

National Mining Association



2015 Coal Producer Survey • June 2016

# NATIONAL MINING ASSOCIATION 2015 COAL PRODUCER SURVEY

June 2016

## The U.S. Coal Industry in 2015

### Overview

Persistently low natural gas prices in conjunction with current and pending environmental regulations, weaker global commodity demand and strong El Nino weather this past winter proved challenging for U.S. coal in 2015. Further impacting coal was the growing saturation of natural gas-combined cycle and renewable generating capacity additions (primarily solar and wind), which benefitted from an extension of existing federal credits late in the year. This resulted in a large accumulation of coal inventories throughout the year, which is affecting 2016 production.

Slower economic growth in Asia has reduced demand for coal imports, an impact that has been magnified given the U.S. role as a swing supplier in to those markets. The oversupplied coal market resulted in lower global coal prices, with the U.S. industry subject to even greater competitive pressure from foreign suppliers due to the strong U.S. dollar.

Based on preliminary Energy Information Administration (EIA) data, domestic coal-based generation demand from all demand sectors decreased 14.3 percent in 2015.

Coal production decreased in all regions of the country as mines began to respond to lower demand by curtailing production particularly toward the end of 2015. The Appalachian coal region was especially impacted.

Like many industries, both coal and electric power demand are impacted by economic growth. The U.S. economy grew fairly modestly in 2015, with real GDP expanding by 2.4 percent, the same growth rate as 2014. Through the first quarter of 2016, real GDP is up only 0.8 percent according to the Bureau of Economic Analysis.

### Coal Demand and Fuel Competition

**Consumption/Inventories** – Preliminary EIA data indicate that coal consumption totaled 801.6 million tons in 2015, a decrease of 12.7 percent from the prior year level of 917.7 million tons. As previously noted, this was primarily due to sustained low natural gas prices that made coal electricity dispatch less competitive and has accelerated the closure of additional coal plants that were scheduled to close due to stringent environmental regulations. Warmer winter temperatures also resulted in lower heating demand.

Coal consumption by the electric power sector, coal's largest market, was down 13.1 percent to 739.7 million tons, some 112 million tons less than in 2014. The largest declines in consumption occurred in the Midwest and Southeast regions of the country.

Coking coal consumption from coke plants decreased 7.6 percent in 2015, to 18.9 million tons. Demand for metallurgical coal from coke plants was impacted by slowing global steel demand, particularly from China – a leading market driver.

Other industrial demand, which includes cement kilns, agricultural processing, heavy industry and non-utility generation, decreased 5.8 percent to 40.3 million tons, while the commercial and residential sector was up slightly to 2.7 million tons.

EIA estimated consumer stockpile levels increased from 158.6 million tons to 204.9 million tons at year-end, marking a hefty 29.2 percent increase in 2015. Power sector stockpiles ended 2015 at 197.1 million tons, up 30.1 percent. EIA forecasted estimates indicate producer and distributor stockpiles ended the year at nearly 43.7 million tons, down 2.4 percent from 2014.

**Electric Power Generation** – Coal-based generation for all sectors decreased 14.3 percent from 1,581.7 billion Kilowatt Hours (KWh) in 2014 to 1,356.1 billion KWh in 2015.

Similarly, power sector coal generation decreased 14.3 percent in 2015 to 1,343.9 billion kWh. In the same period, natural gas generation increased 20 percent to 1,240.9 billion kWh. Nuclear generation held relatively flat at 797.2 billion kWh. Conventional hydro generation decreased 3.2 percent to 249.8 billion kWh. Non-hydro renewable generation grew 7.7 percent to 266.3 billion kWh, especially wind and solar, up 5.1 percent and 49.6 percent respectively. Despite rapid growth, wind and solar combined still represent less than 6 percent of total power sector generation.

In the power sector, coal’s share of generation decreased from about 40 percent in 2014 to 34.2 percent in 2015 (see Figure 1 below). Natural gas gained market share, increasing from 26 percent to 32 percent of generation. Natural gas generation is likely to become the leading power generating source in 2016, according to EIA’s recent outlook.

**Power Sector Generation by Fuel Source – 2015**

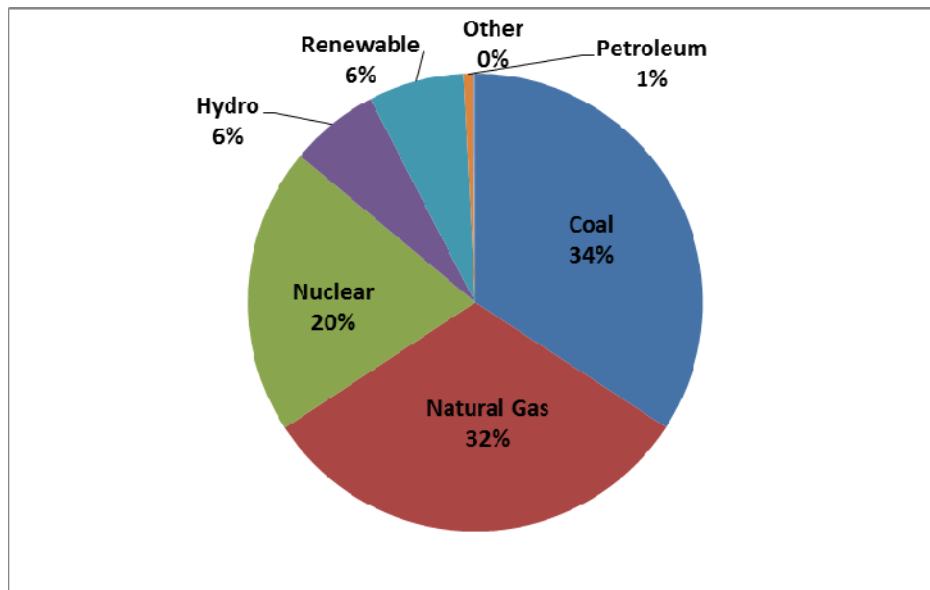


Figure 1

**Fuel Prices** – EIA estimates that the average cost of coal to electric power plants was \$2.22 per MMBtu in 2015, down 6.3 percent from \$2.37 per MMBtu in 2014.

The average cost of natural gas to the electric generating plants was down 36 percent to \$3.22 per MMBtu in 2015. That figure compares to \$5.00 per MMBtu in 2014.

**Natural Gas Storage** – Natural gas in storage has been rising due to the mild winter. Underground natural gas inventories (working storage) were lower in the beginning of 2015 at 2.417 trillion cubic feet (TCF), but ended the year at 3.677 TCF, 17 percent above the 2014 level.

**Nuclear Power** - Coal and nuclear compete as suppliers of baseload power generation. Net generation from 99 U.S. nuclear reactors (61 commercially operating plants) in 2015 held steady at about 797.2 billion kWh. Nuclear plants contributed approximately 19.5 percent of total generation. The existing plants ran at slightly greater capacity utilization in 2015, with a capacity factor of 92.2. The Watts Bar 2 plant unit received its operating license for reactivation in October 2015. Five units remain under construction: Vogtle 3 & 4, Summer 2 & 3, and Fermi 3.

**Coal Generating Capacity** – Coal retirements constituted about 80 percent of retiring electric generating capacity in 2015. EIA's February 2016 electric generator data lists about 110 coal plant units totaling 18 gigawatts (GW) of net summer capacity scheduled for retirement in 2015. Most of the retired coal capacity was located in Ohio, Georgia and Kentucky. According to EIA, many of the coal plants retiring are smaller, older (more than 50 years old), less efficient plants in the Southeast, Mid-Atlantic and Ohio Valley regions of the country. Final data for 2015 are not yet available, but at the end of 2014, EIA listed 491 electric power industry coal plants in operation.

**New IGCC Coal Plant** – Southern Company's long awaited Kemper County advanced integrated combined cycle (IGCC) 582 megawatt (MW) lignite coal plant in Mississippi is undergoing final testing and is expected to begin full operation in the fall of 2016.

### **Coal Supply and Trade**

**Production** – According to preliminary EIA figures, total coal production in 2015 decreased to 895.9 million short tons, marking a 104.1 million ton (10.4 percent) decrease. Coal production east of the Mississippi River was approximately 349 million tons (including production from refuse recovery) and accounted for 39 percent of total production. Eastern coal production decreased nearly 15 percent in 2015. The West produced 547 million tons of coal or about 61 percent of production, down 7.4 percent. Wyoming, the leading coal producing state, mined 376 million tons, down 5.0 percent from 2014.

In 2015, all regions experienced market challenges, but in recent years the Central Appalachian region has been greatly impacted by thinner coal seams combined with rising production and regulatory costs. In addition, the decline in U.S. export demand has impacted Central Appalachian demand since it is traditionally a major export supply region. Those factors, combined with scrubber retrofits at coal plants, has led to a shift in demand in some cases toward higher sulfur, lower cost Illinois Basin and Northern Appalachian coals. In 2015, Appalachian coal production decreased 17.4 percent.

**Trade** – U.S. coal exports fell 24 percent in 2015 to approximately 74 million tons. The drop of 23 million tons was driven by slowing demand for both steam and metallurgical coal from many

regions of the world. The weaker export market resulted from a combination of lower demand, lower prices and competition from other major global exporters. China, the world's largest importer, has been importing less coal due to its slowing economy and new environmental restrictions. U.S. exports represented approximately 8 percent of total production in 2015, according to EIA data.

U.S. exporters also lost sales due to the high value of the dollar compared to currencies in competing regions. Feeble economic growth in developing regions along with reduced yields from low inflation have attracted global investors to the dollar, in turn boosting its value.

U.S. metallurgical coal exports of 46 million tons decreased 23 percent in 2015. A significant drop in demand came from Europe (down 29 percent and 9.5 million tons), but the decrease was seen from nearly all overseas markets. However, metallurgical coal exports to Canada decreased only marginally by 1.5 percent to 4.3 million tons.

U.S. steam coal exports fell in all market regions, particularly to Europe (down 5.1 million tons). Steam coal exports to Canada dropped 30 percent, from 2.4 million tons to 1.7 million tons. Beginning in 2011, Canada began phasing out its coal plants in order to meet government CO<sub>2</sub> restrictions.

The average coal export price was \$76.89 per short ton, down 11.7 percent from 2014. Metallurgical coal prices dropped 10 percent, from \$99.49 per ton to \$89.31. Steam coal prices were down 15.8 percent, dropping from \$67.05 per ton to \$56.44.

U.S. coal imports remained about even with 2014 imports at 11.3 million tons. There were slight increases in imports from Colombia and Canada. The average price for imported coal was down 11 percent to \$71.61 per ton.

In May 2016, the U.S. Army Corps of Engineers denied a permit for the proposed Cherry Point coal terminal in Washington state.

## **Regulatory Challenges**

Thousands of megawatts of coal capacity have been retired by utilities to comply with EPA regulations, including the Mercury and Air Toxics Standards (MATS) rule that took effect in April 2015. Coupled with the EPA's proposed Clean Power Plan (CPP), emissions regulations have taken a sharp toll on coal-based generation. EIA generator data show more than 18 GW of coal net summer capacity were reported to be retired last year. Those figures may be understated; the Argus Media coal plant retirement database shows 21.7 GW (129 units) were retired last year.

EPA's finalized MATS and CPP rules effectively prevent future coal plants from being built, as well as make it costlier to operate some existing plants long term. As a result, between late 2011 and 2015, a large number of power companies announced their intent to retire or have retired coal plants, particularly their smaller, older or less efficient coal plants, due to the economic and operational impact of the regulations and the expectation of continued low natural gas prices.

**Mercury and Air Toxics Regulations** – EPA's MATS rules set technology-based emissions limitation standards for mercury and other toxic air pollutants for plants currently operating. The D.C. Circuit upheld EPA's MATS for coal-fired power plants in April 2014 and the decision was appealed to the Supreme Court. In June 2015, the court issued a decision granting NMA's

request to remand the rule holding that EPA was unreasonable in not considering costs – including costs of compliance - before deciding whether regulation of power plants is appropriate and necessary.

EPA completed a rulemaking that resulted in a final supplemental finding that consideration of cost did not change the agency's determination that regulation of hazardous air pollutant emissions from coal-based power plants is appropriate and necessary. A new legal challenge has been filed in the D.C. Circuit on EPA's supplemental finding. Despite the favorable decision in the Supreme Court, the compliance deadline for MATS was in early 2015, and as a practical matter, utility decisions on how to comply with the rule occurred in advance of the court's decision.

**Climate Action Plan/Clean Power Plan** - Under the administration's Climate Action Plan, EPA has finalized regulations under Clean Air Act § 111(b) for new power plants and under § 111(d) for regulating existing sources. Both standards, described below, were finalized on August 3, 2015, and are the subject of legal challenges in the D.C. Circuit.

**CO<sub>2</sub> Regulations for New Plants** - EPA's final rule regulating carbon dioxide (CO<sub>2</sub>) emissions from new power plants limits emissions to 1,400 pounds of CO<sub>2</sub> per MW hour of electricity for new coal-fired plants and requires new plants to capture 16 percent of CO<sub>2</sub> produced by an electric generating unit burning bituminous coal or 23 percent if burning sub-bituminous coal or dried lignite. The final rule essentially precludes the building of any new coal plants. The rule became effective in October 2015 and is the subject of numerous court challenges.

**CO<sub>2</sub> Regulations for Existing Sources** – EPA's final rule, to be administered by states, is designed to reduce CO<sub>2</sub> emissions from electric generating units by 32 percent by 2030. The final guidelines contain three building blocks designed to reduce overall electricity demand, improve efficiency and increase use of natural gas and renewables. In combination, the building blocks are designed to reduce coal as a fuel source for electric generation. Under the final rule, states are required to submit state implementation plans with EPA approving or disapproving those plans within a year of submission. However, NMA with other industry groups and states challenged the final rule, seeking expedited review in the D.C. Circuit and requesting that the rule be stayed pending judicial review. The court denied the stay request but granted expedited review. NMA and other petitioners filed an application with the U.S. Supreme Court to appeal the D.C. Circuit decision. On February 9, 2016, the court announced its 5-4 decision to stay the implementation of the existing source rule pending final judicial review. Therefore, many states have put their pencils down on their plans. The D.C. circuit will hear the case en banc in September 2016.

**CSAPR** - EPA's original Cross-State Air Pollution Rule (CSAPR) required 28 states to reduce annual SO<sub>2</sub> emissions, annual NO<sub>x</sub> emissions and/or ozone season NO<sub>x</sub> emissions to reduce ozone and fine particle National Ambient Air Quality Standards (NAAQS). The rule was vacated in August 2012 by the D.C. Circuit, but was upheld by the U.S. Supreme Court in April 2014, leading to implementation in January 2015.

On December 3, 2015, EPA proposed a revised CSAPR rule for 23 states in the eastern half of the U.S., which would further reduce summertime NO<sub>x</sub> emissions for electric generating units greater than 25 MW beginning in the 2017 ozone season. It is expected that a final rule will be issued in the 2<sup>nd</sup> quarter of 2016.

## **Asset Acquisitions, Sales and Restructuring Activity for Selected Companies – As of May 2016**

Recent U.S. coal company sales, acquisitions and restructuring activities are identified below:

**Alliance Coal, LLC** – In January 2015, Alliance announced it had acquired some of Patriot Coal's supply agreement rights. The agreement also included purchase of other Patriot assets including mining equipment and coal reserves. In July 2015, Alliance acquired the equity interest in White Oak Resources LLC mines in Illinois.

**Alpha Natural Resources** – Alpha filed for Chapter 11 bankruptcy protection in August 2015. It is in the process of selling more than 20 of its mining operations in an effort to raise capital.

**Ambre Energy/Lighthouse Resources** – In December 2014, Resource Capital Funds (RCF), one of Ambre Energy's investors, agreed to purchase Ambre's North American coal assets. Ambre changed its name to Lighthouse Resources in April 2015. In May 2016, Lighthouse announced its intent to acquire Arch Coal's 38 percent ownership interest in the Millennium Bulk Terminals-Longview near Longview, Washington. The acquisition would give Lighthouse 100 percent ownership interest in the project.

**Arch Coal** – To facilitate financial restructuring, Arch filed for bankruptcy protection in January 2016. In May 2016, Arch agreed to give up its 38 percent ownership interest in the Millennium Bulk Terminals-Longview project (see Ambre Energy/Lighthouse Resources).

**A&M Coal Co.** – A&M of Kentucky filed for Chapter 7 bankruptcy protection in September 2015.

**BHP Billiton** – BHP sold its San Juan Mine in New Mexico to Westmoreland Coal Company in February 2016 (see Westmoreland).

**Birmingham Coal & Coke Co.** – In May 2015, Alabama producer Birmingham Coal & Coke, a subsidiary of CanAm Coal Corp., filed a voluntary petition to reorganize under Chapter 11.

**Blackhawk Mining** - Blackhawk completed the purchase of Patriot Coal's Appalachian mines in October 2015 (see Patriot). Blackhawk's Triad Mining subsidiary completed the sale of its reserves and a coal sales agreement associated with its Freelandville mining complex in Indiana to Sunrise Coal in March 2016.

**Bluestone Resources** – Two of Mechel Bluestone's metallurgical coal mines were repurchased by the James Justice family in February 2015 under the company name Bluestone Resources (see Mechel OAO).

**Bowie Resource Partners** – Bowie agreed to acquire Peabody Energy's New Mexico and Colorado mining assets in November 2015, but the agreement was terminated in April 2016.

**Cliffs Natural Resources** – In February 2015, in an effort to refocus on its iron ore business, Cliffs sold its Logan County coal mine and other West Virginia assets to Coronado Coal LLC. Cliffs sold its remaining coal assets in West Virginia and Alabama to Seneca Coal Resources, LLC in December 2015.

**CONSOL Energy** – CNX Coal Resources LP (MLP) was formed in April 2015 and launched an initial public offering in June 2015. CONSOL agreed to sell its Buchanan mine in Virginia and other metallurgical coal reserves to Coronado IV LLC, a developer backed by private equity funding. The sale closed in April 2016.

**Covington Coal** – Covington Coal of West Virginia filed for Chapter 11 bankruptcy protection in February 2015.

**Energy Future Holdings** – Energy Future Holdings, parent company of Luminant Mining, filed for Chapter 11 bankruptcy protection in April 2014. It is expected to emerge from bankruptcy in summer 2016.

**Everett Energy LLC** – Everett of Kentucky filed for Chapter 7 bankruptcy protection in December 2015.

**Florence Mining Company** – Florence of Pennsylvania filed for Chapter 7 bankruptcy protection in August 2015.

**Foresight Energy LP** – Foresight warned in March 2015 that it may seek Chapter 11 protection if unable to reach a restructuring agreement with noteholders and lenders.

**Grass Creek Coal Company** – Grass Creek of Wyoming filed for Chapter 11 bankruptcy protection in April 2015.

**James River Coal** – James River filed for Chapter 11 bankruptcy protection in April 2014 and then began selling mining assets to Blackhawk Mining, Opes Resources and Marshall Resources. The remainder of its Central Appalachian coal operations was sold to Revelation Energy LLC in February 2015.

**JW Resources** – JW Resources of Kentucky filed for Chapter 11 bankruptcy protection in June 2015. Its coal assets were acquired by Revelation Energy LLC in October 2015.

**Mechel OAO** - In February 2015, Mechel sold two of its four Bluestone metallurgical coal assets back to the James Justice family under the company name Bluestone Resources. Justice had previously sold the mines to Mechel in 2009.

**Murray Energy** – Murray acquired a major economic interest in Foresight Energy in April 2015 (see Foresight).

**Patriot Coal** – In January 2015, Patriot agreed to sell its Highland mine and Dodge Hill complex to Alliance Resource Partners. Patriot filed for Chapter 11 bankruptcy protection in May 2015 (its second bankruptcy). In October 2015, Patriot sold most of its coal assets to Blackhawk Mining (see Blackhawk). At the same time, the remaining coal assets were sold to ERP Compliant Fuels LLC, an affiliate of Virginia Conservation Legacy Fund (VCLF).

**Peabody Energy** – Peabody entered into an agreement to sell its New Mexico (El Segundo and Lee Ranch) and Colorado (Twenty Mine) mining assets to Bowie Resource Partners in November 2015 (see Bowie), but the deal was terminated in April 2016. Peabody filed for Chapter 11 bankruptcy protection in April 2016 and received court approval for its financial plan in May. Peabody entered into an agreement to sell its stake in the Prairie State Energy Campus coal facility and adjacent mine to Wabash Valley Power Association in January 2016. The transaction closed in May 2016.

**Rhino Resource Partners** – Rhino sold a controlling stake of the company to private equity firm Royal Energy Resources in March 2016 (see Royal Energy Resources). Rhino is also considering a joint venture with trading company Ion Carbon & Minerals (subsidiary of AMCI Holdings Inc.).

**Royal Energy Resources, Inc.** – In March 2016, Royal Energy acquired certain interests from Wexford Capital LP including outstanding membership interest in of Rhino GP LLC, Rhino Resource Partners LP's general partner.

**SunCoke Energy** – SunCoke sold the majority of its coal mining assets and mineral leases to Revelation Energy LLC in April 2016.

**Sunrise Coal** – In March 2016, Sunrise (a Hallador Energy subsidiary) purchased certain underground coal reserves and a coal sales agreement associated with Triad Mining's Freelandville mining complex (see Blackhawk).

**TECO Energy** – TECO sold its coal mining assets to Cambrian Coal Corporation (Booth Energy subsidiary) in September 2015 and exited the coal business. TECO is being acquired by Emera Inc. with closure expected to take place mid-2016.

**Vigo Coal** – In April 2016, Steven Chancellor, former CEO of Black Beauty Coal, acquired Vigo's Friendsville mine in Illinois and Liberty mine in Indiana.

**Walter Energy** – Walter filed for Chapter 11 bankruptcy protection in July 2015. In November 2015 it entered in to an asset purchase agreement with its senior lending group (Coal Acquisition LLC) for the acquisition of all of its Alabama mining assets. In April 2016, Walter closed the sale of those core assets to newly created Warrior Met Coal LLC (formerly known as Coal Acquisition LLC). It sold its Central and Southern Appalachian coal and coke non-core assets to Seminole Coal Resources, a division of ERP Compliant Fuels and an affiliate of the Virginia Conservation Legacy Fund (VCLF) in February 2016.

**Westmoreland Coal Company** – In January 2015, Westmoreland acquired Ohio based Buckingham Coal Company. In June 2015, it announced that its affiliate (limited partnership), Westmoreland Resource Partners, would raise funds through an initial public offering to purchase the parent company's Kemmerer mine in Wyoming. The acquisition was completed in August 2015. Westmoreland completed acquisition and financing for BHP's San Juan mine in New Mexico in July 2015.

**Xinergy Ltd.** – Xinergy filed for bankruptcy protection in April 2015. It emerged from Chapter 11 bankruptcy in February 2016. The reorganized company was renamed White Forest Resources, Inc.

## **Major Coal Producing Companies, Mines and Mine Complexes in 2015 (Tables 1-4)**

Table 1, compiled by the National Mining Association from data collected through a survey of major coal producers and government data, shows 2015 production for 44 coal producing companies in the United States. In 2015, Peabody Energy Corporation was the largest coal producer in the U.S., with output (including tons sold) of 177.9 million tons, which represented 19.9 percent of total U.S. coal production. The second largest was Arch Coal, Inc., with 128.1

million tons, which represented 14.3 percent of total coal production. Ranking third was Cloud Peak Energy, Inc., with 75.1 million tons and 8.4 percent of production. The fourth largest coal producer, Alpha Natural Resources, Inc., had output of 72.0 million tons, or 8.0 percent of production. The fifth largest producer was Murray Energy Corporation, with 55.2 million tons, or 6.2 percent of production. The top five coal producing companies in the survey accounted for 57 percent of total U.S. production, while the top 10 accounted for 74 percent.

Table 2 lists the top underground mines in terms of production. The top five mines were Foresight Energy's MC Number 1 mine in Illinois, with 10.6 million tons; Murray Energy's Marshall County mine in West Virginia (formerly known as the McElroy mine), with 10.3 million tons; CONSOL Energy's Bailey mine in Pennsylvania, with 10.2 million tons; Alliance Resource's River View mine in Kentucky, with 9.1 million tons; and CONSOL Energy's Enlow Fork mine in Pennsylvania, with 9.0 million tons.

The five top producing surface mines (Table 3) in 2015 were: Peabody Energy's North Antelope Rochelle mine, with 109.3 million tons; Arch Coal's Black Thunder mine, with 99.5 million tons; Cloud Peak Energy's Antelope mine with 35.2 million tons; Cloud Peak's Cordero Rojo mine with 22.9 million tons, and Alpha Natural Resources' Eagle Butte mine, with 19.6 million tons. All are located in Wyoming's Powder River Basin coal region.

Table 4 shows the 2015 output of major multi-mine production complexes, which are mine operations or complexes that process coal production from several mines. Murray Energy's American Coal Company Galatia operation in Illinois reported the largest multi-mine complex output, with 8.0 million tons; second was Westmoreland's Oxford Mining operation in Ohio with 3.4 million tons; third was Arch Coal's Coal-Mac operation in West Virginia, with 2.6 million tons; fourth was Consol Energy's Miller Creek operation in West Virginia, with 2.1 million tons; and fifth was Peabody Energy's Somerville Central operation in Indiana, with 2.1 million tons.

### **Major U.S. Coal Reserve Holders in 2015 (Table 5)**

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 20 billion tons. Third was Peabody Energy with 5.5 billion tons, and fourth and fifth were CONSOL Energy and Foresight Energy with 3.05 billion and 3.0 billion tons respectively.

### **Outlook for 2016**

The majority of survey respondents reported they expected 2016 coal production to be lower than 2015 as a longer-term structural shift in the coal market continues to align production with demand. Continuing low natural gas prices, ongoing regulatory pressures and high coal inventory levels will result in a difficult year in 2016, followed by a modest recovery that may occur 2017-18 following further industry "rationalization."

## Survey Methodology

Coal producers and reserve holders were asked to provide their company's total U.S. coal production and reserve holdings for 2015. 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; underground mines with production of one million tons or greater; and multi-mine production complexes with output of more than one million tons. A multi-mine production complex is defined as an operation that is not a single mine, but processes production from more than one mine (excluding prep plants). As in past years, significant effort was made to include as many coal producers and reserve holders as possible.

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Notes: The production figures reported in this survey are intended to reflect ownership of mine production as of the end of calendar year 2015. Companies not included in the list are encouraged to submit data for next year. The National Mining Association 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.

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**TABLE 1**  
**Major U.S. Coal Producers - 2015**  
**(Million Short Tons)**

<b>Company</b>	<b>Production Tonnage</b>	<b>Percent of Total U.S.</b>
1. Peabody Energy Corporation <sup>1/</sup>	177.9	19.9%
2. Arch Coal, Inc. <sup>2/</sup>	128.1	14.3%
3. Cloud Peak Energy, Inc.	75.1	8.4%
4. Alpha Natural Resources, LLC	72.0	8.0%
5. Murray Energy Corporation	55.2	6.2%
6. Alliance Resource Partners	41.2	4.6%
7. North American Coal Corporation	30.5	3.4%
8. Westmoreland Coal Company	30.3	3.4%
9. CONSOL Energy Inc.	29.3	3.3%
10. Luminant Mining Company (Energy Future Holdings)	23.8	2.7%
11. The Cline Group (Foresight Energy/Coalfield Transport) <sup>3/</sup>	20.1	2.2%
12. Kiewit Mining Group, Inc.	18.2	2.0%
13. Bowie Resource Partners, LLC <sup>3/</sup>	12.2	1.4%
14. Patriot Coal Corporation <sup>3/</sup>	10.3	1.1%
15. Black Hawk Mining/JMP Holdings LLC <sup>3/</sup>	10.1	1.1%
16. Sunrise Coal Company (Hallador)	8.8	1.0%
17. Armstrong Energy Corporation <sup>3/</sup>	8.2	0.9%
18. Coronado Coal LLC <sup>3/</sup>	6.9	0.8%
19. Walter Energy Company	6.4	0.7%
20. Signal Peak Energy, LLC (Boich/FirstEnergy/Gunvor)	6.4	0.7%
21. Western Fuels Association, Inc.	6.4	0.7%
22. Prairie State Energy Company <sup>3/</sup>	6.0	0.7%
23. Rosebud Mining Company	5.6	0.6%
24. Interwest Mining Company (PacifiCorp)	5.3	0.6%
25. Navajo Transitional Energy Co. (NTEC)	5.3	0.6%
26. Revelation Energy, LLC <sup>3/</sup>	5.3	0.6%
27. Knight Hawk Coal, LLC <sup>3/</sup>	5.0	0.6%
28. BNI Coal, LTD	4.3	0.5%
29. Oxford Resource Partners, LP	4.3	0.5%
30. Black Hills Corporation (Wyodak Resources)	4.1	0.5%
31. Booth Energy Group <sup>3/</sup>	3.6	0.4%
32. Rhino Energy LLC	3.4	0.4%
33. Dolet Hills Lignite Company (AEP)	3.2	0.4%
34. Lighthouse Resources Inc. (Resource Capital Funds) <sup>3/</sup>	2.7	0.3%
35. Metinvest BV <sup>3/</sup>	2.6	0.3%
36. Western Fuels-Colorado (WFC), LLC. (WFC/Tri-state)	2.6	0.3%
37. Solar Sources, Inc. <sup>3/</sup>	2.2	0.2%
38. Dana Mining Company (GenPower Holdings LP) <sup>3/</sup>	2.1	0.2%
39. Trapper Mining Inc.	2.1	0.2%
40. Drummond Company, Inc.	2.0	0.2%
41. Vigo Coal Company, Inc.	2.0	0.2%
42. ArcelorMittal <sup>3/</sup>	1.7	0.2%
43. Usibelli Coal Mine, Inc.	1.2	0.1%
44. Ranger Energy (Justice II) <sup>3/</sup>	0.8	0.1%
45. Other Producers	41.2	4.6%
<b>Total U.S. Production <sup>4/</sup></b>	<b>895.9</b>	<b>100.0%</b>

Notes: Figures are rounded. 2015 data compiled from 2016 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 2015 is an EIA preliminary estimate.

<sup>1/</sup> Peabody Energy Corp. production figure includes tons sold, excluding trading and brokerage operations.

<sup>2/</sup> Arch Coal, Inc. production figure includes production, excluding trading and brokerage operations.

<sup>3/</sup> Department of Labor, Mine Safety & Health Administration 2015 preliminary data.

<sup>4/</sup> Department of Energy, Energy Information Administration 2015 preliminary data.

**TABLE 2**  
**Major U.S. Underground Coal Mines - 2015**  
**(Million Short Tons)**

<b>Mine Name</b>	<b>Location</b>	<b>Tonnage</b>	<b>Operating Company</b>
1. MC No. 1 <sup>1/</sup>	Illinois	10.6	M Class Mining LLC (Foresight Energy/Coalfield Transport)
2. Marshall County	West Virginia	10.3	Marshall County Coal Co. (Murray)
3. Bailey	Pennsylvania	10.2	CONSOL Energy Inc.
4. River View	Kentucky	9.1	River View Coal, LLC (Alliance)
5. Enlow Fork	Pennsylvania	9.0	CONSOL Energy Inc.
6. Cumberland	Pennsylvania	7.5	Cumberland Coal Resources (Alpha)
7. Harrison County	West Virginia	7.1	Harrison County Coal Co. (Murray)
8. San Juan	New Mexico	6.5	BHP Billiton-New Mexico Coal
9. Marion County	West Virginia	6.5	Marion County Coal Co. (Murray)
10. Bull Mountain	Montana	6.4	Signal Peak Energy LLC (Boich/FirstEnergy/Gunvor)
11. Ohio County	West Virginia	6.1	Ohio County Coal Co. (Murray)
12. SUFCO <sup>1/</sup>	Utah	6.0	Bowie Resource Partners, LLC (Formerly Canyon Fuel)
13. Lively Grove <sup>1/</sup>	Illinois	6.0	Prairie State Generating
14. Mach No. 1 <sup>1/</sup>	Illinois	5.6	Mach Mining LLC (Foresight Energy/Coalfield Transport)
15. Tunnel Ridge	West Virginia	5.6	Tunnel Ridge, LLC (Alliance)
16. Century	Ohio	5.2	American Energy Corp. (Murray)
17. New Future	Illinois	5.2	American Coal Co. (Murray)
18. West Elk	Colorado	5.1	Arch Coal, Inc.
19. Powhatan No. 6	Ohio	4.8	Ohio Valley Coal Co. (Murray)
20. Oaktown Fuels No. 1	Indiana	4.5	Sunrise Coal Co. (Hallador)
21. Skyline <sup>1/</sup>	Utah	4.4	Bowie Resource Partners, LLC (Formerly Canyon Fuel)
22. Buchanan	Virginia	4.4	CONSOL Energy Inc.
23. Warrior (Cardinal)	Kentucky	4.0	Warrior Coal, LLC (Alliance)
24. Dotiki	Kentucky	4.0	Webster County Coal LLC (Alliance)
25. Harvey	Pennsylvania	3.6	CONSOL Energy Inc.
26. Leer	West Virginia	3.4	Arch Coal, Inc.
27. Prairie Eagle <sup>1/</sup>	Illinois	3.4	Knight Hawk Coal, LLC (Bunn)
28. Monongalia County	West Virginia	3.3	Monongalia County Coal Co. (Murray)
29. Twentymile (Foidel Creek)	Colorado	3.2	Peabody Energy Subsidiary
30. Bridger Underground	Wyoming	3.1	Bridger Coal Company (Interwest)
31. No. 7	Alabama	3.0	Jim Walter Resources, Inc.
32. Francisco	Indiana	2.9	Peabody Energy Subsidiary
33. Hopkins (Elk Creek)	Kentucky	2.9	Hopkins County Coal, LLC (Alliance)
34. Gibson South	Indiana	2.9	Gibson County Coal, LLC (Alliance)
35. New Era	Illinois	2.8	American Coal Co. (Murray)
36. Hamilton County No. 1	Illinois	2.7	Hamilton County Coal (Alliance)
37. Oaktown Fuels No. 2	Indiana	2.7	Sunrise Coal Co. (Hallador)
38. Federal <sup>1/</sup>	West Virginia	2.4	ERP Compliant Fuels LLC
39. Kronos <sup>1/</sup>	Kentucky	2.4	Armstrong Energy Corp.
40. No. 4	Alabama	2.4	Jim Walter Resources, Inc.

**Continued .....**

**TABLE 2 (Continued)**

**Major U.S. Underground Coal Mines - 2015  
(Million Short Tons)**

<b>Mine Name</b>	<b>Location</b>	<b>Tonnage</b>	<b>Operating Company</b>
41. Pinnacle <sup>1/</sup>	West Virginia	2.4	Seneca Coal Resources LLC
42. Pattiki	Illinois	2.4	White County Coal LLC (Alliance)
43. Gibson North	Indiana	2.2	Gibson County Coal, LLC (Alliance)
44. Viper	Illinois	2.2	Arch Coal, Inc.
45. 4 West <sup>1/</sup>	Pennsylvania	2.1	Dana Mining Co.
46. Deserado <sup>1/</sup>	Colorado	2.1	Blue Mountain Energy, Inc. (Deseret Power)
47. Paradise	Kentucky	2.1	KenAmerican Resources, Inc. (Murray)
48. Mettiki (Mountain View)	West Virginia	2.1	Mettiki Coal LLC (Alliance)
49. Shoal Creek	Alabama	2.0	Drummond Company Inc.
50. Shay No. 1 <sup>1/</sup>	Illinois	2.0	Maryan Mining LLC (Foresight Energy/Coalfield Transport)
51. Oak Grove <sup>1/</sup>	Alabama	2.0	Oak Grove Resources LLC (Cliffs NR)
52. Mountaineer II	West Virginia	1.9	Arch Coal, Inc.
53. Sebree-Onton	Kentucky	1.9	Sebree Mining, LLC (Alliance)
54. Deer Run <sup>1/</sup>	Illinois	1.9	Patton Mining (Foresight Energy/Coalfield Transport)
55. Wildcat Hills	Illinois	1.7	Peabody Energy Subsidiary
56. Emerald	Pennsylvania	1.7	Emerald Coal Resources (Alpha)
57. West Ridge	Utah	1.6	Utah American Energy, Inc. (Murray)
58. Carlisle	Indiana	1.5	Sunrise Coal Co. (Hallador)
59. Panther (American Eagle) <sup>1/</sup>	West Virginia	1.5	Panther Creek Mining (Black Hawk)
60. MC Mining	Kentucky	1.4	MC Mining, LLC (Alliance)
61. Hobet	West Virginia	1.4	ERP Compliant Fuels LLC
62. Gateway	Illinois	1.3	Peabody Energy Subsidiary
63. Deep Mine #41	Virginia	1.3	Paramont Coal Company (Alpha)
64. Kielty	West Virginia	1.3	Delbarton Mining Co. (Alpha)
65. Buckingham	Ohio	1.2	Buckingham Coal Co. (Westmoreland)
66. Blue Creek No. 1	West Virginia	1.2	Blue Creek Mining, LLC (Black Hawk)
67. Affinity	West Virginia	1.2	Pocahontas Coal Co. (Metinvest)
68. Parkway <sup>1/</sup>	Kentucky	1.1	Armstrong Energy Corp.
69. EMC No. 9	Kentucky	1.1	Enterprise Mining Co. (Alpha)
70. Bowie No. 2 <sup>1/</sup>	Colorado	1.0	Bowie Resource Partners, LLC
71. Rockspring Deep (Camp Creek)	West Virginia	1.0	Rockspring Development (Alpha)
72. Matrix Energy No. 1 <sup>1/</sup>	Kentucky	0.9	Matrix Energy LLC (Booth)
73. Castle Valley	Utah	0.8	Rhino Energy LLC

Notes: Figures are rounded. Data compiled from 2015 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.

<sup>1/</sup> Department of Labor, Mine Safety & Health Administration 2015 preliminary data.

**TABLE 3**  
**Major U.S. Surface Coal Mines - 2015**  
**(Million Short Tons)**

	<b>Mine Name</b>	<b>Location</b>	<b>Tonnage</b>	<b>Operating Company</b>
1.	North Antelope Rochelle	Wyoming	109.3	Peabody Energy Subsidiary
2.	Black Thunder	Wyoming	99.5	Arch Coal, Inc.
3.	Antelope	Wyoming	35.2	Cloud Peak Energy
4.	Cordero Rojo	Wyoming	22.9	Cloud Peak Energy
5.	Eagle Butte	Wyoming	19.6	Alpha Coal West
6.	Belle Ayr	Wyoming	18.3	Alpha Coal West
7.	Spring Creek	Montana	17.0	Cloud Peak Energy
8.	Rawhide	Wyoming	15.2	Peabody Energy Subsidiary
9.	Freedom	North Dakota	14.3	Coteau Properties Co. (North American)
10.	Buckskin	Wyoming	13.6	Buckskin Mining Co. (Kiewit)
11.	Caballo	Wyoming	11.4	Peabody Energy Subsidiary
12.	Rosebud	Montana	9.6	Westmoreland Resources Inc.
13.	Kosse	Texas	8.4	Luminant Mining
14.	El Segundo	New Mexico	8.1	Peabody Energy Subsidiary
15.	Falkirk	North Dakota	8.0	The Falkirk Mining Co. (North American)
16.	Bear Run	Indiana	7.9	Peabody Energy Subsidiary
17.	Coal Creek	Wyoming	7.8	Arch Coal, Inc.
18.	Martin Lake <sup>1/</sup>	Texas	7.2	Luminant Mining
19.	Kayenta	Arizona	6.6	Peabody Energy Subsidiary
20.	Dry Fork	Wyoming	6.4	Western Fuels-Wyoming, Inc.
21.	Three Oaks	Texas	6.2	Luminant Mining
22.	Absaloka	Montana	5.8	Westmoreland Resources Inc.
23.	Navajo <sup>3/</sup>	New Mexico	5.3	Navajo Transitional Energy Co. (NTEC)
24.	Kemmerer	Wyoming	4.5	Westmoreland Resources Inc.
25.	Center	North Dakota	4.3	BNI Coal, Ltd.
26.	Wyodak	Wyoming	4.1	Wyodak Resources Dev. Corp. (Black Hills)
27.	Sabine/South Hallsville	Texas	3.6	Sabine Mining (North American)
28.	Jewett	Texas	3.4	Texas Westmoreland Coal Co.
29.	Dolet Hills Lignite	Louisiana	3.2	Dolet Hills Lignite Co. (AEP/SWEPSCO)
30.	Bridger Surface	Wyoming	3.1	Bridger Coal Co. (Interwest/Pacificcorp)
31.	Decker <sup>3/</sup>	Montana	3.0	Lighthouse Resources (formerly Ambre Energy)
32.	Red Hills	Mississippi	3.0	Mississippi Lignite (North American)
33.	Black Butte <sup>2/ 3/</sup>	Wyoming	2.7	Black Butte Coal Co. (Lighthouse/Anadarko)
34.	Equality <sup>3/</sup>	Kentucky	2.6	Armstrong Coal Co.
35.	San Miguel <sup>4/</sup>	Texas	2.5	Kiewit Mining Group
36.	Colowyo	Colorado	2.4	Western Fuels-Colorado (WFC) (WFC/Tri-State)
37.	Coal-Mac	West Virginia	2.3	Arch Coal, Inc.
38.	Beulah	North Dakota	2.1	Dakota Westmoreland Corp.
39.	Trapper	Colorado	2.1	Trapper Mining Co.
40.	Somerville	Indiana	2.1	Peabody Energy Subsidiary
41.	Walnut Creek Lignite <sup>4/</sup>	Texas	2.1	Kiewit Mining Group
42.	MT-101	West Virginia	2.1	CONSOL Energy Inc.
43.	Wild Boar	Indiana	2.0	Peabody Energy Subsidiary
44.	Samples	West Virginia	1.6	Black Hawk Mining
45.	Corridor G (Hobet 21) <sup>3/</sup>	West Virginia	1.4	ERP Environmental Fund Inc.

Notes: Figures are rounded. Data compiled from 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/ Includes Oak Hill, Beckville and Tatum mines.

2/ Fifty percent ownership each.

3/ Department of Labor, Mine Safety & Health Administration 2015 preliminary data.

**TABLE 4**  
**Major Multi-Mine<sup>1/</sup> Production Complexes - 2015**  
**(Million Short Tons)**

<b>Complex Name</b>	<b>Location</b>	<b>Tonnage</b>	<b>Company</b>
1. American Coal (Galatia Complex)	Illinois	8.0	The American Coal Company (Murray)
2. Oxford Mining Co., LLC	Ohio	3.4	Oxford Mining Co., LLC (Westmoreland)
3. Coal-Mac	West Virginia	2.6	Arch Coal, Inc.
4. Miller Creek	West Virginia	2.1	CONSOL of Kentucky
5. Somerville Central	Indiana	2.1	Peabody Energy Subsidiary
6. Mountain Laurel	West Virginia	1.9	Arch Coal, Inc.
7. Lone Mountain	Kentucky	1.6	Arch Coal, Inc.

Notes: Figures are rounded. 2015 data compiled from 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.

<sup>1/</sup>A multimine complex is a mine operation that processes production from more than one mine.

**TABLE 5**  
**Major Holders of U.S. Coal Reserves - 2015**  
**(Billion Short Tons)**

<b>Holder</b>	<b>Estimated Reserves</b>
1. U.S. Government	84.000
2. Great Northern Properties Limited Partnership	20.000
3. Peabody Energy Corporation	5.475
4. CONSOL Energy Inc.	3.047
5. The Cline Group (Foresight Energy/Coalfield Transport) <sup>1/</sup>	3.000
6. Alpha Natural Resources, LLC	2.350
7. North American Coal Corporation	2.000
8. Murray Energy Corporation	2.000
9. Natural Resource Partners LP	1.820
10. Alliance Resource Partners <sup>2/</sup>	1.800
11. Pocahontas Land Corporation (Norfolk Southern)	1.640
12. Arch Coal, Inc.	1.483
13. Cloud Peak Energy, Inc.	1.100
14. Kentucky River Properties LLC	0.982
15. Penn Virginia Resource Partners, LP	0.784
16. Luminant Mining Company (Energy Future Holdings)	0.710
17. Usibelli Coal Mine, Inc.	0.700
18. BNI Coal, LTD	0.640
19. Armstrong Energy Corporation <sup>1/</sup>	0.554
20. Westmoreland Coal Company	0.521
21. Rosebud Mining Company	0.485
22. Prairie State Energy Company <sup>1/3/</sup>	0.394
23. Rhino Energy LLC	0.364
24. Western Fuels Association, Inc.	0.310
25. Signal Peak Energy, LLC (Boich/FirstEnergy/Gunvor) <sup>3/</sup>	0.285
26. Kiewit Mining Group, Inc.	0.276
27. Dolet Hills Lignite Company (AEP)	0.270
28. Walter Energy Company	0.270
29. Lighthouse Resources Inc. (Resource Capital Funds) <sup>1/</sup>	0.250
30. Black Hills Corporation (Wyodak Resources)	0.204
31. Sunrise Coal Company (Hallador)	0.154
32. Metinvest BV (United Coal Co.) <sup>1/</sup>	0.130
33. Western Pocahontas Properties	0.122
34. ArcelorMittal <sup>1/</sup>	0.108
35. Interwest Mining Company (PacifiCorp)	0.100
36. Western Fuels - Colorado (WFC), LLC (WFC/Tri-state)	0.088
37. Drummond Company, Inc.	0.084
38. Solar Sources, Inc.	0.023
39. Trapper Mining Inc.	0.019
40. Vigo Coal Company, Inc. <sup>1/</sup>	0.017
Coronado Coal LLC	N/A
Bowie Resource Partners, LLC	N/A
Navajo Transitional Energy Co. (NTEC)	N/A
Black Hawk Coal, LLC	N/A
Booth Energy Group	N/A
Revelation Energy, LLC	N/A
Dana Mining Company (GenPower Holdings LP)	N/A
Knight Hawk Coal, LLC (Bunn)	N/A
Ranger Energy (Justice II)	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 invited to submit data for the next edition. \* U.S. Government total is an NMA 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 256 billion short tons (Energy Information Adm.)

N/A = Not Available. Reserves are estimated proven & probable. 1/ Company website and/or other public sources.

2/ includes tons leased to White Oak Res. 3/ Estimated from 2014 figures.

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