

LEADING ENERGY PRODUCER



West Virginia is truly an energy state due to its rich natural resources and positive business climate for energy-related companies.

West Virginia leads the nation in net interstate electricity exports. The state accounts for nearly one-third of U.S. coal

production east of the Mississippi River and over one-tenth of U.S. total coal production. West Virginia has more estimated recoverable coal reserves at producing mines than any other state except Wyoming.

A key natural gas development in the state is the 6,000-foot-deep Marcellus Shale rock formation, believed to contain more than 50 trillion cubic-feet of recoverable natural gas. West Virginia's underground natural gas storage capacity accounts for about 6 percent of the U.S. total. In addition to West Virginia's natural gas production, state infrastructure handles three times that amount from other sources. The state is an important supplier to the Northeast during the winter months when natural gas demand peaks.

ENERGY OPPORTUNITIES

West Virginia has always played an important role in supplying energy for the nation's homes and factories and will continue to be a leader in advancing its energy resources to meet national energy needs.

West Virginia's energy plan seeks energy independence, with freedom from foreign oil imports by 2030. The plan includes an appropriate mix of feasible energy technologies.

Some West Virginia resources and projects that capitalize on the nation's demand for cleaner energy resources include:

- Carbon sequestration projects in two locations
- The largest wind farm in the East
- Vast forest resources, a potential source of clean energy



ADVANCED AND PROVEN COAL TECHNOLOGIES

West Virginia, with substantial quality coal reserves, abundant water, an established energy infrastructure and trained work force, is in a position to capitalize economically on advanced coal technology such as carbon capture and storage (CCS).

Coal, via proven technologies, can also be used in liquid and gas form:

- West Virginia coal-to-liquids facilities could provide up to 13 million barrels of fuel annually
- Coal gasification can supply pipeline-quality gas for chemical feedstock purposes or transportation fuel



West Virginia is committed to:

- Partnering with industry to establish a polygeneration plant (liquids, gases and electricity)
- Identifying locations for advanced coal plants and carbon sequestration opportunities
- Facilitating the production and sale of pipeline gas or transportation fuel produced from coal
- Establishing state carbon sequestration procedures and guidelines
- Promoting state-of-the-art pollution abatement/management technology as a component of coal-based energy projects

TRANSPORTATION FUELS

Transportation fuels that can originate in West Virginia and use the state's resources include:

- Coal-based transportation fuels, including coal-to-liquid diesel
- Coal-to-hydrogen gas
- Biofuels such as cellulosic ethanol from wood and crops
- Electricity to power electric vehicles



ELECTRIC TRANSMISSION INFRASTRUCTURE

The nation's increased demand for electricity – produced primarily from coal-fired power plants – is an important component of West Virginia's economy. The state's electric utilities are exploring cleaner methods to make electricity from coal.

Increased electricity demand requires enhanced system reliability in the national transmission grid. The state's goal of infrastructure improvements and reductions in emissions from production facilities will allow reliable West Virginia-produced electricity with reduced environmental impact.

RENEWABLE ENERGY SOURCES



WIND ENERGY

West Virginia currently has more than 3,000 megawatts (MW) of undeveloped commercial wind potential on privately owned lands and is working with developers, property owners and local interests to advance wind development opportunities, including reclaimed surface mine areas. The West Virginia Wind Working Group promotes commercial wind development and other wind opportunities in the state.



BIOFUELS

Wood residues and agricultural resources will be used in the future to produce fuel, including cellulosic ethanol. West Virginia has 4.75 million tons of wood residues available for fuel and power generation purposes and

has the potential to produce approximately 41,000 tons of crop residues. Additionally, the state's forests could provide substantial volumes of small roundwood for wood-based energy products.

Commercial cellulosic ethanol technologies will lead to increased demand for wood residue and small diameter trees as well as usher in a new chemical-based industry in West Virginia.



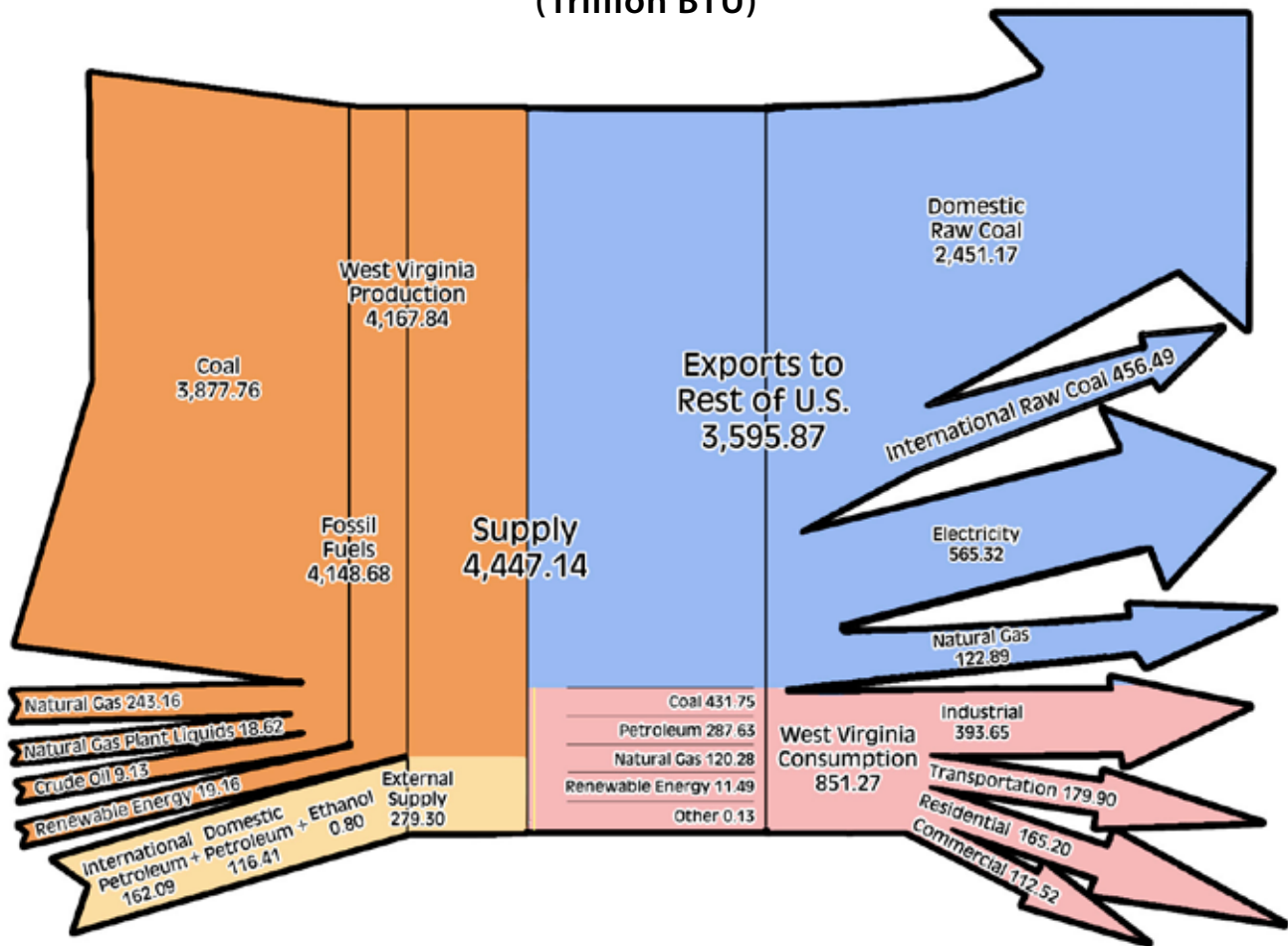
HYDROELECTRIC POWER

Hydro power is the oldest form of renewable energy in service to generate electricity. West Virginia has 11 hydroelectric plants in service, generating nearly 300 MW, with more facilities planned.

With an abundant inventory of rivers, the state is exploring how new high efficiency turbines can be applied to existing hydro plants, dormant older hydro plants and potential plants at existing flood control dams.

The state is also working with the private sector in advancing hydro opportunities on rivers and lakes.

WEST VIRGINIA ENERGY FLOW 2007 (Trillion BTU)



Prepared by Marshall University under contract to WV Division of Energy

WEST VIRGINIA ENERGY INCENTIVES

West Virginia has several energy incentives and policies, including:

- An alternative and renewable energy portfolio standard requiring state electric generating utilities to supply 25 percent of retail electric sales from eligible alternative and renewable energy resources by 2025
- A net metering policy that allows West Virginia residents to get credit from their electric utilities for electricity generated from renewable energy sources such as solar, wind, biomass, landfill gas and hydropower
- A residential solar energy tax credit
- A sales tax exemption for ENERGY STAR products
- A tax exemption and a special property tax assessment for commercial wind energy

MAJOR WEST VIRGINIA ENERGY COMPANIES / AFFILIATES

(Parent company in parenthesis)

ELECTRICITY:

- Appalachian Power (American Electric Power)
- Allegheny Power (Allegheny Energy)
- Longview Power
- Wheeling Electric Power (AEP)

COAL:

- Alliance Coal LLC
- Alpha Natural Resources
- Arch Coal Co.
- International Coal Group
- Magnum Coal Co.
- Massey Energy
- Patriot Mining Co. Inc.

NATURAL GAS:

- Bluefield Gas
- Cabot
- Eastern American Energy
- EQT Gas Resources
- Exco-North Coast Energy Eastern
- Chesapeake Energy
- Hope Gas (Dominion)
- Mountaineer Gas
- West Virginia Power Gas

WIND:

- AES Corporation (125 MW in the permitting process)
- Florida Power and Light Company (66 MW installed)
- Invenergy LLC (186 MW permitted)
- Shell Wind Energy/Dominion/NedPower Mount Storm (264 MW installed) - the largest wind project operating in the eastern United States
- West Virginia Wind Force (U.S. Wind Force LLC) (150 MW permitted)

ALTERNATIVE FUELS:

Biodiesel

- AC&S (supplies fuel to school buses in many of the state's counties)

Wood pellet

- Hamer Wood Pellets
- Lignetics Inc.

HYDROELECTRIC POWER:

- 11 operating hydroelectric facilities support nearly 300 megawatts of generating capacity (a U.S. Department of Energy analysis identified at least another 1,000 MW of untapped potential)