

# West Virginia *Energy*



DIVISION OF ENERGY

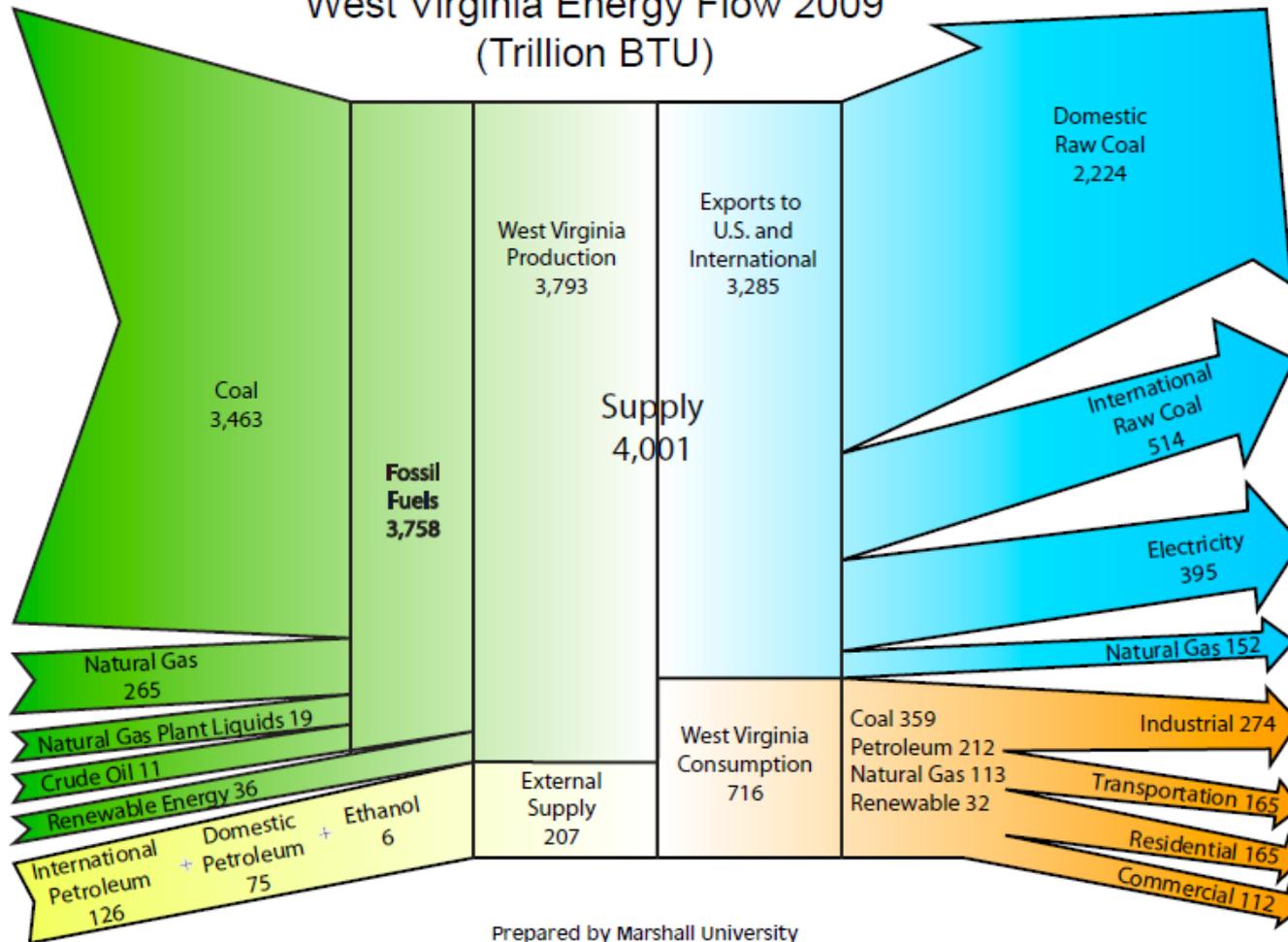


*West Virginia*  
WEST VIRGINIA

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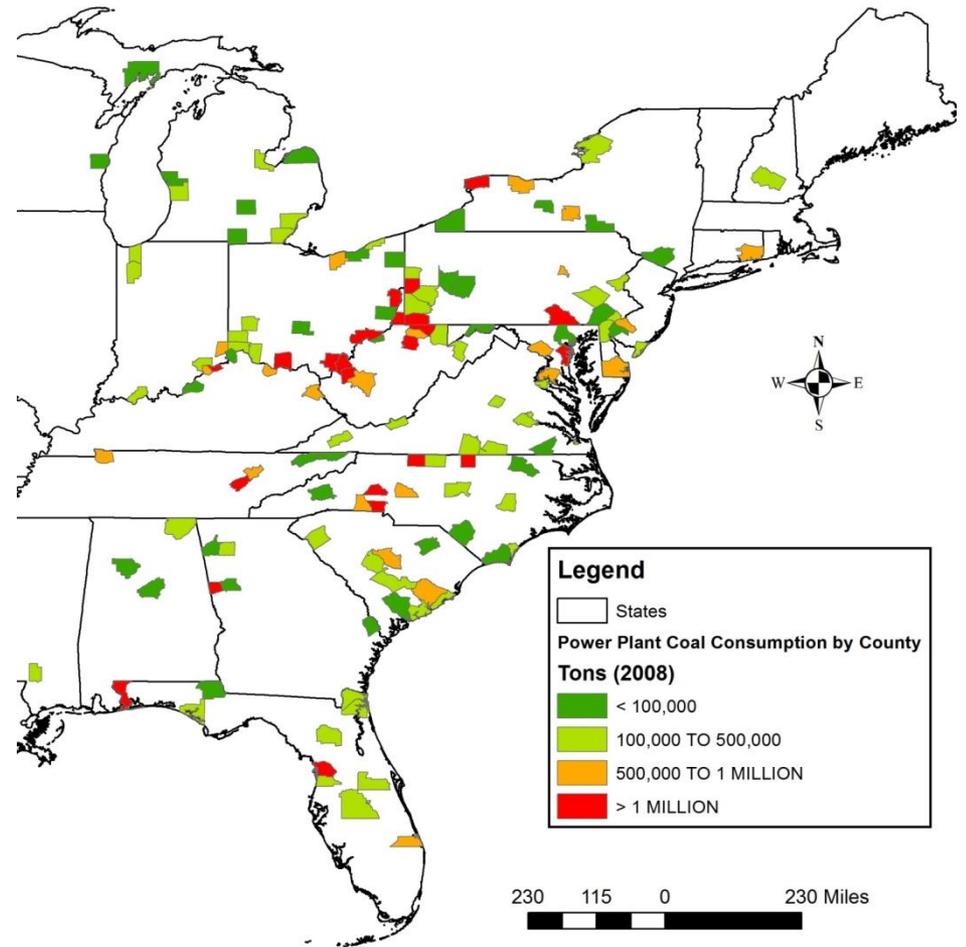
## Energy Snapshots

## West Virginia Energy Flow 2009 (Trillion BTU)

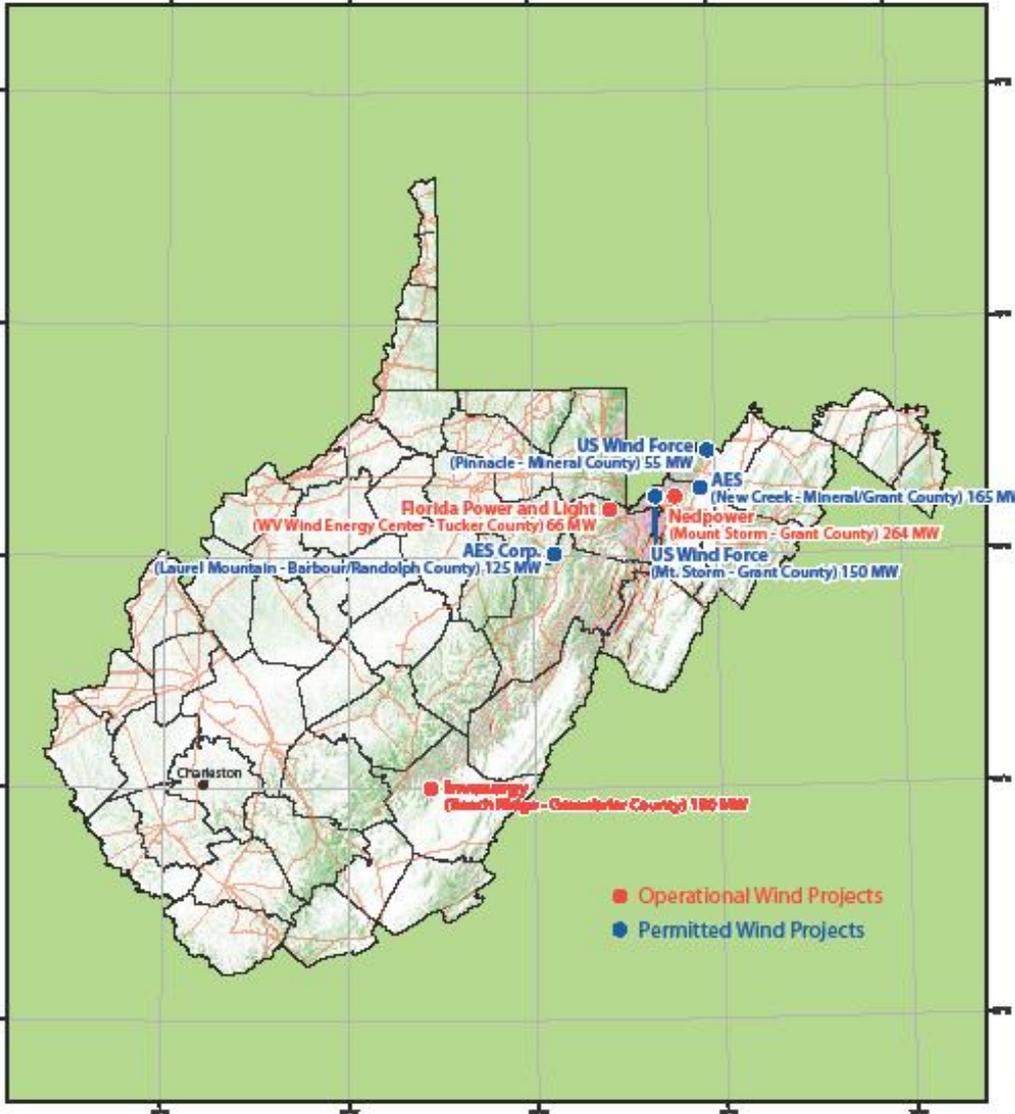


Prepared by Marshall University  
under contract to WV Division of Energy

# Counties with Power Plants that Used WV Coal in 2009



# West Virginia's Wind Projects (Operating and Permitting)



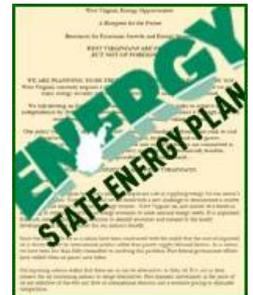
Provided by TrueWind Solutions

# West Virginia Energy

Plans, Programs and Legislation

# Energy Opportunities Document Goals

- Initial 5 year plan developed in 2007, the year Division of Energy was established by statute.
- Identifies fossil, renewable and energy efficiency resources – quantifies production goals in BTUs for each source.
- Establishes a goal of advancing new energy production equivalent to the BTU content of imported oil used in West Virginia.



# Energy Opportunities Document Goals (cont.)

- Each resource/technology (e.g. wind, coal to liquids, residential energy efficiency) has an identified list of action items.
- The next 5 year plan will be developed using the Center of Business and Economic Research at Marshall University and the Bureau of Economic Research at WVU.



# 2007 Plan Developments

- Announcement of 1<sup>st</sup> WV Coal-to-Liquids plant. (EOD long-term goal of 10 plants)
- New 700 MW advanced supercritical coal plant; one of the cleanest in the nation.
- 555 MW of wind energy w/ additional 370 MW permitted and in development.
- \$40 million dedicated to improved energy efficiency in state and local government buildings. (ARRA)

# 2007 Plan Developments Cont.

- Hydroelectric at 327 MW operating, 38 MW under construction, 35 MW licensed and 630 MW preliminary permits.
- 1<sup>st</sup> landfill gas recovery project in WV.
- Solar Tax Credit of \$2000 (solar heating, solar space heating, photovoltaics)
- Marcellus Shale development leading to lower natural gas costs and provide a stable natural gas supply.

# 2007 Plan Challenges

- AEP withdraws from US DOE CCS project in Mason County.
- WV Coal production declines by 30 million tons/yr, 18%.
- EPA MACT regulations could increase this decline to 26%.
- 14% of WV's coal based electric gen. targeted for closure by 2014.

# 2007 Plan Challenges Cont.

- Surface mining of coal meeting w/ increasingly restrictive regulatory policies.
- Continued resistance of WV Legislature to adopt 2009 IECC.
- Issue of carbon neutrality of wood put a halt to biomass development projects.
- WV electricity rates have increased 50% in 4 years.

# Programs



- Alternate Transportation Fuels Development
- Building Energy Code Training and Adoption
- Portfolio Manager Services
- Industrial Energy Assessments
- Technical Assistance to Industry
- Online Recycling Markets Database
- Geothermal Development
- Green Collar Job Training
- Promotion of Surface-mined Land Reuse
- E3-WV Services for Manufacturers, Cities and Counties
- Fossil and Renewable Energy Development

# Legislation 2009

Alternative and Renewable Energy Portfolio: 25% of retail electricity sold in West Virginia, by 2025, to originate from alternative and renewable sources.

## Alternative Fuel Sources

- (A) Advanced coal technology
- (B) Coal bed methane
- (C) Natural gas
- (D) Coal gasification or liquefaction
- (E) Synthetic gas
- (F) Integrated gasification
- (G) Waste coal
- (H) Tire-derived fuel
- (I) Pumped storage hydroelectric projects
- (J) Recycled energy

## Renewable Fuel Sources

- (A) Solar electric energy
- (B) Solar thermal energy
- (C) Wind power
- (D) Run of river hydropower
- (E) Geothermal energy
- (F) Biomass energy
- (G) Biologically derived fuel
- (H) Fuel cell technology

# Legislation 2010

SB 518 provides enhanced direction for WV Division of Energy. It mandates that the division:

- Shall work with the President of the United States and his/her admin. to develop a plan that would allow WV to become the leader in transitioning the US to a new energy future.
- Determines the best way for WV to utilize its resources and any federal funding to develop the technologies that are necessary for such a transition.

# Legislation

## 2010 – SB518 Cont.

- Clearly articulates WV's position on an energy solution for the US that encompasses clean coal, natural gas, transtech energy technologies and renewable energy technologies.
- Determines the best way for WV to utilize its resources and any federal funding to develop the technologies that are necessary for such a transition.



# Legislation 2011

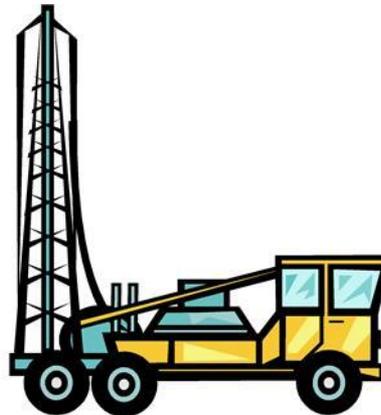
## SB 465, Marcellus Shale Development Act:

- Promotes value-added uses for natural gas including incentives for ethane cracker plant. (ethane to ethylene)
- Provides tax incentive for natural gas and electric vehicles (up to \$7,500).
- Provides tax credit for alternative vehicle refueling infrastructure (up to 50% for private use and 62.5% for public use).

# Legislation

## 2011 – SB465 Cont.

- Expanded the Strategic Research and Development Tax Credit to include equipment and the cost associated with the design of a new manufacturing process.
- Preferential tax treatment for drilling rigs, cracker plants and natural gas infrastructure.



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