

**Virginia State Corporation Commission
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Good for the Economy.
Good for the Environment.

160550122

May 25, 2016

Joel H. Peck
Clerk, State Corporation Commission
c/o Document Control Center
P.O. Box 2118
Richmond, Virginia 23218

Re: SCC Case No. PUE-2016-00022 - Evaluating the Establishment of Protocols, a Methodology, and a Formula to Measure the Impact of Energy Efficiency Measures - Objective and Cost-Effectiveness - Evaluation, Measurement and Verification (EM&V)

Dear Mr. Peck:

Thank you for the opportunity to comment on the important matter of evaluating the establishment of protocols, a methodology, and a formula to measure the impact of energy efficiency measures. In brief, we encourage the adoption of a rigorous Evaluation, Measurement and Verification (EM&V) framework, which will (1) ensure that savings from energy efficiency are quantifiable and verifiable; (2) balance the accuracy and reliability of results with the associated costs of EM&V; (3) avoid excessive interference with existing practices that are already robust, transparent and effective; and (4) recognize that EM&V is routinely evolving to reflect changes in markets, technologies and data availability.

E2 is a national, nonpartisan group of business leaders, investors and others who advocate for smart policies that are good for the economy and good for the environment. Our members come from a broad business base, ranging from clean energy and clean tech, to real estate and finance and beyond.

Our members have been involved in the financing, founding or development of more than 1,700 companies that have created more than 600,000 jobs, and manage more than \$100 billion in venture and private equity capital. Accordingly, our members' take keen interest in the questions under consideration, which are critical to ensuring a cost-effective clean energy economy in Virginia.

The policies under consideration can let Virginia take its rightful share of the exponential growth in clean energy jobs in recent years. In E2's recent report "Clean Jobs America", analysis found that more than *2.5 million Americans* work in the clean energy industry across all 50 states.

Further, the report found energy efficiency to be the nation's largest clean energy sector

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employer, with nearly 1.9 million Americans working in areas such as high-efficiency lighting, Energy Star appliance manufacturing and high-efficiency HVAC services to reduce wasted energy in homes, schools and businesses.

E2 recognizes that energy efficiency provides cost savings for ratepayers, enhances grid reliability, and is generally the least-cost resource for meeting new energy demand.

Energy Efficiency Benefits Virginia and its Ratepayers

Energy efficiency is generally the least-cost option for meeting electricity demand today. One independent financial advisory firm estimated a levelized cost of energy (LCOE) for energy efficiency between zero and \$50/MWh.¹ Similarly, the Lawrence Berkeley National Laboratory (LBNL), based on an analysis of programs in 20 states from 2009-2013, recently estimated that the U.S. average “total cost of saved energy” from utility energy efficiency programs at \$46/MWh (or \$0.046/kWh).² In comparison, the average price of electricity in Virginia is \$93/MWh (or \$0.093/kWh).³

Because of its relatively modest existing efficiency programs, Virginia currently ranks higher than other Southeastern states for energy efficiency potential. Virginia is also well-positioned to tap into the large and growing energy efficiency industry due to its relatively older building stock, and a conventional regulatory structure which can undervalue efficiency programs and fail to provide full recognition of the potential of this resource.⁴

Evaluation, Measurement and Verification (EM&V)

SCC should adopt procedures that accurately and consistently reflect the contributions to cost-effective, reliable operation of the electricity system of all resources--including energy efficiency. A transparent measurement of these contributions is essential to providing a reliable basis for SCC decision-making.

Evaluation, Measurement and Verification (EM&V) for demand side energy efficiency is a well-established field of analysis, that has demonstrated itself to be a reliable basis for decision-making in myriad jurisdictions since the 1980s.

¹ Lazard, *Levelized Cost of Energy Analysis 9.0* (November 2015). Available at <https://www.lazard.com/media/2390/lazards-levelized-cost-of-energy-analysis-90.pdf>

² Lawrence Berkeley National Laboratory, *The Total Cost of Saving Electricity through Utility Customer-Funded Energy Efficiency Programs*, p. 11 (April 2015), available at <https://emp.lbl.gov/sites/all/files/total-cost-of-saved-energy.pdf>; Advanced Energy Economy Institute, *Competitiveness or Renewable Energy and Energy Efficiency in U.S. Markets*, p. 13.

³ Energy Information Administration

⁴ Synapse Energy Economics, *Regulatory Policies to Support Energy Efficiency in Virginia* (October 2014). Available at <http://www.synapse-energy.com/sites/default/files/Regulatory%20Policies%20to%20Support%20Energy%20Efficiency%20in%20Virginia%2014-110.pdf>

EM&V industry best practices are based in a well-developed field of analysis, consisting of many firms, private companies, and hundreds of practitioners; supported by a rich pool of technical resources, professional organizations, training, and certification programs; and is based on 30 years of experience. Numerous government entities and private customers rely on EM&V results and best practices to verify cost and energy savings; and to meet a variety of statutory, regulatory, and legal requirements, including prudent use of ratepayer dollars.⁵

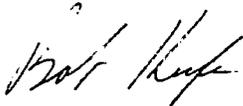
The EM&V industry has demonstrated that these best practices are a reliable basis for decision making, guiding the investment of billions of dollars annually in both public and private funds. These energy-efficiency investments support clean, local jobs here in Virginia.

Comments on Uniform Protocols

As the SCC strives to identify best practices throughout the industry, the best existing resource is the Department of Energy's Uniform Methods Project (UMP), which offers a solid and consistent foundation to account for a variety of efficiency technologies for EM&V measures. The UMP protocols are based on best practices in use today, and are aligned with other government efforts that require accurate EM&V, such as the Clean Power Plan. These protocols are well-understood by industry and professionals, allowing for easier compliance. Additionally, the UMP protocols can be adopted for the Virginia-specific market that can work for all stakeholders.

We will continue to following this important issue with great interest.

Sincerely,



Bob Keefe
Executive Director
Environmental Entrepreneurs (E2)

⁵ For example, in 2009, ten Northeastern and Mid-Atlantic states began the Regional Greenhouse Gas Initiative (known as RGGI), the country's first market-based program to reduce emissions of carbon dioxide (CO₂) from power plants. RGGI states account for one-sixth of the population in the US and one-fifth of the nation's gross domestic product. See: Hibbard, Paul et al., "The Economic Impacts of the Regional Greenhouse Gas Initiative on Ten Northeast and Mid- Atlantic States: Review of the Use of RGGI Auction Proceeds from the First Three-Year Compliance Period," (Nov,15, 2011), Analysis Group. http://www.analysisgroup.com/uploadedfiles/content/insights/publishing/economic_impact_rggi_report.pdf, and Hibbard, Paul et al., "The Economic Impacts of the Regional Greenhouse Gas Initiative on Nine Northeast and Mid-Atlantic States: Review of RGGIS's Second Three-Year Compliance Period (2012-2014)," (July 14, 2015), Analysis Group http://www.analysisgroup.com/uploadedfiles/content/insights/publishing/analysis_group_rggi_report_july_2015.pdf