West Virginia Coal: 2022 & Beyond



Chris Hamilton President West Virginia Coal Association *May 25, 2022*

Reserves / Quality

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
 <u>Employment</u>
- Underground:
- Surface:
- Coal Prep /Handling:
- Direct Contractors:
- Total:

8,833 2,480 1,753 36,259 *49,325*





West Virginia Coal Production: 2016-2021

120,000,000









West Virginia Coal Production 2021: Mining Method





West Virginia Thermal Coal

• 58% of State Production:

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

-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

Type of Impact	Direct	Indirect and Induced	Total
Output <mark>(</mark> \$, billions)	9.4	4.5	13.9
Employment (thousand jobs)	15.4	17.9	33.3
Employee Compensation (\$, billions)	1.8	1.1	2.8
State & Local Tax Revenue (\$, millions)			611.3



- Nine Power Plants in Eight Counties
- 132 Coal Mines in 22 Counties
- -74 Surface Mines-58 Underground Mines

Economic Outreach Throughout West Virginia



Internal station data

2) Dr John Deskins testimony to the WVPSC

Impact on the State of West Virginia



Capacity

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



UMWA miners at Marshall and Ohio County mines

Union Jobs

155,000 Peek 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

Reliability









Million in **S400** economic impact

Resiliency

92% Capacity Factor, 400,000 MWh produced, and 770,000 homes powered during 2021 bomb cyclone

Dr John Deskins testimony to the WVPSC 2) Internal station data

3) eia state data tables

Marshall report on the effect of the Clean Power Plan 5)

EPA scrubber retrofit data



- 830 Registered Contracting Firms
- 50 Counties
- 36,259 Employees

U.S. Thermal Coal Production

State	% Domestic Thermal	% Export Thermal	% Total U.S. Thermal
WY	50%	20%	54%
W.Va.	8%	20%	9%
PA	5%	24%	8%
IL	7%	22%	8%
КҮ	5%	3%	4%
IN	4%	2%	3%
ND	4%	1%	3%
MT	3%	1%	3%
ТХ	2%	0%	2%
Other States	13%	8%	7%

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.

U.S. Metallurgical Coal Production

State	% Domestic Met	% Export Met	% Total U.S. Met
W.Va.	69 %	51%	55%
VA	8%	17%	12%
AL	10%	17%	14%
PA	8.4%	10%	9%
КҮ	1.60%	1%	2%
UT	1%	2%	4%
со	1%	1%	3%
MD	1%	1%	1%

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

WV Public Energy Authority

- 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







