

The Case for Energy Efficiency Investments in West Virginia

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Background: An Energy and Sustainability Roadmap for West Virginia

Policymakers in West Virginia are being forced to face a future where the national economy is less dependent on the coal industry. While electricity generation in the U.S. traditionally has relied on coal for about one half of its fuel source, that dependency has declined dramatically in 2012. Older coal generating plants are being retired in the face of more stringent regulations of emissions by the U.S. Environmental Protection Agency, and global demands for coal continue to raise the domestic price to levels that threaten coal’s cost-competitiveness compared to other fuel sources for electric generation, such as natural gas. West Virginia coal production is also entering a period of marked decline of almost 30% by the end of the decade,¹ one that will force the State to shore up its economy in unfamiliar but proven ways. The Center for Energy and Sustainable Development at the WVU College of Law is developing a series of “Discussion Papers” on the issues designed to explore the measures that West Virginia policymakers can take to position the state for a more sustainable energy future. This Discussion Paper focuses on the role that energy efficiency can play in creating a sustainable energy future for West Virginia.

The Case for Energy Efficiency

Energy efficiency² should be considered a high priority resource in West Virginia’s energy future. West Virginians use far more electricity compared to neighboring states: among the thirteen Appalachian states, West Virginia has the highest residential energy consumption per household.³ In other words, the relatively low *rates* in West Virginia have not resulted in lower

¹ *Fossil Energy Opportunities for West Virginia*, WVU BBER, 2012, available at http://be.wvu.edu/bber/pdfs/Fossil_Fuels_Energy_Opportunities_WV.pdf, at 23.

² Energy efficiency is generally defined as using resources that require less electricity to perform the same process or activity, or improving the energy output per unit of energy consumed. Examples of energy efficiency programs include efficient lighting retrofits; heating, ventilating and air conditioning (HVAC) retrofits; appliance retrofits; building improvements and commercial and industrial process improvements that reduce electricity use or losses. See generally *Energy Efficiency Toolkit for Manufacturers*, NATL. ASSOC. OF MANUFACTURERS, 2000, available at <http://www.energy.ca.gov/process/pubs/toolkit.pdf>.

³ *Energy Efficiency Policy Outlook for West Virginia*, MARSHALL UNIVERSITY CENTER FOR BUSINESS AND ECONOMIC RESEARCH, August 15, 2012 available at http://wvcommerce.org/App_Media/assets/doc/energy/EOD_Recommendations_-_Energy_Efficiency.pdf [hereinafter CBER REPORT], at 9.

bills. Compounding that long-term drag on the State's economy, both electricity rates and electric utility bills have risen dramatically in West Virginia over the past decade,⁴ so the need to invest in efficiency is more urgent. However, in terms of a commitment to energy efficiency, West Virginia ranks at virtually the bottom, with the American Council for an Energy Efficient Economy (ACEEE) ranking West Virginia 49th among the fifty states and the District of Columbia.⁵

The Benefits of Energy Efficiency

Investing in energy efficiency will be economically beneficial to West Virginians in many ways. First, investment in energy efficiency would produce significant economic benefits for a lower income state like West Virginia. These economic benefits arise from (1) increased economic activity as the energy bill savings are spent in the local economy, (2) indirect household and commercial spending for energy efficiency-related goods and services, and (3) direct creation of energy efficiency-related employment.⁶ A recent study involving six New England states, for example, projected that for every one dollar spent on energy efficiency would lead to ten dollars in increased economic activity over 15 years, as consumers spend energy bill savings in the wider economy, rather than send them out of state with their power bills.⁷ In Oregon, the statewide energy efficiency program resulted in over \$2 billion in additional economic output over the past decade, including \$630 million in additional wages, and \$120 million in additional business income.⁸ This includes 12,136 additional jobs in the energy efficiency sector as of 2009, 74% of which were construction jobs for weatherization and retrofiting.⁹ Moreover, lower energy bills reduce the cost of doing business in the region, which enhances the global competitiveness of local employers and leads to additional growth.¹⁰

Second, energy efficiency investment would give ratepayers tools to give them some control over their utility bills. Citizens have virtually no control over the electric *rates* charged by the two regulated monopolies in the State; these rates are regulated by the West Virginia PSC. But if energy efficiency programs were available to them, customers would have the ability to control the size of the *bills* they pay. This is a key distinction that is often

⁴ WVU COLLEGE OF LAW CENTER FOR ENERGY AND SUSTAINABLE DEVELOPMENT, *The Case for Integrated Resource Planning in West Virginia*, December 2012, available at <http://energy.law.wvu.edu/r/download/148340>.

⁵ *The 2012 State Energy Efficiency Scorecard*, AMERICAN COUNCIL FOR AN ENERGY-EFFICIENT ECONOMY (ACEEE), (October 2012) [hereinafter ACEEE SCORECARD], at ix.

⁶ CBER REPORT, *supra* note 3 at 6-7.

⁷ *Energy Efficiency: Engine of Economic Growth*, ENVIRONMENT NORTHEAST, October 2009, available at http://env-ne.org/public/resources/pdf/ENE_EnergyEfficiencyEngineofEconomicGrowth_FINAL.pdf [hereinafter ENE STUDY], at 4.

⁸ *Economic Impacts from Energy Trust of Oregon*, ECONorthwest, June 21, 2012, available at http://energytrust.org/library/reports/ETO_PY2011_Final.pdf, at 11.

⁹ *Oregon's Energy Efficiency Sector*, OREGON EMPLOYMENT DEPARTMENT, 2010, available at <http://www.qualityinfo.org/olmisi/ArticleReader?itemid=00007318>.

¹⁰ ENE STUDY, *supra* note 7.

overlooked—the assumption is that with relatively low electricity rates, utility bills will be low as well. However, low rates have not led to low energy costs in West Virginia: the average bill for residents in West Virginia in 2010 (\$105.05) was higher than the average bill for customers in the ten states *with the highest rates in the country* (\$103.62).¹¹ Despite the eleventh lowest rates in the country in 2010 (and those rates are rapidly increasing), West Virginia ranked only 27th for lowest electricity bills.¹²

Third, investing in energy efficiency would not only reduce power *bills*, but it should eventually lead to lower electricity *rates* as well, because “creating” kilowatts via efficiency gains costs less than most supply-side options (*i.e.*, buying or building additional power plants). It is far cheaper for utilities to meet electricity demand by investing in energy efficiency than it is to expend considerable capital on new power plants,¹³ costs that are passed directly to their captive customers. Americans spend approximately \$215 billion per year on the production of electricity at a price of 6 to 12 cents per kWh, while investments in energy efficiency, amounting to approximately \$2.6 billion per year, cost only about 3 cents per kWh.¹⁴ Because rates are largely based on the investments utilities make, investments in efficiency to meet power needs would eventually result in both lower rates and bills, when compared to the high cost of power generation, the costs of which have already resulted in the recent rate hikes in the State.

The Current Lack of Investment in Energy Efficiency Resources in West Virginia

Despite these obvious and proven economic benefits, West Virginia has, by any measure, a poor track record of investing in energy efficiency. Decision-makers in the State have not adopted any policies to promote energy efficiency as a critical economic resource to be developed for West Virginia’s long-term future. Investor-owned utilities therefore offer very few energy efficiency programs to their customers. In fact, our utilities offer far fewer programs in West Virginia than in the other states in which they operate.

As noted above, the *ACEEE 2012 Scorecard* ranks West Virginia 49th in energy efficiency programs and policies,¹⁵ scoring only 6 points out of 50 possible. Surrounding states, many served by the same utilities as West Virginia, fared far better in the ACEEE rankings: Maryland was ranked 9th with 30 points, Pennsylvania 20th with 21.5 points, Ohio 22nd with 19.5 points,

¹¹ ACEEE SCORECARD, *supra* note 5 at 9.

¹² *Opportunity Knocks: Examining Low-Ranking States in the State Energy Efficiency Scorecard*, ACEEE, (May 2012) [hereinafter ACEEE OPPORTUNITY REPORT], at 10.

¹³ Larry Blank & Doug Gegax, *Objectively Designing Shared Savings Incentive Mechanisms: An Opportunity Cost Model for Electric Utility Efficiency Programs*, THE ELECTRICITY JOURNAL, 2011: 31-40.

¹⁴ CBER REPORT, *supra* note 3, at 4-5, citing Environment Northeast, ENERGY EFFICIENCY: ENGINE OF ECONOMIC GROWTH, October 2009, available at http://www.env-ne.org/public/resources/pdf/ENE_EnergyEfficiencyEngineofEconomicGrowth_FINAL.pdf at

¹⁵ ACEEE SCORECARD, *supra* note 5 at ix.

and Kentucky 36th with 13.5 points.¹⁶

There are several reasons that West Virginia fares so poorly in the *ACEEE Scorecard*, with the first shortfall being the absence of any policy that pursues energy efficiency as an energy and economic resource. West Virginia is a self-described energy state, yet fails to take any meaningful steps to capture the most abundant and cost-effective source of energy. Twenty-four other states have already adopted an Energy Efficiency Resource Standard, or EERS, which establishes an energy efficiency target that utilities must meet through efficiency-specific programs.¹⁷ These standards are typically expressed as multi-year savings targets for their citizens, such as 2 percent savings per year, or 20 percent cumulative savings by 2020.¹⁸

The majority of surrounding states are already capitalizing on this: Ohio,¹⁹ Maryland,²⁰ and Pennsylvania²¹ have adopted an EERS. In West Virginia, HB 4363, introduced in February 2012, would have established an EERS requiring electric utilities to reduce electricity consumption by 5 percent from 2010 levels by 2018 and 15 percent by 2025.²² The bill also would have provided financial incentives for utilities that meet or exceed their targets. The bill never made it to a vote in the House Judiciary Committee.

Poor Energy Efficiency Performance by the State's Two Regulated Electric Monopolies

A second reason for West Virginia's poor performance as an energy leader in the efficiency sector is that the efficiency programs offered by the two electric utilities operating in West Virginia are woefully deficient, with both utilities only offering a fraction of what they are achieving in the other states in which they operate.

In the case of FirstEnergy's subsidiaries operating in the State, the PSC in 2011 approved their "Phase I Plan for Energy and Demand Reduction Efforts,"²³ which comprises two modest programs: the residential low-income program²⁴ and the non-residential lighting program.²⁵ According to the *FE Resource Plan*, the two programs together are designed to reduce energy and peak demand by 0.5 percent of the two utilities' 2009 West Virginia sales over a five-year period, a very modest, even inconsequential goal at just 0.1 percent per year.²⁶

¹⁶ *Id.*

¹⁷ *Id.* at 19.

¹⁸ *Id.*

¹⁹ ORC 4928.66 et seq.

²⁰ Md. Public Utility Companies Code § 7-211.

²¹ 66 Pa C.S. § 2806.1.

²² HB 4363, the Energy Efficiency Resource Standard Act.

²³ Case No. 11-0452-E-P-T.

²⁴ See 2012 Resource Plan, MONONGAHELA POWER COMPANY AND THE POTOMAC EDISON COMPANY, August 31, 2012, at 27.

²⁵ See *id.*

²⁶ *Id.*

However, FirstEnergy's other operating companies offer a wide array of energy efficiency programs in their other states (Maryland, New Jersey, Ohio and Pennsylvania). Ohio requires the Ohio subsidiaries of FirstEnergy to achieve energy savings of at least 0.3 percent of annual sales beginning in 2009, with energy savings increasing to a substantial 22.2 percent by the end of 2025.²⁷ Pennsylvania requires First Energy to offer programs that can save at least 1 percent by 2011, and by at least 3 percent by 2013.²⁸

In the case of AEP, the PSC ordered Appalachian Power to submit an energy efficiency plan with its 2010 rate increase request.²⁹ The PSC directed AEP to implement the approved programs, which include low-income weatherization, residential home audit and lighting, and commercial-industrial incentives.³⁰ They are expected to result in 1.1 percent savings in 2012.³¹

Similar to FirstEnergy, AEP's comparative level of commitment to energy efficiency in other states is strikingly different than in West Virginia. In Ohio, the mandated level of energy efficiency will result in savings equal to over 20 percent by 2025.³² Elsewhere in AEP's territory, Indiana's standard requires energy efficiency reductions of 13.9 percent by 2020, while Michigan's standard requires 10.55 percent in the same year.³³ Virginia has a voluntary 10 percent efficiency target by 2020.³⁴ AEP has accordingly ramped up its efficiency programs to meet these mandates in the other states in which it operates, while West Virginia has no comparable statewide mandate (and, correspondingly, no comparable response by its utilities in offering energy efficiency programs to West Virginia utility ratepayers).

The PSC Has Not Addressed the Electric Utilities' Disincentive to Invest in Energy Efficiency

Third, the PSC has not adopted any policies that remove the disincentive for utilities to promote energy efficiency. Utilities are understandably reluctant to invest in efficiency programs because, if successful, the utility will sell less of its product.

In response to this tension between efficiency and utility profit, many utility commissions have adopted ratemaking mechanisms designed to hold the utility harmless from the profit impact of the lower sales "lost" to energy efficiency. The most common is referred to as "decoupling" (because it removes the link between sales volumes and profits). It is a ratemaking mechanism that tracks the loss of profit due to reduced sales, and allows the utility

²⁷ SB 221 (passed by the General Assembly in 2008).

²⁸ Act 129 of 2008.

²⁹ WV PSC Case No. 09-0177 (2009).

³⁰ ACEEE OPPORTUNITY REPORT, *supra* note 12 at 51.

³¹ Integrated Resource Plan, APPALACHIAN POWER, filed September 1, 2001 with the Virginia SCC, at 64.

³² *Id.* at 25.

³³ *Id.*

³⁴ *Id.*

to increase its rates slightly in order to recoup those lost revenues.³⁵

The *ACEEE Scorecard* states that such “regulatory mechanisms that provide incentives and remove disincentives for utilities to pursue energy efficiency . . . are critical to leveraging energy efficiency funding and encouraging savings over the near and long terms.”³⁶ However, the PSC has not adopted decoupling, nor has it implemented any sort of performance incentive mechanism related to energy efficiency.³⁷

Recommendations

West Virginia must aggressively move to capture the energy production and economic opportunity of energy efficiency. While ratepayers have no control over the *rates* that utilities charge, they can have some control over their energy *bills*, if armed with resources to do so in the form of energy efficiency program offerings. However, the current program offerings are strikingly meager, as measured against (1) the programs offered by our very same utilities in the other states in which they operate and (2) the commitment to energy efficiency adopted by virtually every other state in the U.S. Although West Virginia cannot fall much lower in the rankings from its lack of commitment to improving its economy through energy efficiency investment, it does stand to fall further behind given the increasing rate at which other states are committing to this easily achievable energy and economic resource.

Policymakers in West Virginia should give serious consideration to joining the 24 other states in the adoption of an EERS, which would require West Virginia utilities to achieve energy savings for its captive customers. The EERS proposed in HB 2210 would be a good start; it would require electric utilities to reduce electricity consumption by 4.5 percent from 2011 levels by 2019 and by 15 percent by 2027. As compared to the targets adopted in the surrounding states of Ohio, Pennsylvania and Maryland, that proposal is modest and easily achievable, but would have a significant impact on the pocketbooks of our citizens.

At the same time, policymakers need to acknowledge that utilities should not be expected to act against their economic interests—successfully promoting energy efficiency can lead to an erosion of the profit that the utilities are entitled to earn. So adoption of an EERS should be accompanied by ordering the PSC to implement a mechanism—like decoupling—that will hold the utilities harmless from the earnings impact of increased savings by their customers. We cannot expect utilities to embrace energy efficiency and other demand-side options as energy resources if they suffer economically for doing so. It is essential that commitment to energy efficiency in West Virginia also spare utilities from financial harm.

³⁵ DECOUPLING POLICIES: OPTIONS TO ENCOURAGE ENERGY EFFICIENCY POLICIES FOR UTILITIES, NREL, 2010, *available at* <http://www.nrel.gov/docs/fy10osti/46606.pdf>, at 1.

³⁶ ACEEE OPPORTUNITY REPORT, *supra* note 12 at 34.

³⁷ The West Virginia PSC rejected a proposal from Appalachian Power for a lost revenue recovery mechanism in October 2010. Case No. 10-0261-E-GI.

Other Elements of the Energy and Sustainability Roadmap

Based on these and similar analyses, these Discussion Papers³⁸ will result in a number of policy recommendations to be considered as West Virginia embarks on an energy future that will be – and needs to be – far different from its past. It will be a blueprint, or a roadmap, for a sustainable energy future for West Virginia. These Discussion Papers are intended to stimulate the thoughtful discussions that are necessary to place the State on a foundation that is sustainable, not only from the perspective of a “cleaner” energy supply but also in the resilience of a more diversified economic base that is better positioned for the future.

³⁸ The first Discussion Paper, issued in December 2012, was “The Case of Integrated Resource Planning in West Virginia.” *See* note 4 *supra*. Subsequent Discussion Papers will examine the following topics: “The Case for Revisiting West Virginia’s Renewable and Alternative Energy Portfolio Standard”; “The Case for Policies Stimulating Development of West Virginia’s Vast Renewable Energy Potential”; and “The Case for Policy Measures to Promote Utilization of West Virginia’s Vast Natural Gas Resources.”