West Virginia Energy Inventory
Energy Overview: Total Electric Industry Generation

- In 2020, WV generated 56,482,899 MWh:
  - Coal Fired - 88.9%
  - Gas Fired - 4.9%
  - Hydroelectric - 2.8%
  - Wind - 3.4%
    - U.S. Energy Information Administration, State Historical Tables (2020)

- Not included:
  - Biomass - 6,457 MWh
  - Petroleum - 142,408 MWh
  - Other Gases - 46,561 MWh
  - Battery Storage - 16,791 MWh
## Table 1: West Virginia Power Plants with Capacity Greater than 100 MW

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Power Source(s)</th>
<th>Sector</th>
<th>Net Summer Capacity (MW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>John E Amos</td>
<td>Coal</td>
<td>Regulated Utility</td>
<td>2,900</td>
</tr>
<tr>
<td>Harrison</td>
<td>Coal</td>
<td>Regulated Utility</td>
<td>1,954</td>
</tr>
<tr>
<td>Mt. Storm</td>
<td>Coal</td>
<td>Regulated Utility</td>
<td>1,640</td>
</tr>
<tr>
<td>Pleasants</td>
<td>Coal</td>
<td>Independent Power Producer</td>
<td>1,368</td>
</tr>
<tr>
<td>Mitchell</td>
<td>Coal</td>
<td>Regulated Utility</td>
<td>1,560</td>
</tr>
<tr>
<td>Mountaineer</td>
<td>Coal</td>
<td>Regulated Utility</td>
<td>1,299</td>
</tr>
<tr>
<td>Fort Martin</td>
<td>Coal</td>
<td>Regulated Utility</td>
<td>1,098</td>
</tr>
<tr>
<td>Longview</td>
<td>Coal</td>
<td>Independent Power Producer</td>
<td>710</td>
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<tr>
<td>Ceredo</td>
<td>Natural Gas</td>
<td>Regulated Utility</td>
<td>450</td>
</tr>
<tr>
<td>Pleasants Energy</td>
<td>Natural Gas</td>
<td>Independent Power Producer</td>
<td>344</td>
</tr>
<tr>
<td>Big Sandy</td>
<td>Natural Gas</td>
<td>Independent Power Producer</td>
<td>300</td>
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<tr>
<td>NedPower Mt. Storm</td>
<td>Wind</td>
<td>Independent Power Producer</td>
<td>264</td>
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<tr>
<td>Laurel Mountain</td>
<td>Wind, Batteries</td>
<td>Independent Power Producer</td>
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<tr>
<td>New Creek Wind</td>
<td>Wind</td>
<td>Independent Power Producer</td>
<td>103</td>
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<tr>
<td>Beech Ridge</td>
<td>Wind</td>
<td>Independent Power Producer</td>
<td>101</td>
</tr>
</tbody>
</table>

Source: US Energy Information Administration

- West Virginia University
Bureau of Business and Economic Research
In 2020, independent power producers generated 15,878,340 MWh:

- Coal Fired - 65.4%
- Gas Fired - 16.7%
- Hydroelectric - 5.9%
- Wind - 12.0%

U.S. Energy Information Administration, State Historical Tables (2020)
In 2020, electric utilities generated 40,783,193 MWh:

- Coal Fired - 98.1%
- Gas Fired - 1.6%
- Hydroelectric - 0.3%

- Electric Utility is a power company, regulated by the PSC, servicing customers with end use electrical power

U.S. Energy Information Administration, State Historical Tables (2020)
Energy Overview: Electric Utility Generation

Electric Utilities

- 7 Private
  - Appalachian Power Co. / AEP
  - Monongahela Power Co. / Allegheny Power
  - Potomac Edison Co. / Allegheny Power
  - Wheeling Power Company / AEP
  - Black Diamond Power Co.
  - Craig-Botetourt Electric Cooperative
  - Harrison Rural Electrification Association, Inc.
- 2 Public
  - New Martinsville
  - Philippi

Total ultimate consumption MWh available in 2020: 32,093,201
Net Capacity Factor (NCF)

Total MWh produced ÷ Total MWh producible at full capacity
Energy Overview - Capacity & Production

Power Plants

- Hydro (12)
- Coal (9)
- Wind (6)
- Gas (5)
Energy Overview - COAL

Dashboard ID: 12232
Longview Power
Utility: Longview Power, LLC
Distributor: Monongahela Power Company
COAL: 807.50 MW

Dashboard ID: 12235
Mitchell (WV)
Utility: Kentucky Power Co
Distributor: Ohio Power Co
COAL: 1,632.60 MW

Dashboard ID: 12239
Mount Storm Power Station
Utility: Virginia Electric & Power Co
Distributor: Virginia Electric & Power Co
COAL: 1,680.90 MW

Dashboard ID: 12240
Mountaineer (1301)
Utility: Appalachian Power Co
Distributor: Appalachian Power Co
COAL: 1,300.00 MW

Dashboard ID: 12251
Pleasant's Power Station
Utility: Energy Harbor Generation LLC
Distributor: West Penn Power Company
COAL: 1,368.00 MW

Dashboard ID: 12446
Fort Martin Power Station
Utility: Monongahela Power Co
Distributor: Monongahela Power Co
COAL: 1,152.00 MW

Dashboard ID: 12449
Grant Town Power Plant
Utility: American Bituminous Power LP
Distributor: Monongahela Power Co
COAL: 95.79 MW

Dashboard ID: 12450
Harrison Power Station
Utility: Monongahela Power Co
Distributor: West Penn Power Company
COAL: 2,062.00 MW

Dashboard ID: 12452
John E. Amos
Utility: Appalachian Power Co
Distributor: Appalachian Power Co
COAL: 2,932.60 MW
Coal Impact

- Largest energy employer
- Cheaper than PJM prices
- 2022 projected to mine 81.6 M tons
- Opportunities to increase exports
## West Virginia Energy Industry Employment
### First Quarter 2022

<table>
<thead>
<tr>
<th>NAICS</th>
<th>NAICS Title</th>
<th>Establishments</th>
<th>Average Monthly Employment</th>
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<tbody>
<tr>
<td>21112</td>
<td>Crude Petroleum Extraction</td>
<td>24</td>
<td>72</td>
</tr>
<tr>
<td>21113</td>
<td>Natural Gas Extraction</td>
<td>114</td>
<td>1,666</td>
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<tr>
<td>21211</td>
<td>Coal Mining</td>
<td>172</td>
<td>11,902</td>
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<tr>
<td>21231</td>
<td>Stone Mining and Quarrying</td>
<td>29</td>
<td>628</td>
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<tr>
<td>21232</td>
<td>Sand, Gravel, Clay, and Ceramic and Refractory Minerals Mining and Quarrying</td>
<td>6</td>
<td>149</td>
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<tr>
<td>21311</td>
<td>Support Activities for Mining</td>
<td>321</td>
<td>3,871</td>
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<td>22111</td>
<td>Electric Power Generation</td>
<td>77</td>
<td>2,503</td>
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<td>22112</td>
<td>Fossil Fuel Electric Power Generation</td>
<td>51</td>
<td>2,299</td>
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<tr>
<td></td>
<td>Non Fossil Fuel Electric Power Generation (Summary of Wind, Solar, Geothermal, Hydroelectric)</td>
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<td></td>
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<tr>
<td>22112</td>
<td>Electric Power Transmission, Control, and Distribution</td>
<td>72</td>
<td>1,219</td>
</tr>
<tr>
<td>22121</td>
<td>Natural Gas Distribution</td>
<td>63</td>
<td>828</td>
</tr>
</tbody>
</table>

Source: Workforce West Virginia
Energy Overview - GAS
Energy Overview - GAS

- WV has 47,934 producing wells, 10% of nation’s total
- Reframe proximity to feedstock as more important than access to cheap labor to attract dependent businesses
  - Central Appalachia is the most profitable place in the world for a petrochemical plant
Energy Overview - GAS

Profitability: Plastics Converter Cost Advantage

Ohio vs. China Cost of Manufacturing & Transportation

MID TO LARGE Sized PRODUCTS

Cost Comparison

Transportation  Labor  Materials  Other

Ohio  China  Ohio  China

Window Shutter  Child's Booster Seat  Plastic Pallet

Other: Equipment, Maintenance, Electricity, Lease, Packaging, Working Capital

Monthly dry shale gas production

Data source: Graph by the U.S. Energy Information Administration (EIA) based on data collected by EIA's official estimates, but not survey data. State abbreviations indicate primary state(s).

Note: Improvements to play identification methods have altered production volumes of various plays.
Energy Overview: The Grid - Transmission Lines & Substations
Un-Tapped Energy Sources & Uses

- **Hydrogen Hub**
  - Proposal submitted, waiting for comments

- **Nuclear (NCF 92.7%)**
  - End to nuclear ban, small modular reactors of interest during interim committee meetings, IIJA incentives

- **Geothermal (NCF 71%)**
  - Clean energy available on-demand, low production cost, difficult to find supply and proper locations for plants

- **Biomass (NCF 63.5%)**
  - Abundant resource, reduces waste, produces emissions, rural economic development