164
Indonesia	1	0	10	42	218	324	537
Japan	3,020	2,070	1,503	2,667	3,132	1,869	2,170
Malaysia	0	4	15	17	8	91	264
North Korea	129	80	71	132	44	438	763
South Korea	3,303	2,835	2,014	3,543	3,421	1,821	1,463
Taiwan	835	467	414	976	765	193	531
Vietnam	0	0	1,051	1,151	28	23	0
Other Countries	21	140	96	113	192	29	79
Statistical differences	-8	-23	-2	-12	35	-10	-9
Total Exports	**7,313**	**5,597**	**5,189**	**8,644**	**8,102**	**4,883**	**5,980**

[1] Incl. countries bordering the Mediterranean

Source: IHS Markit/DESTATIS

Tabelle 14

Hard Coal Exports from Poland							1,000 t
Importing Countries	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Germany	3,007	2,931	3,098	2,422	1,254	248	217
Denmark	553	365	150	141	5	5	0
Great Britain	665	230	123	51	26	22	18
Ireland	170	148	101	93	23	22	4
The Netherlands	147	54	381	159	0	0	0
Austria	807	887	850	846	881	1,008	974
Slovakia	767	500	619	650	784	675	543
Sweden	184	117	100	85	32	6	0
Czech Republic	1,623	2,604	2,633	2,827	3,108	2,395	2,274
Hungary	93	58	164	169	186	170	149
Other EU 28	1,399	250	457	326	106	73	21
EU 28	**9,415**	**8,144**	**8,676**	**7,767**	**6,405**	**4,623**	**4,201**
Ukraine	131	125	296	538	651	313	236
Rest of Europe [1]	927	791	539	1,272	41	18	14
Europe [1]	**10,472**	**9,060**	**9,510**	**9,578**	**7,098**	**4,954**	**4,451**
Other Countries	0	2	116	140	0	3	3
Statistical differences	363	-218	-407	-513	14	99	-23
Total Exports	**10,836**	**8,844**	**9,219**	**9,205**	**7,111**	**5,056**	**4,431**

[1] Incl. countries bordering the Mediterranean

Source: IHS Markit/DESTATIS

Tabelle 15

Hard Coal Imports of EU Countries — Imports Incl. Internal Trade of Member States								1,000 t
	2012	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Germany	44,900	50,100	53,600	55,500	55,200	49,200	44,500	40,400
Belgium	3,500	5,200	4,400	4,200	3,700	3,600	4,100	3,900
Bulgaria	2,300	1,700	1,600	1,100	700	900	800	600
Denmark	3,900	5,000	4,500	2,800	2,900	3,100	2,800	2,400
Finland	4,000	5,100	5,400	3,500	3,900	4,200	4,000	3,100
France	17,000	18,300	14,300	14,300	13,500	14,100	13,400	10,400
Greece	200	200	200	300	300	400	400	400
Great Britain	44,800	44,800	38,300	25,500	8,500	8,500	9,900	6,800
Ireland	2,200	1,200	1,800	2,400	1,800	2,000	1,300	300
Italy	25,000	20,800	20,000	19,600	17,900	15,400	14,100	10,800
Croatia	k,A,	1,200	1,000	1,000	1,200	600	500	700
The Netherlands	12,400	12,400	12,400	12,400	14,500	16,200	13,000	10,300
Austria	2,900	3,500	3,200	3,200	3,600	3,600	3,500	3,600
Poland	10,100	10,800	10,300	8,200	8,300	13,400	19,700	16,700
Portugal	5,000	4,200	4,400	5,100	5,300	5,700	4,700	2,800
Romania	1,300	900	700	1,200	1,000	900	900	1,000
Sweden	2,200	2,500	2,500	2,700	3,100	2,700	2,700	2,300
Slovenia	600	500	400	400	400	400	400	400
Slovakia	3,400	7,100	6,700	4,100	4,000	3,800	4,400	3,400
Spain	22,300	13,500	14,700	19,000	14,700	19,200	15,700	8,500
Czech Republic	2,000	2,100	2,900	2,900	3,100	3,700	3,300	3,400
Hungary	1,500	1,300	1,300	1,300	1,500	1,700	1,500	1,400
Other	600	300	200	200	200	100	-	200
EU 28 from 2013	**212,100**	**212,700**	**204,800**	**190,900**	**169,300**	**173,400**	**165,600**	**133,800**
European Cross-Border Coke Trade (Excluding Ukraine)	8,000	6,000	6,000	7,600	8,000	9,100	9,000	9,500

Source: EURACOAL/DESTATIS

Tabelle 16

Coal Transshipments in German Seaports							1,000 t
	2013	2014	2015	2016	2017	2018	2019
North Sea Ports							
Hamburg	5,629	5,924	7,672	7,434	7,697	8,162	7,232
Wilhelmshaven	3,301	3,112	4,093	2,480	3,536	3,556	2,311
Bremen Ports	1,270	1,636	1,710	1,175	1,175	895	846
Brunsbüttel	793	525	485	782	804	997	597
Nordenham	1,574	1,277	1,107	958	1,242	1,253	824
Total	**12,567**	**12,474**	**15,067**	**12,829**	**14,454**	**14,864**	**11,809**
Baltic Sea Ports							
Rostock	1,032	1,234	985	1,184	1,287	848	756
Flensburg	255	239	254	227	116	170	141
Kiel	178	325	231	158	72	-	-
Total	**1,465**	**1,798**	**1,470**	**1,569**	**1,475**	**1,018**	**897**
Total Transshipment	**14,032**	**14,272**	**16,537**	**14,398**	**15,929**	**15,882**	**12,706**

Source: German Federal Statistical Office

Tabelle 18a

Coal Transshipments in German Inland Ports 2018

t

	Shipping Region			
Destination Port	**Province Zuid-Holland [1]**	**Province Noord-Holland [2]**	**Province Antwerp**	**Total**
Duisburg	6,022,637	2,403,212	1,097	8,426,946
Mannheim	888,098	1,059,800	113,583	2,061,481
Karlsruhe	284,014	779,637	72,505	1,136,156
Lünen	1,005,332	51,608	0	1,056,940
Rheinberg	294,554	701,067	38,088	1,033,709
Hamm	250,816	450,266	49,269	750,351
Bottrop	666,194	4,172	0	670,366
Saarlouis	397,602	41,457	99,719	538,778
Marl	54,637	376,998	2,800	434,435
Bergkamen	359,407	1,748	0	361,155
Heilbronn	68,711	90,991	12,199	171,901
Leverkusen	142,617	13,138	0	155,755
Frankfurt am Main	3,623	127,409	0	131,032
Völklingen	104,058	20,425	0	124,483
Großkrotzenburg	115,235	0	0	115,235
Stuttgart	15,486	95,711	1,792	112,989
Other	381,046	312,095	11,315	704,456
Total Transshipment	**11,054,067**	**6,529,734**	**402,367**	**17,986,168**

[1] Largest city: Rotterdam [2] Largest city: Amsterdam

Source: German Federal Statistical Office

Tabelle 18b

Import of Hard Coal and Hard Coal Coke to Germany

Countries	2016						2017					
	Steam Coal	Coking Coal	Anthracite	Coke	Briquettes	Total	Steam Coal	Coking Coal	Anthracite	Coke	Briquettes	Total
Poland	2,412	2	8	1,284	1	3,706	1,211	1	41	1,425	0	2,679
Czech Republic	392		1	146	0	539	159		1	281	0	441
Other	2,498	32	157	277	89	3,053	2,466	34	198	191	83	2,889
EU 28	**5,302**	**35**	**165**	**1,707**	**90**	**7,298**	**3,837**	**35**	**240**	**1,897**	**84**	**6,093**
Russian Federation	16,194	1,263	397	89	5	17,947	17,605	1,783	294	98	30	19,810
Norway	621	15		0		636	171			0		171
USA	6,647	2,896	4			9,547	5,773	3,362	7	0		9,142
Canada		1,487				1,487		1,481		42		1,524
Colombia	10,691		21	34	42	10,788	6,423		46	42		6,511
South Africa	1,809	194				2,003	1,429	201				1,630
Australia	520	6,088				6,608	142	5,493				5,634
PR China			12	128		140			12	172		184
Indonesia	31	149				180	0					0
Other Third Countries	302	194	50			546	124	544	39	10		716
Third Countries	**36,815**	**12,285**	**484**	**251**	**47**	**49,882**	**31,667**	**12,864**	**396**	**364**	**30**	**45,321**
Total	**42,117**	**12,320**	**648**	**1,958**	**137**	**57,180**	**35,504**	**12,899**	**636**	**2,261**	**114**	**51,414**

[1] Excluding Briquettes [2] Including anthracite

Sources: Federal Statistical Office, own calculations

Tabelle 22

1,000 t

2018						2019						Countries
Steam Coal	Coking Coal	Anthracite	Coke	Briquettes	Total	Steam Coal	Coking Coal	Anthracite	Coke	Briquettes	Total	
231		17	1,391	0	1,639	190		27	1,184	0	1,402	Poland
23		1	256		280	45		0	238		282	Czech Republic
2,588	38	171	163	22	2,982	2,218	32	178	164	10	2,603	Other
2,842	**38**	**189**	**1,810**	**22**	**4,901**	**2,453**	**32**	**206**	**1,586**	**10**	**4,287**	**EU 28**
17,266	1,344	447	111	86	19,254	17,135	1,369	609	185	62	19,361	Russian Fed.
73					73	51					51	Norway
6,459	3,492	3	4		9,958	4,578	3,511	22			8,111	USA
13	1,539		34		1,585	43	1,194		15		1,252	Canada
3,826		31	29		3,886	1,759		26	43		1,828	Colombia
884	173	1			1,058	759		0			759	South Africa
8	5,187				5,196	27	4,744				4,771	Australia
0		10	135		146	0		9	58		68	PR China
265	611	32			908	1,375	345	30			1,750	Indonesia Other
28,794	**12,346**	**524**	**313**	**86**	**42,063**	**25,728**	**11,163**	**696**	**301**	**62**	**37,950**	**Third Countries**
31,636	**12,383**	**714**	**2,124**	**108**	**46,965**	**28,181**	**11,195**	**902**	**1,886**	**73**	**42,237**	**Total**

Primary Energy Consumption in Germany								Mill. TCE
Energy Source	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hard Coal	58.3	61.0	58.1	58.6	56.7	50.0	48.7	38.7
of which import coal	(46.8)	(52.4)	(52.1)	(51.3)	(53.6)	(48.2)	(44.5)	(38.7)
Lignite	56.1	55.6	53.6	53.5	51.8	51.5	50.0	39.8
Oil	154.9	158.3	154.1	153.2	155.3	159.5	151.6	154.6
Natural Gas	99.6	104.4	91.4	94.2	103.8	106.5	105.4	108.9
Nuclear Energy	37.0	36.2	36.2	34.2	31.5	28.4	28.3	28.0
Renewables	47.3	51.1	51.8	56.1	57.9	61.1	61.5	64.7
Foreign Trade Balance Electric Power	-2.8	-4.2	-4.4	-6.4	-6.6	-6.8	-6.0	-4.0
Other Energy Sources	7.9	7.1	7.7	7.6	8.0	8.4	7.6	7.2
Total [1)]	**458.3**	**469.5**	**448.5**	**451.0**	**458.4**	**458.6**	**447.0**	**437.8**
								Share in %
Energy Source	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hard Coal	12.7	13.0	13.0	13.0	12.4	10.9	10.9	8.8
of which import coal	(10.2)	(11.2)	(11.6)	(11.4)	(11.7)	(10.5)	(10.3)	(8.8)
Lignite	12.2	11.8	12.0	11.9	11.3	11.2	11.2	9.1
Oil	33.8	33.7	34.4	34.0	33.9	34.8	33.9	35.3
Natural Gas	21.7	22.2	20.4	20.9	22.6	23.2	23.6	24.9
Nuclear Energy	8.1	7.7	8.1	7.6	6.9	6.2	6.3	6.4
Hydroelectric and Wind Power	10.3	10.9	11.5	12.4	12.6	13.3	13.8	14.8
Foreign Trade Balance Electric Power	-0.6	-0.9	-1.0	-1.4	-1.4	-1.5	-1.3	-0.9
Other Energy Sources	1.7	1.5	1.7	1.7	1.7	1.8	1.7	1.6
Total [1)]	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

[1)] Rounding-off differences possible

Sources: Arbeitsgemeinschaft Energiebilanzen, German Federal Statistical Office, own calculations

Tabelle 17

The Hard Coal Market in Germany

Volumes and Prices 1957 - 2019

Quantities								Prices							
Imports of Hard Coal and Coke t=t *)				Domestic Production of Hard Coal Tonnes Usable Production				Steam Coal From Third Countries 1)				Domestic Coal 2)			
Year	Mill. t	Year	Mill. t	Year	Mill. t	Year	Mill. t	Year	€/TCE	Year	€/TCE	Year	€/TCE	Year	€/TCE
1957	18.9	1989	7.3	1957	149.4	1989	71.0	1957	40	1989	49	1957	29	1989	137
1958	13.9	1990	11.7	1958	148.8	1990	69.8	1958	37	1990	49	1958	29	1990	138
1959	7.5	1991	16.8	1959	141.7	1991	66.1	1959	34	1991	46	1959	29	1991	139
1960	7.3	1992	17.3	1960	142.3	1992	65.5	1960	33	1992	42	1960	29	1992	147
1961	7.3	1993	15.2	1961	142.7	1993	57.9	1961	31	1993	37	1961	29	1993	148
1962	8.0	1994	18.1	1962	141.1	1994	52.0	1962	30	1994	36	1962	30	1994	149
1963	8.7	1995	17.7	1963	142.1	1995	53.1	1963	30	1995	39	1963	30	1995	149
1964	7.7	1996	20.3	1964	142.2	1996	47.9	1964	30	1996	38	1964	31	1996	149
1965	8.0	1997	24.3	1965	135.1	1997	45.8	1965	29	1997	42	1965	32	1997	149
1966	7.5	1998	30.2	1966	126.0	1998	40.7	1966	29	1998	37	1966	32	1998	149
1967	7.4	1999	30.3	1967	112.0	1999	39.2	1967	29	1999	34	1967	32	1999	149
1968	6.2	2000	33.9	1968	112.0	2000	33.3	1968	28	2000	42	1968	30	2000	149
1969	7.5	2001	39.5	1969	111.6	2001	27.1	1969	27	2001	53	1969	31	2001	149
1970	9.7	2002	39.2	1970	111.3	2002	26.1	1970	31	2002	45	1970	37	2002	160
1971	7.8	2003	41.3	1971	110.8	2003	25.7	1971	32	2003	40	1971	41	2003	160
1972	7.9	2004	44.3	1972	102.5	2004	25.7	1972	31	2004	55	1972	43	2004	160
1973	8.4	2005	39.9	1973	97.3	2005	24.7	1973	31	2005	65	1973	46	2005	160
1974	7.1	2006	46.5	1974	94.9	2006	20.7	1974	42	2006	62	1974	56	2006	170
1975	7.5	2007	47.5	1975	92.4	2007	21.3	1975	42	2007	68	1975	67	2007	170
1976	7.2	2008	48.0	1976	89.3	2008	17.1	1976	46	2008	112	1976	76	2008	170
1977	7.3	2009	39.5	1977	84.5	2009	13.8	1977	43	2009	79	1977	76	2009	170
1978	7.5	2010	45.2	1978	83.5	2010	12.9	1978	43	2010	85	1978	84	2010	170
1979	8.9	2011	48.4	1979	85.8	2011	12.1	1979	46	2011	107	1979	87	2011	170
1980	10.2	2012	47.9	1980	86.6	2012	10.8	1980	56	2012	93	1980	100	2012	180
1981	11.3	2013	52.9	1981	87.9	2013	7.6	1981	84	2013	79	1981	113	2013	180
1982	11.5	2014	56.2	1982	88.4	2014	7.6	1982	86	2014	73	1982	121	2014	180
1983	9.8	2015	57.5	1983	81.7	2015	6.2	1983	75	2015	68	1983	125	2015	180
1984	9.6	2016	57.2	1984	78.9	2016	3.8	1984	72	2016	67	1984	130	2016	180
1985	10.7	2017	51.4	1985	81.8	2017	3.7	1985	81	2017	92	1985	130	2017	180
1986	10.9	2018	47.0	1986	80.3	2018	2.6	1986	60	2018	95	1986	130	2018	180
1987	8.8	2019	42.2	1987	75.8	2019	-	1987	46	2019	79	1987	132	2019	-
1988	8.1			1988	72.9			1988	42			1988	134		

Figures: From 1991, incl. new German states; euro values rounded off
*) Including anthracite and briquettes 1) Price free German border 2) Estimated breakeven price

Sources: German Federal Statistical Office, statistics from Kohlenwirtschaft, BAFA, own calculations

Tabelle 23

Members of the VDKi

Members	Website
AG der Dillinger Hüttenwerke (ROGESA), Werkstraße 1, 66763 Dillingen/Saar, Deutschland	www.dillinger.de
AVALON Trading LP, 272 Bath Street, Glasgow G2 4JR, Schottland	www.avalon.ms
BMA B.V. Bulk Maritime Agencies, Debussystraat 2, 3161 WD Rhoon, Niederlande	www.bma-agencies.nl
Bulk Trading S.A., Piazza Molino Nuovo 17, 6900 Lugano, Schweiz	www.bulktrading.ch
KRU Overseas Ltd, 62 Agiou Athanasiou Ave., BG Waywin Plaza, 2nd floor, 4102 Limassol, Zypern	www.kru-overseas.com
CMC Coal Marketing Company Ltd., Fumbally Square New Street, Dublin DO8 XYA5, Irland	www.cmc-coal.ie
Currenta GmbH & Co. OHG, CHEMPARK, Geb. G11 222, 51368 Leverkusen, Deutschland	www.currenta.de
DB Cargo AG, Rheinstraße 2, 55116 Mainz, Deutschland	www.dbcargo.com
EnBW AG, Durlacher Allee 93, 76131 Karlsruhe, Deutschland	www.enbw.com
enercity AG, Ihmeplatz 2, 30449 Hannover, Deutschland	wwww.enercity.de
EP Resources AG, Lindenstraße 14, 6340 Baar, Schweiz	www.eppowereurope.cz
EUROKOR Barging B.V., Gieterijstraat 93, 2984 AB Ridderkerk, Niederlande	www.eurokorbarging.nl
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EVN AG, EVN Platz. 2344 Maria Enzersdorf, Österreich	www.evn.at
Evonik Industries AG, Paul-Baumann-Straße 1, 45772 Marl, Deutschland	www.evonik.de
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GLENCORE International AG, Baarermattstrasse 3, 6341 Baar, Schweiz	www.glencore.com
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Members of the VDKi

Members	Website
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HCC Hanseatic Coal & Coke Trading GmbH, Sachsenfeld 3-5, 20097 Hamburg, Deutschland	www.hcc-trading.de
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Knight Energy Services Ltd., Unit 1, Palmermount Ind. Estate, Bypass Road, Dundonald, Kilmarnock, Ayrshire KA2 9 BL, UK	www.ahkgroup.com
L.B.H. Netherlands B.V., Rijsdijk 13, 3161 HK Rhoon, Niederlande	www.lbh-group.com
Niederrheinische Verkehrsbetriebe AG (NIAG), Rheinberger Straße 95a, 47441 Moers, Deutschland	www.niag-online.de
North Sea Port NL, Havennummer 1151, Schelpenpad 2, 4531 PD Terneuzen, Niederlande	www.northseaport.com
OBA Bulk Terminal Amsterdam, Westhavenweg 70, 1042 AL Amsterdam, Niederlande	www.obabulk.nl
OVET B.V., Noorwegenweg 3, 4538 BG Terneuzen, Niederlande	www.ovet.nl
Oxbow Coal GmbH, Renteilichtung 44a, 45134 Essen, Deutschland	www.oxbow.com
Port of Amsterdam, De Ruijterkade 7, 1013 AA Amsterdam, Niederlande	www.portofamsterdam.nl
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Rheinbraun Brennstoff GmbH, Stüttgenweg 2, 50935 Köln, Deutschland	www.rheinbraun-brennstoff.de
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Ssp Stockpile surveying and protection B.V., Reedijk 7 U, 3274 KE Heinenoord, Niederlande	www.ssp-rotterdam.nl
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Vattenfall Wärme Berlin AG, Sellerstraße 16, 13353 Berlin, Deutschland	www.vattenfall.de
Vattenfall Wärme Hamburg GmbH, Andreas-Meyer-Straße 8, 22113 Hamburg, Deutschland	www.waerme.hamburg
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Important note on figures, data and facts
In the text and in the tables, lists and other enumerations we have refrained from pointing out each time that all figures etc. are provisional for 2019.

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