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The Case for Integrated Resource Planning in West Virginia

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Background: An Energy and Sustainability Roadmap for West Virginia

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. Throughout its history, energy resources have been a driver for the West Virginia economy, with a heavy emphasis on fossil fuels (coal, oil and natural gas) in particular. In more recent years, the State is moving rapidly toward developing its natural gas resources in the Marcellus Shale.

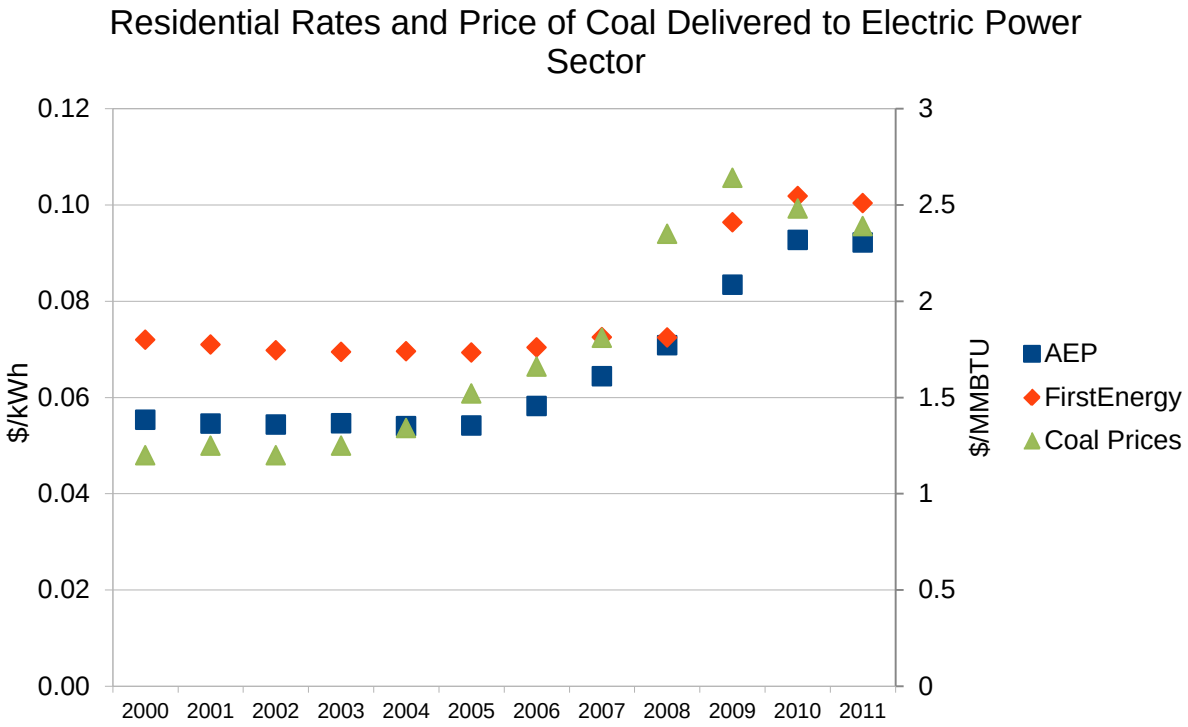
Going forward, policymakers in West Virginia need to consider a future where the national economy is less dependent on the coal industry. While electricity generation in the U.S. traditionally has relied on coal for about one half of its fuel source, that dependency has declined dramatically in 2012 as older, dirtier coal generating plants are retired in the face of more stringent regulations of emissions by the U.S. Environmental Protection Agency as well as global demands for coal that will continue to raise the domestic price to levels that threaten its cost-competitiveness compared to other fuel sources for electric generation, such as natural gas. West Virginia policymakers can take a number of steps to prepare the State for this new energy future. This series of Discussion Papers will examine some of these options.

The Case for Integrated Resource Planning

This first Discussion Paper makes the case for integrated resource planning. Electric utilities operating in West Virginia need to engage in a rigorous process of long-term planning that takes a critical look at the various resource options for procuring a reasonably priced and reliable electricity supply. West Virginians have not been well-served in recent years by the heavy dependence of local utilities on coal for electricity generation. In West Virginia, 96.8 percent of the generated electricity comes from coal.[1] As coal prices have doubled in response to worldwide demand, electricity rates have soared. The price of delivered coal to the electric sector increased from $1.20 per million British Thermal Units (MMBtu) in 2000 to $2.64 per MMBtu in 2009 – a 220 percent increase – and recently have declined to $2.39 per MMBtu

[1] West Virginia Division of Energy, ENERGY BLUEPRINT, at 1.

in 2011,[2] which still represents a price twice as high as prevailing prices in 2000. The electricity prices of the four utilities serving West Virginia, Appalachian Power and Wheeling Power (subsidiaries of American Electric Power, or AEP) and Monongahela Power and The Potomac Edison Company (subsidiaries of FirstEnergy), have similarly soared over this period, as the higher coal prices are ultimately reflected in electricity prices. From 2000 to 2011, AEP's residential electricity prices increased by 68 percent, while FirstEnergy's residential rates increased by 39.4 percent.[3] The figure below shows the relationship between increases in coal prices and residential electric rates in West Virginia.



A practice that may have prevented this outcome, and an essential ingredient for a stable and resilient future for West Virginia, is the requirement that utilities engage in "integrated resource planning,"[4] a process that has been widely accepted since the late 1980s as the

[2] U.S. Energy Administration, Short-Term Energy Outlook, November 6, 2012, available at http://www.eia.gov/forecasts/steo/report/coal.cfm.

[3] AEP's residential electric rates increased from 5.5 cents per killowatthour (kWh) in 2000 to 9.2 cents/kWh in 2011. FirstEnergy's residential electric rates increased from 7.2 cents/kWh in 2000 to 10.0 cents/kWh in 2011. Source: EIA form 826, available at http://www.eia.gov/cneaf/electricity/page/eia826.html. Average rates obtained by dividing residential revenues ($) by residential sales, in megawatthours (MWh).

[4] "Steps taken in the development of an IRP include: forecasting future loads, identifying potential resource options to meet those future loads and their associated costs, determining the optimal mix of resources, receiving and responding to public participation (where applicable), and creating and implementing a resource plan." Wilson, Rachel and Peterson, Paul, "A Brief Survey of State Integrated Resource Planning Rules and Requirements," Synapse Energy Economics, Inc., (April 28, 2011) (hereinafter "Synapse Study") at 3.

prudent means for utilities to develop long-term resource plans.[5] 39 of 50 states have a rule or requirement for long-term planning or procurement.[6] The federal Energy Policy Act of 1992 defines integrated resource planning as "a planning and selection process for new energy resources that evaluates the full range of alternatives . . . in order to provide adequate and reliable service to [an electric utility's] customers at the lowest system cost."[7] A key element of integrated resource planning is the requirement that demand- and supply-side resources be treated on a "consistent and integrated basis."[8] In other words, when a utility evaluates its options for meeting its future system needs, the utility must consider energy efficiency and conservation measures (demand-side resources) on the same footing as the addition of generating capacity (supply-side resources).[9] This feature is the "integrated" aspect of integrated resource planning. This integration is completely missing in the current practices of West Virginia utilities, as will be discussed below.

In addition to the integration of supply- and demand-side resources, a rigorous long-term resource acquisition process would require sophisticated modeling of various resource scenarios, using a variety of assumptions, in order to determine a portfolio of resources that results in adequate and reliable electric service at the lowest system cost, over time, to utility customers.[10] Such modeling would include, for example, different coal price scenarios that would have highlighted the risk of heavy, and virtually exclusive, dependence upon coal-fired generation. West Virginia utilities are not currently required to engage in integrated resource planning, and electricity ratepayers throughout the State are paying the price.

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[5] Synapse Study, *supra* note 4 at 1.

[6] *Id*. at 16. The variations between the state rules are "substantial." States with only procurement rules, for example, may not necessarily require an "integrated" planning process.

[7] Energy Policy Act of 1992, § 111(d)(19), 16 U.S.C. §2602(19). This "full range of alternatives" is defined to include, among other things, "new generating capacity, power purchases, energy conservation and efficiency, cogeneration and district heating and cooling applications, and renewable energy resources."

[8] *Id*.

[9] As will be discussed more fully in the Discussion Paper on energy efficiency, utilities have less incentive to devote resources to demand-side resources than to supply-side resources, given the manner in which utility rates are set. When a utility builds a new generating plant, it adds that investment to its "rate base" upon completion of the plant, and it is allowed to earn a reasonable return on that investment, thus increasing the utility's overall profits. Investments in demand-side resources, on the other hand, typically do not increase the utility's rate base, although the utility would recover the costs associated with offering the demand-side program in its rates. A number of regulatory policies are available to level the playing field between demand- and supply-side resources in terms of the economic impact on the utility but, for the most part, these policies are not in place in West Virginia. Utilities thus generally have a profit-motivated incentive to prefer supply-side options over demand-side options.

[10] "Common risks that are addressed by scenario or sensitivity analysis in IRPs include: fuel prices (coal, oil, and natural gas), load growth, electricity spot prices, variability of hydro resources, market structure, environmental regulation, and carbon dioxide and other emission regulations." Synapse Study, *supra* note 4 at 3-4.

"Integration" of Demand- and Supply-Side Options

While electric utilities operating in West Virginia may engage in a long-term resource planning process, it is clear that they fail to treat supply- and demand-side options on an equal footing, *i.e*., they are not treated on a "consistent and integrated basis" as required by the Energy Policy Act of 1992. In a "Resource Plan" filed in August 2012 with the West Virginia Public Service Commission (PSC) by FirstEnergy's subsidiaries operating in West Virginia (Monongahela Power and The Potomac Edison Company), FirstEnergy stated that its objective in preparing the plan was "to identify the resources necessary to meet the Companies' future energy and capacity obligations in a cost effective, prudent, and reliable manner."[11] According to the FE Resource Plan, the "options for meeting these future needs consist of supply- and demand-side resources and market purchases."[12] While this statement would seem to suggest an integration of supply- and demand-side options, the FE Resource Plan later makes clear that demand-side options were dismissed as "not a viable solution capable of meeting Mon Power's obligations."[13] According to the FE Resource Plan, "[p]rograms to reduce demand simply cannot fulfill the need for to [sic] supply side resources on this scale."[14] Accordingly, "demand-side resources were not considered as a viable, long-term solution to Mon Power's significant energy and capacity needs."[15]

After dismissing the demand-side options, the FE Resource Plan went on to evaluate the various generation, or supply-side, alternatives. These alternatives included retrofitting Mon Power's existing generation to comply with the new air emissions standards promulgated by the Environmental Protection Agency (EPA) in its Mercury and Air Toxics Standard (MATS), which is scheduled to take effect in April 2015;[16] building new baseload generation (coal, nuclear or natural gas-fired combined cycle combustion turbines);[17] building or acquiring alternative energy resources (*e.g*., wind, solar, or hydro);[18] and the acquisition of existing plants.[19] The "preferred approach," according to the FE Resource Plan, is to acquire existing generating

[11] Monongahela Power Company and The Potomac Edison Company, 2012 Resource Plan, August 31, 2012 (hereinafter "FE Resource Plan"), at 1.
[12] *Id*.
[13] *Id*. at 56.
[14] *Id*. The FE Resource Plan states that "[d]emand-side resources are inherently capacity-only resources and do not address energy shortfalls as significant as the shortfall faced by Mon Power; nor can DR [demand response] programs be developed in sufficient quantity to satisfy Mon Power's capacity deficiency shortfall." *Id*. In dismissing demand response programs, the FE Resource Plan states that "DR resources are short-term in nature, and pledged capacity would vary from year to year." *Id*.
[15] *Id*. The FE Resource Plan claims that demand-side resources cannot "be examined through a levelized cost analysis because of their inherent capacity-only nature." *Id*.
[16] *Id*. at 48-50.
[17] *Id*. at 50-52.
[18] *Id*. at 52-53.
[19] *Id*. at 54-56.

plants from Mon Power's affiliate, FirstEnergy Solutions.[20] The document claims that "Mon Power is fortunate to have uncovered such an opportunity" to acquire an existing source of generation, given that such opportunities are "scarce since they require the intersection of a willing seller and an asset that meets the requirements of the prospective buyer."[21] Under the transaction for which Mon Power seeks West Virginia PSC approval, Mon Power would acquire about eighty percent of the Harrison plant, a supercritical coal plant built in 1972 in Haywood, West Virginia, which has a generating capacity of 1984 megawatts (MW).[22]

In other words, in the face of dramatic increases in the price of coal over the past decade, and the likely additional cost increases associated with compliance with ever more stringent air emissions regulations from the EPA, FirstEnergy's solution for West Virginia is to increase the State's reliance on coal, by purchasing existing coal plants from an affiliate, without a thorough evaluation of alternatives that may indeed be cheaper for West Virginians. The need for integrated resource planning cannot be made more clear than through the obvious inadequacies of the FE Resource Plan, with its self-serving "analysis" that concludes how "fortunate" West Virginia ratepayers are to be able to take these uncompetitive plants off the hands of the FirstEnergy affiliates.

Appalachian Power, while not being required to submit any sort of long-term plan to West Virginia regulators, prepares an "integrated resource plan" that it submits to the Virginia State Corporation Commission pursuant to Virginia statute requiring the preparation of such a document periodically.[23] Appalachian Power's most recent "integrated resource plan" was filed with the Virginia SCC on September 1, 2011.[24] Although the Virginia statute contemplates an "integrated" resource plan, and Appalachian Power's filing appears to comply with the requirements of the statute, the resource plan is in fact not integrated: There is nothing in the plan that evaluates demand- and supply-side resources on a "consistent and integrated basis," as required by the Energy Policy Act of 1992. In fact, the plan clearly states that Appalachian

[20] *Id*. at 54.
[21] *Id*.
[22] Mon Power currently owns 20.54 percent of the capacity of the Harrison plant. FE Resource Plan at 24. In addition to the Harrison plant, Mon Power seeks PSC approval of the assignment by AE Supply and FirstEnergy Generation Corporation of their power participation rights in the generation produced by Ohio Valley Electric Corporation (OVEC). *Id*. at 4.
[23] Va. Code § 56-599 requires that electric utilities file integrated resource plans every two years. In preparing such a plan, utilities are required to "systematically evaluate" a variety of resource options, including short-term and long-term electric power purchase contracts, owning and operating electric power generating facilities, building new generation facilities, relying on purchases from the short term or spot markets, making investment in demand-side resources, including energy efficiency and demand-side management services, and taking other actions "to diversify its generation supply portfolio." Va. Code § 56-599(D). The Virginia SCC then reviews the plans and "make[s] a determination as to whether an IRP is reasonable and is in the public interest." Va. Code § 56-599(E).
[24] Appalachian Power Integrated Resource Plan, filed September 1, 2001 with the Virginia SCC (hereinafter "AEP 2011 Resource Plan").

Power will primarily, if not exclusively, be looking to supply-side resources to meet its energy and capacity needs: "As an underpinning, this IRP is based on the need to ultimately 'build' generating capability to meet the requirements of its customers for which it has assumed an obligation to reliably serve."[25]

Rather than putting demand- and supply-side resources on an equal footing for purposes of analysis and comparison, the AEP 2011 Resource Plan only evaluated two different levels of energy efficiency programs in Virginia, without any explanation for how the levels were determined.[26] Demand-side resources were not treated as a resource to be optimized alongside supply-side options; instead, the AEP 2011 Resource Plan simply subtracts the assumed savings from these two levels of energy efficiency programs from the load forecast. In other words, the "supply gap" to be filled by a resource acquisition strategy, representing the difference between the projected loads and the available resources, is narrowed because the load forecast incorporates the assumed savings from identified demand-side programs. Demand-side options are not otherwise evaluated alongside supply-side options for purposes of filling the "supply gap." The "integrated" aspect of integrated resource planning generally requires that all resource options be "stacked" from least costly to most costly, with the expectation that in developing its resource acquisition strategy, the utility will work its way up this "resource option" curve until the supply achieves equilibrium with demand. There is no integration under the approach followed in the AEP 2011 Resource Plan.

Moreover, for purposes of analysis, the AEP 2011 Resource Plan assigns an arbitrary levelized cost figure ($40/MWh) to demand-side resources. This "cost" figure does not necessarily reflect the actual cost of those resources and, more important, fails to reflect the relationship to the comparative costs of supply-side resources. In the AEP 2011 Resource Plan, demand-side resources are arbitrarily assigned the levelized cost figure of $40/MWh, which AEP claims is "consistent with numerous studies (approximately equivalent to $4.00/MMBtu)."[27] Under the approach followed in the AEP 2011 Resource Plan, it is irrelevant that this $40/MWh levelized cost figure may be substantially lower than the levelized cost of the supply-side options evaluated in the plan. Rather, the level of commitment to demand-side resources is determined by external factors (as discussed further below), and is merely "priced" by AEP for analysis purposes at $40/MWh. This approach falls woefully short of treating demand-side resources on a "consistent and integrated basis" with supply-side resources.

To illustrate, virtually ***all*** of the supply-side options have a levelized cost per MWh far in excess of the $40/MWh figure assigned by AEP to demand-side resources. According to the Energy

[25] *Id*. at 83.
[26] The "base" level represents an installed base representing a 4.9 percent reduction in ten years (by 2022) from the energy consumed in a business-as-usual forecast. The alternative level is two times higher than this base case. *Id*. at 64.
[27] *Id*.

Information Administration's estimates of levelized cost of new generation resources, the cheapest supply-side resource, a natural gas-fired advanced combine cycle combustion turbine, has a levelized cost of $63.10/MWh.[28] The estimates for other generating resource climb steadily higher: $88.90/MWh for hydro, $96.00/MWh for wind, $97.70/MWh for a conventional coal-fired plant, $110.90/MWh for an "advanced" coal-fired plant, $111.40/MWh for a nuclear plant, $115.40/MWh for biomass, and $152.70/MWh for solar photovoltaic.[29] If the AEP 2011 Resource Plan were truly integrated, then demand-side resources would fare very well when "stacked" against these more expensive supply-side resources.

Under the "silo" approach followed by the AEP 2011 Resource Plan, however, where demand-side resources are considered in isolation from supply-side options, the extent of reliance on demand-side options is based not upon head-to-head comparative costs, but rather on whatever resources Appalachian Power chooses to devote to demand-side activities. It is thus not surprising that the "five year action plan" for Appalachian Power includes no demand-side initiatives, but rather includes only supply-side options.[30] The Plan acknowledges that "[d]emand-side resources will likely play a significant role in satisfying capacity and energy requirements prospectively ***as they are the least-cost resource, even in significant amounts***."[31] Notwithstanding this striking admission that demand-side resources are cheaper for customers than generating resources, Appalachian Power refuses to allow demand-side resource to compete directly with supply-side measures, and proceeds with a resource plan that is almost exclusively devoted to more expensive supply-side measures.

Instead, as noted above, the levels of demand-side measures in the AEP 2011 Resource Plan were determined by external factors, in the form of energy efficiency programs mandated by the utility regulatory agencies, or PUCs,[32] in the various states in which AEP operates.[33] These

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[28] EIA, "Levelized Cost of New Generation Resources in the Annual Energy Outlook 2012," available at http://www.eia.gov/forecasts/aeo/electricity_generation.cfm, (July 2012) (hereinafter referred to as "2012 Energy Outlook") at 4.

[29] *Id*.

[30] The AEP 2011 Resource Plan identifies the following measures in its Five-Year Action Plan: environmental retrofits at its Mountaineer and Amos plants; building a new natural gas-fired combined cycle combustion turbine at Dresden; fuel switch the Clinch River Units 1 and 2 from coal to natural gas; and retirement of Clinch River Unit 3, Glen Lyn Units 5 and 6, and Sporn Units 1 and 3. *Id*. at 137.

[31] *Id*. at 137-8 (emphasis added).

[32] "PUC," or public utility commission, will be used as the generic term for the state regulatory agency responsible for setting retail utility rates. In West Virginia, this agency is the PSC, while in Virginia, it is the State Corporation Commission.

[33] Virginia has a voluntary target of achieving ten percent savings through energy efficiency by 2020. Mandated levels of demand reduction are also in place in Ohio, Indiana and Michigan. Under the Ohio standard, installed energy efficiency measures will result in savings equal to over 20 percent of all energy otherwise supplied by 2025. Indiana's standard achieves installed energy efficiency reductions of 13.9 percent by 2020, while Michigan's standard achieves 10.55 percent by 2020. The comparable figure for West Virginia is the two-year program approved in February 2011 that will result in 1.1 percent of installed saving in 2012. AEP 2011 Resource Plan, supra note 24 at 25.

mandated targets are incorporated as the basis for the assumed levels of demand-side measures in the AEP 2011 Resource Plan. There is no "integration" in the sense that the levels of investment in demand-side measures are determined by comparison of their cost-effectiveness with supply-side measures. Rather, after acknowledging that demand-side measures are the "least cost resource, even in significant amounts,"[34] the AEP 2011 Resource Plan makes it clear that its focus will be on supply-side resources, with its attention diverted to demand-side resources only as required by the PUCs in the various states in which AEP operates. As explored in the Discussion Paper on energy efficiency, West Virginia has imposed very modest requirements on Appalachian Power and Wheeling Power, both absolutely and by reference to the more aggressive mandates with which AEP is complying in the surrounding states.

Other Elements of Integrated Resource Planning

The other common elements of an IRP requirement include (a) an objective of selecting a portfolio of resources with the lowest system cost, (b) a long-term planning horizon, (c) periodic updates, (d) stakeholder involvement, and (e) subsequent use by PUCs as the basis for evaluating the prudence of the utility's resource acquisitions. These are discussed in turn below.

Lowest System Cost. As noted above, the federal Energy Policy Act of 1992 defines integrated resource planning as "a planning and selection process for new energy resources that evaluates the full range of alternatives . . . in order to provide adequate and reliable service to [an electric utility's] customers ***at the lowest system cost***."[35] In other words, a common objective of the IRP process is to select resources that will result in the lowest costs to utility customers over time.[36] This objective is typically evaluated by looking at the present value revenue requirement, or PVRR, of the utility's resource portfolio.[37] The resource alternatives available to a utility have different upfront capital cost and operating cost characteristics, *i.e*., some resources with higher capital costs, such as nuclear plants, have very low operating costs, while other resources with lower initial capital costs, such as natural gas-fired simple cycle combustion turbines, have higher operating costs.[38] The PVRR calculation attempts to capture

[34] *Id*. at 138.

[35] Energy Policy Act of 1992 (emphasis added). This "full range of alternatives" is defined to include, among other things, "new generating capacity, power purchases, energy conservation and efficiency, cogeneration and district heating and cooling applications, and renewable energy resources."

[36] Mitchell, Cynthia, "Lagging in Least-Cost Planning—Not As Far Along As We Thought," THE ELECTRICITY JOURNAL, Vol. 2, Issue 10 (December 1989), at 24-31. "Simply put, integrated resource planning means ensuring the long-term reliability of delivered energy at the lowest practical cost." Synapse Study, *supra* note 4 at 3.

[37] *Id*.

[38] According to the Energy Information Administration's Annual Energy Outlook for 2012, a nuclear plant has a levelized capital cost of$90/MWh and variable O&M costs (including fuel) of $11.60/MWh, while a conventional

the per-kilowatthour (kWh) cost of building and operating the various resource options over an assumed financial life and duty cycle, and to reflect these costs in real, current dollars to facilitate evaluation for resource selection purposes.[39]

Planning Horizon. Integrated resource plans are long-term in nature. The 2011 AEP Resource Plan, for example, uses a fifteen-year planning period,[40] while the FE Resource Plan looks at projected loads and resources for a similar period, through 2028.[41] Of those states with IRP requirements, the most common planning horizon is a 20-year period, with half of the IRP states mandating this planning period.[42] Six states use a planning horizon of ten years, while another six states use a fifteen-year planning horizon.[43]

Frequency of Updates. Integrated resource plans are typically updated every two to three years, to reflect changing conditions with respect to load forecasts, fuel prices, capital costs, conditions in the electricity markets, environmental regulation, and other factors.[44] Of the twenty seven states included in the Synapse Study, fourteen of the states require IRP updates every two years, while eleven states follow a three-year cycle.[45] In deciding how often to require an IRP to be updated, policymakers will need to consider the volatility of the underlying conditions and the frequency of the changes, and the capability of the jurisdictional utilities in performing the analysis necessary to support an IRP. The costs of preparing IRPs are ordinary and reasonable operating expenses that are properly recoverable in rates, so the compliance costs should be an element in the policymakers' analysis.

Stakeholder Involvement. Many states require that stakeholders in the utility ratemaking process be involved in the development of an IRP or, at a minimum, that the PUC provide some public process for the commissioners to receive comments on proposed IRPs. In defining the characteristics comprising a "full featured" IRP process, the authors of the Synapse Study required that the process be "subject to public review."[46] The Virginia statute, for example, requires that the State Corporation Commission give "notice and an opportunity to be heard."[47] The rule in Washington provides that "public participation [is] essential to the development of an effective plan," and specifically requires the utility commission to "hear comment on the

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natural gas-fired combustion turbine has a levelized capital cost of $45.30/MWh and variable O&M costs of $76.40/MWh. 2012 Energy Outlook, *supra* note 28 at 4.

[39] According to the Energy Information Administration, key inputs to calculating levelized costs for generating plants include overnight capital costs, fuel costs, fixed and variable operations and maintenance (O&M) costs, financing costs, and an assumed utilization rate for each plant type. *Id*. at 1.

[40] AEP 2011 Resource Plan, *supra* note 24 at 6.

[41] FE Resource Plan, *supra* note 11 at 4.

[42] Synapse Study, *supra* note 4 at 7.

[43] *Id*.

[44] *Id*. at 8.

[45] *Id*.

[46] *Id*. at 2.

[47] Va. Code § 56-599(E).

plan at a public hearing scheduled after the utility submits its plan for commission review."[48] The purpose of stakeholder involvement is to give interested parties an opportunity to help shape the utility's resource acquisition decisions early in the decision-making process. Under utility ratemaking practices, the impact of utility resource acquisition decision is felt only at the end of the process, when the plant is completed and the investment in the resource is added to the utility's rate base, usually resulting in a rate increase. It is too late at that point to encourage the utility to take a different path, and the recourse available to opposing stakeholders is to intervene in a rate proceeding and propose a disallowance reflecting the difference between the actual resource cost and the lower cost that the stakeholder's preferred path would have produced, based on a demonstration of imprudence. It is very difficult to carry the burden of proof to support such a disallowance, however, and the need to maintain a utility's financial integrity may constrain the PUC from imposing a disallowance, irrespective of the evidence.

Subsequent Commission Action. IRP requirements typically contemplate that the state PUCs will take some action in response to the preparation and filing of an IRP. The Virginia statute, for example, requires that the State Corporation Commission "make a determination as to whether an IRP is reasonable and in the public interest."[49] In addition to taking action at the time the IRP is filed, state PUCs will commonly consider the information contained in an IRP in determining whether a utility's resource acquisition decisions were prudent. The Washington rule, for example, states that "[t]he commission will consider the information reported in the integrated resource plan when it evaluates the performance of the utility in rate and other proceedings."[50]

The Need for a Legislative Solution

As noted in the Synapse study, IRP rules governing utilities have been created in a number of ways.[51] Some states have passed laws requiring integrated resource planning,[52] while other states have enacted rules through actions of their PUCs.[53] Finally, some state PUCs have imposed the requirement through a formal order in a docketed proceeding.[54] It is recommended that the integrated resource planning process in West Virginia be imposed by statute, through the action of the State Legislature. Three reasons support this approach.

[48] WAC § 480-100-238(5).
[49] Va. Code § 56-599(E).
[50] WAC § 480-100-238(6).
[51] Synapse Study, *supra* note 4 at 5.
[52] Twelve states have passed laws. *Id*. at Appendix I.
[53] Eleven states have enacted rules. *Id*. at Appendix I
[54] Four states have implemented IRP through administrative order. *Id*. at Appendix I

First, ratemaking is by nature a legislative function. Legislatures delegate to state PUCs the authority to set utility rates, typically through a fairly broad grant of authority providing for general oversight of the utility industry and regulation of that industry "in the public interest."[55] Other grants of legislative authority in the utility industry include the imposition of an obligation to serve;[56] the requirement to obtain a certificate of necessity and convenience before rendering utility service;[57] a rate-setting standard to set rates that are fair, just reasonable and sufficient;[58] and service quality standards requiring safe, adequate and reliable utility service.[59] Requiring utilities to engage in integrated resource planning arguably is a similarly integral function that should be expressly required by an act of the legislature.

Second, the decision to require integrated resource planning, with the fundamental requirement that demand-side resources be treated on the same footing as generating resources, may be seen as a significant policy choice that uniquely belongs to the legislature. West Virginia has traditionally not treated demand-side options as "resources" in the same sense as generating plants that produce electrons. And the jurisdictional utilities in the state, AEP and FirstEnergy, are operating consistently with that practice. If a change in practice represents a fundamental shift in policy, then the popularly elected members of the legislature should be enunciating that policy choice through enactment of a statute, rather than appointed members of an administrative agency acting through rule or order.

Finally, a statute provides the durability that evinces a commitment to a different way of doing things. The West Virginia PSC likely possesses the necessary authority, through its general ratemaking powers, to impose a requirement that electric utilities engage in integrated resource planning. This authority could be exercised either through enactment of a rule (following a rulemaking proceeding), or through an administrative order in a docketed proceeding, just as numerous other PUCs throughout the United States have done. That the IRP process has been in existence in the United States for over twenty-five years – and been a matter of Federal law for twenty years – and yet the PSC has failed to take such action suggests that the agency cannot be expected to adopt this policy measure. Irrespective of the relative likelihood of this administrative action, however, enactment through rule or order lacks the certainty and durability of a statute. An order can be changed upon a change in the personnel of the PUC commissioners (following the development of an appropriate record, of course), and a rule can similarly be modified or repealed following a rulemaking process. A legislative enactment, on the other hand, sends a strong signal that "business as usual" on the important issue of utility resource acquisitions is no longer acceptable.

[55] W.Va. Code § 24-2-2.
[56] W.Va. Code § 24-2-1-.
[57] W.Va. Code § 24-2-11.
[58] W.Va. Code § 24-2-3.
[59] W.Va. Code § 24-3-1.

Concluding Recommendation

The West Virginia legislature should enact an integrated resource planning statute that, at a minimum, requires the evaluation of demand- and supply-side resource on an integrated and consistent basis. Following the consensus of actions in other states, the statute should also prescribe a long-term planning horizon of 15-20 years, and require the IRPs to be prepared no less frequently than every three years. On the issue of "least cost" or "lowest system cost," the legislature may want to consider a more flexible approach that recognizes the broader economic implications of particular resource choices. In the case of West Virginia, strict adherence to a "least cost" requirement may suggest movement away from heavy reliance on coal-fired generation, which could have broader economic impacts through loss of jobs, reduced severance tax revenue and declining economic activity. Utilities should be given the flexibility to address these economic impacts in justifying their resource acquisition decisions.[60] The IRP process would provide the framework for this analysis to be presented, and the utilities would have the burden to justify how these broader "public interest" factors may warrant a departure from a strict "least cost" path.

Other Elements of the Energy and Sustainability Roadmap

Based on these and similar analyses, these Discussion Papers[61] 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.

[60] The legislation could make it clear, for example, that in determining a reasonable resource portfolio, the PSC may take into account any economic benefits to West Virginia associated with particular demand- and supply-side resources.

[61] Subsequent Discussion Papers will examine the following topics: "The Case for Energy Efficiency Investments in West Virginia"; "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."