EIA’s Final Release Annual Energy Outlook 2012: Focus on U.S. coal distribution changes through 2035

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Rail Energy Transportation Advisory Committee to the Surface Transportation Board
September 20, 2012 | Washington, D.C.
Energy Information Administration

• Statistical and analytical agency within the U.S. Department of Energy

• Produces monthly short-term and annual long-term projections

• Produces special analyses of emerging issues and regulatory changes

• EIA’s analyses and projections are independent, by law, and should not be seen as representing the views of the Department of Energy, the Administration, or any other organization.
Overall results from the AEO2012 Reference case, which assumes current laws remain unchanged

- Projected growth of energy use slows over the projection period reflecting an extended economic recovery and increasing energy efficiency in end-use applications
- Domestic crude oil production increases, reaching levels not experienced since 1994 by 2020
- Natural gas production increases throughout the projection period and exceeds consumption early in the next decade
- Renewables and natural gas fuel a growing share of electric power generation
- Total U.S. energy-related carbon dioxide emissions remain below their 2005 level through 2035
Key factors affecting the outlook for coal

• sustained low natural gas prices

• higher coal prices

• slow growth in electricity demand

• implementation of Mercury and Air Toxics Standards (MATS) and Cross-State Air Pollution Rule (CSAPR)

• Renewable portfolio standards
Coal consumption by sector, 1970-2035

Electricity Generation by Fuel, 1980-2035

Note: Includes generation from plants in both the electric power and end-use sectors.

Source: History: U.S. Energy Information Administration (EIA), Annual Energy Review;
Average Delivered Price of Coal and Natural Gas to the Electric Power Sector, 1980-2035

2010 dollars per million Btu

History | Projections
---|---

Short Term Energy Outlook, September 2012

Coal-fired generating capacity in the electric power sector by coal demand region, 2010 and 2035

Overall coal supply – general trends

million short tons

- Alaska/Washington
- Arizona/New Mexico
- Rocky Mountain
- Western Wyoming
- Wyoming PRB
- Western Montana
- Dakota Lignite
- Gulf Lignite
- Western Interior
- Eastern Interior
- Southern Appalachia
- Central Appalachia
- Northern Appalachia

Annual Energy Outlook 2012 (final publication)
Coal Exports by region, 2010-2035

Projections: EIA, Annual Energy Outlook 2012, Reference Case
Coal Seaborne Import Demand for China, 2010-2035

Source: EIA, Annual Energy Outlook 2012, Reference Case
Coal Seaborne Import Demand for India, 2010-2035

million short tons

India coking coal
India thermal coal

### Demand regional definitions used in this presentation

<table>
<thead>
<tr>
<th>Region 1</th>
<th>Region 2</th>
<th>States</th>
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</thead>
<tbody>
<tr>
<td>Midwest</td>
<td>East North Central</td>
<td>Illinois, Indiana, Michigan, Ohio, Wisconsin</td>
</tr>
<tr>
<td></td>
<td>West North Central</td>
<td>Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota</td>
</tr>
<tr>
<td>South</td>
<td>South – East of the Mississippi</td>
<td>Delaware, District of Colombia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia, Alabama, Kentucky, Mississippi, and Tennessee</td>
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<tr>
<td></td>
<td>South – West of the Mississippi</td>
<td>Arkansas, Louisiana, Oklahoma, and Texas</td>
</tr>
<tr>
<td>West</td>
<td>West</td>
<td>Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming, Alaska, California, Hawaii, Oregon, Washington</td>
</tr>
</tbody>
</table>
Wyoming Powder River supply by destination 2010, 2015, 2035

million short tons

2010

- 119.7 million short tons
- 3.6 million short tons
- 109.5 million short tons
- 21.5 million short tons

Total: 409.9

2015

- 93.5 million short tons
- 96.8 million short tons
- 49.5 million short tons
- 34.9 million short tons
- 0.6 million short tons
- 0.0 million short tons

Total: 382.4

2035

- 155.7 million short tons
- 105.3 million short tons
- 111.4 million short tons
- 53.8 million short tons
- 53.4 million short tons
- 0.2 million short tons
- 0.0 million short tons

Total: 479.9

*excludes coal-to-liquids, waste coal, and lignite

Western Montana (excluding lignite) supply by destination
2010, 2015, 2035

million short tons

2010

- Northeast: 0.2
- East North Central: 0.0
- West North Central: 11.8
- South - East of Mississippi: 14.4
- South - West of Mississippi: 10.4
- West: 2.3
- Exports: 0.0
- Total: 40.9

*2010 includes some lignite

2015

- Northeast: 0.0
- East North Central: 0.0
- West North Central: 9.8
- South - East of Mississippi: 15.2
- South - West of Mississippi: 17.8
- West: 2.0
- Exports: 2.7
- Total: 58.8

*excludes coal-to-liquids, waste coal, and lignite

2035

- Northeast: 2.7
- East North Central: 13.4
- West North Central: 18.5
- South - East of Mississippi: 19.3
- South - West of Mississippi: 21.4
- West: 0.0
- Exports: 0.0
- Total: 77.3

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Washington, DC, September 20, 2012

Rocky Mountain supply by destination 2010, 2015, 2035

million short tons

2010

<table>
<thead>
<tr>
<th>Region</th>
<th>2010</th>
<th>2015</th>
<th>2035</th>
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<tbody>
<tr>
<td>West North Central</td>
<td>8.0</td>
<td>1.5</td>
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<tr>
<td>East North Central</td>
<td>1.7</td>
<td>0.0</td>
<td>0.0</td>
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<tr>
<td>South - East of Mississippi</td>
<td>1.7</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>South - West of Mississippi</td>
<td>0.5</td>
<td>0.5</td>
<td>0.8</td>
</tr>
<tr>
<td>Total</td>
<td>29.6</td>
<td>25.1</td>
<td>19.4</td>
</tr>
</tbody>
</table>

*excludes coal-to-liquids, waste coal, and lignite

Northern Appalachian supply by destination 2010, 2015, 2035

million short tons

2010

- Northeast: 47.3
- East North Central: 32.3
- West North Central: 14.6
- South - East of Mississippi: 0.0
- South - West of Mississippi: 0.0
- West: 0.0
- Exports: 0.0

Total: 130.5

2015

- Northeast: 40.9
- East North Central: 21.4
- West North Central: 57.4
- South - East of Mississippi: 0.0
- South - West of Mississippi: 0.0
- West: 0.0
- Exports: 0.0

Total: 148.7

2035

- Northeast: 31.3
- East North Central: 70.6
- West North Central: 35.7
- South - East of Mississippi: 0.0
- South - West of Mississippi: 0.0
- West: 0.0
- Exports: 0.0

Total: 181.6

*excludes coal-to-liquids, waste coal, and lignite


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Central Appalachia supply by destination 2010, 2015, 2035

million short tons

2010

Northeast: 42.3
Midwest: 7.9
South: 25.9
Total: 112.4
Total: 199.6

2015

Northeast: 47.7
Midwest: 8.9
South: 16.6
Total: 58.7
Total: 131.8

2035

Northeast: 6.8
Midwest: 6.8
South: 40.3
Total: 47.7
Total: 88.5


*excludes coal-to-liquids, waste coal, and lignite

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Southern Appalachian supply by destination 2010, 2015, 2035

million short tons

2010

- South - East of Mississippi: 9.4
- Exports: 10.2
Total: 19.6

2015

- South - East of Mississippi: 14.0
- Exports: 5.4
Total: 19.5

2035

- South - East of Mississippi: 6.6
- Exports: 14.8
Total: 21.4

*excludes coal-to-liquids, waste coal, and lignite


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Eastern Interior supply by destination 2010, 2015, 2035

million short tons

**2010**
- Total: 113.3
- Northeast: 54.3
- East North Central: 50.4
- West North Central: 2.8

**2015**
- Total: 107.1
- Northeast: 50.4
- East North Central: 44.6
- West North Central: 9.8
- South - East of Mississippi: 0.0
- South - West of Mississippi: 0.0
- West: 2.2

**2035**
- Total: 133.2
- Northeast: 84.2
- East North Central: 30.1
- West North Central: 16.6
- South - East of Mississippi: 2.2
- South - West of Mississippi: 0.0
- West: 0.0
- Exports: 0.0

*excludes coal-to-liquids, waste coal, and lignite


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