Two Distinct Coal Regions:

-Northern Appalachia
- Highest BTU Thermal Coal
- High Volatile Met Coal
- Mid Volatile Met Coal

-Central Appalachia
- High Volatile Met Coal
- Mid Volatile Met Coal
- Low Volatile Met Coal
- PCI Coal
- Low Sulfur Thermal Coal
- Low Sulfur Industrial Coal
Basics

- 2nd Largest Coal Producing State (80.8m tons)
- Largest Coal Employment State (49,918)
- Largest Underground Coal Producer (65.9m tons)
- Largest Coal Exporting State (29.6m tons)
- Largest Metallurgical Coal Producer (34m tons)
- Largest Supplier of Met Coal to Domestic Steel Industry (12m tons)
- Largest Longwall Mining State (9 Longwall Systems at 8 Mines)
Basics

Production

• Underground: 65.9m Tons
• Surface: 14.9m Tons

Employment

• Underground: 8,833
• Surface: 2,480
• Coal Prep /Handling: 1,753
• Direct Contractors: 36,259
• Total: 49,325
West Virginia Coal Production: 2016-2021

<table>
<thead>
<tr>
<th>Year</th>
<th>Domestic Thermal</th>
<th>Domestic Met</th>
<th>Export Thermal</th>
<th>Export Met</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>17,467,800</td>
<td>11,867,000</td>
<td>47,865,000</td>
<td>0</td>
</tr>
<tr>
<td>2017</td>
<td>12,301,157</td>
<td>12,447,906</td>
<td>47,174,737</td>
<td>0</td>
</tr>
<tr>
<td>2018</td>
<td>13,006,709</td>
<td>13,006,709</td>
<td>46,192,782</td>
<td>0</td>
</tr>
<tr>
<td>2019</td>
<td>14,483,874</td>
<td>14,483,874</td>
<td>48,000,239</td>
<td>0</td>
</tr>
<tr>
<td>2020</td>
<td>18,027,866</td>
<td>11,440,000</td>
<td>33,622,537</td>
<td>0</td>
</tr>
<tr>
<td>2021</td>
<td>21,941,389</td>
<td>12,256,261</td>
<td>38,959,328</td>
<td>0</td>
</tr>
</tbody>
</table>
West Virginia Coal Production 2021:
Region

- Northern Appalachia: 46,756,067 (58%)
- Central Appalachia: 34,096,366 (42%)
West Virginia Coal Production 2021: 
*Thermal / Met*

- **Thermal**: 34,197,650, 42%
- **Metallurgical**: 46,654,783, 58%
West Virginia Coal Production 2021:

Underground / Surface

- Underground: 14,011,209 (17%)
- Surface: 66,841,224 (83%)

Legend:
- Underground
- Surface
West Virginia Coal Production 2021:

Mining Method

- Longwall: 45,785,200 (57%)
- Continuous Miner: 21,056,024 (26%)
- Surface: 14,011,209 (17%)

Legend:
- Blue: Longwall
- Red: Continuous Miner
- Green: Surface
West Virginia Coal Production 2021

- Domestic Thermal: 38,959,328 (48%)
- Domestic Met: 12,256,261 (15%)
- Export Thermal: 7,695,455 (10%)
- Export Met: 21,941,389 (27%)

Legend:
- Domestic Thermal
- Domestic Met
- Export Thermal
- Export Met
West Virginia Thermal Coal

• 58% of State Production:

(W.Va. Best Quality Thermal Coal in The World: Highest BTU / Lowest Sulfur

-Domestic Thermal: 48% of Production: 38.9m tons to 41 Plants in 15 States; 18m tons to 8 Plants in W.Va.

-Export Thermal: 10% of Production: 7.6m tons to 23 Countries

  -High BTU value of W.Va. Coal + Low Emissions=
  *very valuable commodity*

  -Europe, Japan, India, South Korea
West Virginia Coal Fired Power Plants

- True Assets: Baseload Generation, Grid Security, Resiliency
- Energy Protection: Severe Weather, Mischief
- Secure Cheap, Reliable Power for West Virginia Citizens
Figure 1: Economic Impact of Coal Mining and Coal-Fired Power Generation in West Virginia

<table>
<thead>
<tr>
<th>Type of Impact</th>
<th>Direct</th>
<th>Indirect and Induced</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output ($, billions)</td>
<td>9.4</td>
<td>4.5</td>
<td>13.9</td>
</tr>
<tr>
<td>Employment (thousand jobs)</td>
<td>15.4</td>
<td>17.9</td>
<td>33.3</td>
</tr>
<tr>
<td>Employee Compensation ($, billions)</td>
<td>1.8</td>
<td>1.1</td>
<td>2.8</td>
</tr>
<tr>
<td>State &amp; Local Tax Revenue ($, millions)</td>
<td>--</td>
<td>--</td>
<td>611.3</td>
</tr>
</tbody>
</table>

Notes: Output, Employee Compensation, and Taxes are measured in 2019 dollars. Tax impact includes severance, sales, personal income, property, and corporation net income taxes.
• Nine Power Plants in Eight Counties

• 132 Coal Mines in 22 Counties

-74 Surface Mines
-58 Underground Mines
Economic Outreach Throughout West Virginia

$400 Million Economic Impact

Reaching Businesses In 19 Counties Throughout West Virginia

1) Internal station data
2) Dr John Deskins testimony to the WVPSC
Impact on the State of West Virginia

600 JOBS

149 Local
266 Regional
185 West Virginia

Coal

3 Million Tons of Coal

70% mined by UMWA miners at Marshall and Ohio County mines

Union Jobs

155,000 Peak Labor Hours for Local Union Construction Trades

State’s 2nd & 4th Newest Units

Longview 1  2011
Peasants 2  1980
Mountaineer 1  1980
Pleasants 1  1979
Harrison 3  1974
John Amos 3  1973
Harrison 2  1973
Mount Storm 3  1973
John Amos 2  1972
Harrison 1  1972
Mitchell 1&2  1971
John Amos 1  1971
Fort Martin 2  1968
Fort Martin 1  1967
Mount Storm 2  1966
Mount Storm 1  1965

Capacity

9% of WV power generation, the state’s 6th largest plant

Reliability

65 days of onsite coal

$400 Million in economic impact

Resiliency

92% Capacity Factor, 400,000 MWh produced, and 770,000 homes powered during 2021 bomb cyclone
• 830 Registered Contracting Firms

• 50 Counties

• 36,259 Employees
<table>
<thead>
<tr>
<th>State</th>
<th>% Domestic Thermal</th>
<th>% Export Thermal</th>
<th>% Total U.S. Thermal</th>
</tr>
</thead>
<tbody>
<tr>
<td>WY</td>
<td>50%</td>
<td>20%</td>
<td>54%</td>
</tr>
<tr>
<td>W.Va.</td>
<td>8%</td>
<td>20%</td>
<td>9%</td>
</tr>
<tr>
<td>PA</td>
<td>5%</td>
<td>24%</td>
<td>8%</td>
</tr>
<tr>
<td>IL</td>
<td>7%</td>
<td>22%</td>
<td>8%</td>
</tr>
<tr>
<td>KY</td>
<td>5%</td>
<td>3%</td>
<td>4%</td>
</tr>
<tr>
<td>IN</td>
<td>4%</td>
<td>2%</td>
<td>3%</td>
</tr>
<tr>
<td>ND</td>
<td>4%</td>
<td>1%</td>
<td>3%</td>
</tr>
<tr>
<td>MT</td>
<td>3%</td>
<td>1%</td>
<td>3%</td>
</tr>
<tr>
<td>TX</td>
<td>2%</td>
<td>0%</td>
<td>2%</td>
</tr>
<tr>
<td>Other States</td>
<td>13%</td>
<td>8%</td>
<td>7%</td>
</tr>
</tbody>
</table>
West Virginia Met Coal

• 42% of State Production: (W.Va. Can Supply All Four Types of Met Coal)

-12m tons to Domestic Steel Producers

*Every Blast Furnace & Coke Oven in North America Receives W.Va. Met Coal*

*Largest Supplier of Met Coal to Domestic Steelmakers (69%)*

-21.9m tons to 36 Countries

(48% of U.S. Export Met Production Comes from W.Va.)

-*China*, Europe, South America, South Korea, Japan, India, Canada, Mexico

-55% of Total U.S. Met Production Comes From W.Va.
<table>
<thead>
<tr>
<th>State</th>
<th>% Domestic Met</th>
<th>% Export Met</th>
<th>% Total U.S. Met</th>
</tr>
</thead>
<tbody>
<tr>
<td>W.Va.</td>
<td>69%</td>
<td>51%</td>
<td>55%</td>
</tr>
<tr>
<td>VA</td>
<td>8%</td>
<td>17%</td>
<td>12%</td>
</tr>
<tr>
<td>AL</td>
<td>10%</td>
<td>17%</td>
<td>14%</td>
</tr>
<tr>
<td>PA</td>
<td>8.4%</td>
<td>10%</td>
<td>9%</td>
</tr>
<tr>
<td>KY</td>
<td>1.60%</td>
<td>1%</td>
<td>2%</td>
</tr>
<tr>
<td>UT</td>
<td>1%</td>
<td>2%</td>
<td>4%</td>
</tr>
<tr>
<td>CO</td>
<td>1%</td>
<td>1%</td>
<td>3%</td>
</tr>
<tr>
<td>MD</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
</tr>
</tbody>
</table>
Opportunities

• Energy Shortage (Domestic / International)

• Exports (+10-15m tons):
  - Europe: Replace 45m tons of Russian Coal

• Domestic
  - In State Power Plants (+10m tons)
  - Implementation of Federal Infrastructure Bill (Met Coal +10m tons)
Challenges

- ESG Interference (Lending)
- Equipment
- Manpower
- Transportation
- Supply Chain
- Federal Anti-Coal Policies
“Once in a Lifetime Opportunity”

• **World’s Fuel of Choice**
  - Highest Quality Coal

• Skyrocketing Demand

• Set of Challenges We’ve Never Confronted

• No Other State Stands to Gain or Lose More than West Virginia

• **Begs for State Involvement**
WV Public Energy Authority

• Foster and Encourage Coal Development
• Secure WV’s Role as Energy Powerhouse
• Develop Intimate Knowledge of State Coal Fleet
• Coordinate Output of Merchant Plants w/ Regulated Fleet
• Develop Next Generation of Coal Plants
• Design Long-Term Energy Policy: All WV Resources and Assets
• Develop strong state presence in energy forums.
• Defend states fossil energy portfolio and contributions to US by focusing on advantages of baseload power, national security and defense.
• Develop energy educational program to arm our elected officials with energy facts and science
• Serve as resource multiplier for execution of Governor Justice’s energy initiatives.
• Has current authority to become involved in gas transmission pipeline projects.
• Engages with States utility operators for better pulse on fuel switching, operational status, etc.
• can help stabilize our industrial, power generating and manufacturing assets as we research and consider innovative carbon capture technologies,”
• Both major state utilities have announced their intentions to transition away from fossil energy. PEA should examine the feasibility and desirability for the State of West Virginia to acquire a percentage of equity or ownership in the in-state regulated utilities. (Several states have similar plans: Nebraska and Illinois are two prominent examples).
WV Public Energy Authority

- Monitor existing Plant Operation and assess needs
- Interact with State utilities
- promote and foster greater expansion of West Virginia’s coal and power industries;
- develop short- and long-term energy plans;
- represent the state in regional and nationwide energy forums;
- construct new coal plants and gas transmission projects; and
- facilitate purchase power agreements between state merchant plants and regulated plants to keep rates consistent and low for state consumers.
- Entertain Clean Coal and Alternative Coal Use Proposals
- Direct research projects related to energy production
*Immediate Needs*

- Sale of Pleasants Plant
- Ownership of Mitchell Plant
- Fuel Inventory at In-State Plants
- Knowledge of PSC Proceedings
- Strategic Planning
- FERC Stockpile Conservation Orders
- NERC Report: Power Shortages / Blackouts
- Next Round of EPA Rules and Regs
Coal is Clearly Part of WV’s Future

• Coal Plants Will Run for Another 20-30 Years
• Reliable, Secure, Cost-Competitive Electric System
• Great Reserve Base, Established Infrastructure
• One of the World’s Most Desired Commodities
• Advanced Mining Systems and Processes, World Class Workforce
• Preserve and Protect Coal Generation, Coal Jobs, Taxes and Revenue Stream