

Renewable Energy as Economic Opportunity in WV

Overview

- The Opportunity before the Inflation Reduction Act (IRA)
- IRA's Expansion of the Opportunity
- Site-Specific Considerations
- Q&A

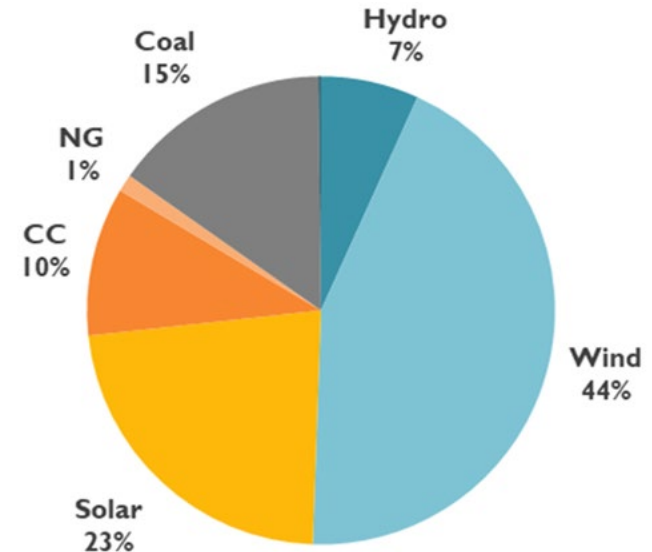
Background

- From Buckhannon
- Policy nerd since middle school
- College in DC
- Worked in renewables policy in DC during early Obama Administration
- Law school in California
- Renewable energy project development and finance from 2014-2021
- WVU fellowship from 2020-2022
- US DOE from 2022-2023, focused on coal community reinvestment
- Now at Lunar Energy, launching home electrification and resilience products

The Opportunity before IRA

Even before IRA, economic modeling showed that a major increase of renewable energy use in WV could:

- Be cost-competitive. (4-5% more expensive)
- Diversify the state economy.
- Do this without an adverse impact on jobs or incomes.
- Greatly reduce exposure to future coal and gas fuel cost variability.
- Reduce regional adverse healthcare impacts by \$1.5 to \$3.3 billion.



Potential 2035 Appalachian Power Generation

But we argued WV deserves better than breaking even:

Honor the Contributions of Miners and WV Communities	Secure WV's Role in the New Energy Economy
Guarantee of Miner Pensions and Healthcare	Incentives for Renewable Energy Projects Built in Coal Communities
Job Creation through Full Funding of Remediation and Reclamation, Increased Brownfield Redevelopment Funding	Incentives for Emission-Reducing Manufacturing Facility Investments in Coal Communities
Expanded Investment in Coal Communities through the ARC and EDA	Steering of Emission-Reducing Energy and Industrial RD&D into Coal Communities
Consideration of Relocating the ARC to WV	Continued Investment in NETL (Morgantown)

IRA's Expansion of the Opportunity

Most of those proposals were enacted under IJA and IRA:

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Just taking into account the incentive for building new power plants in WV, we found 80% clean energy would:

- **Cost \$855 million less** through 2040 than the current trajectory.
- Cause a net employment **increase of 3,508 full-time jobs** through 2040.
- Grow total earnings for West Virginia residents by \$172 million annually on average from 2021-2040.
- Cause \$20.9 billion of investment in new power plants in West Virginia, including 10,600 megawatts of solar, 5,300 megawatts of wind, and 4,984 megawatts of energy storage installations through 2040.
- Expand state GDP by \$322 million annually on average from 2021-2040.
- Achieve 79.4 percent emission-free electricity generation by 2030.

The additional incentives for manufacturing in WV would:

- **Catalyze an additional \$1.7 billion in manufacturing investments** in WV.
- **Create 3,250-4,350 manufacturing jobs** in WV, plus 9,300-12,400 jobs created indirectly from the manufacturing investment – on top of the 3,508 jobs discussed on the previous slide.
- **Generate \$610-810 million in additional annual labor income** across all sectors in West Virginia, including \$290-390 million in the state's manufacturing sector.

The projected opportunity is now being realized:

Power Plant Development

Despite energy communities only containing **18.6% of the population**, in the year following IRA's enactment they attracted:

- **56.6% of wind power** plant investment
- **45.5% of storage** plant investment
- **42.5% of solar power** plant investment

Clean Energy Manufacturing

Form Energy

- Broke ground on an energy storage manufacturing facility in Weirton.
- **\$760 million investment** (already representing 44% of amount projected)
- **750 manufacturing jobs** (already 20% of projected amount)

Boston Metal

- IIJA grant for Weirton manufacturing
- **>\$50M investment**
- **200 manufacturing jobs**

Site-Specific Considerations

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Considerations

- Available Resources (land, wind, sunshine)
- On-Site Energy Needs (capacity, dispatchability, heat, etc.)
- Interconnection
- Upfront Investment
- Fuel Availability & Cost
- Maintenance

Potential Solutions

- On-site Generation
 - Self-Financed
 - Third-Party Financed
- Utility Rate Plan
 - “Green Tariffs”
 - Community Energy
- Third-Party Credit Matching
- Offsite Power Purchase Agreements

Q&A