

CRISIS & energy markets! *a think tank*

Virginia Energy Plan (2014)

REP Index Report Card

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Virginia Governor McAuliffe's *Virginia Energy Plan (2014 VEP)* to which this **Responsible Ecoenergy Policy Index: Report Card** relates can be found [here](#) as issued October 1, 2014. A more detailed analysis of each of the 25 components of the VEP is available for purchase at www.caem.org.

Virginia's *Dept. of Mines, Minerals and Energy's* (DMME) Division of Energy is responsible for issuing a Virginia Energy Plan every four years in accordance with [Chapter 2 of Title 67](#) of the Virginia Code. As stated on its webpage, the purpose of the energy plan is "to provide a strategic vision for energy policy in the Commonwealth." The 2014 Energy Plan is composed of an executive summary, twelve sections and two appendices, whose organizational intent is to lay out a comprehensive view of where Virginia has been and currently is in terms of energy assets, programs and rates, and to chart a path forward for energy policy in the Commonwealth. Its comprehensive view is also intended to fulfill the statutory requirement added by the 2014 General Assembly requiring analysis of any proposed rule promulgated by the Environmental Protection Agency (EPA) for carbon regulation. The analysis can be found in the Appendix A of the 2014 VEP.

The policy path forward envisioned by the 2014 VEP is reflected in the Recommendations found in Section 12 of the 400+ page report. The 2014 VEP identifies the following four broad goals, under each of which it lists the broad actions proposed to achieve that goal. Not included below is the relatively large and ambitious set of specific action items it also proposes for each of the broader actions.

STRATEGIC GROWTH IN THE ENERGY SECTOR

1. Accelerate the Development of Renewable Energy Sources in the Commonwealth to Ensure a Diverse Fuel Mix and Promote Long-Term Economic Health
2. Make Virginia a Leader in Energy Efficiency to Reduce Consumption and Spur Economic Growth
3. Go Global with Coal Technology
4. Pursue the Development of Virginia's offshore Gas and Oil Resources

EXPAND BEST-IN-CLASS INFRASTRUCTURE

1. Expand, Improve, and Increase the Reliability of Virginia's Energy Infrastructure

ADVANCED VEHICLE TECHNOLOGY & ALTERNATIVE FUELS

1. Accelerate the Development of Advanced Vehicle Technology and the Use of Alternative Fuels for Vehicles in the Commonwealth

TALENT DEVELOPMENT IN THE ENERGY SECTOR

1. Expand and Foster an Educational Environment to Prepare the Next Generation of Virginia's Energy Workforce

The VEP rests on two broad policy foundations: 1. Improving the economy of Virginia; and 2. Lowering Virginia's greenhouse gas emissions. The VEP often identifies "the overarching goal of transitioning to a New Virginia Economy" as a driver. The vast majority of the VEP provides statistics and a detailed description of energy infrastructure in Virginia. The VEP also contains an Executive Order establishing the Virginia Energy Council.

REP Summary Conclusions on the Virginia Energy Plan

Based on the analysis of its recommendations, the VEP scored 46, a failing grade.

Analyzing the impact of energy on economic growth is laudable. The goal of such an analysis should be to ensure that impediments to growth and prosperity are addressed, whether they are caused by market failures or government failures. The end result of such a rigorous analysis will be enhanced economic efficiency in the production and consumption of energy, including the internalization of environmental externalities.


The vast majority of the Recommendations in Section 12 would provide subsidies, mandates, and additional bureaucracy to enhance the role of renewables, energy efficiency, and alternative fueled vehicles. Though these energy resources no doubt have a place in the mix of energy resources produced and consumed in the Commonwealth, the policy mechanisms chosen to advance them are very misguided. As noted below in Attribute 3, a competitive market in generation and giving customers the right to choose an energy supplier would ensure that renewables and energy efficiency achieve their economically efficient level of penetration. Mandates and subsidies further distort markets and waste taxpayer and ratepayer dollars.

The choice of misguided mechanisms largely results from the complete lack of coherent and rigorous analysis. Despite a legislative mandate repeated 8 times in the statute, there is virtually no analysis of different options, the pros and cons, or the costs and benefits of different options. Many other states and countries have embraced the policies in the VEP and analysis of such experiences would have been informative. The states (California and the Northeast) embracing these exotic reforms have the highest electricity rates in the continental US and New England has come close to electricity shortages on the last two winters. Germany and Spain have led a retreat from these policies because of consumer revolts over prices.

The issue of climate change is potentially a legitimate externality that might need attention. But the analysis of this potential market failure is non-existent, simplistic and unsound. Similarly, there are several existing governmental policies that lead to results that are counterproductive to economic growth. Again, however, the analysis of the impediments to growth from these obstacles is shallow and unconvincing.

All the recommendations seem to be driven by one virtually unarticulated assumption: carbon emissions. The Governor's letter mentions "climate change" twice in his 435 word letter. Yet without explanation or defense, the VEP itself implicitly assumes: 1. fossil fuels cause climate change, 2. climate change can and should be avoided, 3. Virginia's actions can make a difference; and 4. carbon reduction is the only viable strategy. One need not be a Neanderthal to expect a defense of these implicit assertions. The lack of any analysis is not only unfortunate but weakens the actionable vibrancy of the VEP.

Attribute	Plan Evaluation Comments	Score
<p>1. Identification</p> <p><i>Does the Plan properly identify problematic symptoms in the relevant energy market?</i></p>	<p>No. The VEP legislation delineates 8 times that “analysis” identify deficiencies in Virginia’s energy landscape. While the VEP legislation could consequently receive a high score for this attribute, regrettably, the VEP fails to describe the analytical framework it uses to identify deficiencies or to measure the extent of the deficiency. “Analysis” would seem to require: criteria for sound policy, identification of a problem, diagnosis of the cause, articulation of the options for rectifying the problem, study of the costs and benefits of different options, conclusions, and then sound recommendations supported by the foregoing. One would search in vain for any such analytical coherence in the VEP.</p> <p>Because the VEP does not specifically identify ailing symptoms in the Virginia energy market that needs policymaker’s attention, in order to rate this attribute the REP must rely on inferences based on the Recommendations. For example, the VEP presumes the benefits of a diverse fuel resource portfolio for electric generation. A diverse portfolio in commodity markets diversifies risks associated with each commodity and thus reduces the overall risks of the portfolio. However, the VEP does not identify whether the current resource portfolio is problematic in not being sufficiently diverse. The recommendations would infer that the current resource portfolio is deficient without more renewable energy, without any accompanying analysis of the optimum amount of different resources in the current mix.</p> <p>The recommendations are detailed, specific, and technical. Distilling the issues at the broadest level, the VEP focuses on Virginia’s economy and climate change. Identifying impediments to economic development and growth relating to energy issues and measuring environmental impact of a state energy policy plan is a part of the Identification attribute. The specific goals around which the Recommendations are organized (Growth, Infrastructure, Vehicles, and Talent) are also useful concepts under which to identify issues that might need attention. However, the 2014 VEP fails to identify how these areas experience problematic symptoms which make current Virginia policy deficient or to measure the deficiency. Even more significantly, it fails to define the principled construct that would define policy deficiencies. They presume existence of issues (without analysis for measurement or validations) based on the current national politics regarding energy. However, an economic analysis regarding the use of a policy tool for New England is different than for Virginia and thus should be independently determined. What is the proper level of fuel diversity to mitigate the identified risks?</p> <p>Consequently, the 2014 VEP not only fails for purposes of this REP attribute but also in complying with the legislative directives for analyses. It is heavy on statistics and details of the existing energy infrastructure in Virginia but light on a specific articulation of issue—the problematic symptoms experienced in Virginia’s energy market and supply of energy to Virginia consumers. After hundreds of pages of stats and description, Section 12 simply announces recommendations without any justification or explanation.</p>	3/5
<p>2. Diagnosis</p> <p><i>Does the Plan correctly diagnose the disorder causing identified ecoviergy problems, whether caused by market or government failures?</i></p>	<p>Partially. While the VEP may presume legitimate symptoms that are problematic, it doesn’t use a diagnostic approach to consider the systemic cause. Its specific diagnosis of what truly is the cause of the symptoms leaves much to be desired. A sound diagnosis of the impact of energy on Virginia’s economy would be twofold: are there unaddressed market failures that impede growth and are there existing governmentally imposed obstacles to growth?</p> <p>While the VEP is clear about its motivations (New Virginia Economy), it lacks any clear articulation of the causes of any of the current defects in the existing Virginia energy economy that are impediments to the New Virginia Economy. For example, it states that “One consistent trend is the low percentage of renewable generation contributing to the overall fuel portfolio in Virginia,” fuel diversity. It jumps to a government mandate as the solution without identifying any systemic reason leading to the low penetration of renewables, the optimal amount of renewables, or why increased renewables is a reasonable goal; these are all assumed. If the “cause” is not clearly articulated, it is hard to determine if the proposed changes are likely to rectify the problem. Merely forcing more renewables into the mix does not ensure any specific problem would be solved, nor what additional problems might be created. Similarly, the VEP states “Virginia must be committed to reducing energy consumption.” Why? Energy consumption has some correlation with economic growth. Energy consumption has been reduced by the recession. Would that be a favorable outcome under the legislator’s intent for a Virginia Energy Plan? Are Virginian’s failing to invest in cost-effective energy efficiency? Are there disincentives to such investments? What are those disincentives and how would they be rectified? The VEP provides only scant evidence as to why we need to reduce consumption or what market barrier is causing suboptimal investment in efficiency. Given the expansive number of energy efficiency programs that already exist at the Federal, State, and Local levels, how do we know if this is enough or too little and when will we know that we have achieved the “right” amount of consumption or efficiency?</p> <p>The issue of climate change may identify a potentially legitimate externality that might need attention. But the analysis of this potential market failure is non-existent, simplistic and unsound. No other unaddressed market failures are identified. Similarly, there are several existing policies that lead to results that are counterproductive to economic growth. Again, however, the analysis of the impediments to growth from these obstacles is shallow and unconvincing.</p>	3/5
<p>3. Cure</p> <p><i>Does the Plan propose functional solutions to the disorder that has been diagnosed?</i></p>	<p>No. In the electric sector, the VEP embraces “cures” consisting of renewable energy, energy efficiency, and alt-fueled vehicles. There is nothing inherently wrong with these energy resources <i>per se</i>. It all depends on the <i>mechanism</i> chosen to accomplish these outcomes. The VEP relies on subsidies and mandates, government’s current favorite policy tools. However, presuming that these tools can “cure” the problematic symptoms, without any analysis of unintended economic consequences who knows what might else might result. The VEP provides statistics regarding the amount of energy-intensive industry in Virginia, most likely due to its relatively low-cost energy environment, as well as other sound economic indicators. But in recommending the cure of renewable energy, it does not analyze the impact on jobs in that sector from the incremental increase in energy costs or cross-subsidization through taxes and electric rates, and the attendant secondary job loss. Data warehousing is a targeted sector for growth. How will it be affected? More preferable might be to reform the basic electric system to allow competitive markets for generation and give customers the right to choose their electricity supplier. Assuming accurate prices for electricity (with internalized environmental externalities), renewable would find its economically efficient level and customers could better understand the tradeoffs between conservation and consumption and the value of reliability. This policy approach would eliminate the need for much bureaucracy, subsidies, and mandates. Other states are examining market based policies and how the grid could better serve to open access to these generation and energy efficiency markets. The VEP however ignores them.</p> <p>In the oil and gas sector, the VEP recommendations would assist in removing impediments to offshore oil and gas and natural gas infrastructure. It also offers similar recommendations for nuclear power. Still, the 2014 VEP lacks the analysis for demonstrating the validity of these recommendations. It doesn’t demonstrate how expanding the market for these energy sources would result in microeconomic benefits associated with more open markets. Despite recommending fuel diversity, 2014 VEP would encourage an increase in coal exports rather than recommend that Virginia consumers should be allowed to enjoy the benefit of this locally-produced cheaper fuel. It would impose exportation costs on coal producers, reducing their profits that might otherwise be spent in Virginia to the benefit of Virginia’s economy. Should climate change be a driver of the VEP’s coal policy, where is the analysis to support export recommendations? If carbon is a problem, is it less of a problem if it is emitted in China rather than Virginia? Is there any sound reason to provide cheap export to China and expensive energy to Virginia when we are competing with China for jobs and prosperity, especially where there is no net reduction in carbon?</p> <p>Competition is mentioned 3 times but never as a tool to achieve a given policy. “Economic efficiency” is never mentioned as a policy to be pursued; yet at the end of the day it is the most important goal of energy policy. Rather, time-honored market distortions (mandates, subsidies, bureaucracy) are the preferred tools for curing energy problems. <u>Other than raw assertion, it is unclear what impact the VEP will have on climate change or the economy.</u></p>	7/20
<p>4. Proportionality</p> <p><i>Are the Plan’s solutions cost effective and proportional to relevant harm?</i></p>	<p>No. Proportionality is perhaps the weakest part of the VEP. Every governmental action has a cost and presumably some benefit. While acknowledging that <u>cost-benefit analyses</u> are difficult, it is crucial to determining the level of government intervention in a market. It would be irresponsible to impose a cost of \$1 for a benefit of 50 cents. Not only is it a waste of scarce ratepayer, taxpayer, or business dollars, it distorts the market signals that is the best means to manage consumer behavior. The VEP provides little to show how its recommendations would achieve a beneficial cost-benefit ratio.</p>	3/10
<p>5. Daedality</p> <p><i>Do the solutions effectively address complexity & interconnectdness of the ecoviergy system?</i></p>	<p>No. The VEP recognizes that there are many complicated moving parts to energy policy and markets, but the lack of analyses in each section results in its failure to protect against unintended consequences that may result from full implementation of the VEP. For example, pursuit of an increase in renewables can have a profound impact on the electric delivery system (transmission and distribution). Spending scarce ratepayer dollars on renewables rather than upgrades to aging infrastructure may be misguided. Spending tax dollars on subsidies requires either tax increases or decreased spending in other areas. There is no analysis of what needs to be done to address this impact of renewables. There are recommendations that would increase the use of electric and natural gas vehicles. There is no discussion of the impact this might have on carbon emissions or the relative prices of electric and natural gas for use as heating fuels and Virginia’s economy. Microeconomic principles would rely on the adaptability of markets to respond to resource allocation among competing forces and on innovation in response to efficient market prices that would reward innovation. It is important to diagnose what is truly a market failure and what is problematic due to government intervention. The success of policy based on microeconomic principles has been demonstrated in the natural gas sector to the benefit of Virginia’s natural gas sector, which in turn benefit electricity markets. The VEP, though, has not considered in its analysis market solutions that might more effectively deal with the complexities of interdependence among economic sectors. Too many past mistakes have been made in energy policy because of “good intentions.” Financial resources are too scarce and economic growth too important to foist additional taxpayer and ratepayer expenditures on Virginia without a searching effort of the likely impact of such actions on the energy system.</p>	5/10

Attribute	Plan Evaluation Comments	Score
<p>6. Adaptation</p> <p><i>Do the solutions accommodate adaptability to changes in facts or technology?</i></p>	<p>No. The recommendations in the VEP do not rely on policy tools that are capable of adapting to new factual information. Since most of the recommendations are subsidies and mandates imposed by government, it is often the case that political constituencies grow up around such policies and make it difficult to make changes to adapt to new circumstances. Perhaps the best example is the continued subsidies and mandates favoring ethanol. It is now thoroughly recognized that ethanol provides little if any environmental benefit and oil is no longer considered in short supply, if it ever was. The unintended consequences on corn and food prices has had some serious consequences. Yet despite the collapse of the original policy rationales, ethanol favoritism persists as a policy. Farmers, ethanol producers, and politicians representing these interests have proved durable in advocating for continuation of these subsidies. Net metering is another example of creating a customer group reliant on the subsidy provided in the program to the expense of other electric consumers. The controversy surrounding net metering programs in other states has demonstrated the difficulties in addressing the inequities associated with these programs even when solar costs have decreased to the extent subsidies may no longer needed. Yet the VEP would increase the participation level under these programs.</p> <p>The VEP contains little or no mechanism to reconsider the subsidies and mandates as new information becomes available. Market mechanisms to achieve policy objectives have proved more self-adapting to new situations and easier to change in the political process when facts change. The VEP should have, at a minimum, provided analysis to determine which policy tool would have best served to accommodate adaptability to changing circumstances in the energy market and competitive energy resources.</p>	5/10
<p>7. Innovation</p> <p><i>Do the Plan's solutions promote effective innovation to address ecoviergy problems?</i></p>	<p>Partially. By definition, innovation is a surprise. One cannot mandate effective innovation. Often innovation occurs because experimenting in one direction leads to insight that solved some other problem. Government has been involved in this innovative role, as seen in the creation of the internet. The Defense Department was concerned about communication stability in the event of a nuclear war. It commissioned DARPA to invent a robust communications technology to meet this challenge. Eventually, it became clear that such a technology had what has come to be recognized as revolutionary information access capabilities. Thus was born the internet. Government has facilitated some astounding innovations when it has pursued its own self-interest, such as in defense and space research. Also, sponsoring research performed in universities and graduate schools has led to significant advancements in many economic sectors. These innovations are often adapted by entrepreneurs to private sector products and services, such as the internet and GPS. Government also has an important role in "basic" research. Government is justified in playing a role because of classic public goods market failure. Consequently, the VEP's strong position advocating the use of Virginia's excellent higher education institutions to conduct research and training in energy adds to its ranking relative to this attribute.</p> <p>The VEP will likely have two impacts on innovation. First, though possibly not cost-effective, mandates and subsidies of renewable, efficiency, and alt-vehicles can result in increased innovation in these government-chosen technology winners. Second, less clear, however, is the crowding out effect, i.e., what breakthroughs will NOT take place because the VEP policy distorts the field, and private sector research is not thus undertaken. There is also the risk of technology becoming overly dependent for their economic viability on these subsidies and mandates.</p>	5/10
<p>8. Neutrality</p> <p><i>Does the Plan create a level playing field; address externalities; and is color blind as to market process outcomes?</i></p>	<p>The VEP ranks poorly relative to the neutrality attribute. "Fuel Diversity" is mentioned 21 times in the VEP, also expressed as an "all of the above" strategy. While markets are good at assessing risks and adopting diversification strategies to address future contingencies, government policies in the past have proven less than artful in assessing such risks. President Carter adopted a "diversity" strategy, which meant increasing renewable energy and energy efficiency in the mix and reducing reliance on oil imports and natural gas (in part due to erroneous predictions regarding depletion of natural gas reserves). His mandated strategy for diversity never envisioned how technology would render depletion projects wrong and eventually contribute to U.S.'s growing energy's independence. The VEP should identify the risks to be mitigated by fuel diversity (identification of symptoms) and then consider how markets, if priced efficiently with externalities internalized in pricing, could better align fuel diversification with the risks. The recommendations on renewables, efficiency, and alt-vehicles are NOT recommendations to remove impediments to more efficient market penetration (and surprisingly such impediments exist but are unaddressed by the VEP). Rather, they are recommendations to advance the utilization of these options by further distorting energy markets with subsidies, mandates, bureaucratic rules and new boards and agencies. Accordingly, the VEP not only doesn't address existing policies that distort neutrality but adds yet more distortions and inefficiencies.</p>	5/10
<p>9. Efficacy</p> <p><i>Will the Plan's solutions promote a sound ecoviergy</i></p>	<p>Virginia certainly has problems in its energy system. Several examples follow: existing subsidies and mandates, inefficiencies resulting from vertically integrated utilities, distortions by traditional utility regulation, impediments to the efficient utilization of coal due to misguided climate change interests, the need to price vehicle infrastructure to allow better maintenance and less congestion, the lack of customer choice in electricity, the need to invest in aging regulated infrastructure, including new technology and additional security protection, to name a few. But the VEP does not address these issues but rather adds more policy problem that will cause problems into the future.</p>	5/10
<p>10. Black Box</p> <p><i>Are there aspects of the Plan's ideas that are uniquely good or bad that are not captured by the first nine attributes?</i></p>	<p>The VEP could result in marginal benefits for Virginia's economic status as a result of the recommendations regarding fossil fuel production, energy infrastructure, nuclear energy, and utilization of higher education institutions to improve the energy system. However, its failure to adopt a systematic analytical approach to developing the plan leaves the plan at risk to future contingencies and unintended consequences. Its recommendations rely on policy tools that have already proven to be costly and that have historically demonstrated inapt at achieving government objectives for resolving problems as identified above. Thus, on the whole, well-established and studied microeconomic principles would indicate that the 2014 VEP would not promote a sound ecoviergy system. While the VEP evidences some courage in making some recommendations sure to disturb the environmental community, it nonetheless contains very little that is original or surprising.</p>	5/10
	<p>Total REP Index Score</p>	<p>46 of 100</p>



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ENERGY is the central nervous system of the US economy. Sound energy policy undeniably is essential for a prosperous and dynamic economy. Conversely, dysfunctional energy policy will yield a sluggish and static economy. Yet energy policy is at the center of much that is debated in Washington, DC and in the States. Largely because energy policy involves the intersection of so many important societal values, it is complex and controversial. To help think about it more constructively, we have coined the term “ecoviergy.”

ECOVIERGY is the study of the inseparable **e**conomic consequences of **e**nvironmental and **e**nergy policies. The **Responsible Ecoviergy Policy Index** or **REP[®] Index** scores specific policy plans against microeconomic criteria that are the hallmarks of good policy. It was developed by **CRISIS & energy markets! a think tank** (caem; kay-em) and can be found at its website, www.caem.org, in addition to other **REP[®] Report Cards** and where subscriptions to comprehensive **Reports** for this plan and others may be

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ECOVIERGY (e'co-vi-er-gee) n. – the study of the inseparable ECONomic consequences of enVironmental and enERGY policies

This **REP[®] Report Card** reflects the grade and scoring of the identified plan against the 10 Attributes listed above. These Attributes are heavily grounded in microeconomics and the lessons of the history of energy policy. The plan's associated **REP Report** includes a more detailed description of how the plan's discrete components are analyzed against the 10 Attributes. After each component is analyzed and graded, each plan receives a **REP Index Score** on a scale from 0 to 100 based on the degree of the plan's overall adherence to the **REP Attributes**, with 0 representing a lack of adherence and a departure from the microeconomic principles that have proven to support economic growth, and 100 representing a plan's full adherence to those microeconomic principles. A microeconomic-principled policy provides accountability for the policy's successes or failures.

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About Ken Malloy: Executive director and founder of CRISIS & energy markets! (caem), Malloy has been involved with energy policy for 30 years. He started his career as a law professor in the field of economic regulation and served as an attorney and policy director with the Federal Energy Regulatory Commission and deputy executive director and general counsel of the Illinois Commerce Commission. He also served for over 10 years in the Department of Energy's policy office, specializing in natural gas, electric and oil competition policy. For the last 10 years, he has formed and run nonprofit think tanks on energy policy. He was named one of five Energy Innovation Leaders by the magazine Public Utilities Fortnightly.

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