



COAL PRODUCER SURVEY **2018**



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THE AMERICAN RESOURCE

NATIONAL MINING ASSOCIATION 2018 COAL PRODUCER AND RESERVE HOLDER SURVEY

May 2019

The U.S. Coal Industry in 2018

Year in Review

The 2018 coal market was challenging in many respects, with further market erosion as the industry looked to stabilize following years of negative trends from duplicative and punitive regulations and due to competition from low priced natural gas and greater deployment of renewable generating sources. However, similar to 2017, a bright spot in 2018 was the coal export market, which had another banner year with global sales of both steam and metallurgical coal significantly higher. Total exports of 115.6 million short tons represented a 19.3 percent increase from 2017. Demand for U.S. coal increased in nearly all export regions. Gains in steam coal exports of 29.8 percent were combined with 11.3 percent higher metallurgical coal exports. Conversely, coal imports were lower.

Production last year was an estimated 755.5 million short tons, down 2.5 percent, with decreases particularly in the Interior and Western coal regions of the country. Consumption from the electric power sector was lower, while coke plant consumption increased. At the same time, industrial sector demand decreased.

Demand and Fuel Competition

Consumption/Inventories – Coal consumption totaled 687 million tons in 2018, a decrease of 4 percent from the prior year level of 716.9 million tons, based on Energy Information Administration (EIA) preliminary data. Low natural gas prices continue to make coal electricity dispatch less competitive and have been an added incentive for the closure of additional coal plants (about 16.5 GW in 2018). Coal's share of the generation mix has decreased, while natural gas and renewable generation sources like wind, solar and hydro (supported by growing Renewable Portfolio Standards (RPS) and subsidies) have made gains. Although fall was colder than normal, 2018 was warmer than the 30-year average, resulting in lower heating demand, improved natural gas storage levels and gas prices below \$3/MMBtu.

Consumption by the electric power sector, coal's largest market, was down over 4 percent to 636 million tons, more than 28 million tons less than in 2017. Consumption declined in all Census regions except the East North Central, West North Central and Pacific Noncontiguous regions of the country.

Coking coal consumption by coke plants increased 4.4 percent in 2018, to 18.3 million tons. Blast furnace demand from coke plants moved upward last year, boosted by the domestic steel market recovery.

Other industrial demand, which includes cement kilns, agricultural processing, heavy industry and non-utility generation, decreased 5.1 percent to 31.6 million tons, as smaller industrial coal-based boilers have been replaced with natural gas. The commercial sector decreased 8.9 percent to 967,000 tons.

EIA estimated consumer stockpile levels decreased from 167.0 million tons to 132.1 million tons at year's end, marking a 20.9 percent drop in 2018. Power sector stockpiles ended 2018 at 102.8 million tons, down 25.3 percent. EIA estimates producer and distributor stockpiles ended the year at nearly 24 million tons, roughly the same as 2017.

Electric Power Generation – Coal-based generation in all sectors decreased 4.9 percent, from 1,205.8 billion kilowatt hours (kWh) in 2017 to 1,146.4 billion kWh in 2018.

Similarly, power sector coal generation decreased 5.0 percent in 2018 to 1,138.5 billion kWh. In the same period, natural gas generation increased 14.1 percent to 1,365.7 billion kWh. Nuclear generation held relatively flat at 807 billion kWh. Conventional hydro generation decreased 2.9 percent to 290.0 billion kWh. Non-hydro renewable generation grew 9.7 percent to 388.7 billion kWh, especially wind and solar, which were up 8 percent and 25 percent respectively. Despite rapid growth, wind and solar combined represent about 8 percent of total electric power sector generation.

In the power sector, coal's share of generation dropped to about 28 percent in 2018 compared to 31 percent in 2017 (see Figure 1 below). Natural gas gained market share, increasing from 31 percent to 34 percent of generation.

Power Sector Generation by Fuel Source – 2018

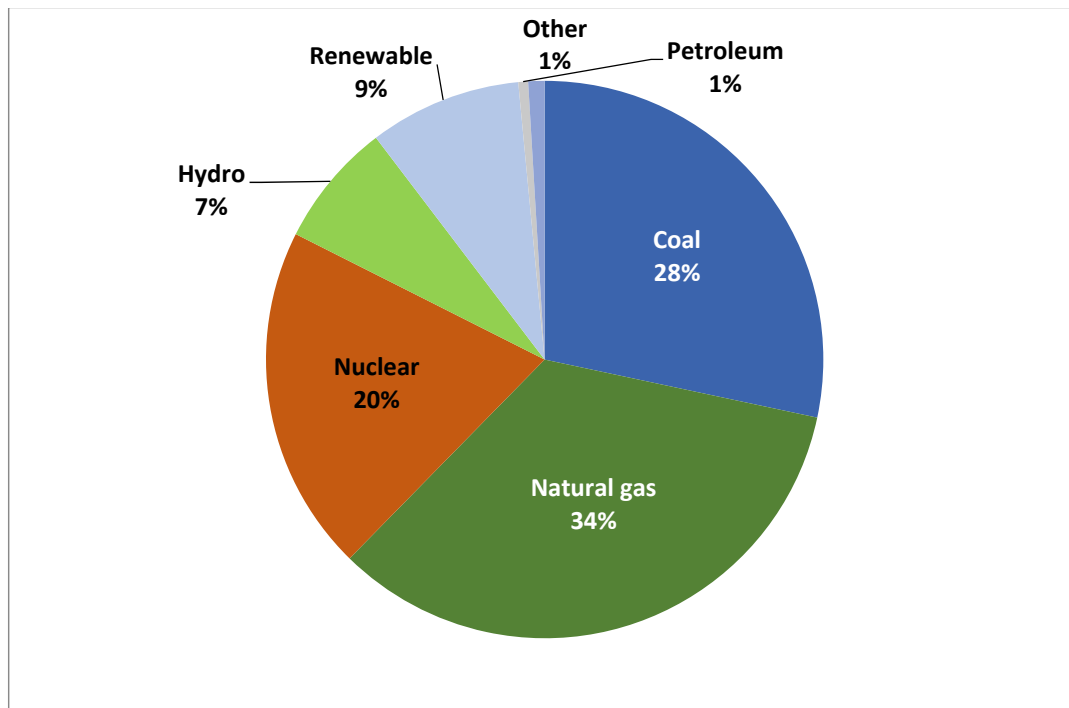


Figure 1

Source: Energy Information Administration

Fuel Prices – Both coal and natural gas prices have been falling in recent years. EIA estimates that the average cost of coal to electric power plants was \$2.06 per million Btu in 2018 and 2017, \$2.11 per MMBtu in 2016, and \$2.22 per MMBtu in 2015. In comparison, natural gas

prices are marginally higher than coal with an average cost of \$3.55 per MMBtu in 2018 compared to \$3.37 per MMBtu in 2017, and \$2.87 per MMBtu in 2016. Figure 2 below shows recent trends in natural gas spot prices on the Henry Hub, including the price volatility that ensued during the “bomb cyclone” cold snap impacting much of the eastern half of the U.S. in January 2018 and again in early 2019.



Figure 2

Source: Energy Information Administration, *Natural Gas Weekly Update*

Coal Generating Capacity – There were about 360 coal-based power plants totaling about 257,000 megawatts of coal capacity (EIA, 2017, summer capacity). Both plant capacity and the number of coal plants have dropped in recent years as older and less efficient plants have retired and coal plants have been displaced by natural gas capacity.

In 2019, coal capacity retirements (4.5 GW) are expected to constitute about 53 percent of planned retiring electric generating capacity, according to the EIA. This is down from about 15-17 GW of coal capacity estimated to have retired in 2018.

New Coal Plants – The University of Alaska Fairbanks’ new combined heat and power plant was completed in 2018 and is expected to come online in spring 2019.

A clean coal test plant in Wyoming was dedicated in May 2018 and is expected to be operational in 2019. The test center provides space for researchers to test carbon capture use storage (CCUS) technologies using 20 MW of coal-based flue gas. Further research will involve taking carbon emissions from flue gas and turning them into a marketable commodity.

There are currently no other new coal-based plants or units under construction.

Coal Supply and Trade

Production – After considerable coal market improvement in 2017, 2018 was more challenging. According to preliminary EIA figures, total coal production in 2018 decreased to 755.5 million short tons, marking a 19 million ton (2.5 percent) drop. Driven primarily by export demand, coal production east of the Mississippi River was approximately 309.9 million tons (including production from refuse recovery), a 1.8 percent increase, and accounted for 41 percent of total production.

The region west of the Mississippi River produced 445.6 million tons of coal, or about 59 percent of total production, down 5.2 percent. Wyoming, the leading coal producing state, mined 304 million tons, a 3.9 percent decrease from 2017.

Trade – U.S. coal exports increased 19.3 percent in 2018 to approximately 116 million tons (see Figure 3). The surge in demand of nearly 19 million tons was driven by higher demand for coal from most regions of the world, especially from Asia.

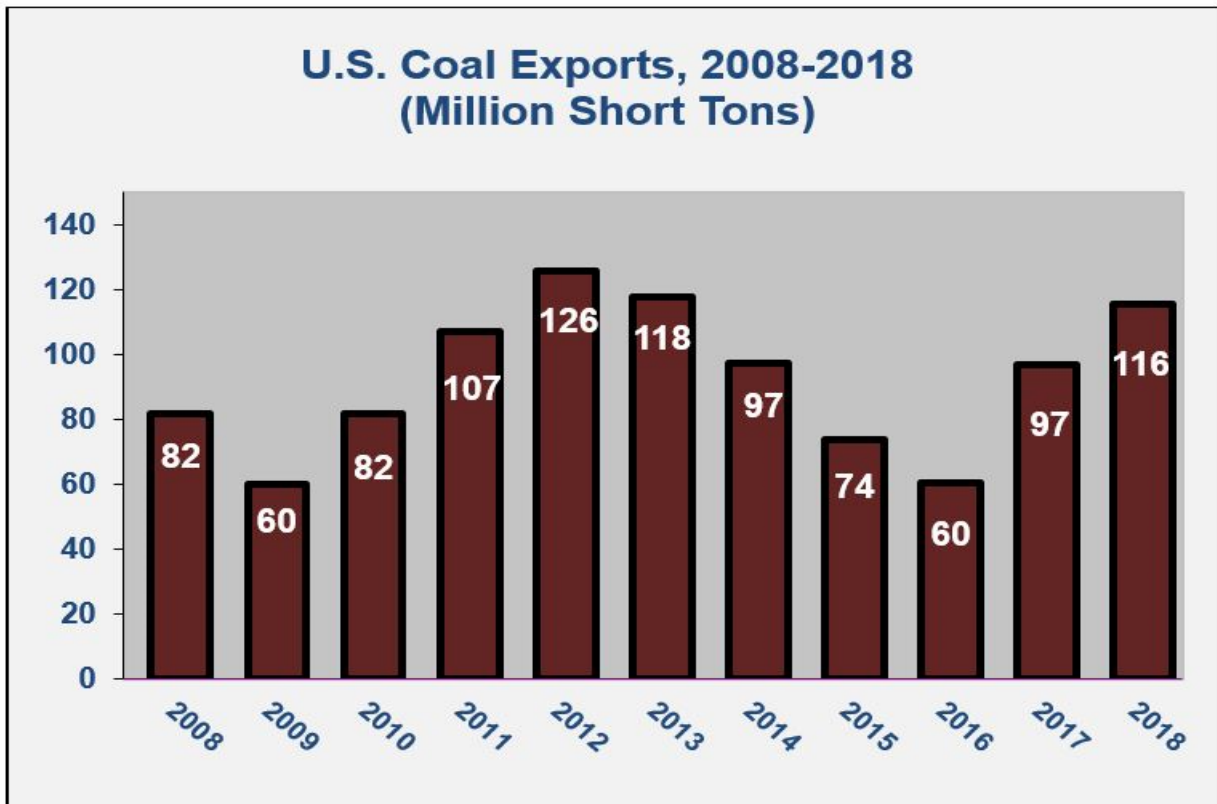


Figure 3

Sources: Energy Information Administration; NMA *International Coal Review* (U.S. Census Bureau trade data)

U.S. metallurgical coal exports of 61.5 million tons increased 11 percent in 2018. A significant increase in demand came from Europe (up 11 percent and nearly 2.7 million tons) and Asia (up 8 percent and 1.2 million tons). Metallurgical coal exports to Canada increased by 12.6 percent to 4.7 million tons.

U.S. steam coal exports rebounded in 2018, surging 30 percent and up in most major overseas regions. Increases were particularly significant in Asia, up nearly 36 percent. Steam coal exports to Europe increased 10.5 percent. However, steam coal exports to Canada dropped 7.2 percent, from 1.14 million tons to 1.06 million tons. Since 2011, Canada has been phasing out its coal-based power plants to meet government CO₂ restrictions.

The average coal export price was \$104.17 per ton, up 2.4 percent from 2017. Metallurgical coal prices increased 3.3 percent, from \$134.55 to \$138.98 per ton. Steam coal prices were up 10.8 percent, increasing from \$58.29 to \$64.60 per ton.

U.S. exports represented nearly 15 percent of total production in 2018, according to U.S. Census Bureau and EIA data.

U.S. coal imports decreased 23.4 percent to 6 million tons, with decreases from Colombia and Canada. Steam coal imports decreased substantially in response to the closure of several large coal plants in Florida and Massachusetts. The average price for imported coal was up 3.4 percent to \$82.30 per ton.

Market Outlook for 2019

According to EIA's April 2019 *Short-Term Outlook* report, lower coal-based electricity generation may drive a 9.5 percent decrease in U.S. coal production (684.1 million tons) in 2019, and a further 6.4 percent decrease in 2020 to 640.1 million tons. Total coal consumption is forecast to decrease 12 percent and 7 percent respectively in 2019 and 2020 due to ongoing coal-based plant retirements and continuing RPS and subsidies. Consumption from the power sector is forecast to decrease 13 percent to 553.3 million tons, then decrease 7 percent to 512.1 million tons in 2020.

The electric power coal fuel price averaged \$2.06/MMBtu in 2018 and is forecast to increase to \$2.11/MMBtu in both 2019 and 2020. Natural gas spot prices (Henry Hub) are expected to decrease by 33 cents in 2019 to \$2.82/MMBtu and then drop again to \$2.77/MMBtu in 2020.

The U.S. coal export market, a relative bright spot for coal last year, may remain steady in the early part of this year and then experience a decrease. EIA forecasts total exports to drop to about 102 million tons this year, then drop further to about 95 million tons in 2020. Steam coal is in great demand outside of Western Europe and the U.S., particularly in parts of Asia. But coal-based power plants are closing in Belgium, France, Germany, Holland, and the U.K., reducing Western European demand.

Metallurgical coal exports are forecast to decrease to around 53 million tons in 2019 and 51 million tons in 2020. But continued growth from Asia coupled with supply constraints from Australia are expected to bode well for U.S. metallurgical coal. However, China's supply-demand balance policies, including its influence on the U.S. and global markets, remain a wildcard. Similarly, weather factors impacting the U.S. and our competitors are unpredictable.

Recent Asset Acquisitions, Sales and Restructuring Activity for Selected Companies – as of May 2019

Some recent U.S. coal company sales, acquisitions and restructuring activities are identified below.

Alliance Resource Partners, L.P. – Alliance Resource Partners and its subsidiary Alliance Holdings completed their planned merger in May 2018 combining both companies under Alliance Resource Partners.

Alpha Natural Resources, LLC – Alpha entered into a definitive merger agreement with Contura Energy in April 2018. The transaction completed in November 2018 with the merger agreement resulting in Alpha operating under the Contura Energy name and with Contura's existing management team.

American Resources Corp. – In May 2018, American Resources, through its subsidiaries Quest Energy Inc. and Knott County Coal LLC, agreed to acquire coal refuse assets associated with a Wayland, Kentucky coal refuse area.

In November 2018, the company acquired all the assets of Synergy Coal, LLC, to be owned and operated under its newly formed subsidiary, Wyoming County Coal LLC.

In February 2019, American Resources acquired Kentucky metallurgical coal reserve assets from Colonial Coal, Inc. and Empire Coal Holdings LLC.

Armstrong Energy Corp. – Armstrong, which filed for Chapter 11 bankruptcy protection in October 2017, in Mid-February 2018 completed the sale of a majority interest (51 percent) in its mines, processing plants and some river dock coal handling facilities to a new company, Western Kentucky Coal Resources, LLC, jointly owned by Murray Energy and Armstrong. The transaction occurred shortly after Armstrong received approval from the U.S. bankruptcy court. In late February 2018, Murray Energy acquired a full 100 percent interest in Western Kentucky Resources.

Blackhawk Mining, LLC – Blackhawk is in the process of restructuring some of its debt with some of its lenders.

Bowie Resource Partners – In October 2018, Bowie changed its name to Wolverine Fuels LLC. It moved its corporate headquarters from Colorado to Utah.

Cloud Peak Energy Inc. – Cloud Peak announced in November 2018 that it had commenced a review of strategic alternatives including potential sale of the company. In May 2019, it filed for Chapter 11 bankruptcy protection.

Contura Energy, Inc – In April 2018, Contura entered into a merger agreement with ANR Inc. and Alpha Natural Resources Holdings, Inc., resulting in operations combined under the Contura name and management team (see Alpha above).

In March 2019, Mission Coal listed Contura and Bluestone Resources as the successful bidders to collectively purchase Mission's Pinnacle assets.

Corsa Coal Corp. – In March 2018, Corsa transferred its thermal coal assets in Central Appalachia to Industrial Minerals Group, LLC, an investment group led by current management. Quintana Capital Group is Corsa’s largest equity investment sponsor (45 percent).

Mechel – The Russian steel and coal producer completed restructuring in January 2019, refinancing its \$1 billion syndicated pre-export loan after several years of discussions with lenders.

Mission Coal Co., LLC – Mission, a company newly formed in January 2018 from the former ERP Compliant Fuels, LLC assets, filed for Chapter 11 bankruptcy protection in October 2018. The company is in the process of selling its Pinnacle, Oak Grove, Seminole and Seneca coal company affiliates. In April 2019, Murray Energy Corp. acquired Mission’s Oak Grove Mine Complex in Alabama and the Maple Eagle mine in West Virginia.

Murray Energy Corp. – In February 2018, Murray purchased a majority interest in Armstrong Energy’s former mines, processing plants and some river dock coal handling facilities to be held by newly formed Western Kentucky Coal Resources, LLC. Later in February, Murray acquired 100 percent ownership interest in Western Kentucky Resources (see Armstrong above).

In April 2019, Murray Energy acquired Mission Coal’s Maple Eagle and Oak Grove mining assets (see Mission above).

Peabody – In December 2018, Peabody acquired Drummond Company, Inc’s Shoal Creek metallurgical coal mine in Alabama.

Westmoreland Mining LLC – Westmoreland Coal Co. emerged from its October 2018 Chapter 11 bankruptcy in March 2019. The reorganization resulted in the sale of all its assets (excluding the Kemmerer coal operations) to a new entity, Westmoreland Mining LLC, created and controlled by the company’s former first lien creditors. The sale of its Rosebud Mine to first lien creditors was approved in March 2019. The Kemmerer Mining operations remain in Chapter 11.

Major Coal Producing Companies and Mines in 2018 (Tables 1-3)

Table 1, compiled by the National Mining Association (NMA) from data collected through a 2019 survey of major coal producers and government data, shows 2018 production for 45 U.S. coal producing companies. Peabody was the largest coal producer in the U.S., with output (including tons sold) of 152.8 million tons, which represented 20.2 percent of total U.S. coal production. The second largest was Arch Coal, with 96.6 million tons sold, representing 12.8 percent of total coal production. Ranking third was Cloud Peak Energy, with 49.5 million tons and 6.6 percent of production. The fourth largest coal produce was Murray Energy, with an output of 48 million tons accounting for 6.4 percent of production. The fifth largest producer was Alliance Resource Partners, with an output of 40.3 million tons and 5.3 percent of production. The top five coal producing companies in the survey accounted for 51 percent of total U.S. production, while the top 10 accounted for 71 percent.

Table 2 lists the top underground mines in terms of production. The top five mines were Foresight Energy’s M Class Number 1 mine in Illinois, with 14.5 million tons; CONSOL Energy’s Bailey mine in Pennsylvania, with 12.7 million tons; Murray Energy’s Marshall County mine in West Virginia, with 11.4 million tons; CONSOL Energy’s Enlow Fork mine in Pennsylvania, with 9.9 million tons; and Alliance Resource’s River View mine in Kentucky, with 9.8 million tons.

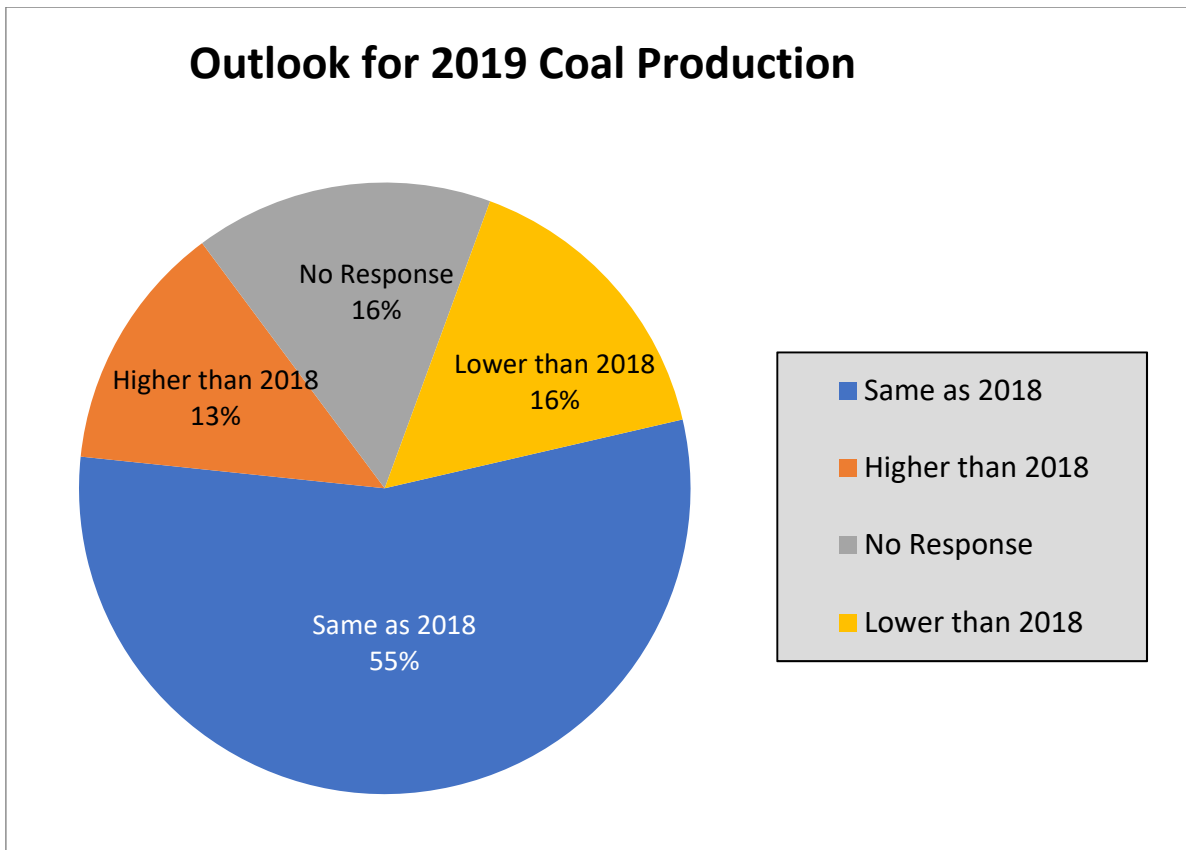
The five top producing surface mines (Table 3) in 2018 were Peabody’s North Antelope Rochelle mine, with 98.3 million tons; Arch Coal’s Black Thunder mine, with 71.1 million tons; Cloud Peak Energy’s Antelope mine with 23.2 million tons; Blackjewel’s Belle Ayr mine with 18.5 million tons; and Blackjewel’s Eagle Butte mine with 17.1 million tons. All are located in Wyoming’s Powder River Basin coal region.

Major U.S. Coal Reserve Holders in 2018 (Table 4)

The U.S. government is the single largest reserve holder, with about one-third ownership of the nation’s coal resources – or approximately 84 billion tons of estimated recoverable coal reserves. Great Northern Properties Limited Partnership reported the second largest reserve holding with 21 billion tons. Third was Peabody with 4.4 billion tons, and fourth and fifth were CONSOL Energy and Murray Energy with 2.7 billion and 2.2 billion tons respectively.

Coal Companies’ Outlook for 2019

The majority (55 percent) of this year’s survey respondents reported they expect 2019 coal production to be about the same as 2018. Another 16 percent expect production to be lower, compared to 13 percent expecting higher production. While the Trump administration is supportive of coal and its role in providing affordable, reliable electricity and living-wage jobs, the industry continues to face steep competition from low-priced natural gas as well as subsidized wind and solar generation sources.



Survey Methodology

Coal producers and reserve holders were asked to provide their company's total U.S. coal production and reserve holdings for 2018. They also were asked to name their mines and the production output of each mine using the following criteria: surface mines with production of two million tons or greater, and underground mines with production of one million tons or greater. Due to limited response, NMA discontinued reporting multi-mine complex production in 2017. As in past years, significant effort was made to include as many coal producers and reserve holders as possible.

Notes: The production figures reported in this survey are intended to reflect mine production as of the end of calendar year 2018 where possible. Companies not included in the list are encouraged to submit data for next year. The National Mining Association (NMA) has conducted a survey of major coal producers since the 1980s. The results of prior surveys can be found in earlier editions of NMA's *Coal Producer Survey*, and prior to 1998, in NMA's *Facts About Coal* and *Facts About Coal & Minerals*, and Mining Media Publishing's *Keystone Coal Industry Manuals*. The latest edition of NMA's *Coal Producer Survey* report is available in PDF format. NMA greatly appreciates the many contributors to this annual survey and report.

Sources:

Energy Information Administration, *Short-Term Outlook*, April 2019, available at <https://www.eia.gov/outlooks/steo/archives/apr19.pdf>

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Energy Information Administration, *Quarterly Coal Report October – December 2018*, April 2019, available at <https://www.eia.gov/coal/production/quarterly/>

National Mining Association, *International Coal Review, February 2019 Edition*.

News releases and annual reports of various coal companies.

Argus Coal Daily, *E&E News* and *S&P Global Platts*, various editions.

TABLE 1
Major U.S. Coal Producers - 2018
(Million Short Tons)

Company	Production Tonnage	Percent of Total U.S.
1. Peabody ^{1/}	152.8	20.2%
2. Arch Coal, Inc. ^{2/}	96.6	12.8%
3. Cloud Peak Energy, Inc.	49.5	6.6%
4. Murray Energy Corporation	48.0	6.4%
5. Alliance Resource Partners, LP	40.3	5.3%
6. Blackjewel, LLC (J. Hoops) ^{4/}	38.5	5.1%
7. North American Coal Corporation (NACCO) ^{5/ r/}	33.9	4.5%
8. CONSOL Energy, Inc.	27.6	3.7%
9. Foresight Energy LP / Murray Energy Corp.	23.3	3.1%
10. Westmoreland Mining, LLC	21.7	2.9%
11. Luminant Mining Company (Vistra Energy Corp.)	14.0	1.9%
12. Kiewit Mining Group, Inc.	13.5	1.8%
13. Blackhawk Mining, LLC (JMP) ^{4/}	13.2	1.7%
14. Alpha Natural Resources, LLC ^{3/}	12.0	1.6%
15. Contura Energy, Inc. ^{3/}	11.7	1.5%
16. Wolverine Fuels LLC (formerly Bowie Resource Partners)	9.1	1.2%
17. Coronado Coal LLC ^{4/}	8.5	1.1%
18. Warrior Met Coal, Inc.	7.7	1.0%
19. Sunrise Coal Company (Hallador)	7.6	1.0%
20. Signal Peak Energy, LLC (Global Mining Group/Boich/FirstEnergy/Gunvor)	7.6	1.0%
21. Lighthouse Resources Inc.	7.2	1.0%
22. Prairie State Energy Company	6.3	0.8%
23. Western Fuels Association	6.3	0.8%
24. White Stallion Energy (formerly Vigo Coal & Solar Sources) ^{4/}	6.0	0.8%
25. Rosebud Mining Company (J. Clifford Forrest) ^{4/}	5.2	0.7%
26. Knight Hawk Coal, LLC (Bunn)	4.8	0.6%
27. Rhino Energy LLC	4.4	0.6%
28. BNI Coal, LTD (Allete)	4.3	0.6%
29. Interwest Mining Company (PacifiCorp)	4.2	0.6%
30. Black Hills Corporation (Wyodak Resources)	4.1	0.5%
31. Booth Energy Group ^{4/}	3.7	0.5%
32. Navajo Transitional Energy Co. LLC (NTEC)	3.4	0.4%
33. Mission Coal Company, LLC (formerly ERP Compliant Fuels) ^{4/}	3.2	0.4%
34. Drummond Company, Inc.	2.5	0.3%
35. Metinvest B.V. (United Coal Co.) ^{4/}	2.4	0.3%
36. ArcelorMittal ^{4/}	2.3	0.3%
37. Blue Mountain Energy, Inc. (Deseret Power)	2.1	0.3%
38. Trapper Mining Inc. (Salt River; Tri-State; Pacificorp; Platte River)	2.1	0.3%
39. Ramaco Resources, Inc.	1.8	0.2%
40. Colowyo Coal Co. LP (Elk Ridge Mining & Reclamation)	1.5	0.2%
41. Dolet Hills Lignite Company (AEP) ^{4/}	1.3	0.2%
42. CM Energy Operations LP ^{4/}	1.3	0.2%
44. Corsa Coal Corp. (Quintana Capital Group) ^{4/}	1.0	0.1%
45. Usibelli Coal Mine, Inc.	0.9	0.1%
46. Dana Mining Company (GenPower Holdings LP/MEPCO, LLC)	0.4	0.1%
47. Other Producers	35.7	4.7%
Total U.S. Production ^{6/}	755.5	100.0%

Notes: Figures are rounded. 2018 data compiled from 2019 NMA survey of major producers. May not be all-inclusive. Any companies not included in this listing are invited to submit data for the next edition. The U.S. production total for 2018 is an EIA preliminary estimate. r/ Revised.

^{1/} Peabody production figure includes tons sold, excluding trading and brokerage operations.

^{2/} Arch Coal, Inc. production figure includes production, excluding trading and brokerage operations.

^{3/} Alpha figure includes tonnage from Jan.1-Nov.8, 2018; Contura Energy Inc. figure includes Alpha tonnage Nov.9-Dec.31, 2018.

^{4/} Department of Labor, Mine Safety & Health Administration 2018 preliminary data.

^{5/} Excludes Navajo mine owned by NTEC.

^{6/} Department of Energy, Energy Information Administration 2018 preliminary data.

TABLE 2
Major U.S. Underground Coal Mines - 2018
(Million Short Tons)

Mine Name	Location	Tonnage	Operating Company
1. M Class No. 1	Illinois	14.5	M Class Mining LLC (Foresight Energy)
2. Bailey	Pennsylvania	12.7	CONSOL Pennsylvania Coal Co.
3. Marshall County	West Virginia	11.4	Marshall County Coal Co. (Murray)
4. Enlow Fork	Pennsylvania	9.9	CONSOL Pennsylvania Coal Co.
5. River View	Kentucky	9.8	River View Coal, LLC (Alliance)
6. Gibson North & South	Indiana	7.9	Gibson County Coal, LLC (Alliance)
7. Bull Mountain	Montana	7.6	Signal Peak Energy LLC (Boich/FirstEnergy/Gunvor)
8. Harrison County	West Virginia	7.2	Harrison County Coal Co. (Murray)
9. Mach No. 1	Illinois	6.9	Mach Mining LLC (Foresight Energy)
10. Tunnel Ridge	West Virginia	6.7	Tunnel Ridge, LLC (Alliance)
11. Ohio County	West Virginia	6.5	Ohio County Coal Co. (Murray)
12. Cumberland	Pennsylvania	6.4	Cumberland Contura, LLC
13. Lively Grove	Illinois	6.3	Prairie State Generating Co.
14. Hamilton County No. 1	Illinois	6.3	Hamilton County Coal (Alliance)
15. Marion County	West Virginia	6.1	Marion County Coal Co. (Murray)
16. No. 7	Alabama	5.6	Warrior Met Coal Mining, LLC
17. Buchanan ^{1/}	Virginia	5.2	Coronado Coal, LLC
18. Harvey	Pennsylvania	5.0	CONSOL Pennsylvania Coal Co.
19. Sufco	Utah	4.9	Canyon Fuel Co., LLC (Wolverine Fuels)
20. Century	Ohio	4.8	American Energy Corp. (Murray)
21. West Elk	Colorado	4.7	Mountain Coal Co. (Arch)
22. Monongalia County	West Virginia	4.4	Monongalia County Coal Co. (Murray)
23. Oaktown Fuels No. 1	Indiana	4.1	Sunrise Coal Co. (Hallador)
24. Prairie Eagle Underground	Illinois	3.9	Knight Hawk Coal, LLC (Bunn)
25. Skyline	Utah	3.6	Canyon Fuel Co., LLC (Wolverine Fuels)
26. Warrior (Cardinal)	Kentucky	3.5	Warrior Coal, LLC (Alliance)
27. Leer	West Virginia	3.4	ACI Tygart Valley (Arch)
28. Twentymile (Foidel Creek)	Colorado	3.1	Peabody Subsidiary
29. Gateway North	Illinois	3.1	Peabody Subsidiary
30. Oaktown Fuels No. 2	Indiana	2.9	Sunrise Coal Co. (Hallador)
31. Lila Canyon	Utah	2.8	UtahAmerican Energy, Inc. (Murray)
32. Shoal Creek ^{2/}	Alabama	2.7	Drummond Company Inc.
33. Dotiki	Kentucky	2.5	Webster County Coal LLC (Alliance)
34. Mettiki (Mountain View)	West Virginia	2.3	Mettiki Coal LLC (Alliance)
35. Francisco	Indiana	2.2	Peabody Subsidiary
36. Bridger Underground	Wyoming	2.2	Bridger Coal Company (Interwest/Pacificorp)
37. Deserado ^{1/}	Colorado	2.1	Blue Mountain Energy, Inc. (Deseret Power)
38. No. 4	Alabama	2.1	Warrior Met Coal Mining, LLC
39. Genesis (formerly Kronos)	Kentucky	2.1	Western Kentucky Coal Co. (Murray)
40. Shay No. 1 ^{1/}	Illinois	2.0	MaRyan Mining LLC (Foresight Energy)

Continued...

TABLE 2 (Continued)**Major U.S. Underground Coal Mines - 2018
(Million Short Tons)**

Mine Name	Location	Tonnage	Operating Company
41. Mountain Laurel (Mountaineer II)	West Virginia	1.9	Mingo Logan Coal Co. (Arch)
42. San Juan	New Mexico	1.8	San Juan Coal Co. (Westmoreland)
43. Viper	Illinois	1.8	ICG Illinois (Arch)
44. American Eagle ^{1/}	West Virginia	1.5	Panther Creek Mining (Blackhawk)
45. Deep Mine #41	Virginia	1.5	Paramont Contura, LLC
46. Oak Grove ^{1/}	Alabama	1.5	Oak Grove Resources LLC (Mission)
47. Wildcat Hills	Illinois	1.3	Peabody Subsidiary
48. MC Mining #4	Kentucky	1.3	MCI Mining, LLC (Alliance)
49. Pride (formerly Survant)	Kentucky	1.3	Muhlenberg County Coal Co. (Murray)
50. Riveredge	Kentucky	1.3	Pennyrile Energy LLC (Rhino)
51. Sentinel	West Virginia	1.2	Wolf Run Mining Co. (Arch)
52. Paradise	Kentucky	1.1	KenAmerican Resources, Inc. (Murray)
53. Slabcamp Stockton	West Virginia	1.1	Mammoth Coal Co. (Contura/Alpha)
54. Kielty (Ruby Energy)	West Virginia	1.1	Delbarton Mining Co., LLC (Contura/Alpha)
55. Powellton No. 1 ^{1/}	West Virginia	1.1	Greenbrier Minerals, LLC (Coronado)
56. Pinnacle ^{1/}	West Virginia	1.0	Pinnacle Mining Co. (Mission)
57. Beckley	West Virginia	1.0	ICG Beckley (Arch)
58. Alma No. 1	West Virginia	1.0	Southeastern Land, LLC (Booth)

Notes: Figures are rounded. Data compiled from 2018 NMA survey of major producers.

May not be all-inclusive. Any companies not included in this listing are invited to submit data for the next edition.

^{1/} Department of Labor, Mine Safety & Health Administration 2018 preliminary data. ^{2/} Sold to Peabody in Dec. 2018

TABLE 3

**Major U.S. Surface Coal Mines - 2018
(Million Short Tons)**

Mine Name	Location	Tonnage	Operating Company
1. North Antelope Rochelle	Wyoming	98.3	Peabody Subsidiary
2. Black Thunder	Wyoming	71.1	Arch Coal, Inc.
3. Antelope	Wyoming	23.2	Cloud Peak Energy
4. Belle Ayr ^{1/}	Wyoming	18.5	Blackjewel, LLC (Javelin)
5. Eagle Butte ^{1/}	Wyoming	17.1	Blackjewel, LLC (Javelin)
6. Freedom	North Dakota	14.2	Coteau Properties Co. (North American)
7. Spring Creek	Montana	13.8	Cloud Peak Energy
8. Buckskin	Wyoming	13.5	Buckskin Mining Co. (Kiewit)
9. Cordero Rojo	Wyoming	12.6	Cloud Peak Energy
10. Caballo	Wyoming	11.3	Peabody Subsidiary
11. Rawhide	Wyoming	9.5	Peabody Subsidiary
12. Kosse	Texas	8.7	Luminant Mining
13. Colstrip (Rosebud)	Montana	8.4	Western Energy Co. (Westmoreland)
14. Falkirk	North Dakota	8.2	The Falkirk Mining Co. (North American)
15. Coal Creek	Wyoming	8.0	Arch Coal, Inc.
16. Bear Run	Indiana	6.9	Peabody Subsidiary
17. Kayenta	Arizona	6.5	Peabody Subsidiary
18. Dry Fork	Wyoming	6.3	Western Fuels-Wyoming, Inc.
19. El Segundo	New Mexico	5.5	Peabody Subsidiary
20. Martin Lake ^{2/}	Texas	5.2	Luminant Mining
21. Decker	Montana	4.7	Lighthouse Resources (formerly Ambre Energy)
22. Center	North Dakota	4.3	BNI Coal, Ltd. (Allete)
23. Wyodak	Wyoming	4.1	Wyodak Resources Dev. Corp. (Black Hills)
24. Kemmerer	Wyoming	4.0	Westmoreland Kemmerer, LLC
25. Absaloka	Montana	3.9	Westmoreland Resources Inc.
26. Sabine/South Hallsville	Texas	3.5	Sabine Mining (North American)
27. Navajo	New Mexico	3.4	Navajo Transitional Energy Co. LLC
28. San Miguel ^{3/}	Texas	3.0	Kiewit Mining Group
29. Red Hills	Mississippi	2.9	Mississippi Lignite (North American)
30. Wild Boar	Indiana	2.7	Peabody Subsidiary
31. Black Butte ^{4/}	Wyoming	2.5	Black Butte Coal Co. (Lighthouse/Anadarko)
32. Coyote Creek	North Dakota	2.5	Coyote Creek Mining (North American)
33. Coal-Mac	West Virginia	2.5	Arch Coal, Inc.
34. Eagle Pass	Texas	2.1	Camino Real Fuels (North American)
35. Trapper	Colorado	2.1	Trapper Mining Inc.
36. Calvert/Walnut Creek Lignite ^{3/}	Texas	2.0	Kiewit Mining Group
37. Somerville Central	Indiana	2.0	Peabody Subsidiary
38. Bridger Surface	Wyoming	2.0	Bridger Coal Co. (Interwest/Pacificorp)

Notes: Figures are rounded. 2018 data compiled from 2019 NMA survey of major producers.

May not be all-inclusive. Any companies not included in this listing are encouraged to submit data for the next edition.

1/ Department of Labor, Mine Safety & Health Administration 2018 preliminary data.

2/ Includes Oak Hill, Tatum and Liberty mines.

3/ Mine managed and operated, but not owned by Kiewit.

4/ Fifty percent ownership each.

TABLE 4
Major Holders of U.S. Coal Reserves - 2018
(Billion Short Tons)

Holder	Estimated Reserves
1. U.S. Government *	84.000
2. Great Northern Properties Limited Partnership	21.000
3. Peabody	4.380
4. CONSOL Energy, Inc.	2.261
5. Murray Energy Corporation	2.200
6. Foresight Energy LP / Murray Energy Corp.	2.100
7. North American Coal Corporation (NACCO)	1.900
8. Arch Coal, Inc.	1.898
9. Natural Resource Partners LP	1.887
10. Alliance Resource Partners, LP	1.700
11. Pocahontas Land Corporation (Norfolk Southern)	1.640
12. Contura Energy, Inc.	1.348
13. Alpha Natural Resources, LLC ^{1/}	1.300
14. Cloud Peak Energy, Inc.	0.977
15. Kentucky River Properties LLC	0.976
16. Navajo Transitional Energy Co. LLC	0.830
17. Penn Virginia Resource Partners, LP	0.775
18. Usibelli Coal Mine, Inc.	0.700
19. BNI Coal, LTD (Allete)	0.600
20. Rosebud Mining Company (J. Clifford Forrest) ^{2/}	0.473
21. Westmoreland Mining LLC	0.400
22. Prairie State Energy Company ^{2/}	0.377
23. Mission Coal Company, LLC (formerly ERP Compliant Fuels) ^{2/}	0.318
24. Luminant Mining Company (Vistra Energy Corp.) ^{3/}	0.311
25. Signal Peak Energy, LLC (Global Mining Group/Boich/FirstEnergy/Gunvor)	0.300
26. Lighthouse Resources Inc.	0.292
27. Western Fuels Association	0.288
28. Dana Mining Company (GenPower Holdings LP/MEPCO, LLC) ^{2/}	0.280
29. Western Pocahontas Properties	0.276
30. Dolet Hills Lignite Company (AEP) ^{2/}	0.260
31. Rhino Energy LLC	0.248
32. Warrior Met Coal, Inc.	0.245
33. Ramaco Resources, Inc.	0.232
34. Kiewit Mining Group, Inc.	0.225
35. Coronado Coal LLC ^{2/ 4/}	0.220
36. Wolverine Fuels LLC (formerly Bowie Resource Partners)	0.193
37. Black Hills Corporation (Wyodak Resources)	0.189
38. Sunrise Coal Company (Hallador)	0.152
39. Metinvest B.V. (United Coal Co.) ^{2/}	0.120
40. ArcelorMittal ^{2/}	0.118
41. Colowyo Coal Co. LP (Elk Ridge Mining & Reclamation)	0.100
42. Knight Hawk Mining, LLC (Bunn)	0.089
43. Drummond Company, Inc.	0.050
44. Trapper Mining Inc. (Salt River; Tri-state; PacifiCorp; Platte River)	0.027
45. Interwest Mining Company (PacifiCorp)	0.025
46. White Stallion Energy (formerly Vigo Coal & Solar Sources) ^{2/}	0.017
47. Blackhawk Mining, LLC (JMP) ^{2/}	0.012
48. Corsa Coal Corp. (Quintana Capital Group) ^{2/}	0.008
Blackjewel, LLC (Hoops)	N/A
Blue Mountain Energy, Inc (Deseret Power)	N/A
Booth Energy Group	N/A
CM Energy Operations LP	N/A

Notes: Data compiled from NMA survey of major producers and reserve holders. May not be all-inclusive.

Any companies not included in this listing are encouraged to submit data for the next edition.

* U.S. Government calculation based on federal ownership of about one-third of the United States' coal resources.

(Bureau of Land Management, 1993) and estimated recoverable reserves of 253 billion short tons (Energy Information Adm.)

N/A = Not Available. Reserves are estimated proven & probable. 1/ Merged with Contura Nov. 2018. 2/ Company website and/or other public and private sources. 3/ Active and under study lignite deposits. 4/ Assigned recoverable reserves.

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