

## 2014 Annual Development Plan West Virginia Division of Energy

The West Virginia Division of Energy (WVDOE) is required by 5B-2F-2(f) of the *West Virginia Code* to submit an annual report to the Governor and the Joint Committee on Government and Finance. It requires that the report “shall relate to the division’s implementation of the energy policy and the activities of the division during the previous year” on or before the first day of December of each year. This submission addresses activities for the period Jan. 1-Nov. 30, 2014.

The WVDOE director serves as chairman of the West Virginia Public Energy Authority (PEA) and administers the Office of Coalfield Community Development. The activities for the reporting period are addressed by energy resource as described “West Virginia Energy Plan 2013-2017”: fossil fuels, renewable energy and energy efficiency. This report will address each energy resource and the activities of WVDOE in supporting them.

### Fossil fuels

- The U.S. EPA has extended its CO<sub>2</sub> emission reduction focus to existing coal-fired generation plants. Earlier EPA regulations required new coal-fired power plants to capture and sequester CO<sub>2</sub> emissions. EPA’s new regulatory initiative is the Clean Power Plan, whose goal is the reduction of CO<sub>2</sub> emissions at existing coal plants by 30 percent through improvement in the efficiency of the coal burn, the preferential dispatch of natural gas-produced electricity (not applicable to West Virginia) and the use of renewable energy and energy efficiency as alternatives to coal-fired generation. WVDOE worked with the W.Va. Department of Environmental Protection’s Division of Air Quality to prepare and submit comments to EPA concerning the impacts of the Clean Power Plan on West Virginia. WVDOE analyzed renewable energy and energy efficiency opportunities in West Virginia and, through the Center for Business and Economic Research at Marshall University, provided an economic analysis of the ramifications of the Clean Power Plan on the state. The analysis revealed that cost-effective renewable and energy efficiency resources do not exist in West Virginia to replace 30 percent of the state’s coal-fired electric generation. Economic analysis provided by CBER predicts that, should the Clean Power Plan be adopted, West Virginia will lose 3,624 coal mining jobs with associated salaries of \$218 million.
- Since its inception, WVDOE has coordinated annual Governor’s Energy Summits. The summits are sponsored by the West Virginia Governor’s Office and the West Virginia Department of Commerce and gather energy experts on a wide range of topics. In 2014, the eighth annual event, “West Virginia: Committed to a Sound Energy Future,” featured “Clean Power Plan Rule – Impacts,” “Shale Gas: Now and in the Future for West Virginia,” “Status of Coal Industry in West Virginia,” “Marketing of Post-Mined Lands,” “Electricity Distribution in Northern West Virginia,” “Cove Point LNG Export Project Update,” “The West Virginia Energy Flow Chart,” “AES Warrior Run... CFB Coal Technology,” “Benefits of Alternative Energy (Solar),” “Appalachian Petroleum Technology Training Center,” “The ARCEE Project: Re-Imagining Residential Home Building in West Virginia for the 21st Century,” “WV Division of Energy Clean State 20-year Anniversary Celebration,” “Natural Gas Vehicles: Making it Happen in WV – Past, Present, and Future,” “National AFV Day

Odyssey Presentation,” “Norm Weaver and Natural Gas Racing Association,” “100 Years of Mining Extension,” “Moundsville Power, LLC,” “Promoting TransTech Start-Ups,” “Industrial Energy Efficiency Activities in West Virginia,” “Leer Mine: A State of the Art Met Mine in Northern Appalachia,” “Small-scale Solar and Wind in the Mountain State,” “Natural Resource and Energy Overlaps,” “E3 Services,” “Overview of Coal Conversion by Fischer Tropsch Technology to Liquid Fuels Production” and “CO<sub>2</sub> Strategy for Coal-to-Liquids.”

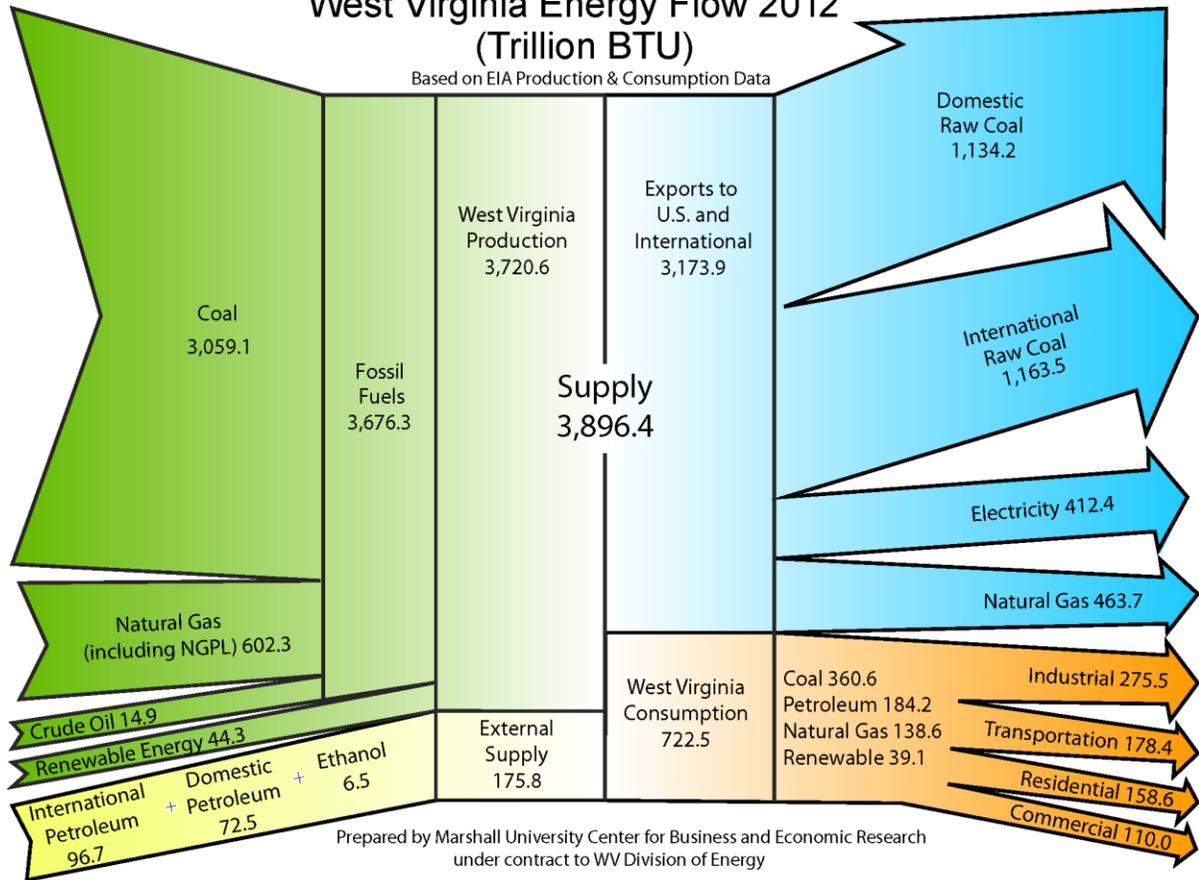
- In 2014, the state’s two newest public-access CNG fueling stations opened in Charleston and Jane Lew. The Interstate 79 corridor currently has three public-access CNG stations, all operations of IGS Energy/CNG Services. The state of West Virginia’s vehicle fleet currently includes 49 CNG-powered pickups. WVDOE’s W.Va. Clean State Program supported three “Natural Gas Vehicles for Fleets” workshops in Charleston, Bridgeport and Wheeling. Public-access propane stations, beyond a statewide network of U-Haul locations, are also on the rise in West Virginia. After the successful launch of a propane fueling station in Charleston in 2013, stations opened in Beckley and Martinsburg in 2014. Charleston has four F-150 pickups in its maintenance fleet operating on propane. Additionally, the city of Beckley has four Crown Victoria police cars and two E-250 vans running on propane. Also new in 2014 is a network of E85 stations at Speedways in Huntington, Parkersburg, Ripley and South Charleston.
- WVDOE co-sponsored the third annual TransTech Energy Business Development Conference hosted by the West Virginia University National Research Center for Coal and Energy (NRCCE). The conference encourages investment in companies that provide solutions to energy, environmental and economic development challenges such as creating new jobs and more competitive industries. This year’s conference featured 23 pitches, seven of those from West Virginia-based companies. Award winners include:
  - First prize: WindPax, Justin Chambers, president
  - Second prize: Identified Technologies, Steven Blass, CTO
  - Third prize: Biobent Holdings, Keith Masavage, founder and CEO
  - Student award: WindPax, Justin Chambers, president
  - ARC Technical Assistance Award: LumiShield Technologies, David Luebke, CEO
  - WVU Research Office Technical Assistance Award: GreenHeated Glass, Frank Dlubak, owner
  - Spilman Thomas In-kind Assistance Award: H Quest Vanguard, George Skoptsov, president and CEO
  - Arnett Foster Toothman In-kind Assistance Awards: (1) IMLI Service, John Zarroli, co-founder, and (2) LumiShield Technologies, David Luebke, CEO
- WVDOE has worked with the TransGas project team since the coal gasification/liquefaction project was announced in 2008. Original plans called for the use of 3 million tons of West Virginia coal annually to produce 18,000 barrels of gasoline a day. Project sponsors brought in a world-class team of technology experts to enhance coal’s value as a transportation fuel. Changes in energy markets have necessitated a new focus for the Adams Fork Project in Mingo County. TransGas is now committed to using coal as an input for the production of fertilizer, whose major ingredient is ammonia. More than 20 percent of the world’s supply of ammonia is produced from coal. Elevated natural gas prices outside North America provide an

economic incentive for this project as roughly 80 percent of the energy used to produce fertilizer is associated with the manufacture of ammonia. Other factors include the U.S.'s status as a leading importer of fertilizer and Brazil's growth as one of the world's largest agricultural producers. TransGas sponsors have had discussions domestically and in Brazil with fertilizer manufacturers concerning new production capacity from West Virginia.

- The Center for Business and Economic Research (CBER) at Marshall University is engaged in several components of legislatively directed activities related to preparation of an energy use database, providing continuous updates. The information is used in the preparation of the West Virginia Energy Blueprint and in speeches and presentation requested of WVDOE. One data focus of CBER is to identify relevant statistics generated by the U.S. Energy Information Administration to document trends and economic impacts of changing energy markets. CBER created energy flow charts for the state of West Virginia for 2005 to 2012 detailing energy production by resource, exports by resource and consumption by sector. [See chart, West Virginia Energy Flow 2012 (Trillion BTU).] The 2013 flowchart will be prepared once the data elements have been released by EIA. The energy flow chart is an important tool for recognizing the significance of West Virginia as an energy state. In 2013, CBER prepared the first "Energy Blueprint," which documented West Virginia's contribution to enabling the United States to meet national energy needs. This document is being updated in 2015. The current blueprint, at [www.energywv.org](http://www.energywv.org), documents the relevance of West Virginia as an energy supplier for the eastern half of the United States. It is hoped that an appreciation of energy sources will keep states and their elected officials from adopting energy policies injurious to their energy suppliers.

# West Virginia Energy Flow 2012 (Trillion BTU)

Based on EIA Production & Consumption Data



Prepared by Marshall University Center for Business and Economic Research  
under contract to WV Division of Energy  
Numbers may not sum to total due to rounding.

**The Office of Coalfield Community Development's (OCCD) activities for the period are as follows:**

- The OCCD reviewed 49 permits, consisting of 16 original notification letters requiring community impact statements (CIS) to be filed. The office approved 33 new and updated CIS plans during the period. This number includes amended CIS submissions for changes made to the original.
- The OCCD continued a contract with Rahall Transportation Institute (RTI) to develop Land Use Master Plans for Logan, Boone, Mercer, Fayette, Clay, Nicholas, Marion, Monongalia, Brooke and Grant counties. All have been developed and approved by each of the 10 counties. The OCCD worked with directors of each of the 10 economic development authorities to review and personalize the plans to meet their individual county's needs.
- The OCCD works with the Hatfield McCoy Trails system to identify property located on reclaimed mine sites for future development opportunities as well as other tourist-based industries.
- The OCCD works with RTI to develop site marketing plans for Wayne, Lincoln, Boone, Mingo, Logan, Wyoming, Raleigh, McDowell and Mercer counties. The group identifies reclaimed mine site in various coalfield counties to help market to potential site selectors and/or developers.
- The OCCD works with the Land and Mineral Owners Association to review and suggest recommendations regarding potential development opportunities on surface-mined lands.
- The OCCD met with local economic development authorities in the designated coalfield counties. A review of projects included residential, industrial, commercial and business development use of surface-mined properties.
- The OCCD is actively working with the W.Va. Agriculture Commission to utilize post-mine lands throughout the state to develop agricultural opportunities.
- The OCCD worked in conjunction with Marshall University to implement WVDOE's grant from the Appalachian Regional Commission to promote agricultural and renewable energy development on surface-mined lands.
- The OCCD meets weekly with the W.Va. Development Office's southern representative for briefings on economic development efforts in coalfield counties.
- The OCCD and the W.Va. Development Office partnered with RTI to conceptualize a new mobile access system. RTI developed the Economic Development Data Portal (EDDP) for the state. The EDDP application was officially launched at the 2014 W.Va. Economic Development Council's annual conference.
- The OCCD attended and participated in two annual meetings (legislative and fall conference) of the W.Va. Economic Development Council.
- The OCCD participated (as an ex-officio member) in quarterly meetings of the National Coal Heritage Area Board of Directors.
- The OCCD attended monthly Corridor G Development Authority board of directors meetings.
- The OCCD attended quarterly Hatfield McCoy board of directors meetings.
- The OCCD attended the 2014 annual W.Va. State Partnering meeting hosted by the U.S. Army Corps of Engineers.

- The OCCD attended and participated in the planning of the annual 2014 Miners' Celebration.
- The OCCD participated in the planning of the annual 2014 Land Use Forum at the Chief Logan Convention Center in Logan County.
- The OCCD attended and was a speaker at the 2014 Annual Land and Mineral Owners Association Conference.
- The OCCD attended the annual 2014 West Virginia Coal Association Conference.
- The OCCD worked with Commerce Communications to develop a presentation display for the office to use as a marketing piece at special events.
- The OCCD worked with Commerce Communications to manage notifications utilizing the office's website and local newspapers where mining activity is indicated within the Community Impact Statements (CIS). This adheres to the legislative requirements of public notice.
- The OCCD participated in one of the series of Southern Coalfields Organizing and Revitalizing the Economy Task Force (SCORE) meetings.

### **2015 action report goals:**

- Work with local economic development authorities in the designated coalfield counties that have the opportunity to engage coal companies to develop land or leave infrastructure. Those projects include residential, industrial, commercial and business development use of surface-mined properties.
- This office will facilitate meetings with Boone County Economic Development Authority and Patriot Coal Company regarding the Hill Fork site in Boone County for future land development use.
- Work with other county development authorities or land owners that have current mining operations with large infrastructure and building investments within the county to ensure those resources remain in place after mine closure.
- Work with 12 coalfield counties to develop/update Land Use Master Plans by providing pertinent information. Counties include Mason, Kanawha, Braxton, Lewis, Harrison, Taylor, Barbour, Randolph, Tucker, Preston, Ohio and Mineral.
- Work with the Corridor G Regional Development Authority as well as other county development authorities in Boone, Lincoln, Logan and Mingo counties to recruit, expand and develop economic development projects along the 119 Corridor to create opportunities for that region of the state.
- Work with RTI to develop marketing plans in Mason, Kanawha, Clay, Fayette, Nicholas, Greenbrier, Webster, Braxton, Upshur and Lewis counties.
- Coordinate site visits for interested developers on bond-released sites where potential projects can occur, such as Bull Push, Indian Ridge Industrial Park, Mingo Industrial Park and sites identified along Corridor G, the Kanawha River and the Monongahela River.
- Work with the W.Va. Department of Transportation, local representatives, coal operators and/or land owners to further promote development of the Coalfield Expressway and King Coal Highway along the proposed routes.
- Explore and promote tax incentives for development on post-mined lands.
- Work with the W.Va. Department of Agriculture to further explore agriculture development opportunities on post-mined lands.

- Work with the W.Va. National Guard to explore opportunities to utilize post-mined lands for training exercises.
- Continue participation with the National Coal Heritage Area Board to promote coal history.
- Continue participation with the planning efforts of the annual Miners' Celebration group, which provides a yearly recognition to individuals or groups in the mining industry.
- Continue participation with the W.Va. State Partnering group, which meets annually to understand the upcoming goals/activities of the U.S. Army Corps of Engineers.

## Renewable energy

- In collaboration with Marshall University's Center for Business and Economic Research (MU/CBER), WVDOE sponsored a renewable energy conference June 5 in Flatwoods with 80 participants. The conference covered the full range of renewable energy opportunities in West Virginia. Presentations included "Renewable Energy in the State of West Virginia," "Federal Renewable Energy Initiatives," "New Hydro at Existing Dams: Making Beneficial Use of Existing Infrastructure," "Update on the Expansion of the Beech Ridge Wind Facility," "The PJM Renewable Integration Study," "We ARE Here: A Primer on the PSC, Alternative and Renewable Energy Law and Net Metering," "Solar in the Mountain State - Growing West Virginia's Renewable Energy Industry," "The State of the Wood Pellet Industry in West Virginia," "Solar Photovoltaics in a High School Curriculum," "The Northeast Woody/Warm-season Biomass Consortium in West Virginia," "Low-temperature Geothermal Utilization: Potential for Direct-Use Applications in West Virginia," "Friends of Firewood," "The Morris Creek Micro-Hydro Project," "Sustainable Energy Parks on Surface-Mined Lands," "Enhancing Algal Biodiesel Production Through the Use of Waste Products" and "Biomass Bio-oil and Biochar for Sustainable Bioenergy Production System."
- WVU's Appalachian Hardwood Center (AHC) completed a full update of all wood primary and secondary producers from West Virginia and those located in Pennsylvania, Ohio, Maryland, Kentucky and Virginia in counties close to West Virginia markets. All producers were surveyed during July 2014 and 76,645 tons of wood residues were identified as being produced on a weekly basis in 2014. AHC also developed a preliminary model to assess the economics of potential natural gas/biomass to liquids fuel plants in WV. AHC also held a conference on biomass utilization for energy and green materials in Morgantown on Sept. 2. More information may be found at <http://ahc.caf.wvu.edu/news-mainmenu-2/>.

## Energy efficiency

- WVDOE assists the Home Builders Association (HBA) of West Virginia to develop and implement the Appalachian Residential Consortium for Energy Efficiency (ARCEE), focused on training West Virginia home builders in energy standards adopted by the state in 2011. West Virginia builders are also offered the opportunity to participate in training on the Green Building Standard developed by the National Association of Home Builders. WVDOE and HBA of WV support 10 training sessions through 2015.
- WVDOE works with Habitat for Humanity of West Virginia to ensure its sponsored homes are built to state-of-the-art energy standards. At Habitat for Humanity of WV's request, WVDOE supported ENERGY STAR training for installers of HVAC equipment used in new homes. In October, WVDOE participated in Habitat for Humanity of WV's Capitol Build, when the walls for a new Habitat home rose up over the grounds.
- WVDOE provides E3-WV, a technical assistance program that assists small businesses and manufacturers in improving their economic, energy and environmental performance. The program helps businesses adapt and thrive in a new business era

focused on energy efficiency and sustainability. Three organizations headquartered at West Virginia University – Industries of the Future-West Virginia (IOF-WV), the DOE-funded Industrial Assessment Center (IAC) and the West Virginia Manufacturing Extension Partnership (WVMEP) – work together in carrying out the project. Businesses that received E3 assistance in 2014 include Total Recycling Solutions, Ravenswood; Oliverio’s Peppers, Clarksburg; American Muscle Docks and Fabrication, Follansbee; Mott Manufacturing, Maxwelton; Mackenzie Dow Furniture, Huntington; American Foam Technologies, Maxwelton; Simonton Windows, Pennsboro, Ellenboro and Harrisville; Danser Inc., Parkersburg; and Simex Vinyl Extrusions, St. Marys.

- Supported by WVDOE, student teams with the WVU Projects With Industry program and Industrial Assessment programs continue to provide process energy analyses to West Virginia industry and manufacturers. In 2014 the following businesses were supported: Rubberlite, Huntington; New Vision LLC, Philippi; Appalachian Wood Pellets, Kingwood; ABB, Lewisburg; Allegheny Wood Products, Bruceton Mills; Koppers, Huntington; Jim C. Hamer, Webster Springs; Rustoleum, Lesage; New River Hardwoods, Beckley; Danser, Parkersburg; Koppers, Green Spring; Mountaineer Casino, New Cumberland; American Muscle Dock, Wellsburg; Horn of America, Sutton; HK Engine Components, Weston; New River Exxon, Hico; Aleris, Buckhannon; Oliverio Peppers, Clarksburg; Kreinik Manufacturing, Parkersburg; American Foam, Lewisburg; Mott Manufacturing, Lewisburg; AMS Vending Machine, Martinsburg; B&E Aerospace Co., Fenwick; Franco’s Enterprise, Fairmont; Swanson Industries, Morgantown; DuPont, Parkersburg; Rainbow Farm, Sandstone; Wincore Windows, Parkersburg; Simex, St. Marys; Simonton Windows, Pennsboro, Ellensboro and Harrisville, and McKenzie, Huntington.
- The WVDOE-supported Center for Building Energy Use (CBEU) at WVU provides energy benchmarking, audits and technical assistance. In 2014, the program assisted Tucker County Schools, Bridgemont Community and Technical College and Ohio County Schools.
- Six units of local government received grants through WVDOE’s Local Energy Efficiency Grant Program (LEEGP) in 2014. This program helped Lewisburg, Ronceverte, Hurricane, Harrison County, Fayette County and Charleston to assist businesses and homeowners with becoming more energy efficient. Lewisburg and Ronceverte held informational workshops and engaged energy auditors to assess energy saving opportunities in their communities. Hurricane’s program focused on residential buildings. Harrison County distributed energy saving kits. Fayette County performed energy audits at 13 sites and provided three informational workshops. Charleston’s East End sponsored a competition among 385 residents for home energy savings.
- Also in 2014, WVDOE sponsored two workshop series, in partnership with WVU’s Industrial Assessment Center and WVU Industrial and Management Systems Engineering. Commercial and government sector workshops focused on improving energy efficiency in Morgantown, Triadelphia, Beckley and Charleston. Industrial sector workshops took place in Triadelphia, Beckley, Charleston, Parkersburg and Huntington. Additionally, these workshops resulted in energy assessments at local government buildings in Point Pleasant, Spencer and Charleston.