

EMD Coal Committee 2020 Annual Report

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Executive Summary

Coal is the second-largest energy commodity worldwide in terms of energy use, exceeded only by oil. Coal represents more than 35% of the world's electricity generation and is still maintained as an important commodity in iron and steel manufacture. The top ten coal-producing countries in 2018, in descending order of production were China, India, the United States, Indonesia, Australia, Russia, South Africa, Kazakhstan, Colombia, and Poland. These countries collectively produced 6,710.8 million metric tons (7,397.4 million short tons) of coal in 2018.

Global exports of thermal coal from seven of the major coal-producing nations declined by more than 500 million metric tons (>551.2 million short tons) in the first quarter of 2020. This was the steepest decline since January, 2016. These declining trends continued in the first quarter of 2020 for all coal-exporting countries except Australia.

Coal production has fallen in the United States and most of Europe because of more electricity generation from renewable sources, coupled with decreased demand resulting from the coronavirus pandemic. Although many countries in Europe are embarked on phasing out coal production, Russia, China, and India plan to significantly ramp up their coal production.

Many U.S. states experienced declining coal production in 2019. Major coal-producing states with significantly lower coal production were Kentucky (approximately 20% less in Eastern Kentucky but only 1.3% less in Western Kentucky), Ohio (-13.5%), Wyoming (-9.0%), Illinois (-8.0%), Indiana (-7.8%), West Virginia (southern region, -7.2%), and Texas (-6.1%). All coal-producing regions in the U.S. experienced declining production, with the Powder River Basin being the greatest with -9.3%.

Leading Hard-Coal-Producing Countries in 2018

The top 10 countries for hard-coal (non-lignite) production in 2018 were: (1) China (3,530 million metric tons [3,891.2 million short tons]), (2) India (730.3 million metric tons [805 million short tons]), (3) United States (634.2 million metric tons [699.1 million short tons]), (4) Indonesia (497.8 million metric tons [548.6 million short tons]), (5) Australia (452.8 million metric tons [499.1 million short tons]), (6) The Russian Federation (352.6 million metric tons [388.7 million short tons]), (7) South Africa (253.3 million metric tons [279.2 million short tons]), (8) Kazakhstan (111.9 million metric tons [123.3 million short tons]), (9) Colombia (84.3 million metric tons [92.9 million short tons]).

tons]), and (10) Poland (63.6 million metric tons [70.1 million short tons]) (Fig. 1 [Statista, 2020]). Although concerns continue to be expressed about coal's contributions to greenhouse-gas emissions, it still accounts for the generation of approximately 37% of the world's electricity and is maintained in its vital role in iron and steel manufacture (Creamer Media, 2018). It will continue to be a significant energy source for decades to come.

Leading hard coal producing countries worldwide in 2018 *(in million metric tons)*

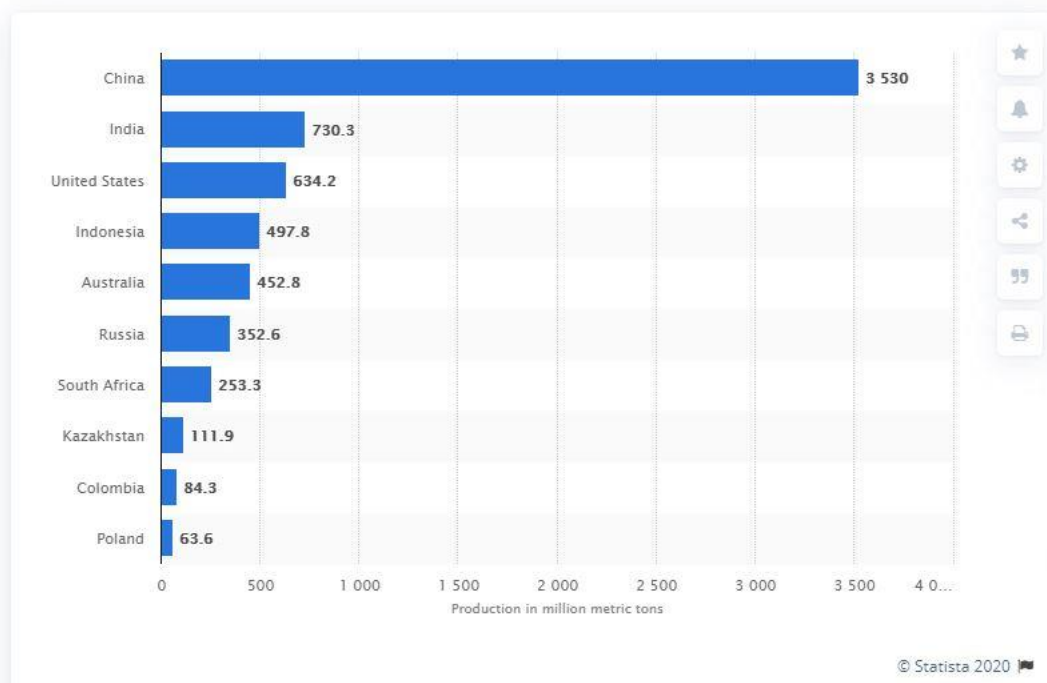


Figure 1. Top ten hard-coal producing countries in 2018. From Statista (2020).

World Coal Production and Demand

Although there was weak demand for coal in Europe in 2018, this was offset by thermal-coal imports to China, India, and Southeast Asia (International Energy Agency, 2018a; Thiruvedula, 2019). Electricity production in Germany from coal and lignite was reduced by 16% and 1%, respectively, in 2017. Concurrently, electricity from renewable sources in Germany increased by 15%.

Demand for coal remains strong in Asia, especially India, because it is both affordable and easily accessed. Other countries in Southeast Asia where increased demand for coal is expected include Pakistan, Malaysia, Indonesia, Vietnam, and the Philippines. Coal-phase out plans by some countries, increasing supplies of natural gas, and reduced costs for renewable energy has impacted coal's contribution to the global energy mix, projected to be only 25% by 2023, down by 2% from 2017 (International Energy Agency, 2018a).

Global exports of thermal coal from seven of the major coal-producing nations declined by more than 500 million metric tons (>551.2 million short tons) in the first quarter of 2020 (Horslen, 2020a). This was the steepest decline since January, 2016. These declining trends continued in the first quarter of 2020 for all coal-exporting countries except Australia.

Electricity demand in Germany, Spain, the United Kingdom and France fell by 15% on the year in May in response to the global pandemic (Horslen, 2020b). Weak overall power demand in these four countries resulted in a 4.7-gigawatt (GW) reduction of coal burned for electricity on the year in January to May. A steady and ongoing supply of LNG (liquefied natural gas) in the first half of 2020 has also added additional economic incentives for coal-to-gas fuel switching.

Coal still accounts for the greatest source of electricity at the global level (Fig. 2). However, significant differences exist between different countries and regions with

respect to coal's share in electricity generation (Fig. 3). Eastern and central Europe remain heavily dependent on coal for electricity generation, particularly Poland and the Czech Republic, and even Germany, despite recent initiatives to develop additional non-hydrocarbon-based energy sources such as wind and solar. Germany still generates almost 40% of its electricity from coal and lignite (International Energy Agency, 2018b).

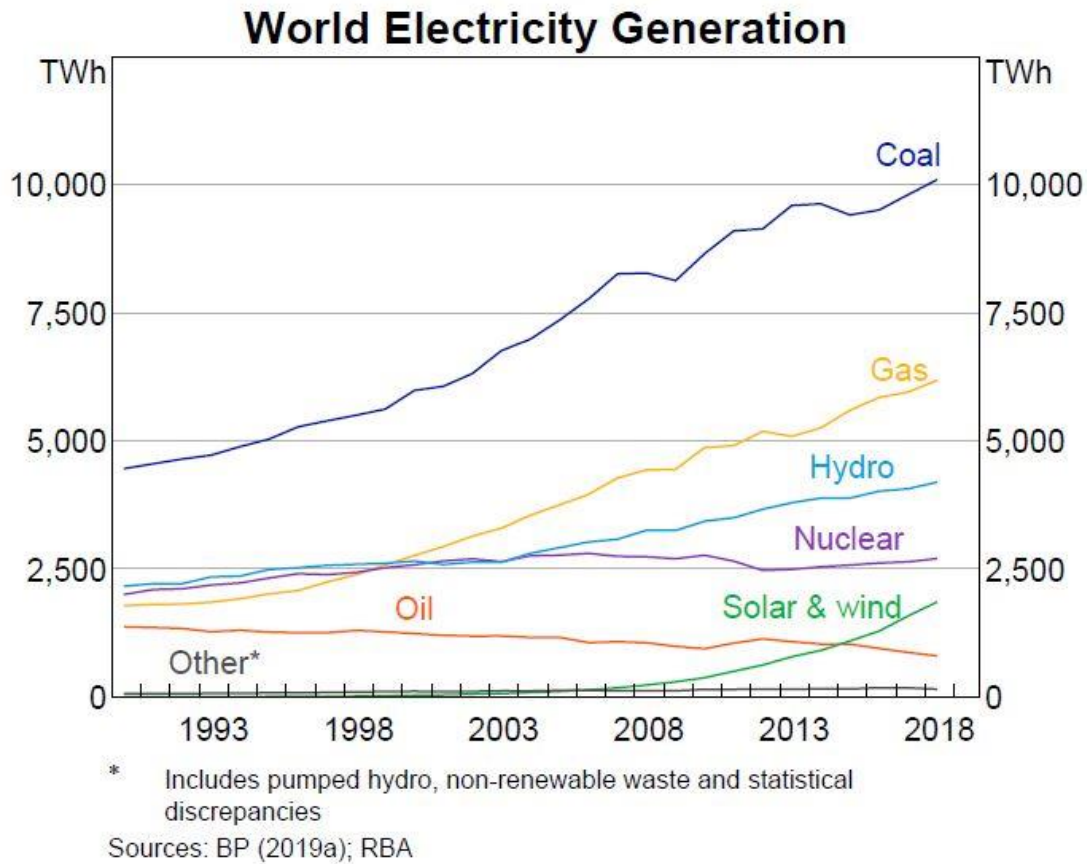


Figure 2. World electricity generation by fuel type. Values are in terawatt hours (TWh). From Cunningham et al. (2019), modified from British Petroleum (2019) and the Reserve Bank of Australia (2017).

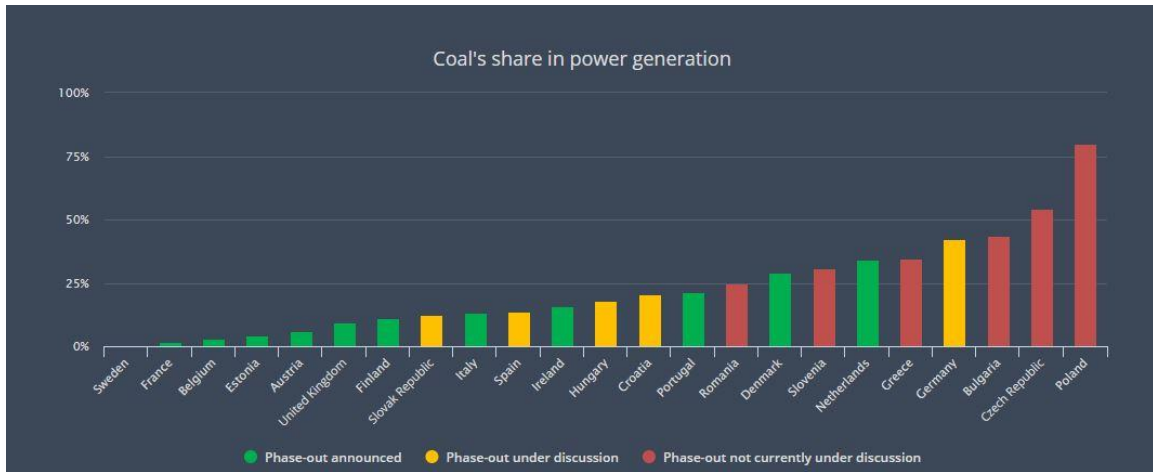


Figure 3. Coal’s share in electricity generation in selected countries. From International Energy Agency (2018b).

China

Coal in China accounts for 14% of global primary energy (International Energy Agency, 2018a). Chinese companies are constructing or planning to develop more than 700 new coal-fired plants in China and worldwide (Tabuchi, 2017). Approximately 20% of these new plants, to be located outside of China, would increase the world’s coal-fired electricity output by >40%. Although China has been engaged in a fuel-switching campaign since 2017 to replace coal with natural gas to reduce smog in northern cities, it has both increased coal production and has formulated plans for new coal mines (Rfa.org, 2019).

Electricity generation in China is operated by state-owned holding companies, although limited private and foreign investments have recently been made in the electricity sector. China has expanded the construction of natural gas-fired and renewable power plants to introduce power to remote population centers. The relative contribution of coal for generation of electricity is projected to decline from 72 to 47% by 2040, with increasing contributions from other fuels. Coal will continue to be important feedstock for

electricity generation in China, reaching a high value of approximately 4,400 BWh (billion watt hours) by 2030. Already 150 GW of new coal-fired capacity has been canceled or delayed until at least 2020, in view of China's plans for stricter emission controls and retirements of old, inefficient power plants that account for up to 20 GW of power.

However, recent events have curtailed China's coal production, which fell more than 6% in the first two months in 2020 as a result of the coronavirus pandemic (Reuters, 2020). China produced approximately 489 million metric tons (539.0 million short tons) in January and February, 2020 compared to almost 514 million metric tons (566.6 million short tons) in the same period in 2019. Coke production in China also declined by 5.5% in January to February, 2020 relative to the same time period in 2019. In addition, power generation was reduced by 8.2% in the same period.

According to the China National Coal Association, coal consumption in China will decline in the second quarter of 2020, but then will improve in the second half of the year (Steelguru, 2020a). It is expected that China will implement policies to increase domestic demand, thus bringing industrial and economic growth to normal levels. Recent reports confirm that China is already resuming its coal-production capacity (Xinhuanet, 2020). By March 2020, all coal mines outside Hubei Province had already resumed production.

India

India, having recently surpassed the United States in coal production, is ranked second in world coal production (Fig. 1). Most of India's coal reserves occur in the eastern part of the country. Jharkhand, Chhattisgarh, and Odisha states together comprise 64% of the country's coal reserves. Other significant coal-producing states include West Bengal, Andhra Pradesh, Madhya Pradesh, and Maharashtra. Coal India Limited (CIL) is India's largest and the world's largest coal producer, having produced >80% of the country's coal in the last five years. CIL produces a variety of coal-related materials that include

coking coal, semi-coking coal, washed and beneficiated coal, coal and coke fines, and tar and pitch (Business Standard, 2020). The majority of India's coal consumption is from electric power. Coal demand in India, especially thermal coal for electricity generation, has risen markedly in the last four years because of industrial growth and continued rural electrification (Reuters, 2019).

CIL and affiliated companies produced approximately 607 million metric tons (669.1 million short tons) during 2018 to 2019 as compared to a production of approximately 568 million metric tons (626.1 million short tons) in 2017 to 2018, displaying a growth of 6.9% (Government of India, Ministry of Coal, 2020). CIL has recently set a 2020-2021 production target of 710 million metric tons (782.6 million short tons [Thehindubusinessline, 2020]), although another projection of 700 million metric tons (771.6 million short tons) has been reported (Drycargointernational, 2020a).

One goal of these increased coal production numbers is to reduce India's reliance on coal imports. A further goal is to achieve a billion-metric-ton (1.102-billion-short-ton) objective by fiscal year 2023-2024. Singareni Collieries Company Limited (SCCL) is the leading coal producer in Southern India (Government of India, Ministry of Coal, 2020). SCCL produced approximately 64 million metric tons (70.5 million short tons) of coal during 2018 to 2019, up from approximately 62 million metric tons (68.3 million short tons) in the preceding year.

Although India has recently increased its growth in thermal coal production, it is still operating short of production levels required to meet its coal-production targets (Australian Government Department of Industry, Innovation and Science, 2019). Negative factors impeding India's ability to meet its production targets include its complex bureaucracy and financial problems in the power industry. Delays in mining approvals, uncertainties in land acquisition, and difficulties in transportation further compound these problems. The government of India continues to pursue reforms and changes in policy to address remaining barriers to production growth.

United States

National Production

The United States was ranked as the world's third largest coal producer in 2018, accounting for 634.3 million metric tons (699.1 million short tons) of coal (Fig. 1). Updated production from the Energy Information Administration (2020) show that cumulative coal production in 2019 was slightly more at 639.8 million metric tons (705.3 million short tons (Table 1). The United States is expected to continue to be a net exporter of coal and coke to at least 2050, although these exports are anticipated to be flat because of international competition (Energy Information Administration, 2020).

Production by State

Many U.S. states have recently experienced declining coal production (Table 2). The state with the greatest fall in coal production in 2019 was Oklahoma (nearly 70% decline), although Oklahoma's coal production is minor compared to that of most other states. Major coal-producing states with significantly lower coal production were Kentucky (approximately 20% less in Eastern Kentucky but only 1.3% less in Western Kentucky), Ohio (13.5% less), Wyoming (9.0% less), Illinois (8.0% less), Indiana (7.8% less), West Virginia (southern region, 7.2% less), and Texas (6.1% less) (Table 2). All coal-producing regions in the U.S. experienced declining production, with the Powder River Basin being the greatest with a 9.3% reduction.

U.S. Coal Data Sources

The Energy Information Administration has an interactive, online Coal Data Browser that provides detailed information on U.S. coal. Accessible at <http://www.eia.gov/beta/coal/data/browser/>, this data site integrates comprehensive information, statistics, and visualizations for U.S. coal, including electricity generation. The browser also allows users to access data from the Mine Safety and Health Administration and coal trade information from the U.S. Census Bureau.

The Coal Data Browser allows the user to:

- Map coal imports and exports by country and by U.S. ports handling coal.
- Map where mines send coal and where power plants obtain coal.
- Analyze coal receipts by sulfur, ash, and heat content, as well as per mine.
- Observe changes in coal prices.
- Cross-link mine-level data pages with EIA's [U.S. Energy Mapping System](#) to discover data on all active coal mines.
- Observe changes in coal-worker employment in specific states.

The Energy Information Administration also provides an energy mapping system for a variety of energy sources that include coal, including coal mines and location and identity of coal-fired electricity installations in the United States. Information on coal can be accessed at: <https://www.eia.gov/state/maps.cfm?v=Coal>. The general site can be reached via: <https://www.eia.gov/state/maps.cfm?v=Fossil%20Fuel%20Resources>.

Year	January - March	April - June	July - September	October - December	Total
2013	244,867	243,211	257,595	239,169	984,842
2014	245,271	245,844	255,377	253,557	1,000,049
2015	240,324	212,557	236,823	207,237	896,941
2016	173,225	160,853	195,101	199,186	728,364
2017	197,138	187,098	196,440	193,933	774,609
2018	187,743	180,829	194,731	192,863	756,167
2019	179,536	179,176	181,356	165,191	705,259

Note: Total may not equal sum of components because of independent rounding.

Source: U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, 'Quarterly Mine Employment and Coal Production Report.'

Table 1. U.S. coal production, 2013 to 2019 inclusive. Values are in thousand short tons. From Energy Information Agency (2020).

Coal-producing region and state	Year to date					
	October - December	July - September	October - December			Percent change
	2019	2019	2018	2019	2018	
Alabama	2,985	3,399	3,666	14,130	14,783	-4.4
Alaska	243	234	291	975	902	8.1
Arizona	-	579	1,612	3,843	6,550	-41.3
Colorado	2,866	3,323	3,343	12,504	14,026	-10.8
Illinois	9,073	11,568	12,327	45,486	49,457	-8.0
Indiana	7,107	7,620	9,083	31,898	34,598	-7.8
Kentucky Total	7,707	8,752	9,762	35,902	39,582	-9.3
Eastern (Kentucky)	2,676	3,285	4,038	13,528	16,923	-20.1
Western (Kentucky)	5,032	5,467	5,724	22,374	22,659	-1.3
Louisiana	328	470	292	1,409	1,483	-5.0
Maryland	352	372	351	1,479	1,298	13.9
Mississippi	593	726	669	2,697	2,940	-8.2
Missouri	41	50	65	189	259	-26.9
Montana	8,334	10,584	10,906	34,468	38,610	-10.7
New Mexico	3,393	3,636	3,984	14,742	10,792	36.6
North Dakota	6,996	6,842	7,305	26,997	29,643	-8.9
Ohio	1,635	1,823	2,457	7,779	8,993	-13.5
Oklahoma	47	60	94	227	716	-68.3
Pennsylvania Total	12,488	11,392	12,649	49,996	49,883	0.2
Anthracite (Pennsylvania)	766	630	489	2,588	1,811	42.9
Bituminous (Pennsylvania)	11,722	10,762	12,159	47,408	48,072	-1.4
Tennessee	111	146	56	436	232	87.9
Texas	5,351	6,409	5,630	23,307	24,823	-6.1
Utah	3,173	3,164	3,433	14,417	13,619	5.9
Virginia	2,785	3,259	3,221	12,332	12,715	-3.0
West Virginia Total	21,003	22,872	23,345	92,754	95,349	-2.7
Northern (West Virginia)	11,017	11,211	11,907	47,084	46,115	2.1
Southern (West Virginia)	9,986	11,662	11,438	45,670	49,234	-7.2
Wyoming	68,495	74,005	78,146	276,909	304,188	-9.0
Appalachia Total	44,035	46,549	49,782	192,434	200,177	-3.9
Appalachia Central	15,558	18,352	18,753	71,966	79,105	-9.0
Appalachia Northern	25,492	24,798	27,363	106,338	106,289	s
Appalachia Southern	2,985	3,399	3,666	14,130	14,783	-4.4
Interior Region Total	27,571	32,370	33,885	127,588	136,935	-6.8
Illinois Basin	21,212	24,655	27,135	99,759	106,714	-6.5
Interior	6,359	7,715	6,750	27,829	30,221	-7.9
Western Region Total	93,500	102,367	109,021	384,853	418,329	-8.0
Powder River Basin	72,336	79,980	83,889	294,170	324,211	-9.3
Uinta Region	5,787	6,226	6,543	26,023	26,535	-1.9
Western	15,377	16,161	18,589	64,660	67,583	-4.3
East of Mississippi River	65,840	71,930	77,585	294,890	309,831	-4.8
West of Mississippi River	99,266	109,356	115,103	409,985	445,611	-8.0
U.S. Subtotal	165,106	181,286	192,688	704,875	755,442	-6.7
Refuse recovery	85	70	175	384	726	-47.1
U.S. Total	165,191	181,356	192,863	705,259	756,167	-6.7

s = Absolute percentage less than 0.05 or value is less than 0.5 of the table metric.

Note: Total may not equal sum of components because of independent rounding.

Source: U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, 'Quarterly Mine Employment and Coal Production Report.'

Table 2. U.S. coal production by state, period of comparison October-December 2018 to October-December 2019. Values are in thousand short tons. From Energy Information Agency (2020).

Indonesia

Although Indonesia topped Australia in coal production in 2018 (Fig. 1), it plans to reduce coal production in 2020 by 10% (Steelguru, 2020b). This goal is a result of Indonesia's desire to keep coal prices from overproduction, according to Arifin Tasrif, the Minister of Energy and Mineral Resources. Coal prices in Indonesia fell by 28% in 2019, contributing to an expanding trade deficit, as coal continues to be the country's main export commodity.

The top five coal producers in Indonesia (PT Bumi Resources Tbk, PT Adaro, PT Kideco Jaya, PT Indotambang Raya Megah, and PT Berau) account for more than 45% of coal production (Indonesia-Investments, 2018). The three largest coal-resource regions in Indonesia are South Sumatra, South Kalimantan, and East Kalimantan (Fig. 4).



Figure 4. The three major coal-resource regions in Indonesia. Regions are (1) South Sumatra, (2) South Kalimantan, and (3) East Kalimantan. From Indonesia-Investments (2018).

Much of Indonesia's exported thermal coal is of medium quality (between 5,100 and 6,100 cal/gram) (Indonesia-Investments, 2018). Its lower-quality thermal coal has a high demand in China and India. Indonesia's coal exports to China range from 110 to 120 million metric tons (121.3 to 132.3 million short tons) per year, with China being Indonesia's largest coal importer (Sulaiman, 2019; The Coal Hub, 2020).

In contrast to its export industry, Indonesia's domestic coal production is projected to increase in 2020 because of new demands from power plants and mineral-smelting operations (Mariska, 2020). Seventeen new smelters have been opened since 2019. As a result, Indonesia is anticipated to use up to 155 million metric tons (170.8 million short tons) of coal in 2020 for power plants and smelters, up from 138 million metric tons (152.1 million short tons) from 2019.

Australia

Most of Australia's coal is low in ash content. It occurs mainly in Queensland and New South Wales (Sydney and Bowen Basins, respectively). These basins account for most of Australia's black coal production. Coal surpassed iron ore in 2018 for the first time in the Australian export market, with thermal and coking coal export values reaching AU\$67 billion in 2018-2019, compared to AU\$61 billion for iron ore (Latimer, 2018). Australia was the world's number one coal exporting nation in 2019, exporting 184 million metric tons (202.8 million short tons) of metallurgical coal in 2019 (Resources and Energy Quarterly, 2020). Coal is one of Australia's largest exports, representing approximately 25% of Australia's resource exports, or 5.5% of GDP, by value in the last ten years (Fig. 5 [Cunningham et al., 2019]). The value of Australia's coal exports in 2018 was AU\$67 billion. Australia's coal exports consist of metallurgical coal for steel manufacture and thermal coal used for electricity generation.

Despite this export activity, many coal producers in Australia are struggling with depressed coal prices and falling demand during the current pandemic (Argusmedia, 2020a). Currently, more than 30% of Australia's thermal coal is unprofitable at current prices (Ker, 2020). Prices for high-quality coking coal in Queensland have fallen 46% in the last year.

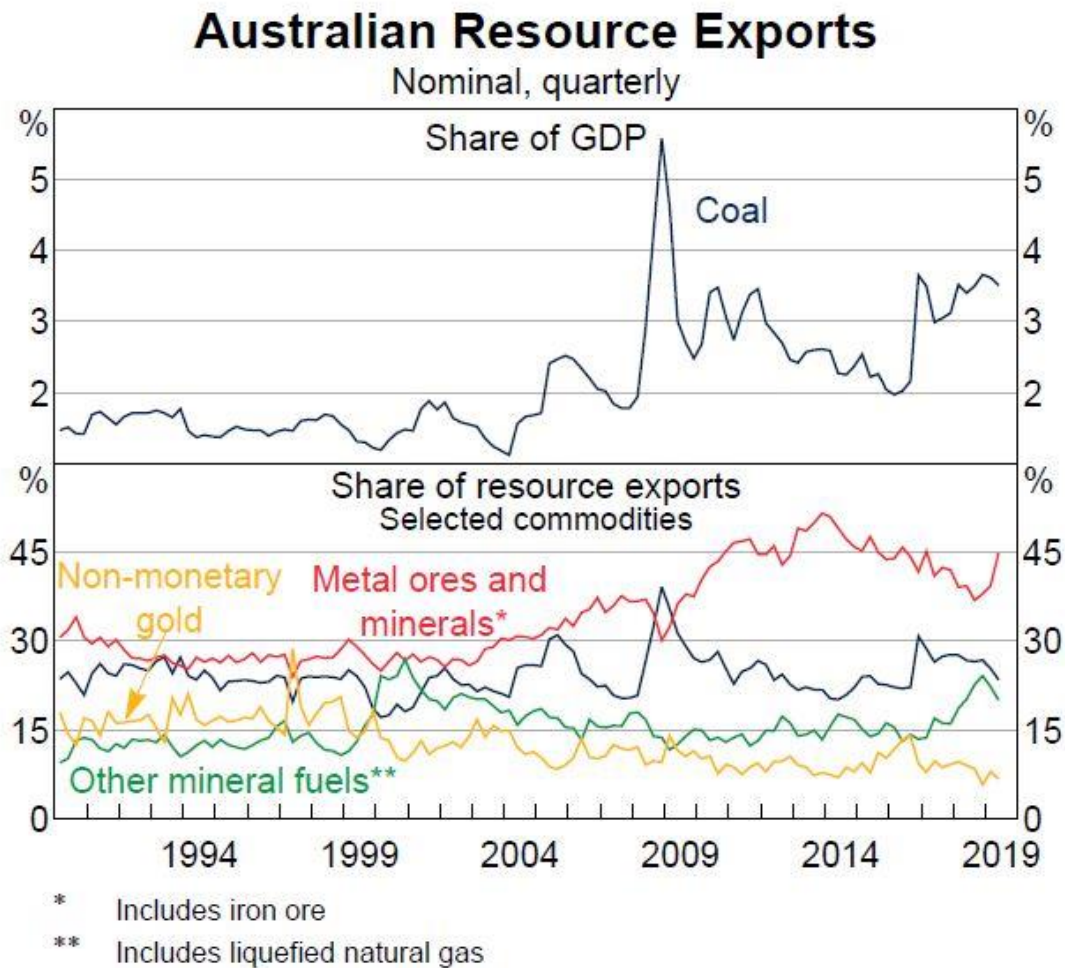


Figure 5. Resource exports from Australia from 1990 to 2019. Modified from Cunningham et al. (2019).

Russia

Russia's production and exports of coal in 2018 were at their greatest levels since 2013, according to S&P Global Platts estimates of data from Russia's Energy Ministry (Rt.com, 2019). Approximately 80% of Russia's coal production is thermal (steam) coal and 20% is metallurgical (coking) coal. Russia's coal reserves account for almost 18% of the world's total (Slivyak, 2015). More than half of Russia's coal exports, which have risen significantly since 2002, go to Europe. China accounts for 16% of Asian exports, whereas the United Kingdom receives 10% from Russia.

Russia is moving forward with its plans to dramatically upscale its coal production and exports in the next 15 years (Gerden, 2020; Steelguru, 2020c). Coal production in Russia is projected to increase to up to 530 million metric tons (584.2 million short tons) per year until 2024 and then to 668 million metric tons (736.3 million short tons) until 2035. This would result in Russia's share of the global coal export market jumping to 25% from its current contribution of 11%. In addition, domestic coal consumption, currently 196 million metric tons (216.1 million short tons) per year, is projected to increase by over 12%.

Russia plans to invest approximately 1.5 trillion Russian rubles in both its own coal industry and port facilities and infrastructure (Rt.com, 2019; Paraskova, 2019). This investment strategy is twofold: to dominate the European coal market and to make inroads into the Asian market (Walker, 2019). Russia also plans to improve its railway and port infrastructure, including expansion of the capacity of the Trans-Siberian Railway and the Baikal-Amur Railway. This will help Russia to meet its 2020 export goal of 52 million metric tons (57.3 million short tons) to southern Asia and the Pacific Rim and to eventually double its exports to China (IHS Markit, 2020; Mqworld, 2020).

Another initiative being pursued by Russia involves opening new coal fields in the Arctic (Moscowtimes, 2019). The additional coal production in the Russian Arctic, specifically in the Taymyr Peninsula near the Kara Sea, could boost annual coal production to as much as 670 million metric tons (738.5 million short tons) in the next 15 years, although the more modest goal of 550 million metric tons (606.3 million short tons) has also been suggested (Clarke, 2019). President Putin has requested in his state six-year plan that shipping on the Arctic route is to reach 80 million metric tons (88.2 million short tons) per year by 2024.

South Africa

South Africa has an estimated coal-resource base of 30 billion metric tons (33.1 billion short tons) and its exports account for 6% of all those globally. Most of South Africa's coal production is from Mpumalanga in the northeastern part of the country. Coal also generates the greatest revenue in the country's mining industry, representing approximately R131.40 billion, or 2% of the country's gross domestic product, in 2017 (Creamer Media, 2018; PRNewswire, 2019). South Africa's coal exports were R139.4 billion in 2018, with approximately 87,000 people were employed. Ranked as the seventh largest coal-producing country in 2017, South Africa represented 3.3% of the world's coal production (PRNewswire, 2019). Coal is responsible for generating almost 80% of South Africa's electricity (Eskom, 2020). Eskom, a state-owned utility, which operates 16 power stations and which is constructing two more power plants that will commence operations in 2021, provides most of the country's coal-fired electricity. Sasol produces approximately 40 million metric tons (44.1 million short tons) per year for gasification and liquid-fuel production. Sasol's Secunda facility has the capacity of 160,000 barrels per day (bbl/d) of oil equivalent and plans are being made to expand production capacity by an additional 30,000 bbl/d.

A recent decline in coal prices, the lowest in 14 years, driven by lowered demand amid the current pandemic, has hurt the South African coal industry (Argusmedia, 2020b;

Drycargointernational, 2020b). Exports to many countries from South Africa have already shown a sharp decline in 2020 (Fig. 6). Reduced demand from India, a major customer for South African coal which took approximately 58% of the Richards Bay Coal Terminal (RBCT) in 2019, has sharply declined. Low prices now threaten to close many of South Africa's coal mines. In response, South Africa is switching to other buyers, including South Korea which has already received shipments in the first quarter of 2020.

Annual change in RBCT March exports, t

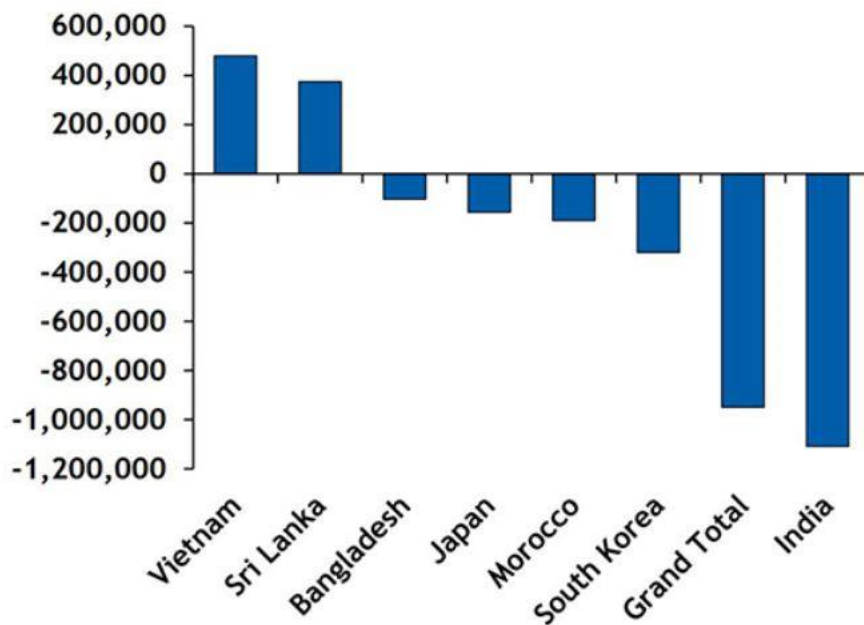


Figure 6. Annual change in coal exports from the Richards Bay Coal Terminal (RCBT) on the current year as reported in March, 2020. Values are in metric tons. From Argusmedia (2020b).

Kazakhstan

Coal production in Kazakhstan continued was 111.9 million metric tons (123.3 million short tons) by the end of 2018 (Fig. 1). Production in 2020 is projected to rise slightly to 120 million metric tons (132.3 million short tons). Of this total production, almost 70% will be dedicated to domestic use in 2020. Production in the first two months of 2020 was 18.3 million metric tons (20.2 million short tons) (Bogdanova, 2020).

Kazakhstan has more than 400 coal deposits (IEA-Coal, 2020). Approximately 63% of the country's reserves are bituminous coal, distributed in the Karaganda, Ekibastuz and Teniz-Korzhankol Basins. Kazakhstan's lignite resources occur in the Turgay, Nizhne-Iliyskiy and Maikuben Basins.

Kazakhstan accounts for approximately 2% of the world's coal production (Energy Information Administration, 2019); IEA-Coal, 2020). More than 90% of coal mined in Kazakhstan is hard coal rather than lignite, at 107.3 million metric tons (118.3 million short tons). Only 10% of Kazakhstan's hard coal is for coking, whereas the remainder is for energy production. The coal industry of Kazakhstan is one of the largest sectors of the country's economy, providing more than 74% of its electricity (Kerimkhanov, 2019). Kazakhstan's total generating capacity was approximately 21.6 GW in 2018 (Energy Information Administration, 2019).

Colombia

Colombia is the world's fifth-largest coal exporter (UScoalexports.org, 2019; Steelguru, 2020d). However, coal production in Colombia declined by 7.2% because of low prices and quarantine measures in response to the 2020 pandemic (Steelguru, 2020d;

Argusmedia, 2020c). Coal production from January to March, 2020 was 19.4 million metric tons (21.4 million short tons), contrasted with 20.9 million metric tons (23.0 million short tons) in the same period in 2019.

Drummond, Colombia's most important coal-mining company, has undergone significant reductions in production and is currently operating at a greatly reduced capacity. Other companies are struggling to meet export commitments and coal stocks at ports have been falling rapidly. Local residents have been blocking rail transportation transit routes, adding to the already existing difficulties in Colombia's coal industry.

Some of Colombia's coal customers such as Turkey are seeking alternate suppliers (Argusmedia, 2020c). Although Turkish utilities have not yet reported any interruptions from Colombia in 2020, they are considering Russia as an alternate source. Colombia's other coal-trading partners include Brazil, Mexico, South Korean and the United States. These countries may seek alternative coal imports from Australia and Indonesia.

Poland

Poland's hard coal reserves amount to 21.1 billion metric tons (23.3 billion short tons) in the Upper Silesian and Lublin Basins, with almost 80% of these reserves located in the Upper Silesian Basin (Fig. 7). Approximately 72% of Poland's hard coal reserves are steam coal, whereas 27.0% are coking coal. More than 90% of the coal is produced by longwall systems at an average depth of 600 meters (1,970 ft).

Lignite reserves in Poland account for 1.4 billion metric tons (1.5 billion short tons). Most lignite there is mined at the surface or in the shallow subsurface. Almost all lignite mined in Poland is used for power generation, accounting for more than 50 TWh annually (Euracoal, 2019). The Bełchatów Basin (Fig. 7) accounts for almost 70% of Poland's total lignite production. Lignite-mining operations in the Bełchatów Basin occur mostly at depths of 300 meters (980 ft). The Pańków-Adamów-Konin (PAK) Basin

in central Poland, has been producing lignite more than 50 years and provide almost 9% of the electricity in Poland.

Poland plans to increase domestic coal production by as much as 10% over the next several years to reduce their dependence on imports (Mining Technology, 2018). This increase represents an additional production of 5 to 6 million metric tons (5.5 to 6.6 million short tons) by 2025. Poland's emphasis is on coal for the domestic market. Polish state-run producers have recently called for a halt to coal imports in response to protests from Polish trade unions over foreign supplies that are perceived to threaten the domestic industry (Barteczko, 2020).

The Polish government has designs for greater participation from private mining investors, including Australia's Prairie Mining, which runs a coal mine project near Bogdanka, in addition to JSW (Jastrzębska Spółka Węglowa S.A.) to increase its coke production (JSW, 2019). Despite these plans for expanding operations and increased coal production, Poland's mining operations in 2020, as with many other countries, have suffered during the global pandemic (Austrade, 2020). In addition, Poland is under continuing pressure from the European Union to curtail its coal- and lignite-mining activities to conform to European Union standards on global emissions of greenhouse gases.

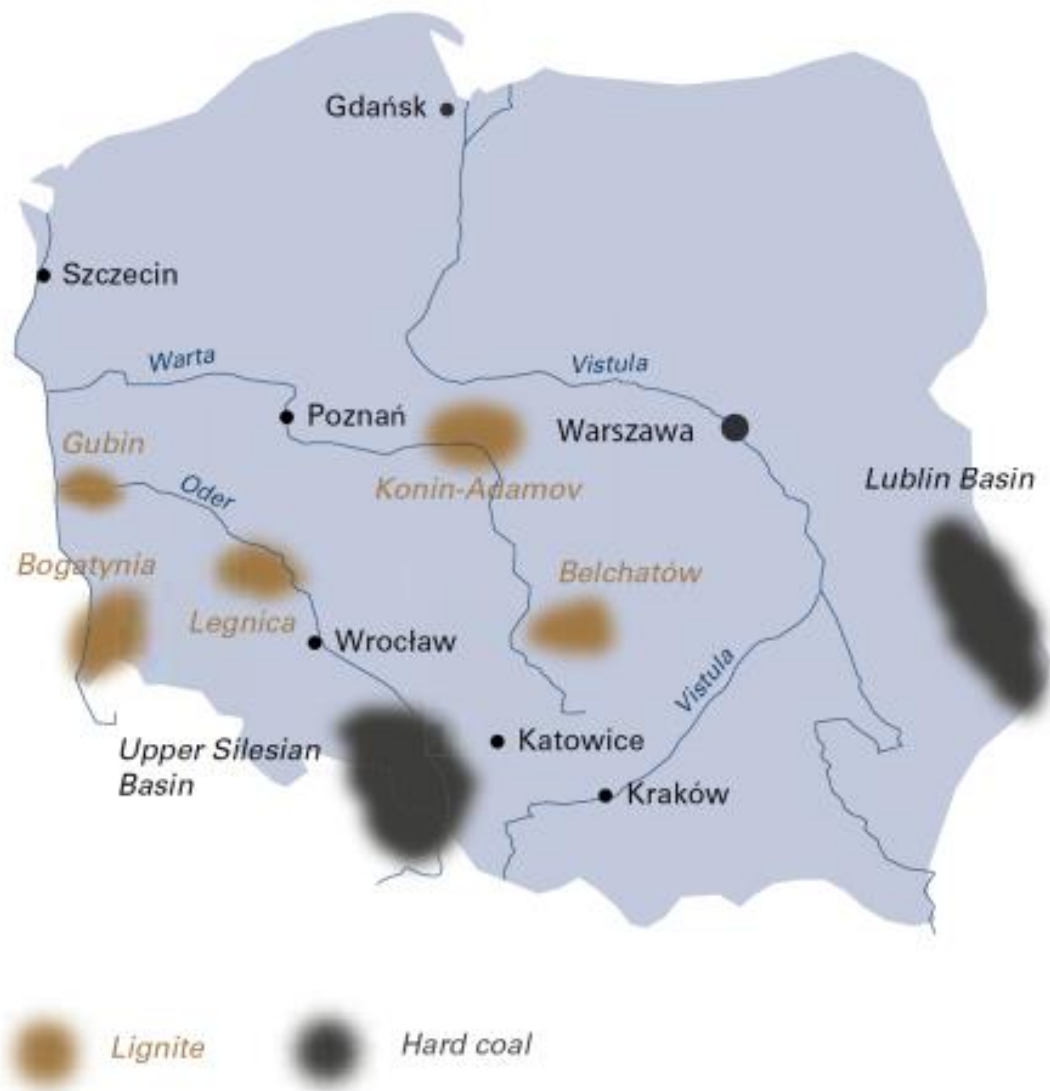


Figure 7. Distribution of hard coal and lignite in Poland. From Euracoal (2019).

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