Dominion's Renewable Generation Pilot Program: A Critical Analysis

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Despite the many benefits that can be derived from replacing fossil fuel energy generation sources with renewable energy sources,[1] Virginia's transition to renewable energy has been painfully slow. A variety of factors have contributed to this lack of progress, including ineffective statewide policies, counterproductive decisions by the Virginia State Corporation Commission ("SCC"), and resistance from the State's largest utilities. Increasing renewable generation in Virginia to acceptable levels will require Virginia's legislature and major utilities to work together to implement policies that promote new renewable development in Virginia.

Virginia Electric and Power Company's ("Dominion") proposed Renewable Generation Pilot Program[2] ("Pilot Program") has the potential to help promote renewable energy in Virginia; however, some revisions to the Pilot Program may be necessary to ensure its effectiveness. At its most basic level, the Pilot Program provides a new rate schedule option for large, nonresidential customers to receive a greater portion of their energy requirements from renewable generation sources of their choice, subject to certain program limitations.[3] The purpose of this paper is to critically evaluate the Pilot Program and to suggest potential changes that will help further its goals.

Part I of this paper provides background information on relevant renewable energy law and policy in Virginia. Part II describes the major features and structure of the Pilot Program. Part III analyzes the legality of the Pilot Program under the relevant provisions of the Virginia code and in light of past decisions by the SCC. Part IV evaluates the Program's potential to

[1] *See Local Climate and Energy Program*, ENVTL. PROTECTION AGENCY, http://www.epa.gov/statelocalclimate/local/index.html (last updated Oct. 17, 2012).
[2] *See* Application, Direct Testimony, Exhibits and Schedules of Virginia Electric and Power Company at 1, No. PUE-2012-00142 (Va. State Corp. Comm'n Dec. 20, 2012) [hereinafter Pilot Program Application].
[3] *Id.* at 1.

promote renewable energy in Virginia and proposes improvements to help the Program achieve this goal. Part V provides a brief summary of the analysis and findings of this paper.

I. BACKGROUND

Renewable energy has the potential to provide numerous benefits to state and local economies and to the environment, including reducing greenhouse gas emissions and air pollution, diversifying the energy supply, and stimulating job growth and economic development.[4] Many states have begun to take advantage of these benefits by implementing a wide variety of mandatory or incentive-based programs to drive renewable energy development.[5]

Virginia, however, has made little progress in developing its renewable energy resources, despite its substantial resource potential and the ample interest on the part of landowners, developers, and consumers. In 2010, Virginia had the tenth highest electricity demand among U.S. states, representing slightly more than 3% of total U.S. demand, but represented only 0.5% of total U.S. renewable energy generation, ranking 37th among all states.[6] The majority of Virginia's renewable energy generation comes from biomass and hydroelectric facilities that have existed for decades.[7] Wind power, in particular, is a resource that Virginia has failed to take advantage of—there is not a single large-scale wind farm currently operating in Virginia even though wind energy potential is relatively abundant along the Appalachian ridgeline.[8]

The lack of progress in developing renewable energy resources is largely the result of Virginia's law and policy. Virginia implemented a voluntary Renewable Portfolio Standard

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[4] *See Local Climate and Energy Program*, *supra* note 1.
[5] *See, e.g.*, *Database of State Incentives for Renewables & Efficiency*, U.S. DEPARTMENT ENERGY, http://www.dsireusa.org/incentives/ (last visited April 23, 2013).
[6] U.S. DEP'T OF ENERGY, ENERGY INFORMATION ADMINISTRATION, *Electricity Consumption by State* (2010), *available at* http://www.ipsr.ku.edu/ksdata/ksah/energy/18ener7.pdf .
[7] VIRGINIA ELECTRIC & POWER CO, DOMINION VIRGINIA POWER'S ANNUAL REPORT TO THE STATE CORPORATION COMMISSION ON RENEWABLE ENERGY 6, 12–13. (Nov. 1, 2011).
[8] DANIEL ANCONA III ET AL., PRINCETON ENERGY RESOURCES INTERNATIONAL, MID-ATLANTIC WIND: OVERCOMING THE CHALLENGES 4 (2013).

("RPS") in 2007 that is ineffective, despite the participation of the State's two largest investor-owned utilities ("IOU"), Dominion and Appalachian Power Company ("ApCo").[9] The RPS is ineffective primarily because its goals are voluntary and because Dominion and ApCo have easily met the incentive-based goals by relying on a combination of pre-existing renewable energy sources and out-of-state Renewable Energy Credits ("RECs").[10] Both Dominion and ApCo were able to meet their 2010 RPS goals without creating a single new generation facility and without purchasing a single REC from a facility constructed in the past decade.[11] Eighteen out of the twenty-eight facilities from which RECs were purchased to meet the 2010 goal were in operation prior to 1940.[12] Furthermore, the RPS has not led to the development of a single commercial-scale wind or solar generation facility in Virginia.[13] Dominion, by far the largest IOU in Virginia, met the RPS goal with only four percent of the RECs coming from Virginia facilities.[14] Yet, despite the ineffectiveness of the RPS, Dominion and ApCo were able to collect significantly higher returns from ratepayers for meeting the established goals.[15] Although these incentives have recently been eliminated,[16] Virginia has since done little to remedy the ineffectiveness of the RPS.

The success of the RPS in driving renewable energy growth has also suffered from unfavorable interpretations of RPS provisions by the SCC, which oversees Virginia utilities. In

[9] VA. CODE ANN. § 56-585.2 (2013); VA. OFFICE OF THE ATTORNEY GEN., REPORT OF THE OFFICE OF THE ATTORNEY GENERAL ON RETURN-ON-EQUITY ENHANCEMENT ADDERS OF THE 2007 VIRGINIA ELECTRIC UTILITY REGULATION ACT (2012). A "RPS" is a regulatory mandate to produce a certain percentage of electricity from renewable sources. *See generally* Nat'l Renewable Energy Laboratory, *State & Local Activities*, (last updated Apr. 26, 2013), http://www.nrel.gov/tech_deployment/state_local_activities/basics_portfolio_standards.html.
[10] VA. OFFICE OF THE ATTORNEY GEN., *supra* note 9, at 11.
[11] CHESAPEAKE CLIMATE ACTION NETWORK, VIRGINIA'S RENEWABLE PORTFOLIO STANDARD: UTILITIES RECEIVE MILLIONS IN BONUSES FOR BUSINESS AS USUAL 1 (2012).
[12] *Id.*
[13] *Id.*
[14] *Id.* at 3.
[15] *Id.* at 1. In 2010, Dominion and ApCo were granted approximately $76 million and $15, respectively, by the State Corporation Commission for their participation; these additional revenues were collected entirely from Virginia ratepayers in the form of increased electricity rates. *Id.*
[16] VA. CODE ANN. § 56-585.1 (2013).

2010 the SCC held that, under the RPS, a single megawatt hour ("MWh") of renewable energy can be counted twice towards a utilities' RPS goal.[17] This interpretation made the RPS goals significantly easier to meet. Even more detrimental to the development of renewable energy, the SCC has interpreted the RPS goals as a "ceiling," effectively prohibiting IOUs from going above and beyond the minimum requirements or investing in renewable generation facilities to meet future requirements.[18]

Dominion has also acted an impediment to progress, using its state-regulated monopoly status to prevent third party solar generators from selling directly to customers within its jurisdiction. In 2011, Dominion blocked a power purchase agreement ("PPA") for a solar generation facility between Secure Futures LLC, a company that develops onsite solar generation systems, and Washington and Lee University, that would have provided approximately three percent of the University's total energy demand.[19] In its "cease and desist" letters to Secure Futures, Dominion asserted that, based on Virginia's Electric Utility Regulation Act and Dominion's Competitive Service Provider Coordination Tariff, Secure Futures could not sell electricity to Washington and Lee unless it provided 100% of its energy needs because the University was located within Dominion's exclusive service territory.[20] Rather than incur expensive litigation costs without any assurance of success, Secure Futures agreed to convert the

[17] Order on Petition at 10, No. PUE-2010-00132 (Va. State Corp. Comm'n June 17, 2011).
[18] Order Denying Application at 1, No. PUE-2009-00102 (Va. State Corp. Comm'n June 2, 2010).
[19] *See* Tim Ciesco, State Law Hurting Virginia's Green Future? Lawmaker Eye Changes, WSLS, 10 (Feb. 1, 2012), http://www2.wsls.com/news/2012/feb/01/state-law-hurting-virginias-green-future-lawmakers-ar-1657330/; Lauren Eckhardt, *Solar Third-Party PPAs in Virginia: HB 129 Revisited and Revised*, 1–2 (2012) (unpublished student research paper, The George Washington University Law School), *available at* http://groups.law.gwu.edu/JEEL/Site%20Documents/Eckhardt%20--%20Solar%20Third-Party%20PPAs%20in%20VA.pdf.
[20] Eckhardt, *supra* note 19, at 1–2; VA.CODE ANN. § 56-577(A)(5) (2012). *See also* Petition of Secure Futures, LLC, Lexington Solar, LLC, and Washington & Lee University for a Declaratory Judgment at 2, No. PUE-2011-00107 (Va. State Corp. Comm'n Sept. 21, 2011).

PPA to a lease agreement, losing out on substantial federal tax credits.[21] Dominion's exercise of power, combined with the other adverse regulatory and market conditions, has been a substantial deterrent to renewable energy advancement in Virginia.[22]

Furthermore, in another move that hindered the installation of new solar capacity in Virginia, Dominion implemented a "stand-by" fee for residents and small businesses that installed solar cells generating between ten and twenty kilowatt hours ("kWh") per month.[23] These extra charges were approved by the Virginia General Assembly and upheld against challenges by the SCC.[24] The monthly sixty-dollar fee imposed on these net-metering customers is enough to make installation of these larger solar generation systems uneconomical for most customers.[25] Dominion justified the fees as compensation for infrastructure costs that would otherwise unfairly burden Dominion's other customers.[26] Regardless of the explanation, Dominion's actions again stunted renewable energy growth in Virginia.

Despite Dominion's past resistance to third-party renewable generation, Dominion's recent actions suggest, at the very least, acquiescence in Virginia's push for renewable energy development. First, Dominion flipped its position with regard to PPAs in its service territory by supporting legislation directing the SCC to conduct a solar and wind pilot program that allows for PPAs between wind and solar producers and customers.[27] The legislation was signed into

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[21] James Heffernan, *Solar Project at W&L Hits Regulatory Hurdle*, VIRGINIA BUSINESS (Mar. 28, 2012 6:00 AM), http://www.virginiabusiness.com/index.php/regions/article/solar-project-at-wl-hits-regulatory-hurdle/318193/

[22] Anthony E. Smith & Elizabeth Mast, Fast Forward Futures: Compressing the Development Cycle for Large Scale Solar Projects, 5, 8 (unpublished case study, Eastern Mennonite University), *available at* http://www.emu.edu/business/Smith.Anthony.final.090.pdf.

[23] Final Order at 4–5, No. PUE-2011-00088 (Va. State Corp. Comm'n Nov. 23, 2011); Patricia Sullivan, *Cost of Solar Energy May Go Up in Virginia*, VIRGINIA POLITICS, (Nov. 11, 2011, 5:10 PM), http://www.washingtonpost.com/blogs/virginia-politics/post/cost-of-solar-energy-may-go-up-in-virginia/2011/11/03/gIQAIsGSjM_blog.html.

[24] Final Order at 1–5, Case No. PUE-2011-00088.

[25] Sullivan, *supra* note 23.

[26] *Id.*

[27] Matt Ruscio, *Virginia to Begin Pilot PPA Program*, SECURE FUTURES (Mar. 19, 2013), http://securefutures.us/2013/03/virginia-to-begin-pilot-ppa-program/.

law on March 18, 2013 and requires implementation guidelines to be established by December 1, 2013.[28] The program, which will allow for the type of agreement Dominion blocked between Secure Futures and Washington and Lee, is limited to projects between 50 kW and 1.0 MW, with a total program cap of 50 MW.[29] Although the program is relatively small and limited to Dominion's service territory,[30] the legislation represents a significant improvement for wind and solar generators and provides hope for increased wind and solar generation in Virginia.

Dominion's most recent response to growing customer demand for renewable energy is the creation of its own program. Dominion's Pilot Program is designed to allow non-residential customers to contract indirectly, as third-party beneficiaries, with renewable generators to purchase a specified amount of electricity for an agreed-upon time period.[31] The program will provide participants with significant opportunity to define contract parameters and receive the benefits of investing in renewable energy without passing along the increased rates to non-participating consumers.[32] Dominion submitted the Pilot Program application to the SCC under Section 56-234 of the Code of Virginia as an experimental, voluntary tariff and is currently awaiting SCC approval.[33] A hearing was held on the application on May 7, 2013, and the SCC is currently considering post-hearing briefs before issuing a final order.[34] The proposal has been met with significant optimism from renewable energy proponents, although many of these parties are calling for revisions that will eliminate potential barriers to the Pilot Program's success. Some of these desired changes will be further explored in Part IV.

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[28] *Id.*
[29] S.B. 1023, 2013 Sess. (Va. 2013).
[30] *Id.*
[31] Pilot Program Application, *supra* note 2, at 1.
[32] *Id.* at 3.
[33] *See* State Corporation Comm'n Docket Search, No. PUE-2012-00142 (last visited Nov. 30, 2013), http://docket.scc.virginia.gov/vaprod/main.asp; Order For Notice and Hearing at 5, No. PUE-2012-00142 (Va. State Corp. Comm'n Jan. 11, 2013).
[34] *See* State Corporation Comm'n Docket Search, *supra* note 33.

II. DOMINION'S PROPOSED RENEWABLE GENERATION PILOT PROGRAM

A. Basic Purpose and Structure

The stated purpose of the Pilot Program is "to provide Dominion's customers with additional choices and options concerning renewable energy and to help promote the development of renewable energy in Virginia."[35] To achieve this purpose, the Pilot Program will allow for large, nonresidential customers to voluntarily contract to purchase a greater percentage of their energy needs from renewable energy resources.[36] The pilot program is limited in size to an aggregate energy cap of 240 million kWh annually, or a customer enrollment of 100 customers, whichever is reached first.[37] The enrollment period will remain open for up to three years.[38]

The Pilot Program is only available to nonresidential customers that meet certain demand requirements. Customers must have a demand greater than 500 kW and be served under current Dominion Rate Schedules, "GS-3" or "GS-4."[39] Furthermore, participants must have desired individual account purchases under the program of between 1 million and 24 million kWh annually.[40]

Participating customers will receive energy from Dominion from two sources: (1) under the customer's current rate schedule; and (2) under the new rate schedule, rate schedule "RG," purchased by Dominion, at the customer's request.[41] Dominion will accomplish this arrangement through two separate contracts. First, Dominion will negotiate a renewable energy purchase and sales agreement ("REPSA") on behalf of the customer that will have force between Dominion

[35] Pilot Program Application, *supra* note 2, at 1.
[36] *Id.* at 4.
[37] *Id.* at 7.
[38] *Id.* at 4.
[39] *Id.*
[40] *Id.*
[41] *Id.* at 5–6.

and the renewable generator chosen by the customer.[42] Under this contract, the participating customer will be recognized as a third-party beneficiary.[43] Dominion has indicated that contracts of at least ten years are preferred, although the customer will ultimately decide the contract length.[44] A second contract will be entered into between Dominion and the participating customer that will define the purchase terms for the renewable energy and assign the risks to the participating customer.[45] All Renewable Energy Certificates ("RECs")[46] generated under the contract will either be transferred to the customer or retired on the customer's behalf based on the customer's preference.[47]

The customer has substantial authority to define the basic parameters of the contract, although Dominion will negotiate the final terms of the REPSA.[48] The customer may choose the type of renewable generation, subject to certain requirements.[49] The type of renewable generation chosen must meet the definition of "renewable energy" found in Virginia's code,[50] and the generation facility must be located within the geographic scope of the PJM wholesale market.[51]

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[42] *Id.* at 6.
[43] *Id.*
[44] *Id.*
[45] *Id.* at 5.
[46] A "REC" is a certificate equal to 1 MWh of electricity produced from renewable sources placed on the grid that represents the property rights to the environmental and other "non-power qualities" of renewable electricity generation. *See generally* Envt'l Protection Agency, *Renewable Energy Certificates* (last updated Oct. 16, 2012), http://www.epa.gov/greenpower/gpmarket/rec.htm.
[47] Direct Testimony of Chiman H. Muchhala on Behalf of Virginia Electric and Power Company Before the State Corporation Commission of Virginia at 5, No. PUE-2012-00142 (Va. State Corp. Comm'n Dec. 20, 2012).
[48] Pilot Program Application, *supra* note 2, at 5.
[49] *Id.*
[50] Renewable energy is defined as "energy derived from sunlight, wind, falling water, biomass, sustainable or otherwise (the definitions of which shall be liberally construed), energy from waste, landfill gas, municipal solid waste, wave motion, tides, and geothermal power, and does not include energy derived from oil, oil, natural gas, or nuclear power. VA. CODE ANN. § 56-576 (2012).
[51] Pilot Program Application, *supra* note 2, at 1. PJM Interconnection LLC is a regional transmission organization that coordinates the movement of wholesale electricity in all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia. PJM, *Who We Are* (last visited April 21, 2013 9:00 AM), http://www.pjm.com/about-pjm/who-we-are.aspx.

B. Costs and Liabilities

Participating customers will be billed both under their current rate schedule and under the RG schedule.[52] In other words, customers will continue to purchase energy and capacity under their current rate schedules, but a portion of the customer's energy purchases under their existing rate schedules will be displaced by the amount of RG energy purchased.[53] The RG rate will be whatever cost Dominion and the renewable generation facility agree to by contract (with customer approval), and the customer will pay this amount in full.[54] Additionally, the customer will pay a monthly administration charge of $500, which is expected to cover incremental billing and administrative costs.[55]

The customer will be fully responsible for all payments according to the terms of the contract.[56] In the case of default, the customer will be responsible for any penalties or damages that result from early termination; Dominion will have no legal responsibility for the contract.[57] Thus, because participating customers will be responsible for all program costs, the Pilot Program will have no effect on ratepayers that do not participate in it.

III. ANALYSIS OF THE PILOT PROGRAM'S LEGALITY

The SCC's interpretation of the "reasonable and prudent standard" under Virginia's RPS program is a potential legal hurdle for Virginia utilities seeking to provide additional renewable energy. The standard requires that RPS program participants seeking to increase renewable energy supply in order to meet RPS goals must do so "at a reasonable cost and in a prudent manner."[58]

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[52] Pilot Program Application, *supra* note 2, at 3.
[53] *Id.*
[54] *Id.* at 7.
[55] *Id.* at 8.
[56] *Id.*
[57] *Id.* at 6–7.
[58] VA. CODE ANN. § 56-582.2 (2013).

In 2009, the SCC denied ApCo's application for the approval of three windfarm PPAs because ApCo failed to demonstrate that the additional PPAs were reasonable and prudent.[59] The SCC found that the increased rates from the new PPAs would be unreasonably burdensome to ratepayers, especially in light of other recent rate increases, and that the PPAs were unnecessary for ApCo to meet even the 2025 RPS goal.[60] Essentially, the SCC interpreted the RPS goals as a ceiling and mandated that ApCo consider lower-cost alternatives.[61]

The Pilot Program avoids scrutiny under the "reasonable and prudent" standard both because participation in the Pilot Program is voluntary and because Dominion cannot apply, and does not intend to apply, renewable energy supplied under the Pilot Program toward its fulfillment of RPS goals. Under the Pilot Program, participating customers are fully responsible for the elevated price of energy under the contract, including all administrative costs; the Pilot Program will have no effect on ratepayers that do not elect to participate.[62] Furthermore, in order for new renewable generation to be applied toward a utility's RPS goals, the utility must either own a forty-nine percent interest in the generation facility or acquire the RECs associated with the production of the renewable energy.[63] Renewable energy produced under the Pilot Program does fall within these standards because Dominion stated that it will not provide renewable energy from its existing renewable energy resources and will not build new facilities for the Pilot Program.[64] Moreover, the RECs purchased will be owned and controlled by the customer or

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[59] *Id.*
[60] Order Denying Application, at 13, Case No. PUE-2009-00102 (Va. SCC Jun. 2, 2010), *available at* http://docket.scc.state.va.us/CyberDocs/Libraries/Default_Library/Common/frameviewdsp.asp?doc=101512&lib=CASEWEBP_LIB&mimetype=application%2Fpdf&rendition=native.
[61] *Id.*
[62] Pilot Program Application, *supra* note 2, at 8.
[63] VA. CODE ANN. § 56-582.2. *See also* VIRGINIA DOMINION POWER COMPANY, DOMINION VIRGINIA POWER, ANNUAL REPORT TO THE STATE CORPORATION COMMISSION ON RENEWABLE ENERGY 14 (Nov. 1, 2011).
[64] Direct Testimony of Chiman H. Muchhala on Behalf of Virginia Electric and Power Company Before the State Corporation Commission of Virginia at 5, No. PUE-2012-00142 (Va. State Corp. Comm'n Dec. 20, 2012).

retired by Dominion, at the customer's request.[65] Therefore, the "reasonable and prudent" standard, responsible for impeding ApCo's efforts to contract for increased wind energy, is not applicable to the Pilot Program.

Instead, the Pilot Program must meet the standard outlined under Section 56-234 of the Code of Virginia, which requires utilities to provide reasonable, just, and uniform rates to all persons.[66] This section states that:

> [N]o provision of law shall be deemed to preclude voluntary rate or rate design tests or experiments, or other experiments involving the use of special rates, where such experiments have been approved by order of the Commission after notice and hearing and a finding that such experiments are necessary in order to acquire information which is or may be in furtherance of the public interest.[67]

Dominion believes that the Pilot Program, which is both voluntary and experimental, will serve the public interest by promoting further development of renewable energy; providing more options to large, nonresidential customers; and creating new jobs and economic opportunities in Virginia.[68]

There is some concern, however, that the Pilot Program will not serve the public interest, an issue which the SCC will ultimately determine.[69] Allison F. Samuel, a Utilities Analyst with the SCC's Division of Energy Regulation, points out in her pre-filed testimony that much of Dominion's belief that the program serves the public interest is based on the assumption that the program will promote renewable energy in Virginia.[70] While this may be the goal, the program is not limited to Virginia facilities, which means

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[65] *Id.*
[66] VA. CODE ANN. § 56-234 (2012).
[67] *Id.* § 56-234(B).
[68] Pre-Filed Testimony of Allison F. Samuel, Application of Virginia Electric & Power Company at 11, No. PUE-2012-00142 (Va. State Corp. Comm'n Apr. 9, 2013).
[69] VA. CODE ANN. § 56-23 (B).
[70] Pre-Filed Testimony of Allison F. Samuel, *supra* note 68, at 11. The SCC could also find that the Pilot Program serves the public interest in the other ways that Dominion describes, namely providing additional options to large, non-residential customers, and promoting economic growth. *Id.*

that it could conceivably fail to further the public interest in Virginia.[71] Furthermore, Secure Futures believes that the Pilot Program could impede renewable energy development if no restrictions are placed on Dominion's ability to selectively contract with company-affiliated generators.[72] The SCC may require revisions to address these concerns, but the basic structure of the program is likely to pass scrutiny under the public interest requirement. The language "may be in the public interest" does not necessarily require a definitive finding that the Pilot Program will serve the public interest, and there is little doubt that the Pilot Program has the *potential* to further the public interest.

The SCC could also prohibit the Pilot Program on the grounds that it is not necessary to "acquire information." Samuel states that:

> This information may be in the furtherance of the public interest in that it may help to assess whether this type of program does indeed result in the further development and use of renewable energy in the Commonwealth. However, it is not clear that this particular experiment is necessary for such an assessment. Comprehensive customer surveys could conceivably be utilized to gather such information.[73]

While some important information could likely be gathered through customer surveys, it would be difficult to accurately assess the Pilot Program's impact on the public interest in this manner. For example, even if most participants planned to contract with generators outside Virginia, this could still increase demand for renewable resources in Virginia. Furthermore, at this early stage it would be difficult to predict the exact program participants such that the surveys would provide an accurate assessment of which generators Pilot Program participants would select. If the SCC were to find the "acquire information" requirement prohibitive in this case, it could essentially use the same

[71] *Id.*
[72] Comments of Secure Futures, Application of Virginia Electric & Power Company at 2, Case No. PUE-2012-00142 (Va. State Corp. Comm'n Apr. 22, 2013).
[73] Pre-Filed Testimony of Allison F. Samuel, *supra* note 68, at 11.

language to block any pilot program under Section 56-234 for the same reason, which it has not done in the past.[74] Thus it is unlikely that this requirement will prevent approval of the Pilot Program. Based on the requirements of Section 56-234, the Pilot Program will likely be approved, although the SCC may make approval contingent on Dominion enacting minor revisions to the program's structure.

IV. ANALYSIS OF THE PILOT PROGRAM'S POTENTIAL TO PROMOTE RENEWABLE ENERGY IN VIRGINIA AND SUGGESTED REVISIONS

While electric utilities nationwide offer many different variations of voluntary green power programs, each program has the same basic goal of promoting renewable energy development. In evaluating these programs, four elements have been identified as essential to success: product design, personal value, product pricing, and program implementation.[75] The best program structure and strategy for each utility necessarily varies by region and constituency, but utilities can create successful programs by ensuring that each element is compatible with customer needs and program goals.[76] In this case, the goals of the Pilot Program are to promote renewable energy development in Virginia and to provide Dominion's large, nonresidential customers with additional options for supporting renewable energy.[77] With these specific goals in mind, this section evaluates the Pilot Program's potential for success in the context of the four aforementioned elements and provides suggestions for improvement.

A. Pilot Program Design

Successful program design requires that the structure of the program be attractive to potential customers and be designed in such a way that, if a sufficient number of customers

[74] *See, e.g.*, Order Granting Approval, Application of Virginia Electric & Power Company for Approval to Establish An Electric Vehicle Pilot Program Pursuant to § 56-234 of the Code of Virginia, No. PUE-2011-00014 (Va. State Corp. Comm'n July 11, 2011).
[75] BLAIR SWEZEY & LORI BIRD, NAT'L RENEWABLE ENERGY LABRATORY, UTILITY GREEN-PRICING PROGRAMS: WHAT DEFINES SUCCESS? 5 (2001).
[76] *Id.*
[77] Pilot Program Application, *supra* note 2, at 1.

participate, the program will achieve its goals. One important design feature is that programs support the development of *new* renewables.[78] Other important considerations include: whether the program supports 100% renewable energy, whether all the proceeds from the program are used to support renewable energy,[79] and especially for the Pilot Program, whether the design supports new renewable energy *in Virginia*. The Pilot Program's design is different from most traditional Green Power programs because the customer has the power to dictate the basic terms of its participation. This means that the participating customers will have a substantial impact on the overall success of the program, compared to traditional green power programs, which rely more heavily on design to ensure success.

1. Comparison to Traditional Green Power Programs

The most common green power programs offered by utilities provide the option to pay a premium per kWh, sometimes offered in the form of "blocks" or as percentages of power consumed, to support utilities' existing renewable energy mix or to support the utilities' purchase of RECs.[80] Dominion, for example, already offers a "100% Option" or a "$2.00 Block Option" to residential and nonresidential customers; Dominion then purchases RECs from renewable generators to meet customer demand.[81] Participants in this program may cancel at any time with no penalty.[82] While customers under traditional programs sometimes have the ability to choose blocks of renewable generation comprised of specific types of renewable generation (e.g., a higher blend of wind and solar generation), the customer generally has limited means to influence most aspects of the program.

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[78] SWEZEY & BIRD, *supra* note 69, at 5.
[79] *Id.*
[80] *Id.*
[81] *About Dominion Green Power*, DOMINION VIRGINIA POWER (last visited March 26, 2013), https://www.dom.com/dominion-virginia-power/customer-service/energy-conservation/green-power-frequently-asked-questions.jsp.
[82] *Id.*

In contrast to these standard green power programs, the Pilot Program allows much greater flexibility for the consumer to define the parameters of their participation, including control over the generation facility, type of generation, amount of energy purchased, and length of contract.[83] While the increased consumer choice is attractive to potential participants and gives the program great potential to achieve its goals, it also makes the Pilot Program's success heavily contingent on the goals of its individual participants. To ensure that the program provides "superior" clean energy generation—such as wind and solar—participants must be willing to pay more than they would for other renewables. Program participants must also be willing to enter into long-term contracts at potentially higher prices with facilities in Virginia. Thus it is essential that customers understand the benefits derived from contracting with potentially more expensive renewable generators, which is further discussed in the context of personal value and cost in Section IV.B.

2. Comparison to Georgia Power's Large Volume Purchase Option

Georgia Power's Large Volume Purchase Option ("LVP Option") under its Green Power program, implemented in 2008, provides a close comparison to the structure of the Pilot Program.[84] The LVP Option, like the Pilot Program, was developed in response to inquiries from some of Georgia Power's large customers.[85] These customers were interested in purchasing renewable energy; however, the cost of renewable energy under the then-offered GE-2 schedule was $4.50 per 100 kWh block, which was not competitive with bulk offerings in the national REC market.[86]

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[83] Pilot Program Application, *supra* note 2, at 4–6.
[84] Georgia Power Co., *Electric Service Tariff: Green Energy Schedule: GE-4* (2013), *available at* http://www.georgiapower.com/pricing/files/rates-and-schedules/11.00_GE-4.pdf.
[85] Georgia Power Company's Application for Certification of a Green Energy Program at 6, Docket # 16573-U (Ga. Pub. Serv. Comm'n, 2008) [hereinafter Georgia Power Application].
[86] *Id.*

Under Georgia Power's new Green Energy Schedule—GS-4 implemented simultaneously with the LVP Option—any customer can purchase a Standard Green Energy block ("Standard block") or a Premium Green Energy block ("Premium block").[87] The Standard block, which costs $3.50 per 100 kWh, consists of energy supplied from any renewable source that meets the Green-e National Standard.[88] According to a 2008 Georgia Public Service Commission Press Release, the Standard blocks consist of 100% biomass, primarily from the Seminole Landfill in DeKalb County, Georgia. The Premium block, which costs $5.00 per 100 kWh, consists of at least 50% solar energy.[89] Participants in the program must agree to purchase Green Energy for at least one year, and then are free to terminate at any time after providing sixty-days notice.[90]

Customers who purchase at least 400 blocks of Green Energy per month and who wish to purchase at least 500 additional blocks are eligible to take advantage of the LVP Option.[91] The 900 total blocks minimum monthly requirement, which equates to 1.08 million kWh annually, is comparable to the 1 million kWh minimum required under the Pilot Program.[92] The LVP Option also allows the interested customer to contract directly with Georgia Power to determine the price, quantity, term, and source of the additional renewable energy.[93] The proposal for the LVP Option stated that Georgia Power proposed to meet the increased demand through REC purchases from the Southeastern United States market, and potentially from some of its existing,

[87] *Id.*
[88] *Id.*
[89] *Id.*
[90] Georgia Power Co., *supra* note 84, at 2.
[91] *Id.* Thus, a customer participating in the LVP Option must purchase at least 90,000 kWh per month to be eligible for the program. *Id.* at 3.
[92] Pilot Program Application, *supra* note 2, at 4.
[93] Georgia Power Co., *supra* note 84, at 3.

company-owned resources.[94] The proposal also stated that a small "adder" would be applied to the price to account for risk and administrative expenses.[95]

There are a few key differences between the Pilot Program and the LVP Option. First, whereas the LVP Option is administered in conjunction with Georgia Power's standard Green Power program and necessarily requires participation in both, the Pilot Program is self-sustaining.[96] Georgia Power apparently arrived at this model after conducting comprehensive stakeholders meetings and decided that it would help "maintain the viability of the Program."[97] The combined structure likely reduced short-term administrative costs by taking advantage of the preexisting Green Power Program structure; but it also necessitates that customers purchase a significant amount of power at a higher cost, which could serve as a deterrent to participation. The Pilot Program, in contrast, allows the participating customer to purchase its entire energy demand (within program limits) at a negotiated rate.[98]

A second major difference between the two programs is their size. The LVP Option, unlike the Pilot Program, has no program cap or individual customer limit,[99] which means that it has greater potential to increase demand for renewable energy. The Pilot Program is limited in size to an aggregate energy cap of 240 million kWh annually, or a customer enrollment of 100 customers, whichever is reached first.[100] Participants are also limited to individual account purchases of 24 million kWh annually.[101] Dominion has explained that the individual purchase

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[94] *Id.*
[95] Georgia Power Application, *supra* note 85, at 6.
[96] *See id.*; Pilot Program Application, *supra* note 2, at 1.
[97] Georgia Power Application, *supra* note 85, at 6.
[98] Pilot Program Application, *supra* note 2, at 3–4.
[99] Georgia Power Application, *supra* note 85, at 6.
[100] *Id.* at 7.
[101] *Id.*

limit allows for a reasonable number of participants, while allowing Dominion to manage program administration and cost.[102]

The LVP Option has achieved only minimal success, with participation ranging from four to six participants.[103] In early 2010, there were six participants purchasing 2.89 million total kWh.[104] In July and August 2012, five participants combined for 3.475 million kWh, but these numbers dropped in September to four participants and 3.425 million kWh.[105] The five customers recognized in 2009 for taking advantage of the LVP Option were: the Center for Disease Control and Prevention, Robins Air Force Base, IKEA Wholesale, Inc., TOTO USA, CIBA VISION, and Dekalb County School System.[106]

Even the highest level of participation achieved under the LVP Option represents only a fraction of the 240 million kWh cap proposed by Dominion.[107] The low participation rate in Georgia may be the result of several factors, potentially including high cost, poor marketing, and the availability of more attractive mechanisms to support renewable energy. Georgia's minimal success with the LVP option highlights the importance of careful design and strategy with respect to each of the four elements: product design, personal value, product pricing, and program implementation.

3. Growing Demand and Duke Power's Proposed Program

[102] Direct Testimony of Dianne O. Corsello on Behalf of Virginia Electric and Power Company Before the State Corporation Commission of Virginia at 5, No. PUE-2012-00142 (Va. State Corp. Comm'n Dec. 20, 2012).
[103] Georgia Power, Green Energy Status Report for 1st Quarter 2010 Filed as Trade Secret, Georgia Public Services Commission, Docket # 16573, Filing # 129799 (July 15, 2010).
[104] Georgia Power, Green Energy Status Report for 3d Quarter 2012 Filed as Trade Secret, Georgia Public Services Commission, Docket # 16573, Filing # 144639 (Nov. 5, 2012).
[105] *As a Georgia Power Customer*, GEORGIA POWER CO. (2009), *available at* http://selectgeorgia.com/pdf/As%20A%20Georgia%20Power%20Customer.pdf.
[106] *Committed to Renewable Energy*, GEORGIA POWER CO. (2013), *available at* http://www.georgiapower.com/earthcents/green/pdfs/Committed_ad.pdf.
[107] *See* Pilot Program Application, *supra* note 2, at 4.

The Pilot Program was developed in response to customer requests, which is becoming a trend as an increasing number of large companies seek to reduce their environmental impacts. More than 60% of Global Fortune 500 companies currently have renewable energy or GHG reduction targets in place.[108] Google Incorporated ("Google") has been a particularly outspoken advocate for renewable energy, investing more than $1 billion in renewable energy and calling for utilities to provide more renewable energy options.[109] Google already has numerous PPAs with renewable energy suppliers, but has expressed concern that these arrangements are cumbersome because they require Google to manage and resell electricity on the wholesale market, which requires the company to navigate complex energy markets.[110]

Duke Energy ("Duke"), the largest electrical utility in the United States, recently submitted a petition for approval of a "Green Source Rider" pilot program ("Rider GS") in response to expressed interest in renewable energy from Google and other large companies.[111] Google pledged its intent to participate in this program in conjunction with its announcement that it would invest more than $600 million to expand its North Carolina data center.[112]

The Rider GS, which allows customers to displace some or all of their energy usage with renewable energy, shares numerous features with the Pilot Program. The Rider GS is voluntary, open only to certain large, nonresidential customers, and allows customers input as to important parameters of the power purchase agreement negotiated between Duke and the renewable

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[108] Andrew Herndon, *Google Sees Renewable Energy Tariffs as New Utility Project*, BLOOMBERG (Apr. 19, 2013), http://www.bloomberg.com/news/2013-04-19/google-sees-renewable-energy-tariffs-as-new-utility-product.html.
[109] *Id.*; *See generally* Google, *Expanding Renewable Energy Options for Companies Through Utility-Offered "Renewable Energy Tariffs*" (Apr. 19, 2013), *available at* http://static.googleusercontent.com/media/www.google.com/en/us/green/pdf/renewable-energy-options.pdf.
[110] Herndon, *supra* note 108.
[111] Duke Energy Carolinas' Petition for Approval of Rider GS (Green Source Rider) Pilot, No. E-7, Sub 1043 (N.C. Utilities Comm'n Nov. 15, 2013), *available at* http://www.duke-energy.com/pdfs/2013111501-addendum.pdf [hereinafter Duke Energy Carolinas' Petition].
[112] Mitch Weiss, *Google to Invest $600M in Lenoir Data Center*, YAHOO! NEWS (Apr. 9, 2013), http://news.yahoo.com/google-invest-600m-lenoir-data-204247440.html.

generator.[113] The Rider GS would also be fully self-sufficient, supported by a $500 per month administrative fee and other basic one-time and continuous charges.[114] Although Duke initially indicated that its program would be offered as a standard tariff rate,[115] Duke later followed Dominion's lead, proposing to offer the program as a pilot program with open-enrollment for three years or until program capacity is reached.[116]

There are, however, important differences between the Pilot Program and Rider GS. First, Rider GS has a significantly larger aggregate program cap of one billion kWh annually.[117] Rider GS also has unique eligibility requirements, perhaps reflecting Duke Energy's desire to attract economic growth without dramatically altering demand under its standard tariff rates. To participate in the program, a customer must have added at least 1000 kW of new load to Duke's system since June 30, 2012.[118] The proposal states that "a portion or all of the customer's new energy purchases will be displaced by new renewable energy from specific sources."[119] Thus, unlike the Pilot Program, which allows customers to displace 1 million to 24 million kWh of their existing energy demand, Rider GS caters exclusively to new and expanding customers. Rider GS will also require contracts to last three and fifteen years.[120] Renewable energy resources will either be supplied directly by Duke-owned generation facilities or purchased from one or more renewable energy suppliers, but any facility supported by Rider GS must have been

[113] *See* Duke Energy Carolinas' Petition, *supra* note 111, at 1–4.
[114] *Id.* at 2–3. The additional proposed charges are a one-time $2,000 application fee to cover transaction costs, and a 0.02 cent per kWh of renewable energy procured or produced under each billing period. *Id.*
[115] John Downey, *Duke Energy's New Industrial Rate Idea Could Expand NC Renewables*, POWER CITY (Apr. 19, 2013 4:55 PM), http://www.bizjournals.com/charlotte/blog/power_city/2013/04/duke-energys-new-industrial-rate-idea.html.
[116] *See* Duke Energy Carolinas' Petition, *supra* note 111, at 1–2.
[117] *Id.* at 2.
[118] *Id.* at 1–2.
[119] *Id.* at 1.
[120] *See* Duke Energy Carolinas' Petition, *supra* note 111, attachment at 2.

placed into service on or after January 1, 2007.[121] Finally, Duke proposes to retire RECs purchased under Rider GS, rather than transfer the RECs to the participating customers upon request.[122]

While the effectiveness of the Pilot Program and Rider GS remain to be seen, the increasing demand for these types of programs by large companies is a positive sign for renewable energy in general. The Rider GS application actively contemplates the possibility of attracting new renewable sources by reiterating the need for generation facilities in North Carolina to obtain a certificate of public convenience and necessity prior to operation.[123] Virginia is home to twenty-four Fortune 500 companies—sixth most among U.S. states in 2012[124]—meaning that the Pilot Program has enormous potential if Dominion can effectively demonstrate the merits of the program to its customers. The Pilot Program may, however, require minor structural adjustments to achieve its potential.

4. Potential Improvements to the Pilot Program's Structure

The Pilot Program's structure can be improved by more closely aligning the basic structure of the program with its purpose—that is, promoting renewable energy growth *in Virginia* and providing nonresidential customers with more options to support this effort. The improvements suggested below would also help ensure that the SCC will find the Pilot Program "necessary in order to acquire information which is or may be in furtherance of the public interest."[125]

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[121] *Id.* at 1.
[122] *See* Duke Energy Carolinas' Petition, *supra* note 111, at 4.
[123] *Id.* at 2.
[124] Fortune Magazine, *Fortune 500: States*, CNN MONEY (May 21, 2012), http://money.cnn.com/magazines/fortune/fortune500/2012/states/VA.html.
[125] VA. CODE ANN. § 56-234(B).

To guarantee that the Pilot Program supports renewable energy development in Virginia, some proponents of renewable energy have suggested that Dominion limit the Pilot Program to, or prioritize, Virginia sources, rather than place all generators within the PJM region on equal footing.[126] While this would limit customer choice, it would guarantee that participation in the program furthers its ultimate goal of promoting renewable energy in the state. As Secure Futures points out, allowing customers to choose any facility located within the PJM region could adversely affect renewable energy development in Virginia because the Pilot Program would potentially be supporting the same old or out-of-state facilities that Dominion currently relies on to meet its RPS goals.[127] Secure Futures supports the implementation of a "tiered approach," which would require Dominion to prioritize in-state generation facilities placed into service after 2007 above facilities that do not meet these criteria.[128]

It should be noted, however, that inclusion of the aforementioned geographical restrictions would likely subject the Pilot Program to dormant Commerce Clause challenges. The Commerce Clause of the United States Constitution has been interpreted to limit states' ability to discriminate against interstate commerce.[129] When a state statute is facially discriminatory, it is subject to a "per se" rule of invalidity.[130] Even if the statute's language does not explicitly differentiate between in-state and out-of-state interests, the statute will nevertheless be subject to strict scrutiny if it has a discriminatory effect.[131] A statute is discriminatory in

[126] *See, e.g.*, Comments of Secure Futures LLC, *supra* note 72, at 1-2.
[127] *See id.*
[128] *Id.* at 2.
[129] U.S. Const. art. I, § 8; *See* Dep't of Revenue v. Davis, 553 U.S. 328, 337–38 (2008) (quoting New Energy Co. of Indiana v. Limbach, 486 U.S. 269, 273–74).
[130] *See* Philadelphia v. New Jersey, 437 U.S. 617, 624 (1978).
[131] *See, e.g,* Hunt v. Wash. Apple Adver. Comm'n, 432 U.S. 333, 337–38, 351 (1977) (striking down as discriminatory in effect a law requiring all apples shipped to North Carolina to be in boxes with USDA labels because it forced apple growers from Washington to change their shipping practice, but did not affect North Carolina growers).

effect if, in application, it treats in-state and out-of-state interests differently.[132] When a state statute instead regulates evenhandedly to effectuate a legitimate local public interest, and its effects on interstate commerce are only incidental, the court will apply a "balancing test," and will uphold the statute unless its burden on interstate commerce is clearly excessive in comparison to its putative local benefits.[133] "Shielding in-state industries from out-of-state competition is almost never a legitimate local purpose, and state laws that amount to 'simple economic protectionism' consequently have been subject to a 'virtually *per se* rule of invalidity.'"[134]

Any Virginia statute or SCC approved program that explicitly gives preference to in-state generators over out-of-state generators of renewable energy is likely to be struck down because such a program clearly benefits in-state interests at the expense of out-of-state interests. Furthermore, any benefit derived from such a program would almost exclusively be intended to shield in-state renewable generation facilities from competition, which is not a legitimate local interest. While environmental benefits are clearly legitimate, the same environmental benefits can be derived from investment in out-of-state renewable generation sources.[135] Based on the strong likelihood that any program requirement favoring Virginia renewable generators would violate the dormant Commerce Clause, the non-structural suggestions for the Pilot Program set forth in Section IV.B, *infra*, may be a preferable method for encouraging customers to choose Virginia facilities. The proposed requirement that only generators placed into service in 2007 or later are eligible under the Pilot Program, however, would not violate the dormant Commerce

[132] *See id.*
[133] Pike v. Bruce Church, Inc., 397 U.S. 137, 142 (1970).
[134] Maine v. Taylor, 477 U.S. 131, 148 (1986) (*quoting* Philadelphia, 437 U.S. at 624).
[135] For a discussion of Dormant Commerce Clause issues in the context of Renewable Portfolio Standards, *see* Patrick R. Jacobi, Note, *Renewable Portfolio Standard Generator Applicability Requirements: How States Can Stop Worrying and Learn to Love the Dormant Commerce Clause*, 30 VT. L. REV. 1079, 1118–34 (2006).

Clause because a time-based requirement does not favor Virginia generators. Such a requirement is an excellent way to ensure that the Pilot Program supports new generation facilities and helps the renewable energy industry grow.

Dominion should also be prepared to eliminate the 240 million kWh program cap if the Pilot Program nears full enrollment. This cap may be beneficial to the Pilot Program in the short-term because, as explained by Dominion, it could help to limit administrative costs. But Dominion should be willing to accommodate expansion if the program is successful. Once the Pilot Program is firmly established, eliminating the program cap should actually allow Dominion to *reduce* administrative costs by achieving economies of scale within the program, assuming that more customers enroll. Expanding the program will create greater demand and expand Virginia's renewable energy market.

Likewise, if the program cap is eliminated or expanded, the maximum individual purchase limitation of 24 million kWh should be eliminated. The largest customer-participants may be prepared to purchase 100% of their energy from renewable sources, which the individual purchase limit would prevent. The individual purchase limitation may be necessary in the short-term while the program cap is in place because it guarantees at least ten participants, but if the program cap is eliminated, there is no reason to retain the individual purchase limits because customer participation would no longer be constrained. Eliminating the individual purchase limits could increase demand for renewable energy without requiring additional customer participation. Large companies, like Apple Incorporated, Google, and Wal-Mart Stores, Incorporated, already have 100% renewable goals,[136] and this corporate trend is likely to

[136] *Our Progress Toward 100 Percent Renewable Energy*, APPLE, http://www.apple.com/environment/renewable-energy/ (last visited Apr. 25, 2013); *Wal-Mart's Renewable Energy Approach*, WAL-MART, http://www.walmartstores.com/sites/responsibility-report/2012/renewableEnergyApproach.aspx (last visited Apr. 25, 2013); *Renewable Energy*, GOOGLE, http://www.google.com/green/energy/ (last visited Apr. 25, 2013).

continue. Overall, there is little reason to continue to enforce these strict limits after the program has been successfully implemented. Increasing or eliminating these barriers may be necessary for the program to fully achieve its goals.

Furthermore, establishing rate schedule RG as a permanent program would stabilize the market. Without some guarantee, or at least the possibility, of contract extensions beyond the targeted ten-year contracts, the Pilot Program will be less effective because the generators could be left without a market after the program expires.

B. Personal Value and Pricing

Even as non-monetary factors have become increasingly important for nonresidential consumers, price is still an essential consideration in determining whether to participate in voluntary green power programs.[137] Several studies examining green power programs have demonstrated that those offering superior value and pricing are most successful,[138] especially in the case of corporate participation.[139] However, the value of a program does not necessarily derive exclusively, or even primarily, from the price of the product. [140] Private benefits that utilities can provide to participating customers—such as public recognition, discounts and promotions to local businesses, and decals or other displayable goods—can translate to monetary gains for companies, which in turn can encourage participation.[141] Thus, Dominion must ensure that Pilot Program participants are recognized adequately in the community, such that each participant's customers (in the case that participants are businesses) are aware of the businesses' commitment to renewable energy.

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[137] SWEZEY & BIRD, *supra* note 75, at 14.
[138] R. WISER ET AL., UTILITY GREEN PRICING PROGRAMS: A STATISTICAL ANALYSIS OF PROGRAM EFFECTIVENESS (2004), *available at* http://apps3.eere.energy.gov/greenpower/resources/pdfs/lbnl_54437.pdf .
[139] C. HANSON, WORLD RESOURCES INSTITUTE, THE BUSINESS CASE FOR USING RENEWABLE ENERGY, *available at* http://www.thegreenpowergroup.org/pdf/Installment7.pdf.
[140] SWEZEY & BIRD, *supra* note 75, at 6–8.
[141] *See id.*

One early concern voiced by environmentalists is that the Pilot Program does not differentiate between preferable types of renewable energy, such as wind and solar, and what are often criticized as "old" or "dirty" renewable energy sources, such as hydroelectric and landfill gas generation.[142] The same concern has been expressed with regard to in-state versus out-of-state generation facilities.[143] This concern is valid for those interested in seeing the development of wind and solar in Virginia. Dominion can alleviate this problem, at least in part, by providing different levels of public recognition for those participants who purchase wind and solar energy. The same could be done to distinguish between customers who purchase renewable energy in Virginia versus elsewhere in the PJM region. For example, Dominion could provide "home grown" decals or other identifiers to participants who choose Virginia facilities. This approach provides an alternative to actually limiting the program to facilities located in Virginia, which may violate the Dormant Commerce Clause, while still furthering the Pilot Program's goals.

Another potential shortfall of the Pilot Program is that the high administrative cost, in combination with the likely elevated rates of energy from renewable sources, will make the Pilot Program prohibitively expensive for profit-driven corporations. An increasingly important determination for corporate participation in green power programs, however, is guaranteeing a fixed, stable, long-term price, which provides protection to the corporation against fluctuating fuel prices.[144] One study found that, while residential customers primarily choose green power as an "emotional" decision, commercial customers are more likely to view the green power option as a business decision.[145] Generally speaking, green power programs often have the

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[142] *See, e.g.*, *Dominion Renewables Program Under Review Comments*, WISE ENERGY FOR VIRGINIA, http://wiseenergyforvirginia.org/dominionrenewablesprogram/ (last visited Apr. 21, 2013).
[143] *Id.*
[144] LORI A. BIRD & KARLYNN S. CORY, RENEWABLE ENERGY PRICE STABILITY BENEFITS IN UTILITY GREEN PRICING PROGRAMS (2008).
[145] A. CAPAGE, ACROSS THE GREEN DIVIDE: THE MACRO LESSONS (2001), *available at* http://apps3.eere.energy.gov/greenpower/conference/6gpmc01/acapage01.pdf.

flexibility to offer long-term, fixed-price contracts because the capital costs required for renewable energy facilities are incurred when the facility is built, and the "fuel" is free, making the price easily determinable and not subject to significant market fluctuation.[146] The Pilot Program, though structured differently from traditional green power programs, will offer the same benefit because it allows for long-term, fixed-price contracts with renewable facilities.[147] Large businesses are likely to participate in the Pilot Program because for these customers, establishing a reputation for being environmentally friendly, while locking in electricity prices for the next ten or more years, trumps the administrative costs of the Pilot Program.[148]

For smaller businesses, however, the cost to participate in the Pilot Program may be too great. Under the Pilot Program the administrative costs are passed directly to customer participants and are relatively substantial: $500 per month.[149] Furthermore, the administrative cost is not adjusted based on the size or demand of the customer participant.[150] This means that every participant will pay $6,000 per year[151] in administrative charges versus the $1,531.2 per year[152] they would have paid under their normal rate schedule.[153] The administrative cost could deter participation by customers on the smaller end of the eligibility range because they would be forced to pay disproportionately higher rates for the amount of electricity they receive.

To help solve this problem, Dominion should consider making the administrative fee proportional to the amount of electricity purchased, so as to accommodate smaller purchasers.

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[146] *Id.*
[147] Pilot Program Application, *supra* note 2, at 4.
[148] *See, e.g.,* Mark Del Franco, *Big-Name Firms Signal 'Industrial' Revolution for Wind: Major Corporations, Such as Google and Walmart, Are Beginning to See Wind Energy's Economic and Environmental Benefits*, Vol. 10, No. 3 N. AM. WIND POWER 2-3 (2013).
[149] Pilot Program Application, *supra* note 2, at 8.
[150] *Id.*
[151] This number was calculated by multiplying $500 per month by 12 months.
[152] This number was calculated by multiplying $127.60 per month (for GS-4 rate schedule) by 12 months.
[153] *See* VA ELEC. & POWER CO., SCHEDULE GS-3 (2013), *available at* http://www.dom.com/dominion-virginia-power/customer-service/rates-and-tariffs/pdf/vabgs3.pdf; VA ELEC. & POWER CO., SCHEDULE GS-4 (2013), *available at* http://www.dom.com/dominion-virginia-power/customer-service/rates-and-tariffs/pdf/vabgs4.pdf.

Furthermore, Dominion should actively monitor the Pilot Program for opportunities to reduce administrative costs and should refund participating customers if the $500 per month administrative fee proves to be higher than the actual cost of the program. Dominion has, in fact, already agreed to monitor and modify the cost as necessary.[154]

C. Program Implementation

Successful program implementation requires close attention to detail and responsiveness after a program is approved, during the enrollment period, and during the early years of the program's operation.[155] Several considerations have been identified as especially important to program implementation. First, a program must be marketed effectively to attract sufficient participation.[156] Targeted mailings supported by mass-marketing campaigns have been effective in marketing green power programs.[157] Second, program enrollment must be simple and efficient.[158] Finally, the utility must be willing to respond fluidly to changes in customer demand and participation levels.[159]

Dominion has already addressed the marketing and enrollment aspects of implementation. Dominion plans to utilize "news releases and communications directed to large commercial and industrial customers" to disseminate information about the Pilot Program.[160] Information about the Pilot Program and enrollment process will also appear on Dominion's website.[161] The enrollment process will last for three years or until the stated program cap has been reached, and employees will be trained to answer questions about the program and

[154] Rebuttal Testimony of Dianne O. Corsello on Behalf of Virginia Electric and Power Company Before the State Corporation Commission of Virginia at 5, No. PUE-2012-00142 (Va. State Corp. Comm'n Apr. 23, 2013).
[155] SWEZEY & BIRD, *supra* note 75, at 11.
[156] *Id.*
[157] *Id.*
[158] *Id.* at 13.
[159] *Id*. at 11.
[160] Direct Testimony of Dianne O. Corsello, *supra* note 102, at 8.
[161] *Id.* at 8.

enrollment.[162] Finally, Dominion expressed its intent to track key metrics, provide annual updates to the SCC, and provide a final comprehensive report within ninety days of the end of the enrollment period.[163]

While marketing and enrollment appear to have been adequately addressed, Dominion should develop a plan for expanding and refining the Pilot Program if it is successful. The program is currently limited substantially by the program enrollment cap, individual purchase parameters, and the length of the enrollment process.[164] As discussed Section IV.A.3 above, these caps may inhibit the program from maximizing renewable energy growth. Thus, Dominion should actively monitor progress using the review mechanisms it has proposed in order to determine the desirability of expanding or eliminating the Pilot Program's caps. Although the Pilot Program is designed to be experimental and limited in size, if Dominion is truly committed to supporting renewable energy growth in Virginia it must remain open to establishing the Pilot Program as a permanent tariff option. The success of the Pilot Program may ultimately depend on Dominion's willingness to respond to customer needs and to adjust the program design to promote the greatest renewable energy growth in Virginia.

V. CONCLUSION

Considering the lack of progress to date, the Pilot Program is clearly a step in the right direction for renewable energy in Virginia. The Pilot Program provides a new, flexible option for nonresidential customers to support renewable energy. The substantial number of large companies in Virginia, and the interest these companies have expressed in renewable energy, bode well for the Pilot Program's future.

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[162] *Id.*
[163] *Id.* at 9.
[164] Pilot Program Application, *supra* note 2, at 4.

Nevertheless, the Pilot Program can be improved by making changes that better align the goals of the program with its design. Dominion must ensure that participants are willing to purchase newer, cleaner renewable energy from Virginia generation facilities by limiting the program to sources placed in operation in 2007 or later, and by rewarding customers that choose preferred, local sources. Furthermore, Dominion must be willing to expand and extend the Pilot Program if it proves to be successful in promoting renewable energy.

To help ensure success, Dominion must pay close attention to customer needs and work to maximize value, both pecuniary and non-pecuniary. The success of the Pilot Program is contingent on attracting sufficient customer participation and encouraging participants to make the best possible decisions for renewable energy. Dominion must implement effective marketing, publicity, and information strategies and continue to monitor and revise these strategies as the Pilot Program evolves.

Dominion has a responsibility to its customers and the environment to support renewable energy growth in Virginia. The Pilot Program—with appropriate commitment by Dominion—has the potential to jumpstart a prosperous renewable energy market in Virginia that is long overdue. The Pilot Program, however, should only be the beginning of this effort. As Greenpeace noted in response to Duke's Rider GS program, this type of program could represent a breakthrough in the transition to clean energy, but without similar efforts in the options available to residential and small-business customers, these programs will be inconsequential.[165]

[165] *See* Bruce Henderson, *Duke Energy Plan Would Let Big Energy Users Go Green*, CHARLOTTEOBSERVER.COM (Nov. 15, 2013), http://www.charlotteobserver.com/2013/11/15/4469581/duke-energy-plan-would-let-big.html#.UpoZVcRDt15.