Domestic Coal

Statistics and Commentary
U.S. Coal Production by Basin (million tons)

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>% Change YoY</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAPP</td>
<td>19</td>
<td>17</td>
<td>13</td>
<td>10</td>
<td>(23.1%)</td>
</tr>
<tr>
<td>CAPP</td>
<td>128</td>
<td>117</td>
<td>91</td>
<td>67</td>
<td>(26.4%)</td>
</tr>
<tr>
<td>NAPP</td>
<td>125</td>
<td>132</td>
<td>115</td>
<td>102</td>
<td>(11.3%)</td>
</tr>
<tr>
<td>ILB</td>
<td>132</td>
<td>137</td>
<td>123</td>
<td>98</td>
<td>(20.3%)</td>
</tr>
<tr>
<td>PRB</td>
<td>416</td>
<td>421</td>
<td>399</td>
<td>314</td>
<td>(21.3%)</td>
</tr>
<tr>
<td>Other</td>
<td>164</td>
<td>172</td>
<td>154</td>
<td>138</td>
<td>(10.4%)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>984</td>
<td>996</td>
<td>895</td>
<td>729</td>
<td>(18.5%)</td>
</tr>
</tbody>
</table>

SOURCE: Energy Information Administration (EIA); National Mining Association (NMA), Energy Ventures Analysis
## Projected Domestic Thermal Pricing

<table>
<thead>
<tr>
<th>OTC Index</th>
<th>2017 Projections</th>
<th>Calendar Year Projections</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>April</td>
<td>May</td>
</tr>
<tr>
<td><strong>Powder River Basin (PRB)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8800 0.8</td>
<td>$11.80</td>
<td>$11.75</td>
</tr>
<tr>
<td>8400 0.8</td>
<td>$9.20</td>
<td>$9.20</td>
</tr>
<tr>
<td><strong>Central Appalachia (CAPP)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nymex 12000 1.7</td>
<td>$55.25</td>
<td>$55.25</td>
</tr>
<tr>
<td>CSX 12500 1.6</td>
<td>$52.00</td>
<td>$51.25</td>
</tr>
<tr>
<td>NS 12500 1.6</td>
<td>$56.00</td>
<td>$56.00</td>
</tr>
<tr>
<td><strong>Northern Appalachia (NAPP)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MGA Rail 13000 4.0/4.5</td>
<td>$48.50</td>
<td>$48.50</td>
</tr>
<tr>
<td>Mon Rvr 13000 4.8</td>
<td>$42.25</td>
<td>$42.25</td>
</tr>
</tbody>
</table>

SOURCE: Per Coaldesk publication as of 3/31/2017
Historical Metallurgical Coal Pricing

SOURCE: Platts as of April 4, 2017
2017: Year of Evolving Energy Policy

Announced coal-related action that has already begun

REPEAL
Stream Protection Rule

RESCIND
Clean Power Plan

REVOKE
Coal Leasing Moratorium

Pledged action yet to come

RESCIND
Waters of the U.S.

ADDRESS
U.S. Involvement in Paris Climate Agreement

SOURCE: www.whitehouse.gov
Policy Impacts to Coal Industry

**REPEALING STREAM PROTECTION RULE**

Annual value of coal lost to the rule’s restrictions would have been between $14-29 Billion

Under the final rule, the recovery of demonstrated coal reserves (both surface and underground) was estimated to decrease by up to 64%.

**RESCINDING CLEAN POWER PLAN**

Rescinding the Clean Power Plan preserves 240 million tons of annual coal production.

If implemented, the CPP could have prematurely forced an additional 25% of coal generation capacity off the grid, enough to power 24 million homes.

**REVOKING COAL LEASING MORATORIUM**

In fiscal year 2012 alone, the current federal coal leasing program generated $1.2 billion in revenue to federal and state governments.

Potential impacts from the coal leasing moratorium and associated PEIS process included increased royalty rates and delayed permitting decisions, thereby increasing costs of producing coal on federal lands despite federal royalty rates being 30 - 65% higher than prevailing rates for private coal.

SOURCE: Count on Coal; Energy Information Agency (EIA); National Mining Association (NMA); U.S. Government Accountability Office (GAO); www.ourenergypolicy.org
Technology Continues to Advance… Slowly

- Conceptual design for Mississippi Power’s Kemper County Energy Facility began in 2008, with earthwork beginning in 2010.

- A number of delays have postponed the plant’s scheduled operation and production dates (now expected in the first half of 2016) and added significant cost to the project.

- Initial 2004 forecasts estimated the project would cost $2.2 billion, but ten years later, Mississippi Power’s October 2014 public filing estimates the total project cost at $6.1 billion, nearly triple original estimates.

SOURCE: Mississippi Power
Technology Continues to Advance… Slowly

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SOURCE: Associated Press: Mississippi Power: Another Month, Another $99M for Kemper
Commitment to high-efficiency, low-emissions coal technology has become a priority for several countries and a critical part of their pledges made for the Paris Climate Agreement.
Global Coal

Statistics and Commentary
U.S. Coal Exports and Imports Timeline


SOURCE: Energy Information Administration (EIA)
U.S. Coal Export Districts and Destinations

U.S. coal exports from selected customs districts, 2016

million short tons

- Norfolk, Virginia
- Baltimore, Maryland
- Mobile, Alabama
- New Orleans, Louisiana
- Cleveland, Ohio
- Laredo, Texas
- San Francisco, California
- Buffalo, New York
- all other districts

destination
- Europe
- Asia
- North America
- South America
- Caribbean and Central America
- Africa
- Australia and Oceania

change from 2015

SOURCE: Energy Information Administration (EIA)
Projected Global Coal Demand (million tonnes)

SOURCE: Wood Mackenzie Global Coal Markets Tool
Influences on the Global Coal Market

China’s Workday Rules

Cyclone Debbie in Australia

Climate Change Policies

Inelasticity of U.S. Supply

SOURCE: Reuters; European Pressphoto Agency; kwest - Shutterstock
Weather Update: Cyclone Debbie