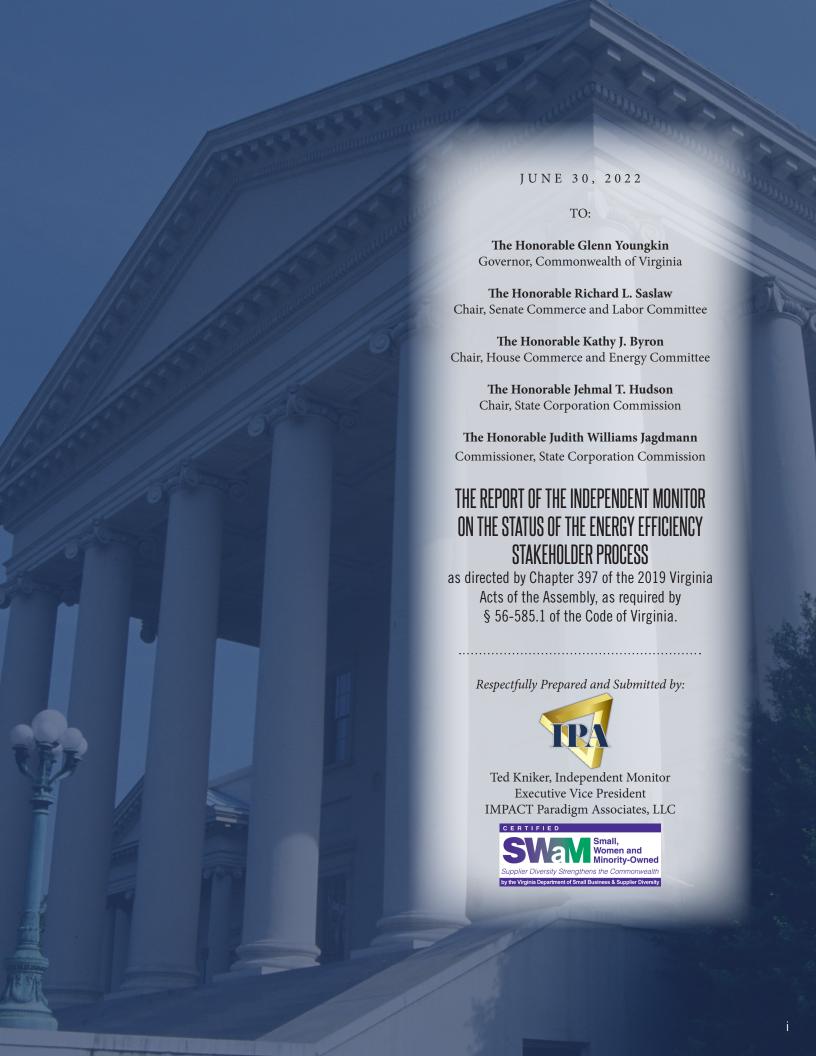
THE REPORT OF THE INDEPENDENT MONITOR ON THE STATUS OF THE ENERGY EFFICIENCY STAKEHOLDER PROCESS AS DIRECTED BY CHAPTER 397 OF THE 2019 VIRGINIA ACTS OF THE ASSEMBLY, AS REQUIRED BY § 56-585.1 OF THE CODE OF VIRGINIA



2022





CONTENTS

Glossary of Terms	. iv
Executive Summary	.v
ntroduction	. 1
Legislative Requirements	. 1
2022 Legislative Update	. 1
Report on the Status of the Energy Efficiency Stakeholder Process	. 1
2022 Stakeholder Process	. 2
Stakeholder Representation	. 2
Meeting Schedule and Participation	. 3
Future 2022 Filing Year Meetings	. 4
DEV Stakeholder Subgroups	. 4
Additional Stakeholder Collaboration Options	. 5
Stakeholder Objectives	. 5
2022 Program Recommendations	. 5
Stakeholder Recommendations for Phase I Utility - Appalachian Power	.6
· · · · ·	
Stakeholder Recommendations for Phase II Utility – Dominion Energy Virginia	.7
Stakeholder Recommendations for Phase II Utility – Dominion Energy Virginia	
	.8
Status of Recommendations and Petitions	.8
Status of Recommendations and Petitions	.8 .8
Status of Recommendations and Petitions	.8 .8 .8
Appalachian Power	.8 .8 .9
Appalachian Power	.8 .8 .9
Appalachian Power	.8 .8 .9 .11
Appalachian Power	.8 .8 .9 .11
Appalachian Power	.8 .8 .9 .11 .11
Appalachian Power	.8 .8 .9 .11 .11 .13
Appalachian Power	.8 .8 .9 .11 .11 .13 .17
Status of Recommendations and Petitions	.8 .8 .9 .11 .11 .13 .17 .19



GLOSSARY OF TERMS

AC Alternating current

APCo Appalachian Power Company
BEM Building Energy Management
C&I Commercial and Industrial

Chapter 296 Chapter 296 of the 2018 Virginia Acts of Assembly
Chapter 397 Chapter 397 of the 2019 Virginia Acts of Assembly

Code Code of Virginia

Commission Virginia State Corporation Commission

CSP Competitive Service Provider

DC Direct Current

DER Distributed Energy Resources
DEV Dominion Energy Virginia

DHCD Department of Housing and Community Development

DI Digital Input

DMME Department of Mines, Minerals and Energy

DOE Virginia Department of Energy

DR Demand Response

DSM Demand Side Management

EE Energy Efficiency

EM&V Evaluation, Measurement and Verification

General Assembly Virginia General Assembly

GTSA Grid Transformation and Security Act, Chapter 296 of the 2018 Acts of Assembly

HSE Health, Safety, and Environment IPA IMPACT Paradigm Associates, LLC

IRP Integrated Resource Plan

kV Kilovolt
kW Kilowatt
kWh Kilowatt-hour
LED Light Emitting Diode
LGS Large General Service

LI Low-income

LMI Low-Moderate Income
LMP Locational Marginal Prices

MF Multi-family MW Megawatt

RFP Request for Proposals
ROE Return on Equity
ROI Return on Investment
RPM Reliability Pricing Model

RPS Renewable Energy Portfolio Standard SCC State Corporation Commission

SF Single Family

SIR Savings to Investment Ratio
SMB Small to Medium Business

TOU Time of Use

TRM Technical Reference Manual
TRM Transmission Reliability Margin

VA Virginia

VCEA Virginia Clean Economy Act, Chapter 1193 of the 2020 Acts of the Assembly

WAP Weatherization Assistance Program

VES Virginia Energy Sense, a State Corporation Commission consumer education program



EXECUTIVE SUMMARY

During the 2018 General Assembly session, legislation was approved relating to electric utility regulation, grid modernization, and energy efficiency requiring Appalachian Power (APCo) and Dominion Energy Virginia (DEV) to utilize a stakeholder process to gather and receive input and feedback for the development of proposed energy efficiency programs. The intended result is to have petitions that are filed with the State Corporation Commission for its review and approval, that have included the knowledge, expertise, and buy-in of the energy efficiency stakeholders so that implementation will contribute to the desired energy conservation goals of the state.

Chapter 397 of the 2019 Virginia Acts of the Assembly, as directed by § 56-585.1 of the Code of Virginia, mandates that the process must be facilitated by an independent monitor, to ensure representation of stakeholders, progress toward obtaining input and feedback, and to report on the stakeholder process objectives, stakeholder recommendations, the status of the recommendations, and status of petition filings. This report, describing the fourth year of the stakeholder process, by the independent monitor is submitted in accordance with Chapter 397.

Stakeholder Process

Between July 1, 2021, the submission of the last annual report, and June 30, 2022, the stakeholder groups for Appalachian Power (Phase I Utility) have met twice and Dominion Energy Virginia (Phase II Utility) have met four times. Meetings were used to inform stakeholders of the status of program recommendations from previous years, develop program recommendations for the utilities' next filing, and to discuss topics of interest raised by the stakeholders, including discussions of recommended program performance through EM&V reports. For the Phase II Utility, subgroup meetings of the DEV Agenda/Process, Policy, Program

Implementation, EM&V, and Qualifying Income groups were held during the report period to discuss related topics and ideas.

The Appalachian Power stakeholder group has 162 current members, and the Dominion Energy Virginia stakeholder group has 308 current members, which represent an increase of 32.8 percent and a 30.5 percent respectively for each group from the previous year. Each utility's stakeholder group represents over 20 different types of organizations, including the utilities, SCC, Virginia Department of Energy (DOE, formerly the Department of Mines and Minerals and Energy), local government, energy conservation organizations, energy efficiency organizations, program implementers, and low-income advocacy and assistance organizations.

Stakeholder Objectives

For the 2022 filing year, the independent monitor did not facilitate the development of specific programmatic or process objectives by the stakeholders as part of the stakeholder meetings. This was due in large part to different priorities for the stakeholder groups. For APCo, the process for the previous year generated one program and the utilities proposals had exceeded the goal. The stakeholder group did not see a need to add subgroups to the APCo process or to address specific needs, instead anticipating learning about the results of previously approved recommendations. For DEV, stakeholder feedback focused more on diving deeper into creating and commenting on the development of the Long-Term Plan and ensuring that the EM&V reports provided clear information of interest to the stakeholders. Subgroups were utilized to identify specific issues that could be brought to the utility's attention for consideration and discussion. Ten DEV subgroup meetings were held between July 1, 2021 and June 30, 2022.



EXECUTIVE SUMMARY

2022 Program Recommendations

In preparation for the 2022 filings, the stakeholders provided input on program design ideas for the utilities' consideration. The input was developed using stakeholder meetings and program design templates that could be submitted to the independent monitor and utilities after the meetings. Since several programs were approved for the first two years of the program, filed in 2019 and 2020, and launched in 2021 and 2022, and a new set is awaiting approval (filed in 2021), there was a smaller set of recommendations for 2022.

Program Focus Area	APCo Stakeholder Recommendations	DEV Stakeholder Recommendations
Residential Customer Programs	 Water Heater Demand Response Program EV Charger Demand Response Program 	 The Virtual Commissioning™ (VCx™) Program AMI Enabled Load Control Switch Program IEEE 2030.5 Smart Inverter Management DER Optimizer for Managed EV Charging Thermal imaging camera lending program
Non-Residential/C&I Programs	• Low Income Supplements/Energy Efficient Healthcare Facilities	• C&I and SMB Demand Response

For the anticipated 2022 petition filing:

- APCo does not intend to file for a new set of programs and is awaiting a final decision from the SCC to move its filing cycle to every two years. APCo intends to use the additional time to further review and develop the recommendations as well as seek additional feedback and recommendations from stakeholders for the next filing.
- DEV will be reviewing and cost-testing winning submissions to an RFP (still open at the time of this report) and will convene at least one more meeting of the stakeholder group to provide updates on the proposed set of programs.

Status of Previous Year Petition Filings

For the first three years of the stakeholder process, the program recommendations proposed and/or approved by the Commission, by the writing of this report, represent:

- Phase I Utility (APCo): \$142.90 million, or approximately 102 percent of the legislative goal. Of the \$142.90 million proposed, \$6.81 million for one pilot program (3-year cost cap), is pending approval.
- Phase II Utility (DEV): \$605.1 million, or approximately 70 percent of the legislative goal. Of the \$605.1 million proposed, with \$140 million in Phase X programs (5-year cost caps), is pending approval.



EXECUTIVE SUMMARY

2019 Petition Filings

Appalachian Power

The three (3) programs approved in the 2019 filing were successfully launched in early 2021 and are all currently active in APCo's Virginia service territory. These programs include:

Program	Description	Status
Residential Low-Income Single-Family Program	This program replaced APCo's existing Low Income Weatherization Program, which was in place since 2015 and expired at the end of 2020. The new program is better funded and therefore will generate savings for residential low-income customers through, among other things, the evaluation of energy improvement opportunities and the installation of weatherization upgrades, and other energy savings for dwellings.	The program is actively enrolling and serving customers throughout the territory. The 2021 verified savings were 477,853 kWh.
Residential Low-Income Multifamily Program	This new program provides and installs energy efficiency measures in income-qualified multifamily properties. The program also educates and motivates owners to participate in additional programs offered by APCo in Virginia and will include an education component to help participating customers to effectively manage their energy usage.	A strong interest in the program has led to successful upgrades at numerous properties. APCo expects this success to continue through the life of the program. The 2021 verified savings were 982,294 kWh.
ENERGYSTAR® Manufactured Housing Program	This program provides an incentive to the homeowner to offset a portion of the difference in price between a standard manufactured home and an ENERGY STAR® manufactured home.	A total of 69 rebates have been paid to date. The program will be ending in December 2022. The manufactured homes market has transformed to mainly ENERGY STAR or ENERGY STAR equivalent homes in Virginia.

Dominion Energy Virginia

The 13 programs approved in the 2019 DSM annual rider proceeding by the Commission were successfully launched in early 2021 and are all currently active in DEV's Virginia service territory. The programs and status are:

Program	Description	Status
Residential Electric Vehicle (EE and DR)	This program encourages efficient charging of electric vehicles and shifting of electric vehicle charging load to off-peak periods.	Enrolled 93 customers in 2021; purchase incentives for qualifying chargers available.
Residential Electric Vehicle (Peak Shaving)	This Program would provide customers who already have a qualifying electric vehicle charger with an annual incentive in exchange for allowing the Company to reduce the operating cycle of their charger by remote control during periods of high demand.	Currently enrolling customers.



Program	Description	Status
Residential Energy Efficiency Kits (EE)	This program provides energy efficiency kits to customers as a welcome gift or in response to requests under specific conditions.	Enrolled 28,113 customers in 2021. Program is still available to customers.
Residential Home Retrofit (EE)	This program incentivizes retrofit of participating customer homes using measures that may extend beyond what would be considered a typical measure in a home energy assessment program.	Enrolled 99 customers in 2021. Program is still available to customers.
Residential Manufactured Housing (EE)	This program offers incentives for the installation of energy efficiency measures designed specifically for manufactured and modular housing.	Enrolled 3 customers in 2021 and is currently open to customers.
Residential New Construction (EE)	This program encourages the use of energy efficient materials and practices in new home construction through a combination of incentives and education.	Enrolling customers; 1,018 customer homes completed in 2021.
Residential/Non-residential Multifamily (EE)	This program identifies and targets multi-family residences with incentives and measures specifically designed to take advantage of energy-saving opportunities in this type of residence. For the purpose of this program, the assumption is that a multi-family residence is defined as a residence with a shared envelope, wall or floor/ceiling, with no specific limitation on the number of residences within a given structure.	Enrolling customers. Enrolled 9 customers in 2021.
Non-residential Midstream Energy Efficiency Products (EE)	A companion program to the residential efficient products program that takes advantage of additional savings opportunities that can be realized through upstream and midstream incentives applied to energy efficient products but targeted at non-residential customers. The non-residential program includes incentives for purchasing high efficiency commercial kitchen appliances, freezers and refrigerators, and HVAC systems.	Currently open to customers. Enrolled 7 customers in 2021.
Non-residential New Construction (EE)	This program encourages the use of energy efficient materials and practices in new construction through a combination of incentives and education.	Program currently available to customers. The nature of non-residential new construction projects can cause long lag between construction design and rebate approval.



Program	Description	Status
Small Business Improvement Enhanced (EE)	This program provides small businesses an energy use assessment and tune-up or re-commissioning of electric heating and cooling systems, along with financial incentives for the installation of specific energy efficiency measures. This program is an enhancement to the existing DSM V Small Business Improvement Program.	Enrolling customers. Enrolled 307 customers in 2021.
HB 2789 (Heating and Cooling/ Health and Safety) (EE)	This program provides incentives to low-income, elderly, and disabled individuals for the installation of measures that reduce heating and cooling costs and enhance health and safety of residents.	Enrolling customers: 3,361 customers serviced with HVAC measures
Residential Thermostat (EE) and (DR) Programs	The EE program offers rebates to customers who either purchase a qualifying smart thermostat and/or enroll in an energy efficiency program. The DR program manages heat pumps and air-conditioning units using smart thermostats to reduce peak demand.	Enrolling customers. Enrolled 4,411 customers in 2021.
Residential Customer Engagement Program (EE)	This program provides staffing and subject matter experts to interact with customers directly by phone, e-mail, and/or social media to provide energy efficiency advice on request. The program also includes staffing to provide experts at public events and meetings of local organizations.	Program active; emailed approximately 400,000 reports and mailed approximately 210,000 reports.

Status of 2020 Petition Filings

Appalachian Power

On November 20, 2020, APCo filed for approval to continue a rate adjustment clause, the EE-RAC, and for approval of new energy efficiency programs. Eight programs were approved by the SCC in July 2021, which are:

Program	Description	Status
Residential Home Energy Report Program	This program which will help customers reduce energy needs by encouraging them to alter their electricity usage habits by providing positive reinforcement. The reports will compare the participant's energy usage with similar homes, which will, ideally, motivate the customer to take action to save energy and maintain those savings.	The program is actively engaging with customers throughout the service territory.
Residential Efficient Products Program	This new program will generate energy savings for consumers through the promotion of high efficiency lighting and appliances. This program was previously included in Appalachian's EE portfolio and ended in December 2018. Based on discussions and recommendations in the stakeholder process, the Company seeks approval to re-launch the program	The program is currently providing instant discounts and rebates to customers throughout the service territory.



Program	Description	Status
Residential Energy Efficiency Kit Program	This program will generate energy savings for customers by providing energy efficiency kits to residential customers. The kits will provide cost-effective energy saving measures for customers while promoting other programs in the Company's EE portfolio. The kits will include products with verified electric energy savings that customers can self-install.	Customers are actively requesting kits as well as purchasing energy efficient products from the marketplace.
Residential Home Performance Program	This program will generate savings for the Company's residential customers through the promotion of energy efficient homes. The primary objective for the program is to produce long-term electric energy reduction in the residential sector. The program will provide customers with a comprehensive in-home energy audit to identify immediate and larger-scale measures that the customer can implement to reduce energy usage.	The program is actively providing home assessments to customers throughout the service territory.
Business Energy Solutions ("BES") Program	The new BES program replaces the C&I Lighting and non-lighting programs and is designed to generate energy savings for C&I customers through the promotion of high efficiency lighting and non-lighting upgrades. The BES Program will accelerate energy efficiency by incorporating both lighting and non-lighting measures under one program.	The program is actively enrolling customers in the program throughout the service territory.
Residential Bring Your Own SMART Thermostat ("BYOT") Program	The Commission initially approved for a three-year period ending December 31, 2021. The program was approved for an additional 5 years in Case No. PUR-2020-00251 beginning in calendar year 2022. The BYOT Program allows residential customers to enroll a qualifying WiFi-enabled smart thermostat in a demand response program. During a load management event, the Company will either cycle the customer's HVAC equipment or raise the set point of the thermostat.	The program is actively enrolling customers throughout the service territory.
Small Business Direct Install ("SBDI" Program)	This program offers on-site energy assessments at small businesses, direct install of certain energy efficiency measures, and financial incentives for other cost-effective measures to capture deeper energy savings.	The program is actively enrolling customers throughout the service territory.
Volt Var Optimization ("VVO") Pilot Program	The VVO Pilot Program will reduce energy and demand usage without any interaction by the customer. The VVO Pilot Program will more closely control the voltage that is delivered to the meter and, subsequently, to the customer's end-use electrical devices, VVO technology allows customer devices to operate more closely to the design voltage, which can provide an annual reduction of two to four percent in energy use. All residential, commercial and industrial customers of Appalachian Power Company, who are served from circuits equipped with VVO, would benefit from the technology.	The first phase of the project is currently under construction. The first 2 of 6 circuits planned under the pilot will be in service in late 2022.



Dominion Energy Virginia

On December 2, 2020, DEV filed for approval of 11 DSM programs, which were approved by the SCC in September 2021. The proposed programs are:

Program	Description	Status
Virtual Audit	would offer customers a self-directed home energy assessment using an audit software, completed entirely by the customer, with no trade ally entering the home. Customers would be directed to a website or toll-free number where they would answer a set of questions with answers specific to the conditions and systems in their home with aids to help them answer accurately. From this information, the software would generate a report of recommended measures and actions the customer could take to improve the efficiency of their home. The report would also identify the Company's other active energy efficiency programs that fit each customer's needs.	Program implementation is active and is currently serving customers.
Smart Home	would provide the Company's residential customers a suite of smart home products that provide seamless integration in the home. The program will deliver the energy efficient measures bundled in two versions of a Smart Home Kit, so that customers can benefit from a fully integrated set of compatible smart products. The Smart Home Kit will include general instructions for installing the specific energy efficient measure within their home.	Program implementation is being finalized and is expected to launch Summer of 2022.
Residential Water Savings (EE)	designed to give the Company's residential customers control over their water related energy use. The proposed Program leverages the installation of smart communicating water heating and pool pump technologies to facilitate more efficient operation while reducing overall electricity usage and peak demand response. Customers have the option to purchase a qualified program product online, in-store, equipment distributor, or through qualified local trade allies.	Program implementation is being finalized, with an expected launch in Summer of 2022.
Residential Water Savings (DR)	all customers who purchase and install a qualified product (EE component) will be offered the opportunity to enroll in the peak demand reduction (DR) component of the DR Program. Additionally, Customers who have previously purchased a qualifying product and who have the eligible products installed, will be offered the opportunity to enroll in the DR component of the Program. Customers will be offered an annual incentive (above the product purchase incentive amount) to participate in the peak reduction component year-round and an additional reduced incentive for each subsequent year they continue to participate. Customers would be allowed to opt-out of a certain number of events.	Program implementation is being finalized, with an expected launch in Summer of 2022.
Income and Age Qualifying Program (EE)	would provide in-home energy assessments and installation of select energy-saving products at no cost to eligible participants. As with the Company's other low-income programs, the Company will partner with Weatherization Service Providers (WSPs) to perform community outreach and install program measures to eligible customers. Moreover, the proposed Program would allow for providers to charge up to 10 percent of their yearly allocation for administrative costs on single family jobs. In addition, the proposed program design has a 15% health & safety cap to bring additional benefits to customers in the form of wider opportunities for bill savings.	Program is active and is currently serving customers.
Income & Age Qualifying Solar (HB 2789 program)	would provide a mechanism for customers who meet certain income, age, disability and previous program participation requirements regarding weatherization to receive, at no cost to the customer, photovoltaic solar panels installed at their residence.	Program implementation is being finalized, with an expected launch in Summer of 2022.



Program	Description	Status
Agricultural Program (EE)	would provide qualifying non-residential customers with incentives to implement specific energy efficiency measures to help agribusinesses replace aging, inefficient equipment and systems with new, energy-efficient technologies. The Program is designed to help agricultural customers make their operations more energy-efficient by providing incentives for efficient agricultural equipment and lighting specifically used in agricultural applications.	Program was recently launched and is beginning to enroll customers.
Building Automation Program (EE)	would provide qualifying non-residential customers with incentives to install new building automation systems in facilities that do not have centralized controls or have an antiquated system that requires full replacement. The Program would be marketed and promoted to controls contractors who design, install, and maintain fully functional building automation systems. Product lines would include brands like Carrier, Schneider Electric, Johnson Controls, Siemens, and Trane.	Program implementation is being finalized, with an expected launch in Summer of 2022.
Building Optimization Program (EE)	would provide qualifying non-residential customers incentives for the installation of energy efficiency improvement, consisting of recommissioning measures. The Program seeks to capture energy savings through control system audits and tune-up measures in facilities with Building Energy Management Systems.	Program implementation is being finalized, with an expected launch in Summer of 2022.
Customer Engagement Program (EE)	would engage commercial buildings in energy management best practices that increase awareness of operational and behavioral energy savings opportunities. The Program would educate and train businesses' facility management staff on ways to achieve energy savings through optimization of building energy performance and integrating ongoing commissioning best practices into their operations. Through a customer engagement portal, building operators can also access educational content and technical resources as part of a series of operator challenges. By completing these challenges, participants will review and implement energy efficient operational best practices, earning them points while competing against facility teams from other participating buildings.	Program implementation is being finalized, with an expected launch in Summer of 2022.
Enhanced Prescriptive Program (EE)	would provide qualifying non-residential customers with incentives for the installation of refrigeration, commercial kitchen equipment, HVAC improvements and maintenance and installation of other program specific, energy efficiency measures.	Program was recently launched and is beginning to enroll customers.

Status of 2021 Petition Filings

Appalachian Power

APCo filed for one program on November 30, 2021. Approval is pending. The one program is:

Program	Description	Status
Custom Commercial & Industrial Pilot Program	This 3-year pilot program aims to generate energy savings for C&I customers by encouraging energy and demand reduction by large C&I customers through processes and systems that are not provided for in the Business Energy Solutions Program.	Vendor has been selected to manage program. Awaiting Commission Order.



Dominion Energy Virginia

DEV filed for approval of nine additional programs on December 14, 2021 and is awaiting SCC determination.

Program	Description	Status		
Non-residential Energy Efficiency - Data Center & Server Rooms Program	This Program would identify and target data centers and should identify and implement site-specific, retrofit, and new construction energy efficiency opportunities, largely focused on cooling efficiency and power distribution.	Pending		
Non-Residential Energy Efficiency — Health Care Targeted Program	ciency — Health Care specific to hospitals, long term care facilities, group home and small medical providers while			
Non-Residential Energy Efficiency — Hotel and Lodging Targeted Program	This program would identify and target hotel and other lodging facilities and include measures that are specific to hotel/motel facilities and operation such as room sensors and active energy conservation measures triggered by key cards.	Pending		
Small Business Behavioral	This program would provide incentives, education, and/or information to qualifying customers with specific suggestions for reducing electrical usage based on historical usage patterns.	Pending		
Non-Residential Lighting and Controls Extension	Extends and expands budget for lighting upgrades and controls of qualifying non-residential facilities.	Pending		
Income and Age Qualifying Program Enhancement AND Income and Age Qualifying Home Energy Reports AND Non-Residential Income and Age Property Owners	Proposed program designs should generally include measures appropriate for single- and multi-family residences to the extent practical as the Company is considering enhancements to its options for income and age qualifying customers in order to ensure that customers in this category have as many opportunities for energy savings as possible and that the options available meet their needs. Program measure categories should include health care targeted measures for facilities with focus on income and age qualifying individuals; expansion of the Company's current low-income program to include additional measures, such as energy efficient windows or window enhancements; home energy reports for income and age qualifying customers which would provide relevant advice on how to improve energy efficiency and lower their monthly bill; and pay for performance options.	Pending		
Voltage Optimization O&M Software	The principle of Voltage Optimization is that most types of customers load use less energy when supplied with lower input voltage. This program will focus on supporting the enablement software for the overall Voltage Optimization initiative.	Pending		

Next Steps

The fourth year of the stakeholder process concentrated working with the development of the long-term plan the stakeholders requested for DEV and increasing discussion of EM&V for both utilities to ensure progress toward VCEA goals. For next steps, the independent monitor is focusing on increased usage of the subgroups to provide proactive input to the utilities and more diverse representation and participation by the stakeholder community.



INTRODUCTION

Legislative Requirements

Chapter 296 [SB 966] of § 56-585.1 of the Code of Virginia established the use of a stakeholder process, facilitated by an independent monitor, to provide input and feedback on the development of a proposed program of energy conservation measures. Any program shall provide for the submission of a petition or petitions for approval to design, implement, and operate energy efficiency programs pursuant to subdivision A 5 of § 56-585.1 of the Code of Virginia. The legislation specifically stated:

- At least 15 percent of such energy efficiency programs shall benefit low-income, elderly, or disabled individuals or veterans.
- The projected costs for the utility to design, implement, and operate such energy efficiency programs, including a margin to be recovered on operating expenses, for the period beginning July 1, 2018, and ending July 1, 2028, including any existing approved energy efficiency programs, shall be no less than an aggregate amount of:
 - o \$140 million for Phase I Utility Appalachian Power (APCo)
 - o \$870 million for Phase II Utility Dominion Energy (DEV)

For the energy efficiency stakeholder process, Chapter 296 directs that the process shall include representatives from:

- Each utility Phase I (APCo) and Phase II (DEV),
- The State Corporation Commission (SCC),
- The Office of Consumer Counsel of the Attorney General,
- The Virginia Department of Energy (formerly the Department of Mines, Minerals and Energy),
- Energy efficiency program implementers,
- Energy efficiency providers,
- · Residential and small business customers, and
- Any other interested stakeholder who the independent monitor deems appropriate for inclusion in such process.

The initial legislation did not provide details on how often the stakeholder groups meet or processes for obtaining the input and feedback into the development and/or review of key issues and the proposed energy efficiency programs. The legislation leaves discretion to the SCC, the utilities, the stakeholders, and the independent monitor to determine meeting schedules, times, and operational procedures.

2022 Legislative Update

There were no legislative updates or revisions to § 56-585.1 that altered the energy efficiency stakeholder feedback process, the annual reporting, or the role of the independent monitor. Previous legislative updates are provided in Appendix I.

Report on the Status of the Energy Efficiency Stakeholder Process

Chapter 397 [H 2293] amended Chapter 296 to direct the independent monitor to:

- Convene meetings of participants in the stakeholder process not less frequently than twice each calendar year during the period beginning July 1, 2019, and ending July 1, 2028.
- Provide a status report of the energy efficiency program stakeholder process to the Governor, the State Corporation Commission, and the Chairman of the Senate Commerce and Labor Committee and the Chairman of the House Labor and Commerce Committee beginning on July 1, 2019, and annually thereafter through July 1, 2028.

The energy efficiency stakeholder process report shall include the status of:

- (i) the objectives established by the stakeholder group during this process related to programs to be proposed,
- (ii) recommendations related to programs to be proposed that result from the stakeholder process, and
- (iii) the status of those recommendations, in addition to the petitions filed and the determination thereon.

Previous annual reports may be accessed at the following links.

- 2019 Report of the Independent Monitor 3
- 2020 Report of the Independent Monitor 4
- 2021 Report of the Independent Monitor 5

¹ https://lis.virginia.gov/cgi-bin/legp604.exe?181+sum+SB966

² http://lis.virginia.gov/cgi-bin/legp604.exe?191+ful+CHAP0397+hil

³ https://rga.lis.virginia.gov/Published/2019/RD234/PDF

⁴ https://rga.lis.virginia.gov/Published/2020/RD224

⁵ https://rga.lis.virginia.gov/Published/2021/RD256



2022 STAKEHOLDER PROCESS

The 2022 Virginia Energy Efficiency Stakeholder Process began on October 1, 2021. The independent monitor maintained the practice set previously of open inclusion to the process, so all who express interest or are recommended by current stakeholders are added to the contact list for the appropriate utility. As the process has progressed, additional participants have been added over the year, also expanding the types of organizations represented. During the 2022 stakeholder year, several of the stakeholder organizations experienced personnel turnover. Most organizations continued participation by replacing and/or adding member representatives. The current number of stakeholder participants for APCo represent an increase of 32.8 percent over the previous year and includes specific outreach to stakeholders from Environmental Justice Communities. The number of stakeholder participants for DEV represent an increase of 30.5 percent for DEV from the previous year. For a listing of the number of participants, see Table 1 that follows this section.

Stakeholder Representation

The stakeholder participation for each utility represents over 20 types of stakeholder affiliations, including those cited in the legislation. In accordance with the 2020 legislative changes, additional Commission staff members, including directors and deputy directors, who participate in approval and oversight of utility energy savings programs have attended stakeholder meetings. To facilitate more input and engagement from the SCC in the meetings, the stakeholders incorporated a regular time for the SCC to provide updates and ask questions in the meeting agenda. SCC staff also participated in small group discussions during the meetings as well as attending subgroup meetings for the DEV process.

Table 1 depicts the total number of stakeholders and the distribution of stakeholder participants by affiliation type for each utility. For the 2022 report, the independent monitor has broken out program implementers by their self-indicated roles.

Table 1: Representation by Stakeholder Affiliation

Affiliation ⁶	Phase I Utility	Phase II Utility
Current Number of Stakeholder Process Participants	162	308
Utility Company or COOP	7.4%	12.7%
Government State	14.2%	11.7%
Government – Local Municipality	17.3%	3.9%
Government — Federal	0.0%	0.3%
Energy Service Organization/Provider	6.2%	5.5%
Energy Conservation/Efficiency Interest or Research Group	1.9%	5.8%
Environmental Organization/Advocacy Group	5.6%	11.7%
Elderly/Disabled Advocacy or Interest Group	0.0%	0.3%
Low Income Interest or Advocacy Group	1.9%	1.3%
Residential Consumer Organization/Housing Association	4.3%	2.6%
Business (Commercial or Industrial) Consumer Organization	0.0%	1.6%
Program Implementer — Program Manager/Integrator	6.2%	7.5%
Program Implementer — Weatherization Provider	8.6%	6.5%
Program Implementer — Commercial Lighting	1.9%	1.0%
Program Implementer — Customer Engagement	3.1%	5.5%
Program Implementer – Product Manufacturer	0.0%	0.3%
Program Implementer - Other	6.2%	7.5%
Charitable Organization	1.9%	0.3%
Utility Administrative Support Contractor and EM&V Groups	3.1%	8.4%
Law Firm	0.6%	2.6%
Educational Institution or Institute (School or University)	1.9%	1.0%
Public Health/Hospital	0.0%	0.0%
Interested Individual or Consumer	5.6%	0.7%
Other	2.5%	1.0%
TOTAL PERCENTAGE	100.0%	100.0%

⁶ Representation percentage is based upon the type of organization for which individual stakeholders either self-identify or the independent monitor has categorized based on organizational mission. Where organizations self-identified into multiple categories, the independent monitor selected a primary category.



Meeting Schedule and Participation

For the period of July 1, 2021, to June 30, 2022, the independent monitor facilitated at least two meetings for each utility. Due to safety issues and guidance related to the COVID-19 pandemic, all meetings held during this time were conducted virtually using WebEx. A positive result of the virtual meeting format was an increase in the number of participants for each meeting. The meeting dates, purpose and number of attendees is listed below in Table 2 for each utility. It is anticipated the independent monitor will facilitate at least one more meeting for each of the stakeholder groups after July 1, 2022, so that the utilities will be able to update stakeholders on the status of their current filing, of their RFP processes and/or provide additional information about next steps for the 2022 petition filings.

Table 2: 2021 Stakeholder Process Meetings

	Filing Year	Meeting Date	Purpose	Number of Attendees
APCo	2021	November 8, 2021	1) Update stakeholders on 2021 filing for Custom C&I Program 2) Discussion of EM&V plan 3) Update on programs to be launched in 2022 4) Update on programs launched in 2021 5) Discussion of initial ideas and objectives for next filing	33
	2022	April 25, 2022	Update stakeholders on status of 2021 filing. Stakeholder development of program ideas for next filing	39
DEV	2021	August 31, 2021	1) Update Stakeholders on results from its RFP process. 2) Discussion of Current Case status. 3) Program updates from previous filings. 4) Discussion of Impact Study conducted by external evaluation firm. 5) Discussion of the Long-Term Planning Process and Study by external firm. 6) Subgroup Meeting Opportunity.	113
		November 17, 2021	1) Detailed presentation and Q&A on Long-Term Planning Process 2) Update Stakeholders DSM 8 (2019 Filed/January 2021 Start) — Q&A 3) Update stakeholders on DSM 9 (filed 2020 /January 2022 start) — Q&A 4) Update stakeholders on DSM 10 (to be filed 2021/January 2023 start) 5) Update from subgroups	104
	2022	February 22, 2022	1) Stakeholder development of recommendations for 2022 filing. 2) Update stakeholders on Long-Term Planning . 3) Update stakeholders on DSM 9 program launch. 4) Update stakeholders on Phase 7 expiring programs. 5) Update stakeholders on Custom program plan.	109
		June 21, 2022	1) Update stakeholders on Long-Term Plan feedback opportunity and process. 2) Discuss 2022 EM&V Report — Q&A 3) Update stakeholders on Low-Income Qualifying Solar Program 4) Update stakeholders on Customer Awareness RFP 5) Update stakeholders on DSM RFP 6) Address additional stakeholder questions	103



For the 2022 filing year, the Phase II Utility anticipated releasing requests for proposals (RFPs) to obtain bids for program implementation, so the stakeholder process was designed to obtain feedback from stakeholders that:

- a) Considered program recommendations within the context of existing programs, expired programs, programs that need expansion, and new program ideas. During the stakeholder meetings, utilities provided briefings on the status of existing, newly launched, and programs pending review and approval by the SCC. Stakeholders also had access to previously discussed ideas on the utility collaborative Trello.com site and previous reports of the independent monitor.
- b) Considered new ideas developed directly by the stakeholders and from stakeholders who had newly joined the process based upon their expertise and experience. Similar to the previous year, individual reflection, small group discussion, workshopping of ideas and discussion among full stakeholder group review was the utilized methodology.
- c) Program ideas were grouped into portfolio categories as possible.

To assist in the development of program recommendations, the independent monitor provided the stakeholders who attended the meetings, as well as all stakeholders through the Trello site and by email, with a program recommendation template document. The template was intended to be used by stakeholders to provide actionable information that each utility could communicate in an RFP to potential implementers for detailed bids, thereby empowering the stakeholder groups to craft a significant portion of the program recommendations themselves. During the process, the stakeholders were also instructed that they could provide new ideas on their own, if they were unable to attend meetings, by submitting templates to the independent monitor, the utility, and/or on the Trello site. For 2022, emphasis was placed on stakeholders generating more details about possible programs, including suggested measures and any potential information about cost-benefit tests and thresholds.

Future 2022 Filing Year Meetings

Both stakeholder groups anticipate meeting in late summer and possibly the fall. Several stakeholders have requested a return to in-person meetings, but the meetings may still be held virtually to allow for increased participation and recognizing the continued challenges and occasional spikes of COVID cases. It can also be challenging to find adequate and safe space for these meetings given the number of participants. While the SCC building is now open, it does not have a conference room large enough to accommodate the stakeholder attendance. The independent monitor, utilities, and stakeholders will follow guidance to ensure the utmost safety, should there be a return to in-person meetings in later 2022 or 2023.

DEV Stakeholder Subgroups

For the DEV stakeholder group, due to its large size, the independent monitor and the DEV team continued and expanded the use of subgroups introduced in the 2020 filing year. Through subgroups, stakeholders discuss and pursue more specific ideas and recommendations for energy conservation and efficiency in Virginia and to advance the work between the facilitated meetings to provide in-depth recommendations. The subgroups are stakeholder led, which provides additional empowerment and transparency into the overall process. Eight work groups for the DEV stakeholder group were organized around the following areas:

- **Income-Qualifying Programs** To create the next generation of income-qualifying programs and lay the foundation for meeting legislative goals.
- Non-Residential Programs Commercial programs are an area of high potential savings, but, because of the variety of commercial entities that exist, developing measures that are targeted to specific segments is a necessity and have stakeholder input on the viability of custom measures and those that are applicable to the wide variety of pumps and motors that are used in various commercial activities.
- EM&V The group reviews EM&V reports for focus and clarity, and to discuss best practices for evaluation, measurement, and verification for the purposes of assessing compliance with the total annual energy savings.
- **Gap Assessment** Customer segments have varying abilities to participate in existing Demand Side Management (DSM) programs, an important part of developing future plans is to assess gaps in existing and planned program offerings to develop a set of logical focus areas for new, expanded, and extended programs.
- Innovative Approaches Given the pace of certain changes in technology, it is valuable to identify how selected evolving technologies may play a role in future DSM proposals in existing programs and the near-term, as well as those that may become viable within five years or beyond.
- **Policy** the group discusses issues related to the political and regulatory environment that the utilities operate in. It views effective practices for discussions around potential reforms by which the General Assembly or the Commission can ensure maximum and cost-effective deployment of energy efficiency technology across the Commonwealth.
- **Agenda and Process** To ensure the stakeholder meeting agendas contain stakeholder-driven items for discussion, to recommend improvements to the stakeholder process to increase effectiveness, efficiency, inclusivity, diversity, and transparency.
- **Program Implementation** The group was started in 2021 to address issues related to implementing the recommended programs and to move toward potential standardization of implementation, especially for implementors managing multiple programs for DEV. The group also is used to share best practices of implementation, while balancing the competitive nature of its membership, that can inform future program development and lead to increased goal attainment.



Additional Stakeholder Collaboration Options

The stakeholder group continued to use a collaborative website for each utility group, using the Trello.com platform, to maintain transparency in the stakeholder process and to share information with all stakeholders. Each collaborative site includes information about the process, meeting schedules, agendas and notes, program ideas and recommendations, and allows stakeholders to post suggestions and have online discussions. The site allows stakeholders unable to participate in the meetings to keep updated on the progress of the process. The sites are open to anyone interested who may join by using the links below.

APCo Trello Collaborative Website: https://trello.com/invite/b/byDis70H/0e1db0a2e8bc981c447ffd4f64196acf/apco-energy-efficiency-stakeholder-group

 $DEV\ Trello\ Collaborative\ Website:\ \underline{https://trello.com/invite/b/mdnEciZk/9489778105354f9c17bffb8856c46f5d/dominion-energy-energy-efficiency-stakeholder-group}$

Access is also granted to each site for any interested party by a simple email request to the independent monitor at ted.kniker@ipa-llc.org.

The independent monitor is working to transition the Trello.com sites to a new platform in 2022, due to changes in Trello.com's user policies and continued organizational IT security restrictions for several stakeholder organizations, including the Commission and the utilities, which does not allow access to Trello. The independent monitor has tested the new platform with Commission each utility and will open the new platform, Basecamp, to all stakeholders when the transition is complete. In addition, the independent monitor sends all new information to the stakeholder groups via email and is available to answer questions, forward ideas, and concerns, and to engage stakeholders at any time as they request.

STAKEHOLDER OBJECTIVES

(i) the objectives established by the stakeholder group during this process related to programs to be proposed

For the 2022 filing year, the independent monitor did not facilitate the development of specific programmatic or process objectives by the stakeholders as part of the stakeholder meetings. This was due in large part to different priorities for the stakeholder groups. For APCo, the process for the previous year generated one program and the utilities proposals had exceeded the goal. The stakeholder group did not see a need to add subgroups to the APCo process or to address specific needs, instead anticipating learning about the results of previously approved recommendations. For DEV, stakeholder feedback focused more on diving deeper into providing input and commenting on the development of the Long-Term Plan and ensuring that the EM&V reports provided clear information of interest to the stakeholders. Subgroups were utilized to identify specific issues that could be brought to the utility's attention for consideration and discussion.

2022 PROGRAM RECOMMENDATIONS

(ii) recommendations related to programs to be proposed that result from the stakeholder process

As the fourth year of the process, the context of the 2021 filing year is more complex with at least three years of programs being considered, in addition to expiring programs that had been established prior to the stakeholder process. In review of existing programs and review of results, the 2022 process resulted in fewer ideas being generated so that progress and results of the first three years could be assessed.



STAKEHOLDER RECOMMENDATIONS FOR PHASE I UTILITY - APPALACHIAN POWER

The APCo stakeholder group proposed and discussed three program recommendations, which were:

Program Title	Program Description	Stakeholder Group Determination
Water Heater Demand Response Program	Purpose: Optimize water heater electricity usage to support the grid. Reduce possible negative impact to the grid if usage is not managed. Use the most cost effective and/or clean resources to serve water heater electric load. Intended benefit - receive the incentive to help manage the grid. provide a service to manage the load on the grid during high usage. Implemented by vendor to provide DERMS platform that can enroll customers and call DR events and contractors to install equipment. Requires program promotion and targeting potential customers (either with existing smart technology or with the interest in investing in new equipment).	Consider areas of most need (circuits) to target. Water heaters - traditional electric or heat pump water heater (wifi-enabled or those with wifi-enabled switches). Water heater switches on electric water heaters
Low Income Supplements/Energy Efficient Healthcare Facilities	The Program would: a) Reduce energy consumption in healthcare facilities. An audit takes place and recommendations are made on upgrades and good EE habits. Healthcare makes upgrades. Audit takes place after installation and program is rewarded based on savings. b) Discounted services from contractors or rebate to the organization. c) Approved contractor services (example: CHP)	Enhance healthcare facilities- audit the facilities and make upgrades where necessary.
EV Charger Demand Response	The EV Charger Demand Response program would Optimize charging and allow for the potential dispatch of electric vehicle charging. Reduce the negative impact that EV charging could have if not managed, using either the most cost effective or the cleanest resources to serve the additional load. Benefits to the customers would be to receive incentive for help the Company manage the grid. The program would provide a resource to assist in managing the electrical load on the grid during times of high usage. The program would be implemented by a contractor that provide a DERMS platform in order to call events.	

Table 3: 2022 Stakeholder Program Recommendations - Phase I Utility - APCo

Status of Recommendations: For 2022, APCo <u>will not</u> be proposing any new programs. In the 2021 EE-RAC case, APCo requested the Commission consider allowing the utility to move to a two-year cycle. At this time, APCo does not anticipate an immediate need to initiate new programs. The additional time between filings will allow the stakeholder group to identify, and the Company to evaluate, energy efficiency programs that should be pursued next. These recommendations will be further discussed and enhanced in future stakeholder discussions, along with any additional ideas suggested.



STAKEHOLDER RECOMMENDATIONS FOR PHASE II UTILITY - DOMINION ENERGY VIRGINIA

During stakeholder discussions in 2022 for DEV, the utility suggested several areas for stakeholders to consider, several of which were based on the findings from the Long-Term Plan. These included:

- Non-residential Custom Program design
- Strategic Energy management (if not addressed within Custom Program design)
- Demand Response offerings
- Other EE program or pilot ideas
- Other DR program or pilot ideas
- Bundling of expiring programs

Many of the potential suggested programs came from program implementers who participate in the stakeholder process.

Table 4: 2022 Stakeholder Recommendations - Phase II Utility - DEV

Program Title	Program Description
The Virtual Commissioning [™] (VCx [™]) Program	An energy efficiency program that is a pay-for-performance offering that will leverage Dominion Energy's investments in advanced metering infrastructure (AMI) to achieve substantial energy savings for the DSM portfolio in a virtual, mass-market approach.
AMI Enabled Load Control Switch Program	Firm, reliable, network demand response at scale Leverage existing AMI Network and IntelliSOURCE platform
IEEE 2030.5 Smart Inverter Management	Manage PV and batteries using IEEE 2030.5 to communicate with their smart inverters
DER Optimizer for Managed EV Charging	Provide information and incentives to EV customers that encourages participants to charge their EVs during off-peak hours
C&I and SMB Demand Response	Turnkey program across entire commercial customer mix for firm Winter and Summer load reduction with a focus on Winter-peaking
Thermal imaging camera lending program	As an EE measure, DEV purchase thermal imaging cameras and lend them to customers at no cost, with a small security deposit, along with DIY videos to use the camera and resolve common issues. Due to its nocost participation, especially if coupled with free repair materials such as weather stripping, foam sealants, etc., this measure may prove more accessible for low-income families.

Status of recommendations: DEV recently (at the time of this report) issued an RFP seeking program designs for numerous programs. As such, it is unknown will be brought forward for the December 2022 DSM Rider Update filing since bids have not yet been received and no program proposals have yet been cost-tested. Bids and proposals are due back to DEV in mid-July 2022, with follow-up meetings to brief stakeholders on the results of the proposals.



STATUS OF RECOMMENDATIONS AND PETITIONS

(iii) the status of those recommendations, in addition to the petitions filed and the determination thereon

For the purposes of this report, recommendations are reported by filing year and follow the schedule below.

Year Developed & Petitioned	Year Approved	Year Launched
2019	2020	2021
2020	2021	2022
2021	2022	2023

Appalachian Power

To date, APCo has proposed \$142.90 million, or approximately 102 percent of the goal. Of the \$142.90 million proposed, \$6.81 million for one pilot program (3-year cost cap), is pending approval.

2019 APCo Programs

Table 5: 2019 APCo Program Status

Date Petition	ed: 09/30/2019 Date Approved: 05/2	1/2020 EM&V Report	Link: https://www.scc.vir	rginia.gov/DocketSe	arch#/caseDetails/133464
Program	Description	Program Type	Recommended By	Determination by the SCC	Status
Residential Low-Income Single-Family Program	This program replaced APCo's existing Lo Income Weatherization Program, which w in place since 2015 and expired at the er of 2020. The new 5-year program is bette funded and therefore will generate saving for residential low-income customers through among other things, the evaluation of en improvement opportunities and the instate of weatherization upgrades, and other en savings for dwellings.	expired program and er gs ough, ergy Ilation	Stakeholder Process	Approved	The program is actively enrolling and serving customers throughout the territory. The 2021 verified savings were 477,853 kWh
Residential Low-Income Multifamily Program	This new 5-year program provides and in energy efficiency measures in income-qu multifamily properties. The program also educates and motivates owners to partic in additional programs offered by APCo in Virginia and will include an education component to help participating custome effectively manage their energy usage.	alified ipate	Stakeholder Process	Approved	A strong interest in the program has led to successful upgrades at numerous properties. APCo expects this success to continue through the life of the program. The 2021 verified savings were 982,294 kWh.
ENERGYSTAR® Manufactured Housing Program	This program provides an incentive to the homeowner to offset a portion of the differing price between a standard manufacture home and an ENERGY STAR® manufacture home.	erence ed	Stakeholder Process	Approved	A total of 69 rebates have been paid to date. The program will be ending in December 2022. The manufactured homes market has transformed to mainly ENERGY STAR or ENERGY STAR equivalent homes in Virginia.



2020 APCo Programs

Table 6: 2020 APCo Program Status

	Date Petitioned: 11/20/2020 Date Approved: C	7/29/2021 EN	&V Report Link: Programs	just started - no	t yet established
Program	Description	Program Type	Recommended By	Determination by the SCC	Status
Residential Home Energy Report Program	This program which will help customers reduce energy needs by encouraging them to alter their electricity usage habits by providing positive reinforcement. The reports will compare the participant's energy usage with similar homes, which will, ideally, motivate the customer to take action to save energy and maintain those savings.	New program	Stakeholder Process	Approved	The program is actively engaging with customers throughout the service territory.
Residential Efficient Products Program	This new program will generate energy savings for consumers through the promotion of high efficiency lighting and appliances. This program was previously included in Appalachian's EE portfolio and ended in December 2018. Based on discussions and recommendations in the stakeholder process, the Company seeks approval to re-launch the program	Renewal of an expired program	Stakeholder Process	Approved	The program is currently providing instant discounts and rebates to customers throughout the service territory.
Residential Energy Efficiency Kit Program	This program will generate energy savings for customers by providing energy efficiency kits to residential customers. The kits will provide cost-effective energy saving measures for customers while promoting other programs in the Company's EE portfolio. The kits will include products with verified electric energy savings that customers can self-install.	New program	Stakeholder Process	Approved	Customers are actively requesting kits as well as purchasing energy efficient products from the marketplace.
Residential Home Performance Program	This program will generate savings for the Company's residential customers through the promotion of energy efficient homes. The primary objective for the program is to produce long-term electric energy reduction in the residential sector. The program will provide customers with a comprehensive inhome energy audit to identify immediate and larger-scale measures that the customer can implement to reduce energy usage.	Renewal of an expired program Revision of previously denied program	Stakeholder Process	Approved	The program is actively providing home assessmen to customers throughout th service territory.
Business Energy Solutions ("BES") Program	The new BES program replaces the C&I Lighting and non-lighting programs and is designed to generate energy savings for C&I customers through the promotion of high efficiency lighting and non-lighting upgrades. The BES Program will accelerate energy efficiency by incorporating both lighting and non-lighting measures under one program.	New program	Stakeholder Process	Approved	The program is actively enrolling customers in the program throughout the service territory.



	Date Petitioned: 11/20/2020 Date Approved: 0	7/29/2021 EM	&V Report Link: Programs	just started - no	t yet established
Program	Description	Program Type	Recommended By	Determination by the SCC	Status
Residential Bring Your Own SMART Thermostat ("BYOT") Program	The Commission initially approved for a three-year period ending December 31, 2021. The program was approved for an additional 5 years in Case No. PUR-2020-00251 beginning in calendar year 2022. The BYOT Program allows residential customers to enroll a qualifying WiFi-enabled smart thermostat in a demand response program. During a load management event, the Company will either cycle the customer's HVAC equipment or raise the set point of the thermostat.	Renewal of an expired program	Stakeholder Process	Approved Approved	The program is actively enrolling customers throughout the service territory.
Small Business Direct Install ("SBDI" Program)	This program offers on-site energy assessments at small businesses, direct install of certain energy efficiency measures, and financial incentives for other cost-effective measures to capture deeper energy savings	Renewal of an expired program	Stakeholder Process	Approved	The program is actively enrolling customers throughout the service territory.
Volt Var Optimization ("VVO") Pilot Program	The VVO Pilot Program will reduce energy and demand usage without any interaction by the customer. The VVO Pilot Program will more closely control the voltage that is delivered to the meter and, subsequently, to the customer's end-use electrical devices, VVO technology allows customer devices to operate more closely to the design voltage, which can provide an annual reduction of two to four percent in energy use. All residential, commercial and industrial customers of Appalachian Power Company, who are served from circuits equipped with VVO, would benefit from the technology.	New program	Stakeholder Process	Approved	The first phase of the project is currently under construction. The first 2 of 6 circuits planned under the pilot will be in service in late 2022.



2021 APCo Programs

Table 7: 2021 APCo Program Status

Date Petitioned: 11/30/2021 Date Approved: Expected			cted late July 2022	EM&V Report Link: D	ecision pending -	not yet established
Program	Description		Program Type	Recommended By	Determination by the SCC	Status
Custom Commercial & Industrial Pilot Program	This 3-year pilot program aim energy savings for C&I custon encouraging energy and dema by large C&I customers throug and systems that are not prov Business Energy Solutions Pro	ners by and reduction gh processes vided for in the	New program	Stakeholder Process	Pending	Vendor has been selected to manage program. Awaiting Commission Order.

Dominion Energy Virginia

To date, DEV has proposed \$605.1 million, or approximately 70 percent of the goal. Of the \$605.1 million proposed, with \$140 million in Phase X programs (5-year cost caps), is pending approval.

2019 DEV Programs

Table 8: 2019 DEV Program Status

Date Petitioned: 12/3/2019 Date Approved: 07/30/2020

EM&V Report Link: The EM&V Report can be found under the SCC's website located here by searching for case number: PUR-2020-00274 https://www.scc.virginia.gov/DocketSearch#caseDocs/141608. An executive overview of the 2022 EM&V Report can be located on the Company's website here: <a href="https://cdn-dominionenergy-prd-001.azureedge.net/-/media/pdfs/virginia/save-energy/key-docs/emv-report.pdf?la=en&rev=b00506c600b744bfb-fe08e004903d287&hash=4B416A5F2F58973FAD7AC8D66F2BB443

	<u>IEU8EUU49U3U287&II3SII=4B410A3F2F38973FAD7AU8D00F2BB443</u>					
Program	Description	Program Type	Recommended By	Determination by the SCC	Status	
Residential Electric Vehicle (EE and DR)	This program encourages efficient charging of electric vehicles and shifting of electric vehicle charging load to off-peak periods.	New program	Stakeholder Process Utility (adding DR) Vendor or RFP process	Approved	Enrolled 93 customers in 2021; purchase incentives for qualifying chargers available.	
Residential Electric Vehicle (Peak Shaving)	This Program would provide customers who already have a qualifying electric vehicle charger with an annual incentive in exchange for allowing the Company to reduce the operating cycle of their charger by remote control during periods of high demand.	New program	Utility Vendor or RFP process	Approved	Currently Enrolling customers.	
Residential Energy Efficiency Kits (EE)	This program provides energy efficiency kits to customers as a welcome gift or in response to requests under specific conditions.	New program	Stakeholder Process Vendor or RFP process	Approved	Enrolled 28,113 customers in 2021. Program is still available to customers.	
Residential Home Retrofit (EE)	This program incentivizes retrofit of participating customer homes using measures that may extend beyond what would be considered a typical measure in a home energy assessment program.	New program	Stakeholder Process Vendor or RFP process	Approved	Enrolled 99 customers in 2021. Program is still available to customers.	



Date Petitioned: 12/3/2019 Date Approved: 07/30/2020

EM&V Report Link: The EM&V Report can be found under the SCC's website located here by searching for case number: PUR-2020-00274

https://www.scc.virginia.gov/DocketSearch#caseDocs/141608. An executive overview of the 2022 EM&V Report can be located on the Company's website here:

<a href="https://cdn-dominionenergy-prd-001.azureedge.net/-/media/pdfs/virginia/save-energy/key-docs/emv-report.pdf?la=en&rev=b00506c600b744bfb-fe08e004903d287&hash=4B416A5F2F58973FAD7AC8D66F2BB443

Program	Description	Program Type	Recommended By	Determination by the SCC	Status
Residential Manufactured Housing (EE)	This program offers incentives for the installation of energy efficiency measures designed specifically for manufactured and modular housing.	New Program	Stakeholder Process Vendor or RFP process	Approved	Enrolled 3 customers in 2021 and is currently open to customers.
Residential New Construction (EE)	This program encourages the use of energy efficient materials and practices in new home construction through a combination of incentives and education.	New Program	Stakeholder Process Vendor or RFP process	Approved	Enrolling customers; 1,018 customer homes completed in 2021.
Residential/ Non-residential Multifamily (EE)	This program identifies and targets multi- family residences with incentives and measures specifically designed to take advantage of energy-saving opportunities in this type of residence. For the purpose of this program, the assumption is that a multi-family residence is defined as a residence with a shared envelope, wall or floor/ceiling, with no specific limitation on the number of residences within a given structure.	New Program	Stakeholder Process Vendor or RFP process	Approved	Enrolling customers. Enrolled 9 customers in 2021.
Non-residential Midstream Energy Efficiency Products (EE)	A companion program to the residential efficient products program that takes advantage of additional savings opportunities that can be realized through upstream and midstream incentives applied to energy efficient products but targeted at non-residential customers. The non-residential program includes incentives for purchasing high efficiency commercial kitchen appliances, freezers and refrigerators, and HVAC systems.	New Program	Stakeholder Process Utility (research) Vendor or RFP process	Approved	Currently open to customers. Enrolled 7 customers in 2021.
Non- residential New Construction (EE)	This program encourages the use of energy efficient materials and practices in new construction through a combination of incentives and education.	New Program	Stakeholder Process Vendor or RFP process	Approved	Currently available to customers. The nature of non-residential new construction projects can cause long lag between construction design and rebate approval.
Small Business Improvement Enhanced (EE)	This program provides small businesses an energy use assessment and tune-up or recommissioning of electric heating and cooling systems, along with financial incentives for the installation of specific energy efficiency measures.	Supplement to an existing program	Stakeholder Process Vendor or RFP process	Approved	Enrolling customers. Enrolled 307 customers in 2021.
HB 2789 (Heating and Cooling/Health and Safety) (EE)	This program provides incentives to low- income, elderly, and disabled individuals for the installation of measures that reduce heating and cooling costs and enhance health and safety of residents.	New Program	Stakeholders; mandated by law and passed by the Virginia General Assembly as House Bill 2789	Approved	Enrolling customers: 3,361 customers serviced with HVAC measures.



Date Petitioned: 12/3/2019 Date Approved: 07/30/2020

EM&V Report Link: The EM&V Report can be found under the SCC's website located here by searching for case number: PUR-2020-00274 https://www.scc.virginia.gov/DocketSearch#caseDocs/141608 An executive overview of the 2022 EM&V Report can be located on the Company's website here: <a href="https://cdn-dominionenergy-prd-001.azureedge.net/-/media/pdfs/virginia/save-energy/key-docs/emv-report.pdf?la=en&rev=b00506c600b744bfb-fe08e004903d287&hash=4B416A5F2F58973FAD7AC8D66F2BB443

Program	Description	Program Type	Recommended By	Determination by the SCC	Status
Residential Thermostat (EE) and (DR) Programs	The EE program offers rebates to customers who either purchase a qualifying smart thermostat and/or enroll in an energy efficiency program. The DR program manages heat pumps and air-conditioning units using smart thermostats to reduce peak demand.	New program	Stakeholder Process Vendor or RFP process	Approved	Enrolling customers. Enrolled 4,411 customers in 2021.

2020 DEV Programs

Table 9: 2020 DEV Program Status

Date Petitioned: 12/2/2020 Date Approved: 09/07/2021 EM&V Report Link: Published 6-15-22:___ The EM&V Report can be found under the SCC's website located here by searching for case number: PUR-2020-00274; https://www.scc.virginia.gov/DocketSearch#caseDocs/141608

An executive overview of the 2022 EM&V Report can be located on the Company's website here:

 $\frac{\text{https://cdn-dominionenergy-prd-001.azureedge.net/-/media/pdfs/virginia/save-energy/key-docs/emv-report.pdf?la=en\&rev=b00506c600b744bfb-fe08e004903d287\&hash=4B416A5F2F58973FAD7AC8D66F2BB443}$

Program	Description	Program Type	Recommended By	Determination by the SCC	Status
Residential Thermostat (EE) and (DR) Programs	The EE program offers rebates to customers who either purchase a qualifying smart thermostat and/or enroll in an energy efficiency program. The DR program manages heat pumps and air-conditioning units using smart thermostats to reduce peak demand. The program will offer customers a self-directed home energy assessment using an audit software, completed entirely by the customer, with no trade ally entering the home. Customers would be directed to a website or toll-free number where they would answer a set of questions with answers specific to the conditions and systems in their home with aids to help them answer accurately. From this information, the software would generate a report of recommended measures and actions the customer could take to improve the efficiency of their home. The report would also identify the Company's other active energy efficiency programs that fit each customer's needs.	New program	Stakeholder Process Vendor or RFP process	Approved	Enrolling customers. Enrolled 4,411 customers in 2021.



Date Petitioned: 12/2/2020 Date Approved: 09/07/2021 EM&V Report Link: Published 6-15-22:___ The EM&V Report can be found under the SCC's website located here by searching for case number: PUR-2020-00274; https://www.scc.virginia.gov/DocketSearch#caseDocs/141608

An executive overview of the 2022 EM&V Report can be located on the Company's website here:

 $\frac{\text{https://cdn-dominionenergy-prd-001.azureedge.net/-/media/pdfs/virginia/save-energy/key-docs/emv-report.pdf?la=en\&rev=b00506c600b744bfb-fe08e004903d287\&hash=4B416A5F2F58973FAD7AC8D66F2BB443}$

Program	Description	Program Type	Recommended By	Determination by the SCC	Status
Smart Home	The program will provide the Company's residential customers a suite of smart home products that provide seamless integration in the home. The program will deliver the energy efficient measures bundled in two versions of a Smart Home Kit, so that customers can benefit from a fully integrated set of compatible smart products. The Smart Home Kit will include general instructions for installing the specific energy efficient measure within their home.	New Program	Stakeholder Process Vendor or RFP process	Approved	Program implementation is being finalized and is expected to launch Summer of 2022.
Residential Water Savings (EE)	The program is designed to give the Company's residential customers control over their water related energy use. The proposed Program leverages the installation of smart communicating water heating and pool pump technologies to facilitate more efficient operation while reducing overall electricity usage and peak demand response. Customers have the option to purchase a qualified program product online, in-store, equipment distributor, or through qualified local trade allies.	New program	Stakeholder Process Vendor or RFP process	Approved	Program implementation is being finalized, with an expected launch in Summer of 2022.
Residential Water Savings (DR)	All customers who purchase and install a qualified product (EE component) will be offered the opportunity to enroll in the peak demand reduction (DR) component of the DR Program. Additionally, Customers who have previously purchased a qualifying product and who have the eligible products installed, will be offered the opportunity to enroll in the DR component of the Program. Customers will be offered an annual incentive (above the product purchase incentive amount) to participate in the peak reduction component year-round and an additional reduced incentive for each subsequent year they continue to participate. Customers would be allowed to opt-out of a certain number of events.	New program	Utility Vendor or RFP process	Approved	Program implementation is being finalized, with an expected launch in Summer of 2022.



Date Petitioned: 12/2/2020 Date Approved: 09/07/2021 EM&V Report Link: Published 6-15-22:___ The EM&V Report can be found under the SCC's website located here by searching for case number: PUR-2020-00274; https://www.scc.virginia.gov/DocketSearch#caseDocs/141608

An executive overview of the 2022 EM&V Report can be located on the Company's website here:

 $\frac{\text{https://cdn-dominionenergy-prd-001.azureedge.net/-/media/pdfs/virginia/save-energy/key-docs/emv-report.pdf?la=en\&rev=b00506c600b744bfb-fe08e004903d287\&hash=4B416A5F2F58973FAD7AC8D66F2BB443}$

Program	Description	Program Type	Recommended By	Determination by the SCC	Status
Income and Age Qualifying Program (EE)	The program will provide in-home energy assessments and installation of select energy-saving products at no cost to eligible participants. As with the Company's other low-income programs, the Company will partner with Weatherization Service Providers (WSPs) to perform community outreach and install program measures to eligible customers. Moreover, the proposed Program would allow for providers to charge up to 10 percent of their yearly allocation for administrative costs on single family jobs. In addition, the proposed program design has a 15% health & safety cap to bring additional benefits to customers in the form of wider opportunities for bill savings.	Renewal of an expired program	Stakeholder Process Vendor or RFP process	Approved	Program is active and is currently serving customers. Program implementation is being finalized, with an expected launch in Summer of 2022.
Income & Age Qualifying Solar (HB 2789 program)	The program will provide a mechanism for customers who meet certain income, age, disability and previous program participation requirements regarding weatherization to receive, at no cost to the customer, photovoltaic solar panels installed at their residence.	New program	Stakeholder Process; Mandated by law and passed by the Virginia General Assembly as House Bill 2789	Approved	Program implementation is being finalized, with an expected launch in Summer of 2022.
Agricultural Program (EE)	The program will provide qualifying non-residential customers with incentives to implement specific energy efficiency measures to help agribusinesses replace aging, inefficient equipment and systems with new, energy-efficient technologies. The Program is designed to help agricultural customers make their operations more energy-efficient by providing incentives for efficient agricultural equipment and lighting specifically used in agricultural applications.	New program	Stakeholder Process Vendor or RFP process	Approved	Program was recently launched and is beginning to enroll customers.
Building Automation Program (EE)	The program will would provide qualifying non-residential customers with incentives to install new building automation systems in facilities that do not have centralized controls or have an antiquated system that requires full replacement. The Program would be marketed and promoted to controls contractors who design, install, and maintain fully functional building automation systems. Product lines would include brands like Carrier, Schneider Electric, Johnson Controls, Siemens, and Trane.	New program	Stakeholder Process Vendor or RFP process	Approved	Program implementation is being finalized, with an expected launch in Summer of 2022.



Date Petitioned: 12/2/2020 Date Approved: 09/07/2021 EM&V Report Link: Published 6-15-22:___ The EM&V Report can be found under the SCC's website located here by searching for case number: PUR-2020-00274; https://www.scc.virginia.gov/DocketSearch#caseDocs/141608

An executive overview of the 2022 EM&V Report can be located on the Company's website here:

 $\frac{\text{https://cdn-dominionenergy-prd-001.azureedge.net/-/media/pdfs/virginia/save-energy/key-docs/emv-report.pdf?la=en\&rev=b00506c600b744bfb-fe08e004903d287\&hash=4B416A5F2F58973FAD7AC8D66F2BB443}{\text{figure of the properties of th$

Program	Description	Program Type	Recommended By	Determination by the SCC	Status
Building Optimization Pro-gram (EE)	The program will provide qualifying non-residential customers incentives for the installation of energy efficiency improvement, consisting of recommissioning measures. The Program seeks to capture energy savings through control system audits and tune-up measures in facilities with Building Energy Management Systems.	New program	Stakeholder Process Vendor or RFP process	Approved	Program implementation is being finalized, with an expected launch in Summer of 2022.
Customer Engagement Pro-gram (EE)	The program will engage commercial buildings in energy management best practices that increase awareness of operational and behavioral energy savings opportunities. The Program would educate and train businesses' facility management staff on ways to achieve energy savings through optimization of building energy performance and integrating ongoing commissioning best practices into their operations. Through a customer engagement portal, building opera-tors can also access educational content and technical resources as part of a series of operator challenges. By completing these challenges, participants will review and implement energy efficient operational best practices, earning them points while competing against facility teams from other participating buildings.	New program	Stakeholder Process Vendor or RFP process	Approved	Program implementation is being finalized, with an expected launch in Summer of 2022.
Enhanced Prescriptive Program (EE)	The program will provide qualifying non-residential customers with incentives for the installation of refrigeration, commercial kitchen equipment, HVAC improvements and maintenance and installation of other program specific, energy efficiency measures.	Supplement to an existing program	Stakeholder Process Vendor or RFP process	Approved	Program was recently launched and is beginning to enroll customers.



2021 DEV Programs

Table 10: 2021 DEV Program Status

Dat	te Petitioned: 12/14/2021 Date Approved: 09/15/202	22 (Expected) EI	M&V Report Link: Programs	pending approval.	
Program	Description	Program Type	Recommended By	Determination by the SCC	Status
Non-residential Energy Efficiency - Data Center and Server Rooms Program	This Program would identify and target data centers and should identify and implement site-specific, retrofit, and new construction energy efficiency opportunities, largely focused on cooling efficiency and power distribution.	New program	Stakeholder Process Vendor or RFP process	Pending	Pending
Non-Residential Energy Efficiency — Health Care Targeted Program	This program would identify and target health care facilities and include measures that are specific to hospitals, long term care facilities, group home and small medical providers while providing energy advisors to assist in selecting / implementing energy savings measures.	New program	Stakeholder Process Vendor or RFP process	Pending	Pending
Non-Residential Energy Efficiency — Hotel and Lodging Targeted Program	This program would identify and target hotel and other lodging facilities and include measures that are specific to hotel/motel facilities and operation such as room sensors and active energy conservation measures triggered by key cards.	New program	Stakeholder Process Vendor or RFP process	Pending	Pending
Small Business Behavioral	This program would provide incentives, education, and/or in-formation to qualifying customers with specific suggestions for reducing electrical usage based on historical us-age patterns.	New program	Utility Vendor or RFP process	Pending	Pending
Income and Age Qualifying Program Enhancement including Non-residential component and home energy reports	Proposed program designs should generally include measures appropriate for single and multi-family residences to the extent practical as the Company is considering enhancements to its options for income and age qualifying customers in order to ensure that customers in this category have as many opportunities for energy savings as possible and that the options available meet their needs. Program measure categories should include health care targeted measures for facilities with focus on income and age qualifying individuals; expansion of the Company's current low-income program to include additional measures, such as energy efficient windows or window enhancements; home energy reports for income and age qualifying customers which would provide relevant advice on how to improve energy efficiency and lower their monthly bill; and pay for performance options.	Supplement to an existing program	Stakeholder Process Vendor or RFP process	Pending	Pending



Date Petitioned: 12/14/2021 Date Approved: 09/15/2022 (Expected) EM&V Report Link: Programs pending approval.					
Program	Description	Program Type	Recommended By	Determination by the SCC	Status
Voltage Optimization O&M Software	The principle of Voltage Optimization is that most types of customers load use less energy when supplied with lower input voltage. This program w focus on supporting the enablement software for toverall Voltage Optimization initiative.		Stakeholder Process Utility In conjunction with the Grid Modernization Phase II filing	Pending	Pending
Non-Residential Lighting and Controls Extension	Extends and expands budget for lighting up-grade and controls at qualifying non-residential facilitie		Stakeholder Process Utility	Pending	Pending

Additional 2021 Program Information: The current regulatory framework is not the best way to capture the most current market trends due to the lagging 18 month period between when a Request for Proposal (RFP) is requested to qualifying industry vendors for new Demand Side Management (DSM) Programs, the cost-benefit analysis, the annual DSM regulatory filing and the final order issued by the SCC on the Company's requested approval of new DSM programs and/or adjustments to currently active DSM programs. As such, the Company has filed for increased regulatory flexibility as part of its request for the approval of the proposed administrative process in its 2021 DSM proceeding in Case No. PUR-2021-00247. Having a process whereby the Company can reasonably modify measures or incentive levels within approved programs more than the once-a-year timeframe currently available is imperative for future success of the Company's DSM programs. As technologies and associated pricing changes, so too must the Company be able to adapt and embrace evolving market and industry changes to maximize energy savings.



STAKEHOLDER FEEDBACK ABOUT THE PROCESS

To obtain feedback about the 2022 Stakeholder Process year so far for this report, the independent monitor conducted an online survey between June 9 and June 22, 2022. An email invitation was sent to 386 stakeholders⁸, a total of 83 of whom provided input for a response rate of 21.5 percent⁹. The full set of frequency distributions (responses) are available by request to the independent monitor.

Approximately three quarters (75.7 to 77.2%) of the respondent stakeholders are satisfied with the stakeholder process, the opportunity to discuss issues of concern, and the opportunity to provide direct input to the utilities for energy efficiency program recommendations. The satisfaction rates remain consistent with previous year responses.

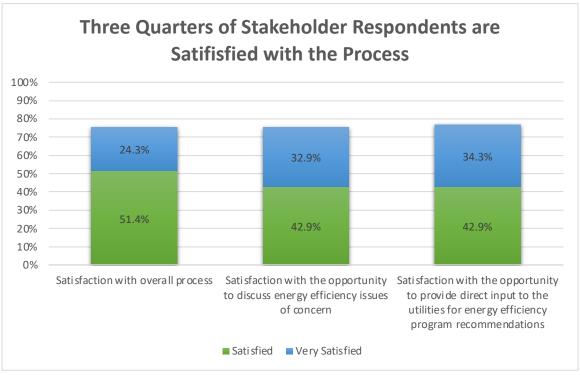


Figure 1: Satisfaction with the Virginia Energy Efficiency Stakeholder Process (n=83)

For stakeholders who have participated in multiple years of the program, over three quarters (78.8%) of the stakeholders agree that the utilities are willing to consider stakeholder input and slightly more than three-quarters (77.3%) agree the process is increasing trust and collaboration between stakeholders and the utilities. Both rates represent an increase in agreement over the previous year, by 8 percent and 6 percent, respectively.

⁸ The total number of potential stakeholders is lower than the combined numbers for APCo and DEV because it includes 84 members who participate in both stakeholder groups.

 $^{^{9}}$ The confidence level for the results is 95% with a margin of error of + 9.5%.



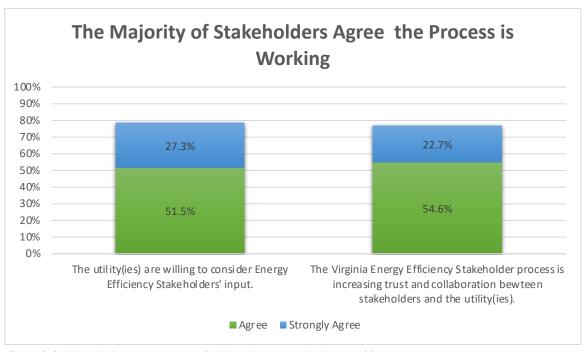


Figure 2: Stakeholder Agreement with the Relationship with the Utilities (n=66)

Almost 80 percent (78.6%) percent of stakeholder respondents who participated in the first three years of the stakeholder process see the results of the stakeholder process in the energy efficiency RFPs developed by the utilities. A lower percentage, representing over two-thirds (70.0%) of respondent stakeholders see the results of their input in the utilities' filings to the SCC and the recommendations/programs approved by the SCC. The rates reflect a slight increase over previous years.

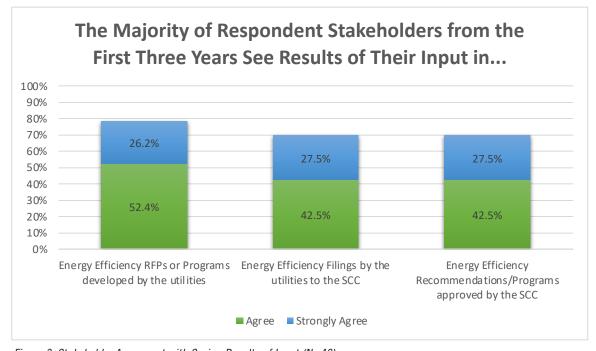


Figure 3: Stakeholder Agreement with Seeing Results of Input (N=42)



Over 80 percent of respondent stakeholders report the Virginia Energy Efficiency Stakeholder Process is improving the development of energy efficiency programs in Virginia (83.3%) and that the process will lead to better energy efficiency conservation within Virginia (84.9%). Both results demonstrate almost a 10 percent increase from the previous years. This significant change indicate the process and its results are being observed by stakeholders.



Figure 4: Stakeholder Agreement that the Process will Improve Energy Efficiency (N=66)

Stakeholders acknowledge that while the process is getting better, there is still significant opportunity for improvement. Two major themes emerged from additional feedback provided by stakeholders in the survey, for the overall process, which also reflect input from previous years. These themes were:

- Increase the integration of input and expertise from stakeholders. Several stakeholders view the process for the Phase II utility as utility-driven and the cadence of meetings or subgroups, while better than previous years, does not optimize proactive stakeholder input or the two-way exchange of information between the utilities and the participants.
- Move back to in-person meetings. A few stakeholders report that in-person meetings provide a more collaborative and productive environment than virtual meetings.

Next Steps

The fourth year of the stakeholder process concentrated working with the development of the long-term plan the stakeholders requested for Utility II and increasing discussion of EM&V for both utilities to ensure progress toward VCEA goals. For next steps, the independent monitor is focusing on increased usage of the subgroups to provide proactive input to the utilities and more diverse representation and participation by the stakeholder community.



APPENDIX I: PREVIOUS YEAR LEGISLATIVE CHANGES

2020 Legislative Update

In the 2020 General Assembly session, under House Bill 575¹⁰, § 56-585.1 relating to energy efficiency was amended and reenacted. The amended legislation included the following provisions that directs the stakeholder process to provide input and feedback on:

- (i) the development of such energy efficiency programs and portfolios of programs;
- (ii) compliance with the total annual energy savings and how such savings affect utility integrated resource plans;
- (iii) recommended policy reforms by which the General Assembly or the Commission can ensure maximum and cost-effective deployment of energy efficiency technology across the Commonwealth; and
- (iv) best practices for evaluation, measurement, and verification for the purposes of assessing compliance with the total annual energy savings.

The revised legislation expanded the identified stakeholder representatives to include participation from

• Relevant directors, deputy directors, and staff members of the Commission [State Corporation Commission] who participate in approval and oversight of utility energy efficiency savings programs

The legislative changes reflected input provided by stakeholders in the 2018-2019 (2019) stakeholder process and began on July 1, 2020, for the 2020-2021 (2021) stakeholder process and subsequent years and will be reported in future annual reports. The legislation did not change any of the requirements for the independent monitor's Annual Report.

2021 Legislative Update

There were no legislative updates or revisions to § 56-585.1 that altered the energy efficiency stakeholder feedback process, the annual reporting, or the role of the independent monitor.