

2013 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, 2013.

The WVDOE consists of two divisions: the Office of Coalfield Community Development (OCCD) and the Energy Efficiency Program (EEP). The WVDOE director serves as chairman of the West Virginia Public Energy Authority (PEA) and administers its operation. The activities for the reporting period are addressed by energy resource as described in the state energy plan, “West Virginia Energy Opportunities”: fossil fuels, renewable energy and energy efficiency. This report will address each energy resource and the activities of WVDOE in supporting them.

American Recovery and Reinvestment Act activities: The division administered **\$43 million** in American Recovery and Reinvestment Act funding with activities under four programs: Energy Assurance, the State Energy Program (SEP), the Energy Efficiency and Conservation Block Grant (EECBG) and Recovery Act: Regional Save Energy Now-West Virginia. The completion of \$32,746,000 in State Energy Program/ARRA projects was reported in last year’s annual development plan.

Energy Assurance/ARRA: \$366,482 This grant was completed and closed in fall 2012. In 2013, the West Virginia Department of Military Affairs and Public Safety (DMAPS) submitted a revised energy emergency section (Annex V) developed through the program to the governor for his approval for promulgation in West Virginia’s Emergency Operations Plan (EOP). Additionally the revised Annex V was tested in a regional emergency exercise in September 2013.

Energy Efficiency and Conservation Block Grant Program: \$9.5 million This grant was completed in September 2013. The grant provided energy efficiency upgrades and retrofits for 145 projects in municipal- and county-owned buildings owned by 103 local governments. WVDOE and the 11 Regional Planning and Development Councils administering the program received a 2013 Innovation Award from the National Association of Development Organizations (NADO) for the program. Activities included installation of energy efficient lighting (approximately 25% of the projects); HVAC upgrades (50% of the projects); and insulation, weather sealing and replacement of windows and doors (approximately 25% of the projects). The next several pages provide details on EECBG projects. Another component of this program was the WVU IAC Technical Assistance Program. The WVU Industrial Assessment Center (IAC) provided two presentations, a webinar and 22 assessments, including two on-site audits, to assist local governments in identifying energy efficiency measures that could be funded with EECBG monies. Additionally WVU IAC, in coordination with the West Virginia Manufacturing Extension Partnership (WVMEP) provided energy and environmental audits to five local governments and selected manufacturing facilities through an EECBG E3 program. WVMEP also provided E3 services to selected manufacturing and businesses statewide through this funding. Another activity funded through EECBG was the Building Energy Collaborative. The New River Community and Technical College (NRCTC) facilitated regional stakeholders’ meetings involving all RPDCs regions to promote awareness of energy codes and energy efficiency. Initiatives also included support for ENERGY STAR homes rating system training to Habitat for Humanity - West Virginia affiliates and examination of the commercial viability and utilization of West Virginia’s low temperature geothermal resources for community and industrial purposes.

REGION 1	AWARD AMOUNT	PROJECT ACTIVITIES
City of Keystone	\$57,899.00	Replacement of HVAC at Keystone City Hall/Completed
City of Mullens –HVAC	\$43,592.00	HVAC upgrade at Mullens City Hall/Completed
City of Mullens – Lighting	\$31,000.00	Lighting upgrade at Mullens City Hall/Completed
City of Princeton – Doors	\$75,160.00	Window and door replacement at Mullens City Hall/Completed
City of Princeton - HVAC	\$31,942.00	HVAC upgrade at Princeton City Hall/Completed
City of Princeton - Insulation	\$59,450.00	Insulation and ceiling tile replacement at Princeton City Hall/Completed
City of Welch - HVAC	\$22,000.00	HVAC upgrade at Welch City Hall/Completed
City of Welch - Lighting	\$13,880.52	Lighting upgrade at Welch City Hall/Completed
McDowell County Commission	\$118,562.40	Lighting upgrade at the McDowell County Courthouse/Completed
Monroe Co. 911 - Lighting	\$2,381.39	Lighting upgrade at the Monroe County E-911 Center/Completed
Monroe Co. Courthouse - Boiler	\$36,500.00	HVAC replacement at the Monroe County Courthouse/Completed
Monroe Co. Courthouse - Doors	\$9,988.00	Door replacement at the Monroe County Courthouse/Completed
Monroe Co. Courthouse - Lighting	\$14,170.70	Lighting upgrade at the Monroe County Courthouse/Completed
Monroe Co. Attorney's Office - Doors	\$3,422.77	Door replacement at the Monroe County Prosecuting Attorney's Office/Completed
Monroe Co. Attorney's Office - HVAC	\$11,200.00	HVAC replacement at the Monroe County Prosecuting Attorney's Office/Completed
Monroe Co. Attorney's Office - Lighting	\$3,851.14	Lighting upgrade at the Monroe County Prosecuting Attorney's Office/Completed
Summers County Commission	\$114,500.00	Boiler replacement at the Summers County Courthouse/Completed
Town of Athens	\$16,178.00	Upgrade the HVAC at Athens Town Hall/Completed
Sophia Fire Station - Heater	\$8,750.00	Replace garage heaters at the Town of Sophia Fire Station/Completed
Sophia Town Hall - HVAC	\$11,752.00	Replace the HVAC at Sophia Town Hall/Completed
Sophia Town Hall - Windows	\$2,541.00	Replace six windows at Sophia Town Hall/Completed
Union Town Hall - HVAC	\$23,922.00	Replace the HVAC at Union Town Hall/Completed
Union Town Hall - Lighting	\$14,780.01	Upgrade the lighting at Union Town Hall/Completed
Union Town Hall - Weatherization	\$25,218.00	Installation of insulation at Union Town Hall/Completed
Wyoming County Commission	\$42,600.00	Upgrade the fluorescent lighting at the Wyoming County Courthouse/Completed
Total	\$795,240.93	

REGION 2	AWARD AMOUNT	PROJECT ACTIVITIES
City of Milton	\$34,895.00	HVAC, window and door replacement at Milton City Hall/Completed
Town of Man	\$97,250.00	Installation of insulation, doors, windows and lighting at Man Town Hall/Completed
Town of Matewan	\$110,600.00	Installation of insulation at Matewan Town Hall and installation of new garage doors and HVAC at the Remote Fire Station/Completed
City of Logan	\$38,450.00	HVAC replacement at Logan City Hall/Completed
City of Williamson	\$157,800.00	HVAC, lighting, window and door replacement at the City of Williamson's Emergency Services Building/Completed
City of Kenova	\$122,990.00	HVAC replacement in the Kenova Municipal Building and installation of infrared heaters in the garage area/Completed
Lincoln County Commission	\$200,000.00	Renovate the dual-duct HVAC system in the Lincoln County Courthouse to a variable-air-volume HVAC system/Completed
Wayne County Commission	\$181,421.00	Replace the HVAC system in the Wayne County Courthouse/Completed
Wayne County Annex	\$18,500.00	Install a new HVAC system in the Wayne County Courthouse Annex/Completed
City of Milton Project 2	\$7,950.00	Renovate lighting and install insulation in the roof and wall areas of the Milton City Building/Completed
Town of Man Project 2	\$97,141.80	Install a solar photovoltaic panel system at the Man Town Hall/Completed
City of Kenova Project 2	\$74,323.00	Install new windows, insulation and lighting at the Kenova Municipal Building/Completed
City of Logan Project 2	\$9,718.36	Install insulation in Logan City Hall/Completed
Town of Gilbert (LJHCC)	\$91,673.55	Upgrade the lighting at the Larry Joe Harless Community Center/Completed
Total	\$1,242,712.71	
REGION 3	AWARD AMOUNT	PROJECT ACTIVITIES
Boone County Commission	\$158,434.07	Upgrade the lighting and HVAC at the Boone County Courthouse/Completed
City of Chesapeake	\$62,018.54	Replace a door and renovate the HVAC system and lighting at the Chesapeake City Hall/Completed
City of Hurricane	\$193,688.84	Install a solar photovoltaic panel system at the Hurricane Water Treatment Facility; install oil heaters and solar panels at water treatment and communication facilities/Completed
City of Dunbar	\$124,210.15	Upgrade the lighting, doors and HVAC at the Dunbar City Hall/Completed
Town of Handley	\$13,770.00	Renovate the lighting at the Handley Town Hall/Completed
City of Saint Albans	\$100,000.00	Upgrade lighting in designated parking areas throughout the city/Completed
Clay County Commission	\$134,218.73	Upgrade the interior and exterior lighting and the HVAC system at the Clay County Courthouse/Completed
Town of Cedar Grove	\$5,480.00	Replace the HVAC system in the Cedar Grove Town Hall/Completed
Total	\$791,820.33	

REGION 4	AWARD AMOUNT	PROJECT ACTIVITIES
City of Lewisburg	\$36,880.00	Replacement HVAC system at the Greenbrier County Library/Completed
City of Oak Hill	\$86,872.00	Replacement HVAC system at the Oak Hill City Hall/Completed
City of Richwood	\$47,750.00	Replacement HVAC system at the Richwood City Hall/Completed
City of Ronceverte - City Hall	\$7,908.00	HVAC upgrade work and new doors at Ronceverte City Hall/Completed
City of Ronceverte - Police Department	\$11,399.00	Replacement HVAC system at the City of Ronceverte Police Department building/Completed
City of Ronceverte - City Hall HVAC	\$25,638.00	New window installation at the City of Ronceverte Police Department building/Completed
City of Summersville - City Hall	\$53,989.00	Replacement HVAC system at the Summersville City Hall/Completed
City of Summersville - Youth Center - HVAC	\$67,750.00	Replace the HVAC system at Summersville Youth and Community Center/Completed
City of Summersville - Youth Center - Lighting	\$5,810.00	Replace the lighting at Summersville Youth and Community Center/Completed
Summersville - Youth Center - Doors	\$15,000.00	Replace windows and doors at Summersville Youth and Community Center/Completed
Fayette County Commission	\$109,514.58	Replacement of the boiler at the Fayette County Courthouse/Completed
Greenbrier County Commission	\$59,691.74	Window replacement at the Greenbrier County Courthouse and Courthouse Addition/Completed
Nicholas County Commission	\$121,000.00	Replacement of the HVAC chiller equipment and water heater at the Nicholas County Courthouse/Completed
Pocahontas County Commission	\$126,000.00	Lighting upgrade at the Pocahontas County Courthouse/Completed
Addison Center Building	\$10,950.00	Replacement of the HVAC system and two windows in the Town of Addison-Addison Center Building/Completed
Addison City Hall	\$12,794.29	Replace doors and windows in the Town of Addison Municipal Building/Completed
Addison Maintenance Building	\$7,800.00	Installation of doors in the Town of Addison Maintenance Building/Completed
Town of Ansted	\$72,405.00	Replacement of 16 windows and installation of new HVAC and doors in the Ansted Government Annex/Completed
Camden on the Gauley - HVAC	\$13,500.00	Replacement of HVAC at Camden on Gauley City Hall/Completed
Camden on the Gauley - Lighting	\$10,600.00	Upgrade of the lighting and installation of additional building insulation at Camden on Gauley City Hall/Completed
Camden on the Gauley - Windows	\$13,416.00	Replacement of the exterior and garage doors, windows and installation of an on-demand water heater system at Camden on Gauley City Hall/Completed
Town of Cowen	\$20,018.03	Replacement of the doors and windows at Cowen Town Hall/Completed
Durbin Town Hall	\$24,995.00	Insulation of the exterior walls and install replacement windows and doors at the Durbin Town Hall/Completed
Durbin Town Hall Addition	\$10,605.00	Installation of a new garage door and insulation at Durbin Town Hall/Completed
Town of Rainelle	\$39,860.00	Installation of insulated siding, doors and replacement windows at Rainelle City Hall/Completed
Webster County Commission	\$25,000.00	Installation of an HVAC unit in the Webster County Courthouse/Completed
Total	\$1,037,145.64	

REGION 5	AWARD AMOUNT	PROJECT ACTIVITIES
Calhoun County Commission	\$112,571.40	Replace the current air conditioning system and install remote control thermostats at the Calhoun County Courthouse/Completed
Town of Harrisville	\$38,500.00	Replace HVAC and lighting at the Harrisville Town Hall/Completed
Jackson County Commission	\$101,036.14	Replace existing chiller unit and current lighting fixtures at the Jackson County Courthouse/Completed
City of Paden City	\$39,785.00	Replace HVAC at the Paden City City Hall/Completed
City of Vienna - Windows	\$19,100.00	Replace windows at the Vienna City Hall/Completed
Paden City Health & Recreation	\$27,520.00	Replace the present HVAC system in the Health and Recreation Building/Completed
Pennsboro City Building	\$31,720.48	Replace HVAC at the Pennsboro City Building/Completed
Pleasants County Commission	\$56,378.00	Replacement of the HVAC system at the Pleasants County Courthouse/Completed
Roane County Commission	\$139,858.29	Replacement of the windows, doors and HVAC system at the Roane County Courthouse/Completed
Sistersville City Building	\$31,745.00	Upgrade the lighting and replace the HVAC system at the Sistersville City Building/Completed
City of Vienna	\$20,885.00	Replacement of the HVAC system at the Vienna City Building/Completed
Wirt County Commission	\$34,848.83	Replace the HVAC at the Wirt County Courthouse/Completed
Pleasants County Ballfield	\$84,250.00	Upgrade the lighting at the Pleasants County Park/Completed
Elizabeth	\$9,064.64	Replace windows and doors at the Elizabeth Town Hall/Completed
Jackson County Commission 2	\$8,632.99	Replace the HVAC system at the Jackson County Animal Shelter/Completed
Ritchie County Commission	\$27,000.00	Install insulation and upgrade the lighting at the Ritchie County Courthouse/Completed
Pleasants County Commission	\$8,899.64	Upgrade the interior and exterior lighting at the Pleasants County Courthouse/Completed
Roane County Commission 2	\$8,899.65	Upgrade lighting in a Circuit Court courtroom at the Roane County Courthouse/Completed
Wirt County Commission 2	\$8,899.65	Upgrade the HVAC at the WVU Extension and Wirt County EMS offices/Completed
Total	\$809,594.71	

REGION 6	AWARD AMOUNT	PROJECT ACTIVITIES
City of Mannington	\$52,548.91	Upgrade lighting, HVAC, insulation and doors at the Mannington City Hall, City Hall Annex and City Garage/Completed
City of Salem	\$157,091.64	Upgrade the insulation, doors, lighting and HVAC at the Salem City Building/Completed
City of Shinnston	\$71,056.62	Upgrade the insulation, windows, doors and HVAC at the Shinnston Municipal Building/Completed
Preston County Commission	\$200,000.00	Replace the boiler in the Courthouse Annex and HVAC and domestic hot water units in the jail building/Completed
Town of Star City	\$151,140.12	Installation of insulation, new HVAC system and controls, lighting and doors at the Star City Municipal Building/Completed
Taylor County Commission	\$47,184.00	Upgrade the lighting and HVAC system in the Taylor County Courthouse and Annex/Completed
Town of Barrackville	\$32,755.87	Installation of insulation and upgrade of the HVAC and lighting at the Barrackville Municipal Building and Community Center/Completed
Town of Farmington	\$172,148.61	Installation of insulation and replacement of doors, HVAC and lighting at the Farmington Town Hall and HVAC, lighting, hot water heater, outdoor lighting and insulation upgrades at the Farmington Community Center/Completed
Town of Lumberport	\$77,960.00	Installation of new windows and insulation at the Lumberport Community Center and window replacement at the Municipal Building/Completed
Total	\$961,885.77	
REGION 7	AWARD AMOUNT	PROJECT ACTIVITIES
Barbour County Commission	\$166,500.00	Replace the HVAC at the Barbour County Courthouse/Completed
City of Buckhannon	\$170,976.25	Install a ground-source heat pump and a new HVAC unit at the Buckhannon City Hall/Completed
City of Elkins	\$71,250.00	Replace windows at the Elkins City Hall/Completed
City of Parsons	\$168,169.00	Upgrade the HVAC system and lighting at the Parsons City Hall/Completed
City of Philippi	\$141,000.00	Upgrade the HVAC system at the Philippi City Hall/Completed
City of Thomas	\$28,500.00	Upgrade the HVAC at the Thomas City Hall/Completed
Lewis County Commission	\$30,400.00	Add insulation to the attic area of the Lewis County Courthouse/Completed
Town of Jane Lew	\$27,664.60	Install HVAC and a door in the Jane Lew Town Hall/Completed
Tucker County Commission	\$132,525.00	Installation of a new boiler and control systems in the Tucker County Courthouse/Completed
Total	\$936,984.85	

REGION 8	AWARD AMOUNT	PROJECT ACTIVITIES
Town of Franklin	\$29,500.00	Install a ground-source heat pump at the Franklin Town Office/Completed
Hampshire County Commission	\$200,000.00	HVAC, windows and lighting upgrades at the Hampshire County Sheriff's Building/Completed
Hardy County Commission	\$64,436.00	Lighting upgrades at the Hardy County Courthouse/Completed
City of Keyser	\$60,948.00	HVAC replacement at the Keyser City Hall/Completed
Mineral County Court House	\$70,405.00	Upgrade the HVAC, install interior storm windows and replace windows and doors in the Mineral County Court House/Completed
Pendleton County Court House	\$200,000.00	Replace the HVAC in the Pendleton County Court House/Completed
City of Romney	\$50,000.00	Install insulation and upgrade the HVAC at the Romney City Hall/Completed
Town of Wardensville	\$6,240.00	Replace windows at the Wardensville Town Hall/Completed
Town of Elk Garden	\$6,140.00	Replace HVAC and hot water heater at the Elk Garden Town Hall/Completed
Total	\$685,912.08	
REGION 9	AWARD AMOUNT	PROJECT ACTIVITIES
Morgan County Commission	\$196,840.61	Install a solar photovoltaic panel system at the Morgan County Courthouse/Completed
Town of Bath	\$32,309.35	Replace the HVAC and install insulation at the former Berkeley Springs B&O Railroad Passenger Station. Replace lighting, windows and HVAC at the Town of Bath Town Hall Office/Completed
Total	\$229,149.96	
REGION 10	AWARD AMOUNT	PROJECT ACTIVITIES
Village of Bethlehem	\$3,294.20	Lighting upgrades at park facilities/Completed
City of Cameron	\$73,166.26	Upgrade HVAC and air conditioning units at the Cameron City Building/Completed
City of Glen Dale	\$6,050.00	Install insulation in the Glen Dale City Hall/Completed
Marshall County Commission	\$170,000.00	Replace boilers in the Marshall County Courthouse and Courthouse Annex/Completed
City of McMechen	\$12,669.13	Replace the HVAC system at the McMechen City Building/Completed
City of Moundsville - Windows	\$21,665.31	Replace windows and doors at the Moundsville City Building/Completed
City of Moundsville - HVAC and lighting	\$32,420.17	Upgrade the HVAC and lighting at the Moundsville City Building/Completed
City of New Martinsville	\$13,700.00	Replace the HVAC at Old City Hall/Completed
Town of Pine Grove	\$30,565.31	Install new doors and windows at the Pine Grove Byrd Center/Completed
Town of Triadelphia	\$85,244.27	Upgrade the HVAC, insulation and lighting at the Triadelphia Town Hall/Completed
Wetzel County Commission	\$72,629.72	Install new windows at the Wetzel County Courthouse/Completed
Village of Clearview	\$6,500.00	Replace HVAC at the Clearview Community Building/Completed
Town of West Liberty	\$11,798.22	Upgrade the lighting and replace 10 windows at the Town Hall/Completed
Total	\$539,702.59	

REGION 11	AWARD AMOUNT	PROJECT ACTIVITIES
Village of Beech Bottom	\$30,635.83	Install a solar photovoltaic panel system at the Beech Bottom Municipal Building/Completed
Town of Bethany	\$31,550.00	Install energy efficiency measures in the new Community Center area at Bethany Town Hall/Completed
Brooke County Commission	\$29,500.00	Install a new HVAC system, lighting upgrades and energy controls at the Brooke County Courthouse/Completed
City of Chester	\$32,162.17	Replace the HVAC at the Chester Municipal Building/Completed
City of New Cumberland	\$32,162.17	Upgrade lighting at the New Cumberland Municipal Building/Completed
City of Follansbee	\$32,162.17	Upgrade lighting at the Follansbee City Building/Completed
Hancock County Commission	\$32,162.17	Upgrade lighting at six Hancock County Commission facilities/Completed
City of Wellsburg	\$40,237.57	Install windows at the Wellsburg City Building/Completed
Village of Windsor Heights	\$32,162.17	Install new exterior siding and insulation at the Windsor Heights Community Center/ Completed
Total	\$292,734.25	

- American Reinvestment and Recovery Act: Regional Save Energy Now-West Virginia: A **\$500,000** ARRA award was completed in October, 2013. It was a multi-state approach to the WV Save Energy Now program to include collaboration with Pennsylvania, Ohio and Tennessee. Activities have included 35 energy assessments and industrial grade audits for industries as well as the development of an ISO 500001 energy management certification pilot program and a clearinghouse for industrial energy efficiency applications and best practice case studies.

Fossil fuels

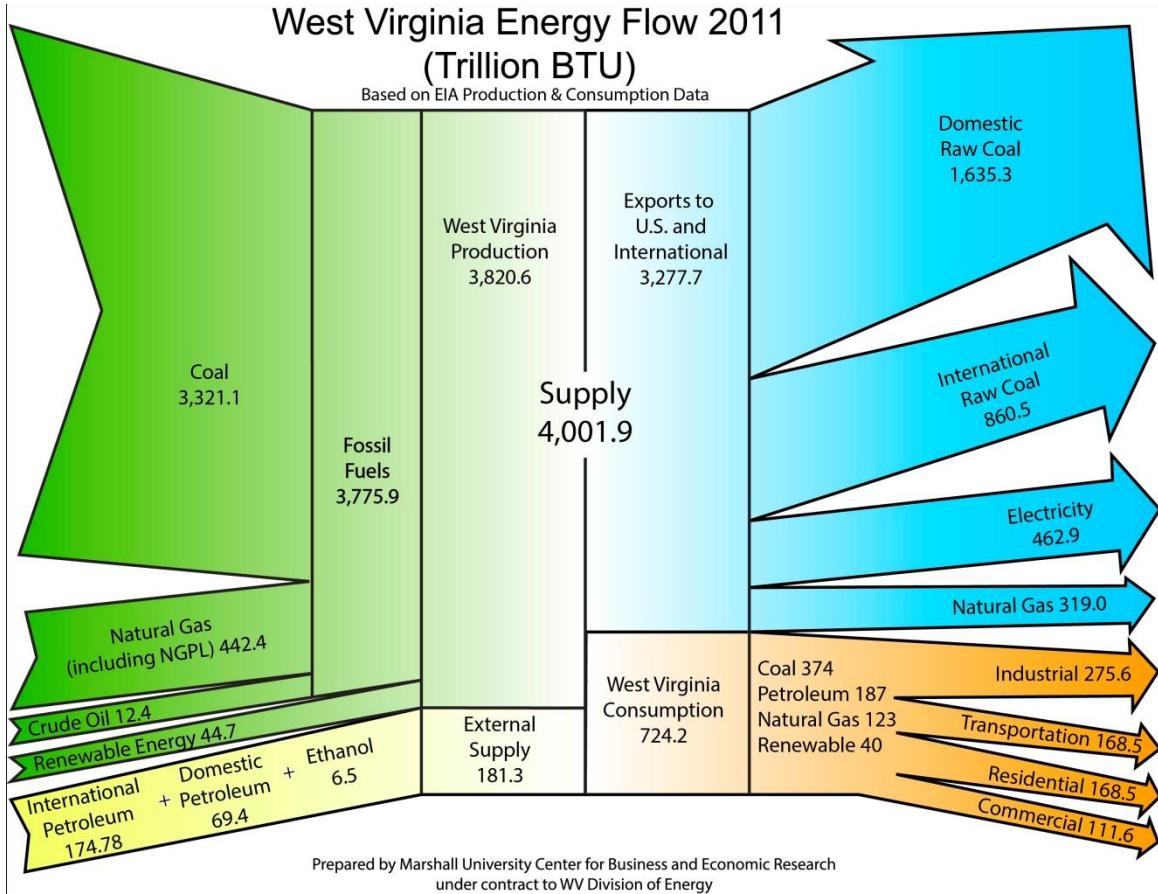
- Since its inception, WVDOE has coordinated annual Governor’s Energy Summits. The summits are sponsored by the West Virginia Governor’s Office and the West Virginia Department of Commerce and gather energy experts on a wide range of topics. In 2013, the seventh annual event, “West Virginia: Meeting America’s Energy Challenges,” will feature presentations including “Meeting the Climate Challenge,” “Coal & Water – The Cost to Comply,” “Advanced Coal-Based Technologies for Power Generation,” “West Virginia Coal 2013,” “West Virginia Natural Gas: What a Difference 10 Years Makes,” “Our New Natural Gas Infrastructure,” “Propane Vehicles and Fueling Stations in West Virginia,” “The I-79 CNG Corridor and Beyond,” “Marathon Petroleum in West Virginia,” “Appalachian Power’s Generation Strategy,” “TransGas and Energy Economics,” “West Virginia Wood Pellets,” “Energy Efficiency in New Building Construction,” “Environmental Perspective,” “ESCO Services” and “Selling Energy Efficiency.”
- During 2013, WVDOE worked with West Virginia University and Marshall University to complete the 2013-2017 West Virginia State Energy Plan. The plan maintains the state’s commitment to developing energy resources – fossil, renewable and energy efficiency – to capitalize on energy resource opportunities for economic development purposes and meet national energy needs. The plan outlines the Governor’s Energy Recommendations for fossil, renewable and energy efficiency initiatives. It may be found online at www.energywv.org/energyplan.
- The Governor’s Natural Gas Vehicle Task Force issued its final report in February 2013, detailing 17 recommendations ranging from urging the state of West Virginia to make the transition to natural gas vehicles without delay to adding bi-fuel vehicles to the state fleet RFP. Additionally, the report called for a transition team to implement the

recommendations. Developments since the team's June meeting included the opening of the state's first of three public-access CNG fueling stations along the I-79 corridor at Bridgeport. Significant construction was completed on the Charleston station. Also opened was the first of six public-access propane fueling stations in Charleston. Five more are slated for Beckley, Huntington, Parkersburg, Fairmont and Martinsburg. During summer 2013, the state's Division of Highways had 15 Ford pickups converted to bi-fuel gasoline/CNG vehicles. Five vans are to be converted to operate on CNG/gasoline as bi-fuel vehicles. Also during 2013, the West Virginia Public Service Commission approved a tariff that will allow the Mountaineer Gas Co. to provide natural gas to customers for transportation fueling. The PSC also allowed Mountaineer to provide a credit of \$1,000 to help offset the cost of installing CNG fueling infrastructure. Additionally, Mountaineer Gas installed a time-fill CNG station at its Charleston location to fuel one truck in its fleet. The 2013 Appalachian Basin NGV Expo & Conference drew nearly 300 attendees to Charleston, W.Va., May 13-15, 2013. The event featured nationally known speakers; an exhibit hall packed with vehicles, fueling equipment and information, and a ride-and-drive, with natural gas vehicles fueled at the Kanawha County Courthouse. WVDOE launched a new natural gas fueling page on its website at

http://www.wvcommerce.org/energy/alternative_fuels/fueling_stations/default.aspx.

- WVDOE co-sponsored the second annual TransTech Energy Business Development Conference hosted by the West Virginia University National Research Center for Coal and Energy (NRCCE). The conference was held to encourage investment in new 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. Attendance over the one-and-a-half-day conference totaled 170 participants including 26 high school students with the MARS robotics team and 30 West Virginia University undergraduate and graduate students. Optimum Pumping Technology, a company that specializes in products for natural gas compressors and pipelines, and SAVD Solar, a company that has developed a technology to increase the efficiency of solar cells, received the top two awards of the conference. These two companies are based in Pittsburgh, PA. Three West Virginia companies received awards with a combined value of \$15,000.
- In 2011, a site ground-breaking event was held for the \$3 billion TransGas Development Systems LLC (TGDS) coal-to-liquids plant in West Virginia. Air emissions permits have been finalized. The company has contracted with gasification technology provider, Uhde, and secured a methanol-to-gasoline technology license from Exxon Mobil. Projected to be operational by 2018, the plant will be built in Mingo County's new energy park at Wharnccliffe. The construction phase is expected to generate 3,000 jobs. When fully staffed, the facility will employ as many as 200 workers. TGDS estimates the facility will use up to 3 million tons of locally mined coal a year to produce approximately 18,000 barrels of synthetic gasoline and 3,000 barrels of liquefied petroleum gas (propane) per day.
- 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 and is continually updating the information. Over the past year, CBER has been working to update the database that organizes energy statistics collected by the Energy Information Administration and make it available to the WVDOE in a more user-friendly format. In addition to updating the data, CBER made improvements upon the database interface, increasing its functionality. CBER also created energy flow charts for the state of West Virginia for years 2005 to 2011 detailing energy production by resource, exports by resource and consumption by sector. [See chart, West Virginia Energy flow 2011 (Trillion BTU)] Time series data on the components of the charts are also collected and posted within CBER's website. Last year, CBER prepared the "Energy Blueprint," which portrays the role

West Virginia provides as an energy producing state. This document is intended to be updated in the coming year. The current Blueprint can be accessed at www.energywv.org.



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

- The OCCD reviewed 47 permits, consisting of 17 original notifications of requirement to file community impact statements (CIS). The office approved 30 new and updated CIS plans during the period. This number includes amended CIS submissions for changes made to the original.
- The OCCD maintained a contract with Rahall Transportation Institute to develop Land Use Master Plans for Greenbrier, Lincoln, McDowell, Mingo, Raleigh, Upshur, Wayne, Webster, and Wyoming counties. All are developed and approved by each of the nine counties. The OCCD worked with directors of each of the nine economic development authorities who reviewed and personalized the plans to meet their individual county needs.
- An ongoing agreement (Memorandum of Understanding) between the OCCD and the West Virginia National Guard permits this office to continue the evaluation of surface-mined sites. The MOU advanced the use of surfaced-mined properties as a component of “Fort West Virginia.” Several post mine land sites throughout West Virginia are being utilized for training grounds for national security purposes. Locations include post mine land sites in McDowell, Wyoming, Clay, Kanawha, Raleigh, Greenbrier, Randolph, Webster, Logan, Fayette, Nicholas and Boone counties.
- The OCCD worked with the WVU Brownfields Assistance Center in an EPA-funded study to identify McDowell County as a sustainable energy park on reclaimed mine sites.
- The OCCD worked with Marshall University Research Corporation to develop an economic impact study of jobs on surface-mined lands.
- The OCCD worked 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 worked with Marshall University Brownfields Assistance Center to develop marketing plans for reclaimed mines site in various distressed coalfield counties.
- The OCCD met several land owners/mining operations 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 WV 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 renewable energy development on surface-mined lands.
- The OCCD meets weekly with the WV Development Office for briefings on economic development efforts in coalfield counties.
- The OCCD and the WV Development Office partnered with the Rahall Transportation Institute to conceptualize a new mobile access system. Rahall Transportation Institute developed the Economic Development Data Portal (EDDP) for the state. The EDDP application officially launched at the Economic Development Councils annual conference.
- The OCCD attended and participated in two annual meetings (Legislative and Fall Conference) of the West Virginia Economic Development Council.
- The OCCD participated (as an ex-officio member) in quarterly meetings of the National Coal Heritage Area Board.

- The OCCD attended quarterly Corridor G Development Authority board of directors meetings.
- The OCCD attended quarterly Hatfield McCoy board of directors meeting.
- The OCCD attended the 2013 annual WV State Partnering meeting hosted by the U.S. Army Corps of Engineers.
- The OCCD attended and participated in the planning of the annual 2013 Miners' Celebration.
- The OCCD attended and participated in the planning of annual meetings the annual 2013 Land Use Forum at the Chief Logan Convention Center in Logan County.
- The OCCD attended the annual 2013 Land and Mineral Owners Association Conference.
- The OCCD attended the annual 2013 West Virginia Coal Association Conference.
- The OCCD worked with Commerce Communications to upgrade the website and design display boards for the office.
- The OCCD worked with Commerce Communication to manage notifications utilizing the office's website and local newspapers where mining activity is indicated within the Community Impact Statements (CIS). This is adherence to legislative requirements of public notice.
- The OCCD participated in meetings with members of Reconnecting McDowell to promote economic development efforts on post mine lands.
- The OCCD participated in meetings with the Department of Transportation, local officials and a coal operator to further promote development of the Coalfield Expressway in McDowell County.

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2014 action report goals:

- Work with local economic development authorities in the designated coalfield counties for projects including residential, industrial, commercial and business development use of surface-mined properties.
- Work with 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 10 coalfield counties to develop/update their Land Use Master Plans by providing pertinent information.
- 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; therefore, creating opportunities for that region of the state.
- Work with Marshall University Brownfields Assistance Center to develop marketing plans for reclaimed mine sites in various distressed coalfield counties.
- Coordinate site visits of 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 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.
- Work with the WV Agriculture Department to further explore agriculture development opportunities on post mine lands.
- Work with the WV National Guard to explore opportunities to utilize post mine lands for training exercises.

Renewable energy

- As of November 2013, 42 county school systems use 5 percent biodiesel blends in 3,181 school buses. Total fuel use in those buses was 5,100,937 and 5 percent (255,047 gallons) was biodiesel.
- WVDOE completed “Renewable Energy on Surface-Mined Lands,” a program funded through the Appalachian Regional Commission. The program was managed through WVDOE’s relationship with Marshall University’s Center for Environmental, Geotechnical and Applied Sciences (CEGAS). Initiative 1 projects included *Arundo donax* (Giant Reed) test plots; Randolph County Woody Biomass Plantings; Plum Creek Biomass Plantings; Marketing Packages on Surface Mine Property for New Development including Alloy Penn Virginia, Beaver Coal Sullivan Plateau, Arch Birch River, Fourmile at Hershaw, Penn Virginia Princess Beverly and Slaughter Creek; Preston County Woody Biomass Plantings; McDowell County Schools Solar Panel Installation and Demonstration; Monongalia County Schools Solar Panel Installation and Demonstration, and Morris Creek Watershed Micro-Hydro Generator Installation and Demonstration. Cumulative project outputs included 5,964 total project labor hours, 126 acres planted, more than 26,000 acres evaluated for development and 12.58 kilowatts of new energy capacity. Initiative 2 included ongoing Sonic Detection and Ranging (SODAR) wind data collection and analysis and reports can be found at <http://www.wvcommerce.org/info/publications/energy/reports/default.aspx>.
- The West Virginia Wind Forum, in cooperation with WVDOE and Marshall University, hosted its annual forum Sept. 24, 2013, on wind energy development in West Virginia. Sixty representatives of the wind energy industry, government, utilities and the environmental community attended the session, which featured presentations including “WVDOE West Virginia Energy,” “Eastern’s Advanced Technology Training Center-Grant County,” “Beech Ridge Update For WVWG - Sep 24, 2013,” “Integrating Wind into the North American Grid,” and “An Update on Wind Resource Assessment Projects at Marshall University.”
- In collaboration with the Appalachian Hardwoods Center at WVU, WVDOE sponsored a biomass energy conference June 25 in Morgantown with 70 participants. The conference promoted the use of West Virginia produced wood pellets for commercial and residential heating applications. All three pellet producers, Allegheny Hardwoods, Hamer Pellets and Lignetics, participated. The U.S. Department of Energy’s Regional Combined Heat and Power Center also provided presentations on generating electricity from excess steam production in industrial boilers. The production of steam for kilns typically results in available steam for electric generation. More information about the conference may be found at <http://ahc.caf.wvu.edu/news-mainmenu-2/537-biomass-conf-2013>.

Energy efficiency

- Members of West Virginia’s built community, including the W.Va. Fire Commission, code officials and home builders, agreed to a series of steps leading to full implementation of the 2009 International Energy Conservation Code for residential construction and ASHRAE 90.1-2007 for commercial construction in 2013. The W.Va. Division of Energy facilitated this work through ground laid by the American Recovery and Reinvestment Act’s funding of a green jobs training program at state community and technical colleges that included developing in-state energy code training capacity. The program yielded a trainer agreeable to the state’s home builders who spent the next several years providing workshops on the 2009 IECC and related requirements to regional chapters of the Home Builders Association (HBA) of West Virginia. The commercial and residential energy codes were formally adopted in June 2013, with the commercial energy code in effect Sept. 1, 2013, and the

residential commercial energy code in effect Nov. 30, 2013. The adoption of these codes led to most improved status for West Virginia on the American Council for an Energy-Efficient Economy's state scorecard in late 2013.

- 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 have received E3 assistance in 2013 include Engart, Beckley; Rubberlite, Huntington; Silgan Plastics, Tridelphia; Klockner Pentaplast, Beaver; Star Technologies, Huntington; Diamond Electric, Eleanor; Harbor Electric, Pritchard, Appalachian Timber Services, Sutton; Pine Opportunity Center, Beckley; Dyna Tech, Grafton; Allegheny Wood Pellet Mill, Kingwood.
- 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. Businesses include Swanson Industries, Morgantown; FCX Corp, Morgantown; Francis Enterprises, Fairmont; B&E Aerospace, Fenwick; Koppers Corporation, Green Spring.
- The WVDOE-supported Center for Building Energy Use (CBEU) at WVU provides energy benchmarking, audits and technical assistance. In 2013, the program assisted Ohio County Schools in identifying and assisting in qualifying three schools for the prestigious ENERGY STAR® building award.
- For the second year in a row, the WVDOE is awarding grants to units of local government for the Local Energy Efficiency Grant Program (LEEGP). The budget for the pilot year (2012-2013) was \$50,000, and the new budget is \$100,000 with the anticipation of at least ten grants being awarded during the 2013-2014 program year. This program is designed to provide grant funds to units of local governments for projects to assist businesses and homeowners with becoming more energy efficient. Applicants are limited to county commissions and municipalities. Suggested activities to be supported with these grant funds include energy audits, energy conservation workshops and other energy educational activities as well as energy efficiency kits for homeowners. Cities and counties may elect to partner with local offices of the State Weatherization Assistance Program for these projects and other energy efficiency services. Activities initially funded for the pilot year of this program included energy assessments for businesses in Lewisburg and Ronceverte as well as workshops for the general public in these areas. Both communities worked together to achieve better results. Their projects have been extended due to the current lack of energy auditors available in the state. Additionally, the city of Charleston used funds from this program to offset budget overruns for a program they already had in place. They initiated a competition among homeowners in Charleston's East End. The idea was to track energy costs and conduct assessments to generate reports detailing anticipated energy savings if specific changes were made. Block captains were chosen for each area of the East End to assist with collecting information. Charleston was able to garner genuine interest in the program and have future plans of continuing the program for the new plan year. They are still collecting information pertaining to utility bills to determine actual energy savings from this program.
- In conjunction with the facility upgrades funded by the American Recovery and Reinvestment Act (ARRA) and the Energy Efficiency and Conservation Block Grant (EECBG), ENERGY STAR® Portfolio Manager services were offered to the grant recipients. These services included creating a building profile in the Portfolio Manager database and inputting energy usage to better understand where a facility stands nationally

and how that facility's energy usage has changed since the installation of energy efficient upgrades. This was an available service provided by WVDOE. It required the participant to collect energy usage data (electricity and natural gas consumption generally) for the previous 24 months as well as identify facility operating hours, number of computers on the premises and how many workers were on a shift. Over the past year, the information was entered into the database and the results were organized into reports. These reports were then distributed to the corresponding regional economic development authority. Fourteen facilities spanning four regions participated in this service.