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HOUSE BILL NO. 1102

House Amendments in [ ] - February 6, 2026

A BILL to amend and reenact §§ 56-576 and 56-585.5 of the Code of Virginia, relating to renewable energy portfolio standard program; geothermal heating and cooling systems; report.

Patron Prior to Engrossment—Delegate Singh

Referred to Committee on Labor and Commerce

Be it enacted by the General Assembly of Virginia:

1. That §§ 56-576 and 56-585.5 of the Code of Virginia are amended and reenacted as follows:

§ 56-576. Definitions.

As used in this chapter:

"Affiliate" means any person that controls, is controlled by, or is under common control with an electric utility.

"Aggregator" means a person that, as an agent or intermediary, (i) offers to purchase, or purchases, electric energy or (ii) offers to arrange for, or arranges for, the purchase of electric energy, for sale to, or on behalf of, two or more retail customers not controlled by or under common control with such person. The following activities shall not, in and of themselves, make a person an aggregator under this chapter: (i) furnishing legal services to two or more retail customers, suppliers or aggregators; (ii) furnishing educational, informational, or analytical services to two or more retail customers, unless direct or indirect compensation for such services is paid by an aggregator or supplier of electric energy; (iii) furnishing educational, informational, or analytical services to two or more suppliers or aggregators; (iv) providing default service under § 56-585; (v) engaging in activities of a retail electric energy supplier, licensed pursuant to § 56-587, which are authorized by such supplier's license; and (vi) engaging in actions of a retail customer, in common with one or more other such retail customers, to issue a request for proposal or to negotiate a purchase of electric energy for consumption by such retail customers.

"Business park" means a land development containing a minimum of 100 contiguous acres classified as a Tier 4 site under the Virginia Economic Development Partnership's Business Ready Sites Program that is developed and constructed by a locality, an industrial development authority, or a similar political subdivision of the Commonwealth created pursuant to § 15.2-4903 or other act of the General Assembly, in order to promote business development.

"Combined heat and power" means a method of using waste heat from electrical generation to offset traditional processes, space heating, air conditioning, or refrigeration.

"Commission" means the State Corporation Commission.

"Community in which a majority of the population are people of color" means a U.S. Census tract where more than 50 percent of the population comprises individuals who identify as belonging to one or more of the following groups: Black, African American, Asian, Pacific Islander, Native American, other non-white race, mixed race, Hispanic, Latino, or linguistically isolated.

"Cooperative" means a utility formed under or subject to Chapter 9.1 (§ 56-231.15 et seq.).

"Covered entity" means a provider in the Commonwealth of an electric service not subject to competition but does not include default service providers.

"Covered transaction" means an acquisition, merger, or consolidation of, or other transaction involving stock, securities, voting interests or assets by which one or more persons obtains control of a covered entity.

"Curtailment" means inducing retail customers to reduce load during times of peak demand so as to ease the burden on the electrical grid.

"Customer choice" means the opportunity for a retail customer in the Commonwealth to purchase electric energy from any supplier licensed and seeking to sell electric energy to that customer.

"Demand response" means measures aimed at shifting time of use of electricity from peak-use periods to times of lower demand by inducing retail customers to curtail electricity usage during periods of congestion and higher prices in the electrical grid.

"Distribute," "distributing," or "distribution of" electric energy means the transfer of electric energy through a retail distribution system to a retail customer.

"Distributor" means a person owning, controlling, or operating a retail distribution system to provide electric energy directly to retail customers.

"Electric distribution grid transformation project" means a project associated with electric distribution infrastructure, including related data analytics equipment, that is designed to accommodate or facilitate the integration of utility-owned or customer-owned renewable electric generation resources with the utility's electric distribution grid or to otherwise enhance electric distribution grid reliability, electric distribution grid

security, customer service, or energy efficiency and conservation, including advanced metering infrastructure; intelligent grid devices for real time system and asset information; automated control systems for electric distribution circuits and substations; communications networks for service meters; intelligent grid devices and other distribution equipment; distribution system hardening projects for circuits, other than the conversion of overhead tap lines to underground service, and substations designed to reduce service outages or service restoration times; physical security measures at key distribution substations; cyber security measures; energy storage systems and microgrids that support circuit-level grid stability, power quality, reliability, or resiliency or provide temporary backup energy supply; electrical facilities and infrastructure necessary to support electric vehicle charging systems; LED street light conversions; and new customer information platforms designed to provide improved customer access, greater service options, and expanded access to energy usage information.

"Electric utility" means any person that generates, transmits, or distributes electric energy for use by retail customers in the Commonwealth, including any investor-owned electric utility, cooperative electric utility, or electric utility owned or operated by a municipality.

"Electrification" means measures that (i) electrify space heating, water heating, cooling, drying, cooking, industrial processes, and other building and industrial end uses that would otherwise be served by onsite, nonelectric fuels, provided that the electrification measures reduce site energy consumption; (ii) to the maximum extent practical, seek to combine with federally authorized customer rebates for heat pump technology; and (iii) for those measures that provide measurable and verifiable energy savings to low-income customers or elderly customers, to the maximum extent practical, seek to combine with either contemporaneously installed measures or previously installed measures that are or were provided under federally funded weatherization programs or state-provided, locality-provided, or utility-provided energy efficiency programs.

"Energy efficiency program" means a program that reduces the total amount of energy that is required for the same process or activity implemented after the expiration of capped rates but does not include electrification of any process or activity primarily fueled by natural gas. Energy efficiency programs include equipment, physical, or program change designed to produce measured and verified reductions in the amount of site energy required to perform the same function and produce the same or a similar outcome. Energy efficiency programs may include (i) electrification; (ii) programs that result in improvements in lighting design, heating, ventilation, and air conditioning systems, appliances, building envelopes, and industrial and commercial processes; (iii) measures, such as the installation of advanced meters, implemented or installed by utilities, that reduce fuel use or losses of electricity and otherwise improve internal operating efficiency in generation, transmission, and distribution systems; and (iv) customer engagement programs that result in measurable and verifiable energy savings that lead to efficient use patterns and practices. Energy efficiency programs include demand response, combined heat and power and waste heat recovery, curtailment, or other programs that are designed to reduce site energy consumption so long as they reduce the total amount of site energy that is required for the same process or activity. Utilities shall be authorized to install and operate such advanced metering technology and equipment on a customer's premises; however, nothing in this chapter establishes a requirement that an energy efficiency program be implemented on a customer's premises and be connected to a customer's wiring on the customer's side of the inter-connection without the customer's expressed consent. Electricity consumption increases that result from Commission-approved electrification measures shall not be considered as a reduction in energy savings under the energy savings requirements set forth in subsection B of § 56-596.2. Utilities may apply verified total site energy reductions that are attributable to Commission-approved electrification measures to the energy savings requirements set forth in subsection B of § 56-596.2, subject to a conversion of British thermal unit-based energy savings to an equivalent kilowatt-hour-based energy savings, which conversion shall be subject to Commission approval.

"Generate," "generating," or "generation of" electric energy means the production of electric energy.

"Generator" means a person owning, controlling, or operating a facility that produces electric energy for sale.

"Geothermal electric generating resource" means an electric generating unit that is powered by geothermal energy as defined in § 45.2-2000.

"Geothermal heating and cooling system" means a system that:

1. Exchanges thermal energy from groundwater or a shallow ground source to generate thermal energy through an electric geothermal heat pump or a system of electric geothermal heat pumps interconnected with any geothermal extraction facility that is (i) a closed loop or a series of closed loop systems in which fluid is permanently confined within a pipe or tubing and does not come in contact with the outside environment or (ii) an open loop system in which ground or surface water is circulated in an environmentally safe manner directly into the facility and returned to the same aquifer or surface water source;

2. Meets or exceeds the current federal Energy Star product specification standards;

3. Replaces or displaces less efficient space or water heating systems, regardless of fuel type;

4. Replaces or displaces less efficient space cooling systems ~~that do not meet federal Energy Star product specification standards~~; and

5. Does not feed electricity back to the grid*, as defined at the level of the geothermal heat pump*.

"Historically economically disadvantaged community" means (i) a community in which a majority of the population are people of color or (ii) a low-income geographic area.

"Incremental annual savings" means the total combined kilowatt-hour savings achieved by electric utility energy efficiency and demand response programs and measures in the program year in which they are installed.

"Incumbent electric utility" means each electric utility in the Commonwealth that, prior to July 1, 1999, supplied electric energy to retail customers located in an exclusive service territory established by the Commission.

"Independent system operator" means a person that may receive or has received, by transfer pursuant to this chapter, any ownership or control of, or any responsibility to operate, all or part of the transmission systems in the Commonwealth.

"In the public interest," for purposes of assessing energy efficiency programs prior to the 2029 program year, describes an energy efficiency program if the Commission determines that the net present value of the benefits exceeds the net present value of the costs as determined by not less than any three of the following four tests: (i) the Total Resource Cost Test; (ii) the Utility Cost Test (also referred to as the Program Administrator Test); (iii) the Participant Test; and (iv) the Ratepayer Impact Measure Test. Such determination shall include an analysis of all four tests, and a program or portfolio of programs shall be approved if the net present value of the benefits exceeds the net present value of the costs as determined by not less than any three of the four tests. For programs proposed for the 2029 program year and all subsequent years, the Commission shall establish targets pursuant to subdivision B 4 of § 56-596.2, and a program shall be approved if the Commission determines it is cost-effective pursuant to applicable Commission regulations and that the net present value of the benefits exceeds the net present value of the costs as determined by the Total Resource Cost Test. If the Commission determines that an energy efficiency program or portfolio of programs is not in the public interest, its final order shall include all work product and analysis conducted by the Commission's staff in relation to that program, including testimony relied upon by the Commission's staff, that has bearing upon the Commission's decision. If the Commission reduces the proposed budget for a program or portfolio of programs, its final order shall include an analysis of the impact such budget reduction has upon the cost-effectiveness of such program or portfolio of programs. An order by the Commission (a) finding that a program or portfolio of programs is not in the public interest or (b) reducing the proposed budget for any program or portfolio of programs shall adhere to existing protocols for extraordinarily sensitive information. In addition, an energy efficiency program may be deemed to be "in the public interest" if the program (1) provides measurable and verifiable energy savings to low-income customers or elderly customers or (2) is a pilot program of limited scope, cost, and duration, that is intended to determine whether a new or substantially revised program or technology would be cost-effective.

"Low-income geographic area" means any locality, or community within a locality, that has a median household income that is not greater than 80 percent of the local median household income, or any area in the Commonwealth designated as a qualified opportunity zone by the U.S. Secretary of the Treasury via his delegation of authority to the Internal Revenue Service.

"Low-income utility customer" means any person or household whose income is no more than 80 percent of the median income of the locality in which the customer resides. The median income of the locality is determined by the U.S. Department of Housing and Urban Development.

"Measured and verified" means a process determined pursuant to methods accepted for use by utilities and industries to measure, verify, and validate energy savings and peak demand savings. This may include the protocol established by the United States Department of Energy, Office of Federal Energy Management Programs, Measurement and Verification Guidance for Federal Energy Projects, measurement and verification standards developed by the American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE), or engineering-based estimates of energy and demand savings associated with specific energy efficiency measures, as determined by the Commission.

"Municipality" means a city, county, town, authority, or other political subdivision of the Commonwealth.

"New underground facilities" means facilities to provide underground distribution service. "New underground facilities" includes underground cables with voltages of 69 kilovolts or less, pad-mounted devices, connections at customer meters, and transition terminations from existing overhead distribution sources.

"Peak-shaving" means measures aimed solely at shifting time of use of electricity from peak-use periods to times of lower demand by inducing retail customers to curtail electricity usage during periods of congestion and higher prices in the electrical grid.

"Percentage of Income Payment Program (PIPP) eligible utility customer" means any person or household whose income does not exceed 150 percent of the federal poverty level.

"Person" means any individual, corporation, partnership, association, company, business, trust, joint venture, or other private legal entity, and the Commonwealth or any municipality.

"Previously developed project site" means any property, including related buffer areas, if any, that has

been previously disturbed or developed for non-single-family residential, non-agricultural, or non-silvicultural use, regardless of whether such property currently is being used for any purpose.

"Previously developed project site" includes a brownfield as defined in § 10.1-1230 or any parcel that has been previously used (i) for a retail, commercial, or industrial purpose; (ii) as a parking lot; (iii) as the site of a parking lot canopy or structure; (iv) for mining, which is any lands affected by coal mining that took place before August 3, 1977, or any lands upon which extraction activities have been permitted by the Department of Energy under Title 45.2; (v) for quarrying; or (vi) as a landfill.

"Qualified waste heat resource" means (i) exhaust heat or flared gas from an industrial process that does not have, as its primary purpose, the production of electricity and (ii) a pressure drop in any gas for an industrial or commercial process.

"Renewable energy" means energy derived from sunlight, wind, falling water, biomass, sustainable or otherwise, (the definitions of which shall be liberally construed), energy from waste, landfill gas, municipal solid waste, wave motion, tides, geothermal heating and cooling systems, and geothermal electric generating resources and does not include energy derived from coal, oil, natural gas, or nuclear power. "Renewable energy" also includes the proportion of the thermal or electric energy from a facility that results from the co-firing of biomass. "Renewable energy" does not include waste heat from fossil-fired facilities or electricity generated from pumped storage but includes run-of-river generation from a combined pumped-storage and run-of-river facility.

"Renewable thermal energy" means the thermal energy output from (i) a renewable-fueled combined heat and power generation facility that is (a) constructed, or renovated and improved, after January 1, 2012, (b) located in the Commonwealth, and (c) utilized in industrial processes other than the combined heat and power generation facility or (ii) a solar energy system, certified to the OG-100 standard of the Solar Ratings and Certification Corporation or an equivalent certification body, that (a) is constructed, or renovated and improved, after January 1, 2013, (b) is located in the Commonwealth, and (c) heats water or air for residential, commercial, institutional, or industrial purposes.

"Renewable thermal energy equivalent" means the electrical equivalent in megawatt hours of renewable thermal energy calculated by dividing (i) the heat content, measured in British thermal units (BTUs), of the renewable thermal energy at the point of transfer to a residential, commercial, institutional, or industrial process by (ii) the standard conversion factor of 3.413 million BTUs per megawatt hour.

"Renovated and improved facility" means a facility the components of which have been upgraded to enhance its operating efficiency.

"Retail customer" means any person that purchases retail electric energy for its own consumption at one or more metering points or nonmetered points of delivery located in the Commonwealth.

"Retail electric energy" means electric energy sold for ultimate consumption to a retail customer.

"Revenue reductions related to energy efficiency programs" means reductions in the collection of total non-fuel revenues, previously authorized by the Commission to be recovered from customers by a utility, that occur due to measured and verified decreased consumption of electricity caused by energy efficiency programs approved by the Commission and implemented by the utility, less the amount by which such non-fuel reductions in total revenues have been mitigated through other program-related factors, including reductions in variable operating expenses.

"Rooftop solar installation" means a distributed electric generation facility, storage facility, or generation and storage facility utilizing energy derived from sunlight, with a rated capacity of not less than 50 kilowatts, that is installed on the roof structure of an incumbent electric utility's commercial or industrial class customer, including host sites on commercial buildings, multifamily residential buildings, school or university buildings, and buildings of a church or religious body.

"Solar energy system" means a system of components that produces heat or electricity, or both, from sunlight.

"Supplier" means any generator, distributor, aggregator, broker, marketer, or other person who offers to sell or sells electric energy to retail customers and is licensed by the Commission to do so, but it does not mean a generator that produces electric energy exclusively for its own consumption or the consumption of an affiliate.

"Supply" or "supplying" electric energy means the sale of or the offer to sell electric energy to a retail customer.

"Total annual energy savings" means (i) the total combined kilowatt-hour savings achieved by electric utility energy efficiency and demand response programs and measures installed in that program year, as well as savings still being achieved by measures and programs implemented in prior years, or (ii) savings attributable to newly installed combined heat and power facilities, including waste heat-to-power facilities, and any associated reduction in transmission line losses, provided that biomass is not a fuel and the total efficiency, including the use of thermal energy, for eligible combined heat and power facilitates must meet or exceed 65 percent and have a nameplate capacity rating of less than 25 megawatts.

"Transmission of," "transmit," or "transmitting" electric energy means the transfer of electric energy

through the Commonwealth's interconnected transmission grid from a generator to either a distributor or a retail customer.

"Transmission system" means those facilities and equipment that are required to provide for the transmission of electric energy.

"Waste heat to power" means a system that generates electricity through the recovery of a qualified waste heat resource.

§ 56-585.5. Generation of electricity from renewable and zero carbon sources.

A. As used in this section:

"Accelerated renewable energy buyer" means a commercial or industrial customer of a Phase I or Phase II Utility, irrespective of generation supplier, with an aggregate load over 25 megawatts in the prior calendar year, that enters into arrangements pursuant to subsection G, as certified by the Commission.

"Aggregate load" means the combined electrical load associated with selected accounts of an accelerated renewable energy buyer with the same legal entity name as, or in the names of affiliated entities that control, are controlled by, or are under common control of, such legal entity or are the names of affiliated entities under a common parent.

"Control" has the same meaning as provided in § 56-585.1:11.

"Elementary or secondary" has the same meaning as provided in § 22.1-1.

"Falling water" means hydroelectric resources, including run-of-river generation from a combined pumped-storage and run-of-river facility. "Falling water" does not include electricity generated from pumped-storage facilities.

"Low-income qualifying projects" means a project that provides a minimum of 50 percent of the respective electric output to low-income utility customers as that term is defined in § 56-576.

"Phase I Utility" has the same meaning as provided in subdivision A 1 of § 56-585.1.

"Phase II Utility" has the same meaning as provided in subdivision A 1 of § 56-585.1.

"Previously developed project site" means any property, including related buffer areas, if any, that has been previously disturbed or developed for non-single-family residential, nonagricultural, or nonsilvicultural use, regardless of whether such property currently is being used for any purpose. "Previously developed project site" includes a brownfield as defined in § 10.1-1230 or any parcel that has been previously used (i) for a retail, commercial, or industrial purpose; (ii) as a parking lot; (iii) as the site of a parking lot canopy or structure; (iv) for mining, which is any lands affected by coal mining that took place before August 3, 1977, or any lands upon which extraction activities have been permitted by the Department of Energy under Title 45.2; (v) for quarrying; or (vi) as a landfill.

"Total electric energy" means total electric energy sold to retail customers in the Commonwealth service territory of a Phase I or Phase II Utility, other than accelerated renewable energy buyers, by the incumbent electric utility or other retail supplier of electric energy in the previous calendar year, excluding an amount equivalent to the annual percentages of the electric energy that was supplied to such customer from nuclear generating plants located within the Commonwealth in the previous calendar year, provided such nuclear units were operating by July 1, 2020, or from any zero-carbon electric generating facilities not otherwise RPS eligible sources and placed into service in the Commonwealth after July 1, 2030.

"Zero-carbon electricity" means electricity generated by any generating unit that does not emit carbon dioxide as a by-product of combusting fuel to generate electricity.

B. 1. By December 31, 2024, except for any coal-fired electric generating units (i) jointly owned with a cooperative utility or (ii) owned and operated by a Phase II Utility located in the coalfield region of the Commonwealth that co-fires with biomass, any Phase I and Phase II Utility shall retire all generating units principally fueled by oil with a rated capacity in excess of 500 megawatts and all coal-fired electric generating units operating in the Commonwealth.

2. By December 31, 2045, except for biomass-fired electric generating units that do not co-fire with coal, each Phase I and II Utility shall retire all other electric generating units located in the Commonwealth that emit carbon as a by-product of combusting fuel to generate electricity.

3. A Phase I or Phase II Utility may petition the Commission for relief from the requirements of this subsection on the basis that the requirement would threaten the reliability or security of electric service to customers. The Commission shall consider in-state and regional transmission entity resources and shall evaluate the reliability of each proposed retirement on a case-by-case basis in ruling upon any such petition.

C. Each Phase I and Phase II Utility shall participate in a renewable energy portfolio standard program (RPS Program) that establishes annual goals for the sale of renewable energy to all retail customers in the utility's service territory, other than accelerated renewable energy buyers pursuant to subsection G, regardless of whether such customers purchase electric supply service from the utility or from suppliers other than the utility. To comply with the RPS Program, each Phase I and Phase II Utility shall procure and retire Renewable Energy Certificates (RECs) originating from renewable energy standard eligible sources (RPS eligible sources). For purposes of complying with the RPS Program from 2021 to 2024, a Phase I and Phase II Utility may use RECs from any renewable energy facility, as defined in § 56-576, provided that such facilities are located in the Commonwealth or are physically located within the PJM Interconnection, LLC

(PJM) region. However, at no time during this period or thereafter may any Phase I or Phase II Utility use RECs from (i) renewable thermal energy, (ii) renewable thermal energy equivalent, or (iii) biomass-fired facilities that are outside the Commonwealth. From compliance year 2025 and all years after, each Phase I and Phase II Utility may only use RECs from RPS eligible sources for compliance with the RPS Program.

In order to qualify as RPS eligible sources, such sources must be (a) electric-generating resources that generate electric energy derived from solar or wind located in the Commonwealth or off the Commonwealth's Atlantic shoreline or in federal waters and interconnected directly into the Commonwealth or physically located within the PJM region; (b) falling water resources located in the Commonwealth or physically located within the PJM region that were in operation as of January 1, 2020, that are owned by a Phase I or Phase II Utility or for which a Phase I or Phase II Utility has entered into a contract prior to January 1, 2020, to purchase the energy, capacity, and renewable attributes of such falling water resources; (c) non-utility-owned resources from falling water that (1) are less than 65 megawatts, (2) began commercial operation after December 31, 1979, or (3) added incremental generation representing greater than 50 percent of the original nameplate capacity after December 31, 1979, provided that such resources are located in the Commonwealth or are physically located within the PJM region; (d) waste-to-energy or landfill gas-fired generating resources located in the Commonwealth and in operation as of January 1, 2020, provided that such resources do not use waste heat from fossil fuel combustion; (e) geothermal heating and cooling systems located in the Commonwealth; (f) geothermal electric generating resources located in the Commonwealth or physically located within the PJM region; or (g) biomass-fired facilities in operation in the Commonwealth and in operation as of January 1, 2023, that (1) supply no more than 10 percent of their annual net electrical generation to the electric grid or no more than 15 percent of their annual total useful energy to any entity other than the manufacturing facility to which the generating source is interconnected and are fueled by forest-product manufacturing residuals, including pulping liquor, bark, paper recycling residuals, biowastes, or biomass, as described in subdivisions A 1, 2, and 4 of § 10.1-1308.1, provided that biomass as described in subdivision A 1 of § 10.1-1308.1 results from harvesting in accordance with best management practices for the sustainable harvesting of biomass developed and enforced by the State Forester pursuant to § 10.1-1105, or (2) are owned by a Phase I or Phase II Utility, have less than 52 megawatts capacity, and are fueled by forest-product manufacturing residuals, biowastes, or biomass, as described in subdivisions A 1, 2, and 4 of § 10.1-1308.1, provided that biomass as described in subdivision A 1 of § 10.1-1308.1 results from harvesting in accordance with best management practices for the sustainable harvesting of biomass developed and enforced by the State Forester pursuant to § 10.1-1105. Regardless of any future maintenance, expansion, or refurbishment activities, the total amount of RECs that may be sold by any RPS eligible source using biomass in any year shall be no more than the number of megawatt hours of electricity produced by that facility in 2022; however, in no year may any RPS eligible source using biomass sell RECs in excess of the actual megawatt-hours of electricity generated by such facility that year. In order to comply with the RPS Program, each Phase I and Phase II Utility may use and retire the environmental attributes associated with any existing owned or contracted solar, wind, falling water, or biomass electric generating resources in operation, or proposed for operation, in the Commonwealth or solar, wind, or falling water resources physically located within the PJM region, with such resource qualifying as a Commonwealth-located resource for purposes of this subsection, as of January 1, 2020, provided that such renewable attributes are verified as RECs consistent with the PJM-EIS Generation Attribute Tracking System.

1. *a.* The RPS Program requirements shall be a percentage of the total electric energy sold in the previous calendar year and shall be implemented in accordance with the following schedule:

Phase I Utilities		Phase II Utilities	
Year	RPS Program Requirement	Year	RPS Program Requirement
2021	6%	2021	14%
2022	7%	2022	17%
2023	8%	2023	20%
2024	10%	2024	23%
2025	14%	2025	26%
2026	17%	2026	29%
2027	20%	2027	32%
2028	24%	2028	35%
2029	27%	2029	38%
2030	30%	2030	41%
2031	33%	2031	45%
2032	36%	2032	49%
2033	39%	2033	52%
2034	42%	2034	55%
2035	45%	2035	59%
2036	53%	2036	63%
2037	53%	2037	67%
2038	57%	2038	71%

2039	61%	2039	75%
2040	65%	2040	79%
2041	68%	2041	83%
2042	71%	2042	87%
2043	74%	2043	91%
2044	77%	2044	95%
2045	80%	2045 and thereafter	100%
2046	84%		
2047	88%		
2048	92%		
2049	96%		
2050 and thereafter	100%		

b. Beginning with the 2027 compliance year and thereafter, each Phase II Utility shall procure and retire RECs from geothermal heating and cooling systems located in the Commonwealth, as a percentage of the total number of RECs used for RPS program compliance, in the following amounts, at minimum: (i) 0.5 percent in 2027, (ii) 0.75 percent in 2028, and (iii) one percent in and after 2029. Beginning with the 2027 compliance year and thereafter, each Phase I Utility shall procure and retire RECs from geothermal heating and cooling systems located within its own service territory, as a percentage of the total number of RECs used for RPS program compliance, in the following amounts, at minimum: (a) 0.5 percent in 2027, (b) 0.75 percent in 2028, and (c) one percent in and after 2029.

2. A Phase II Utility shall meet one percent of the RPS Program requirements in any given compliance year with solar, wind, or anaerobic digestion resources of one megawatt or less located in the Commonwealth, with not more than 3,000 kilowatts at any single location or at contiguous locations owned by the same entity or affiliated entities and, to the extent that low-income qualifying projects are available, then no less than 25 percent of such one percent shall be composed of low-income qualifying projects. To the extent that low-income qualifying projects are not available and projects located on or adjacent to public elementary or secondary schools are available, the remainder of no less than 25 percent of such one percent shall be composed of projects located on or adjacent to public elementary or secondary schools. A project located on or adjacent to a public elementary or secondary school shall have a contractual relationship with such school in order to qualify for the provisions of this section.

3. Beginning with the 2025 compliance year and thereafter, at least 75 percent of all RECs used by a Phase II Utility in a compliance period shall come from RPS eligible resources located in the Commonwealth.

4. Any Phase I or Phase II Utility may apply renewable energy sales achieved or RECs acquired in excess of the sales requirement for that RPS Program to the sales requirements for RPS Program requirements in the year in which it was generated and the five calendar years after the renewable energy was generated or the RECs were created. To the extent that a Phase I or Phase II Utility procures RECs for RPS Program compliance from resources the utility does not own, the utility shall be entitled to recover the costs of such certificates at its election pursuant to § 56-249.6 or subdivision A 5 d of § 56-585.1.

5. Energy [~~*derived*~~] from a geothermal heating and cooling system is eligible for inclusion in meeting the requirements of the RPS Program. RECs from a geothermal heating and cooling system [are created based on the amount of energy, converted from BTUs to kilowatt-hours, that is generated by a geothermal heating and cooling system for space heating and cooling or water heating ~~*shall be the product of the performance rating of the geothermal heating and cooling system and the energy usage of the geothermal heating and cooling system that is required for space heating, cooling, and water heating*~~] . The Commission shall determine the form and manner in which such RECs are verified.

D. Each Phase I or Phase II Utility shall petition the Commission for necessary approvals to procure zero-carbon electricity generating capacity as set forth in this subsection and energy storage resources as set forth in subsection E. To the extent that a Phase I or Phase II Utility constructs or acquires new zero-carbon generating facilities or energy storage resources, the utility shall petition the Commission for the recovery of the costs of such facilities, at the utility's election, either through its rates for generation and distribution services or through a rate adjustment clause pursuant to subdivision A 6 of § 56-585.1. All costs not sought for recovery through a rate adjustment clause pursuant to subdivision A 6 of § 56-585.1 associated with generating facilities provided by sunlight or onshore or offshore wind are also eligible to be applied by the utility as a customer credit reinvestment offset as provided in subdivision A 8 of § 56-585.1. Costs associated with the purchase of energy, capacity, or environmental attributes from facilities owned by the persons other than the utility required by this subsection shall be recovered by the utility either through its rates for generation and distribution services or pursuant to § 56-249.6.

1. Each Phase I Utility shall petition the Commission for necessary approvals to construct, acquire, or enter into agreements to purchase the energy, capacity, and environmental attributes of 600 megawatts of

generating capacity using energy derived from sunlight or onshore wind.

a. By December 31, 2023, each Phase I Utility shall petition the Commission for necessary approvals to construct, acquire, or enter into agreements to purchase the energy, capacity, and environmental attributes of at least 200 megawatts of generating capacity located in the Commonwealth using energy derived from sunlight or onshore wind, and 35 percent of such generating capacity procured shall be from the purchase of energy, capacity, and environmental attributes from solar or onshore wind facilities owned by persons other than the utility, with the remainder, in the aggregate, being from construction or acquisition by such Phase I Utility.

b. By December 31, 2027, each Phase I Utility shall petition the Commission for necessary approvals to construct, acquire, or enter into agreements to purchase the energy, capacity, and environmental attributes of at least 200 megawatts of additional generating capacity located in the Commonwealth using energy derived from sunlight or onshore wind, and 35 percent of such generating capacity procured shall be from the purchase of energy, capacity, and environmental attributes from solar or onshore wind facilities owned by persons other than the utility, with the remainder, in the aggregate, being from construction or acquisition by such Phase I Utility.

c. By December 31, 2030, each Phase I Utility shall petition the Commission for necessary approvals to construct, acquire, or enter into agreements to purchase the energy, capacity, and environmental attributes of at least 200 megawatts of additional generating capacity located in the Commonwealth using energy derived from sunlight or onshore wind, and 35 percent of such generating capacity procured shall be from the purchase of energy, capacity, and environmental attributes from solar or onshore wind facilities owned by persons other than the utility, with the remainder, in the aggregate, being from construction or acquisition by such Phase I Utility.

d. Nothing in this subdivision 1 shall prohibit such Phase I Utility from constructing, acquiring, or entering into agreements to purchase the energy, capacity, and environmental attributes of more than 600 megawatts of generating capacity located in the Commonwealth using energy derived from sunlight or onshore wind, provided the utility receives approval from the Commission pursuant to §§ 56-580 and 56-585.1.

2. By December 31, 2035, each Phase II Utility shall petition the Commission for necessary approvals to (i) construct, acquire, or enter into agreements to purchase the energy, capacity, and environmental attributes of 16,100 megawatts of generating capacity located in the Commonwealth using energy derived from sunlight or onshore wind, which shall include 1,100 megawatts of solar generation of a nameplate capacity not to exceed three megawatts per individual project and 35 percent of such generating capacity procured shall be from the purchase of energy, capacity, and environmental attributes from solar facilities owned by persons other than a utility, including utility affiliates and deregulated affiliates and (ii) pursuant to § 56-585.1:11, construct or purchase one or more offshore wind generation facilities located off the Commonwealth's Atlantic shoreline or in federal waters and interconnected directly into the Commonwealth with an aggregate capacity of up to 5,200 megawatts. At least 200 megawatts of the 16,100 megawatts shall be placed on previously developed project sites.

a. By December 31, 2024, each Phase II Utility shall petition the Commission for necessary approvals to construct, acquire, or enter into agreements to purchase the energy, capacity, and environmental attributes of at least 3,000 megawatts of generating capacity located in the Commonwealth using energy derived from sunlight or onshore wind, and 35 percent of such generating capacity procured shall be from the purchase of energy, capacity, and environmental attributes from solar or onshore wind facilities owned by persons other than the utility, with the remainder, in the aggregate, being from construction or acquisition by such Phase II Utility.

b. By December 31, 2027, each Phase II Utility shall petition the Commission for necessary approvals to construct, acquire, or enter into agreements to purchase the energy, capacity, and environmental attributes of at least 3,000 megawatts of additional generating capacity located in the Commonwealth using energy derived from sunlight or onshore wind, and 35 percent of such generating capacity procured shall be from the purchase of energy, capacity, and environmental attributes from solar or onshore wind facilities owned by persons other than the utility, with the remainder, in the aggregate, being from construction or acquisition by such Phase II Utility.

c. By December 31, 2030, each Phase II Utility shall petition the Commission for necessary approvals to construct, acquire, or enter into agreements to purchase the energy, capacity, and environmental attributes of at least 4,000 megawatts of additional generating capacity located in the Commonwealth using energy derived from sunlight or onshore wind, and 35 percent of such generating capacity procured shall be from the purchase of energy, capacity, and environmental attributes from solar or onshore wind facilities owned by persons other than the utility, with the remainder, in the aggregate, being from construction or acquisition by such Phase II Utility.

d. By December 31, 2035, each Phase II Utility shall petition the Commission for necessary approvals to construct, acquire, or enter into agreements to purchase the energy, capacity, and environmental attributes of at least 6,100 megawatts of additional generating capacity located in the Commonwealth using energy

derived from sunlight or onshore wind, and 35 percent of such generating capacity procured shall be from the purchase of energy, capacity, and environmental attributes from solar or onshore wind facilities owned by persons other than the utility, with the remainder, in the aggregate, being from construction or acquisition by such Phase II Utility.

e. Nothing in this subdivision 2 shall prohibit such Phase II Utility from constructing, acquiring, or entering into agreements to purchase the energy, capacity, and environmental attributes of more than 16,100 megawatts of generating capacity located in the Commonwealth using energy derived from sunlight or onshore wind, provided the utility receives approval from the Commission pursuant to §§ 56-580 and 56-585.1.

3. Nothing in this section shall prohibit a utility from petitioning the Commission to construct or acquire zero-carbon electricity or from entering into contracts to procure the energy, capacity, and environmental attributes of zero-carbon electricity generating resources in excess of the requirements in subsection B. The Commission shall determine whether to approve such petitions on a stand-alone basis pursuant to §§ 56-580 and 56-585.1, provided that the Commission's review shall also consider whether the proposed generating capacity (i) is necessary to meet the utility's native load, (ii) is likely to lower customer fuel costs, (iii) will provide economic development opportunities in the Commonwealth, and (iv) serves a need that cannot be more affordably met with demand-side or energy storage resources.

Each Phase I and Phase II Utility shall, at least once every year, conduct a request for proposals for new solar and wind resources. Such requests shall quantify and describe the utility's need for energy, capacity, or renewable energy certificates. The requests for proposals shall be publicly announced and made available for public review on the utility's website at least 45 days prior to the closing of such request for proposals. The requests for proposals shall provide, at a minimum, the following information: (a) the size, type, and timing of resources for which the utility anticipates contracting; (b) any minimum thresholds that must be met by respondents; (c) major assumptions to be used by the utility in the bid evaluation process, including environmental emission standards; (d) detailed instructions for preparing bids so that bids can be evaluated on a consistent basis; (e) the preferred general location of additional capacity; and (f) specific information concerning the factors involved in determining the price and non-price criteria used for selecting winning bids. A utility may evaluate responses to requests for proposals based on any criteria that it deems reasonable but shall at a minimum consider the following in its selection process: (1) the status of a particular project's development; (2) the age of existing generation facilities; (3) the demonstrated financial viability of a project and the developer; (4) a developer's prior experience in the field; (5) the location and effect on the transmission grid of a generation facility; (6) benefits to the Commonwealth that are associated with particular projects, including regional economic development and the use of goods and services from Virginia businesses; and (7) the environmental impacts of particular resources, including impacts on air quality within the Commonwealth and the carbon intensity of the utility's generation portfolio.

4. In connection with the requirements of this subsection, each Phase I and Phase II Utility shall, commencing in 2020 and concluding in 2035, submit annually a plan and petition for approval for the development of new solar and onshore wind generation capacity. Such plan shall reflect, in the aggregate and over its duration, the requirements of subsection D concerning the allocation percentages for construction or purchase of such capacity. Such petition shall contain any request for approval to construct such facilities pursuant to subsection D of § 56-580 and a request for approval or update of a rate adjustment clause pursuant to subdivision A 6 of § 56-585.1 to recover the costs of such facilities. Such plan shall also include the utility's plan to meet the energy storage project targets of subsection E, including the goal of installing at least 10 percent of such energy storage projects behind the meter. In determining whether to approve the utility's plan and any associated petition requests, the Commission shall determine whether they are reasonable and prudent and shall give due consideration to (i) the RPS and carbon dioxide reduction requirements in this section; (ii) the promotion of new renewable generation and energy storage resources within the Commonwealth, and associated economic development; and (iii) fuel savings projected to be achieved by the plan. Notwithstanding any other provision of this title, the Commission's final order regarding any such petition and associated requests shall be entered by the Commission not more than six months after the date of the filing of such petition.

5. If, in any year, a Phase I or Phase II Utility is unable to meet the compliance obligation of the RPS Program requirements or if the cost of RECs necessary to comply with RPS Program requirements exceeds $45 per megawatt hour, such supplier shall be obligated to make a deficiency payment equal to $45 for each megawatt-hour shortfall for the year of noncompliance, except that the deficiency payment for any shortfall in procuring RECs for solar, wind, or anaerobic digesters located in the Commonwealth shall be $75 per ~~megawatts~~ *megawatt* hour for resources one megawatt and lower, *and the deficiency payment for any shortfall in procuring RECs for geothermal heating and cooling systems, as required by subdivision C 1 b, shall be $100 per megawatt hour. A Phase I or Phase II Utility shall issue a quarterly request for proposals regarding the procurement of RECs produced by geothermal heating and cooling systems as a portion of its efforts to meet the requirements of subdivision C 1 b. A Phase I or Phase II Utility shall be exempt from making an annual deficiency payment for the quantity of required RECs produced by geothermal heating and*

cooling systems that are not made available in each request for proposals at a price that is equal to or below the price of such deficiency payment in a compliance year. [*In any year in which a Phase I or Phase II utility is exempted from making a deficiency payment resulting from a lack of available RECs from geothermal heating and cooling systems, the utility shall, for that compliance year, procure and retire RPS eligible RECs subject to a $45 per megawatt hour deficiency payment in an amount equal to the amount of RECs from geothermal heating and cooling systems that were not made available at a price that was equal to or below $100 per megawatt hour in that compliance year pursuant to subdivision C 1 b.*] The amount of any deficiency payment shall increase by one percent annually after 2021. A Phase I or Phase II Utility shall be entitled to recover the costs of such payments as a cost of compliance with the requirements of this subsection pursuant to subdivision A 5 d of § 56-585.1. All proceeds from the deficiency payments shall be deposited into an interest-bearing account administered by the Department of Energy. In administering this account, the Department of Energy shall manage the account as follows: (i) 50 percent of total revenue shall be directed to job training programs in historically economically disadvantaged communities; (ii) 16 percent of total revenue shall be directed to energy efficiency measures for public facilities; (iii) 30 percent of total revenue shall be directed to renewable energy programs located in historically economically disadvantaged communities; and (iv) four percent of total revenue shall be directed to administrative costs.

For any project constructed pursuant to this subsection or subsection E, a utility shall, subject to a competitive procurement process, procure equipment from a Virginia-based or United States-based manufacturer using materials or product components made in Virginia or the United States, if reasonably available and competitively priced.

E. To enhance reliability and performance of the utility's generation and distribution system, each Phase I and Phase II Utility shall petition the Commission for necessary approvals to construct or acquire new, utility-owned energy storage resources.

1. By December 31, 2035, each Phase I Utility shall petition the Commission for necessary approvals to construct or acquire 400 megawatts of energy storage capacity. Nothing in this subdivision shall prohibit a Phase I Utility from constructing or acquiring more than 400 megawatts of energy storage, provided that the utility receives approval from the Commission pursuant to §§ 56-580 and 56-585.1.

2. By December 31, 2035, each Phase II Utility shall petition the Commission for necessary approvals to construct or acquire 2,700 megawatts of energy storage capacity. Nothing in this subdivision shall prohibit a Phase II Utility from constructing or acquiring more than 2,700 megawatts of energy storage, provided that the utility receives approval from the Commission pursuant to §§ 56-580 and 56-585.1.

3. No single energy storage project shall exceed 500 megawatts in size, except that a Phase II Utility may procure a single energy storage project up to 800 megawatts.

4. All energy storage projects procured pursuant to this subsection shall meet the competitive procurement protocols established in subdivision D 3.

5. After July 1, 2020, at least 35 percent of the energy storage facilities placed into service shall be (i) purchased by the public utility from a party other than the public utility or (ii) owned by a party other than a public utility, with the capacity from such facilities sold to the public utility. By January 1, 2021, the Commission shall adopt regulations to achieve the deployment of energy storage for the Commonwealth required in subdivisions 1 and 2, including regulations that set interim targets and update existing utility planning and procurement rules. The regulations shall include programs and mechanisms to deploy energy storage, including competitive solicitations, behind-the-meter incentives, non-wires alternatives programs, and peak demand reduction programs.

F. All costs incurred by a Phase I or Phase II Utility related to compliance with the requirements of this section or pursuant to § 56-585.1:11, including (i) costs of generation facilities powered by sunlight or onshore or offshore wind, or energy storage facilities, that are constructed or acquired by a Phase I or Phase II Utility after July 1, 2020, (ii) costs of capacity, energy, or environmental attributes from generation facilities powered by sunlight or onshore or offshore wind, or falling water, or energy storage facilities purchased by the utility from persons other than the utility through agreements after July 1, 2020, and (iii) all other costs of compliance, including costs associated with the purchase of RECs associated with RPS Program requirements pursuant to this section shall be recovered from all retail customers in the service territory of a Phase I or Phase II Utility as a non-bypassable charge, irrespective of the generation supplier of such customer, except (a) as provided in subsection G for an accelerated renewable energy buyer or (b) as provided in subdivision C 3 of § 56-585.1:11, with respect to the costs of an offshore wind generation facility, for a PIPP eligible utility customer or an advanced clean energy buyer or qualifying large general service customer, as those terms are defined in § 56-585.1:11. If a Phase I or Phase II Utility serves customers in more than one jurisdiction, such utility shall recover all of the costs of compliance with the RPS Program requirements from its Virginia customers through the applicable cost recovery mechanism, and all associated energy, capacity, and environmental attributes shall be assigned to Virginia to the extent that such costs are requested but not recovered from any system customers outside the Commonwealth.

By September 1, 2020, the Commission shall direct the initiation of a proceeding for each Phase I and Phase II Utility to review and determine the amount of such costs, net of benefits, that should be allocated to

retail customers within the utility's service territory which have elected to receive electric supply service from a supplier of electric energy other than the utility, and shall direct that tariff provisions be implemented to recover those costs from such customers beginning no later than January 1, 2021. Thereafter, such charges and tariff provisions shall be updated and trued up by the utility on an annual basis, subject to continuing review and approval by the Commission.

G. 1. An accelerated renewable energy buyer may contract with a Phase I or Phase II Utility, or a person other than a Phase I or Phase II Utility, to obtain (i) RECs from RPS eligible resources or (ii) bundled capacity, energy, and RECs from solar or, wind, or zero-carbon electricity generation resources located within the PJM region and initially placed in commercial operation after January 1, 2015, including any contract with a utility for such generation resources that does not allocate the cost of such resources to or recover the cost of such resources from any other customers of the utility that have not voluntarily agreed to pay such cost. Such an accelerated renewable energy buyer may offset all or a portion of its electric load for purposes of RPS compliance through such arrangements. An accelerated renewable energy buyer shall be exempt from the assignment of non-bypassable RPS compliance costs pursuant to subsection F, with the exception of the costs of an offshore wind generating facility pursuant to § 56-585.1:11, based on the amount of RECs obtained pursuant to this subsection in proportion to the customer's total electric energy consumption, on an annual basis. An accelerated renewable energy buyer may also contract with a Phase I or Phase II Utility, or a person other than a Phase I or Phase II Utility, to obtain capacity from energy storage facilities located within the network service area of the utility pursuant to this subsection, provided that the costs of such resources are not recovered from any of the utility's customers who have not voluntarily agreed to pay for such costs. Such accelerated renewable energy buyer shall be exempt from the assignment of non-bypassable RPS Program compliance costs specifically associated with energy storage facilities pursuant to this subsection in proportion to the customer's total capacity demand on an annual basis. An accelerated renewable energy buyer obtaining RECs only shall not be exempt from costs related to procurement of new solar or onshore wind generation capacity, energy, or environmental attributes, or energy storage facilities, by the utility pursuant to subsections D and E, however, an accelerated renewable energy buyer that is a customer of a Phase II Utility and was subscribed, as of March 1, 2020, to a voluntary companion experimental tariff offering of the utility for the purchase of renewable attributes from renewable energy facilities that requires a renewable facilities agreement and the purchase of a minimum of 2,000 renewable attributes annually, shall be exempt from allocation of the net costs related to procurement of new solar or onshore wind generation capacity, energy, or environmental attributes, or energy storage facilities, by the utility pursuant to subsections D and E, based on the amount of RECs associated with the customer's renewable facilities agreements associated with such tariff offering as of that date in proportion to the customer's total electric energy consumption, on an annual basis. To the extent that an accelerated renewable energy buyer contracts for the capacity of new solar or wind generation resources or energy storage facilities pursuant to this subsection, the aggregate amount of such nameplate capacity shall be offset from the utility's procurement requirements pursuant to subsection D. All RECs associated with contracts entered into by an accelerated renewable energy buyer with the utility, or a person other than the utility, for an RPS Program shall not be credited to the utility's compliance with its RPS requirements, and the calculation of the utility's RPS Program requirements shall not include the electric load covered by customers certified as accelerated renewable energy buyers.

2. Each Phase I or Phase II Utility shall certify, and verify as necessary, to the Commission that the accelerated renewable energy buyer has satisfied the exemption requirements of this subsection for each year, or an accelerated renewable energy buyer may choose to certify satisfaction of this exemption by reporting to the Commission individually. The Commission may promulgate such rules and regulations as may be necessary to implement the provisions of this subsection.

3. Provided that no incremental costs associated with any contract between a Phase I or Phase II Utility and an accelerated renewable energy buyer is allocated to or recovered from any other customer of the utility, any such contract with an accelerated renewable energy buyer that is a jurisdictional customer of the utility shall not be deemed a special rate or contract requiring Commission approval pursuant to § 56-235.2.

4. The State Corporation Commission shall ensure that any distribution and transmission costs associated with new energy generation resources procured pursuant to subsection G of § 56-585.5 of the Code of Virginia, as amended by this act, are justly and reasonably allocated.

H. No customer of a Phase II Utility with a peak demand in excess of 100 megawatts in 2019 that elected pursuant to subdivision A 3 of § 56-577 to purchase electric energy from a competitive service provider prior to April 1, 2019, shall be allocated any non-bypassable charges pursuant to subsection F for such period that the customer is not purchasing electric energy from the utility, and such customer's electric load shall not be included in the utility's RPS Program requirements. No customer of a Phase I Utility that elected pursuant to subdivision A 3 of § 56-577 to purchase electric energy from a competitive service provider prior to February 1, 2019, shall be allocated any non-bypassable charges pursuant to subsection F for such period that the customer is not purchasing electric energy from the utility, and such customer's electric load shall not be included in the utility's RPS Program requirements.

I. In any petition by a Phase I or Phase II Utility for a certificate of public convenience and necessity to construct and operate an electrical generating facility that generates electric energy derived from sunlight submitted pursuant to § 56-580, such utility shall demonstrate that the proposed facility was subject to competitive procurement or solicitation as set forth in subdivision D 3.

J. Notwithstanding any contrary provision of law, for the purposes of this section, any falling water generation facility located in the Commonwealth and commencing commercial operations prior to July 1, 2024, shall be considered a renewable energy portfolio standard (RPS) eligible source.

K. Nothing in this section shall apply to any entity organized under Chapter 9.1 (§ 56-231.15 et seq.).

L. The Commission shall adopt such rules and regulations as may be necessary to implement the provisions of this section, including a requirement that participants verify whether the RPS Program requirements are met in accordance with this section.

2. That the State Corporation Commission (the Commission) shall prepare a report evaluating the procurement and retirement of renewable energy certificates from geothermal heating and cooling systems in the Commonwealth pursuant to subdivision C 1 b of § 56-585.5 of the Code of Virginia, as amended by this act. The Commission shall deliver such report to the Chairs of the House Committee on Labor and Commerce and Senate Committee on Commerce and Labor on or before November 1, 2028.

3. That pursuant to § 54.1-2014 of the Code of Virginia, the Real Estate Appraiser Board (the Board) shall promulgate regulations requiring the development of a continuing education curriculum and required training for all licensees that includes how to properly determine the increase in value of real estate created by reductions in building energy costs associated with solar, geothermal, and solar water heating investments for the purposes of real estate appraisals. On or before November 1, 2026, the Board shall report on the implementation of such curriculum and training to the Chairs of the House Committees on Labor and Commerce and General Laws, the Senate Committees on Commerce and Labor and General Laws and Technology, and the Commission on Electric Utility Regulation.