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SENATE BILL NO. 508

Offered January 10, 2024

Prefiled January 9, 2024

A BILL to amend and reenact §§ 56-576 and 56-585.5 of the Code of Virginia and to amend the Code of Virginia by adding sections numbered 56-585.5:1 and 56-585.5:2, relating to renewable energy portfolio standard; geothermal heating and cooling systems; Strategic Energy Investment Program and Fund established; Geothermal Energy Work Group established; Department of Energy; Department of Labor and Industry; reports.

Patron—Surovell

Referred to Committee on Commerce and Labor

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 and that the Code of Virginia is amended by adding sections numbered 56-585.5:1 and 56-585.5:2 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.

"Curtailed" 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.

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

61 "Electric distribution grid transformation project" means a project associated with electric distribution
62 infrastructure, including related data analytics equipment, that is designed to accommodate or facilitate
63 the integration of utility-owned or customer-owned renewable electric generation resources with the
64 utility's electric distribution grid or to otherwise enhance electric distribution grid reliability, electric
65 distribution grid security, customer service, or energy efficiency and conservation, including advanced
66 metering infrastructure; intelligent grid devices for real time system and asset information; automated
67 control systems for electric distribution circuits and substations; communications networks for service
68 meters; intelligent grid devices and other distribution equipment; distribution system hardening projects
69 for circuits, other than the conversion of overhead tap lines to underground service, and substations
70 designed to reduce service outages or service restoration times; physical security measures at key
71 distribution substations; cyber security measures; energy storage systems and microgrids that support
72 circuit-level grid stability, power quality, reliability, or resiliency or provide temporary backup energy
73 supply; electrical facilities and infrastructure necessary to support electric vehicle charging systems; LED
74 street light conversions; and new customer information platforms designed to provide improved customer
75 access, greater service options, and expanded access to energy usage information.

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

79 "Energy efficiency program" means a program that reduces the total amount of electricity that is
80 required for the same process or activity implemented after the expiration of capped rates. Energy
81 efficiency programs include equipment, physical, or program change designed to produce measured and
82 verified reductions in the amount of electricity required to perform the same function and produce the
83 same or a similar outcome. Energy efficiency programs may include, but are not limited to, (i) programs
84 that result in improvements in lighting design, heating, ventilation, and air conditioning systems,
85 appliances, building envelopes, and industrial and commercial processes; (ii) measures, such as but not
86 limited to the installation of advanced meters, implemented or installed by utilities, that reduce fuel use
87 or losses of electricity and otherwise improve internal operating efficiency in generation, transmission,
88 and distribution systems; and (iii) customer engagement programs that result in measurable and
89 verifiable energy savings that lead to efficient use patterns and practices. Energy efficiency programs
90 include demand response, combined heat and power and waste heat recovery, curtailment, or other
91 programs that are designed to reduce electricity consumption so long as they reduce the total amount of
92 electricity that is required for the same process or activity. Utilities shall be authorized to install and
93 operate such advanced metering technology and equipment on a customer's premises; however, nothing
94 in this chapter establishes a requirement that an energy efficiency program be implemented on a
95 customer's premises and be connected to a customer's wiring on the customer's side of the
96 inter-connection without the customer's expressed consent.

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

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

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

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

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

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

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

112 5. *Does not feed electricity back to the grid.*

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

115 "Incumbent electric utility" means each electric utility in the Commonwealth that, prior to July 1,
116 1999, supplied electric energy to retail customers located in an exclusive service territory established by
117 the Commission.

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

"In the public interest," for purposes of assessing energy efficiency programs, 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. 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.

"Post-2019 geothermal system" means a geothermal heating and cooling system that is placed in service on or after January 1, 2020.

"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 power; 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 facilities 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.

"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; ~~or~~ (e) *geothermal heating and cooling systems located in the Commonwealth; or* (f) 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. 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%

369	2044	77%	2044	95%
370	2045	80%	2045 and thereafter	100%
371	2046	84%		
372	2047	88%		
373	2048	92%		
374	2049	96%		
375	2050 and thereafter	100%		

376 2. Beginning with the 2025 compliance year and thereafter, each Phase I and Phase II Utility shall
 377 procure and retire renewable energy credits from post-2019 geothermal heating and cooling systems as
 378 a percentage of the number of renewable energy credits used for RPS program compliance in the
 379 following amounts:

380	Year	Percentage of RPS Program Requirement
381	2025	at least 0.25% derived from post-2019 geothermal systems
382	2026	at least 0.75% derived from post-2019 geothermal systems
383	2027	at least 1.25% derived from post-2019 geothermal systems
384	2028	at least 2.5% derived from post-2019 geothermal systems
385	2029	at least 3.75% derived from post-2019 geothermal systems
386	2030 and	at least 5.0% derived from post-2019 geothermal systems
387	thereafter	

388 At least 25 percent of the renewable energy credits from geothermal heating and cooling systems
 389 used for RPS Program compliance for each year as set forth in this subdivision shall be derived from
 390 post-2019 geothermal systems that were installed (i) at single or multifamily housing units that qualified
 391 as low-income or moderate-income housing on the date the system was installed at the property or (ii)
 392 at institutions that primarily serve low and moderate income individuals and families, including schools
 393 with a majority of students who are eligible for free and reduced-price meals, hospitals with a majority
 394 of patients eligible for financial assistance or who are enrolled in Medicaid, and other institutions that
 395 serve individuals and families where the majority of those served are eligible based on income for
 396 federal or state safety net programs. For the purposes of this subdivision, low-income or
 397 moderate-income housing means housing that is affordable for a household with an aggregate annual
 398 income that is below 120 percent of the area median income.

399 3. A Phase II Utility shall meet one percent of the RPS Program requirements in any given
 400 compliance year with solar, wind, or anaerobic digestion resources of one megawatt or less located in
 401 the Commonwealth, with not more than 3,000 kilowatts at any single location or at contiguous locations
 402 owned by the same entity or affiliated entities and, to the extent that low-income qualifying projects are
 403 available, then no less than 25 percent of such one percent shall be composed of low-income qualifying
 404 projects.

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

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

415 6. Except as provided in subdivision e, energy from a geothermal heating and cooling system,
 416 including energy from a geothermal heating and cooling system that was placed in service on or before
 417 December 31, 2019, and energy from a post-2019 geothermal system, is eligible for inclusion in meeting
 418 the renewable energy portfolio standard.

419 a. A person shall receive a renewable energy credit equal to the amount of energy, converted from
 420 BTUs to kilowatt-hours, that is generated by a geothermal heating and cooling system for space heating
 421 and cooling or water heating if the person (i) owns and operates the system; (ii) leases and operates the
 422 system; or (iii) contracts with a third party who owns and operates the portion of the system that
 423 consists of (a) a closed loop or a series of closed loop systems in which fluid is permanently confined
 424 within a pipe or tubing and does not come in contact with the outside environment or (b) an open loop
 425 system in which ground or surface water is circulated in an environmentally safe manner directly into
 426 the facility and returned to the same aquifer or surface water source.

427 b. To determine the energy savings of a geothermal heating and cooling system for a residence, the
 428 Commission shall (i) identify available energy consumption calculators developed by the geothermal
 429 heating and cooling industry; (ii) collect data provided in the renewable energy credit application that
 430 (a) describes the name of the applicant and the address at which the geothermal heating and cooling
 431 system is installed and (b) provides the annual BTU energy savings attributable to home heating,

cooling, and water heating; and (iii) in determining the annual amount of renewable energy credits awarded for the geothermal heating and cooling system, convert the annual BTUs into annual megawatt hours. A geothermal installer or third-party aggregator may file the application on behalf of the person receiving geothermal renewable energy credits.

c. To determine the energy savings of a nonresidential geothermal heating and cooling system, the Commission shall (i) use the geothermal heating and cooling engineering technical system designs provided with the renewable energy credit application and (ii) in determining the annual amount of renewable energy credits awarded for the geothermal heating and cooling system, convert the annual BTUs into annual megawatt hours.

d. A geothermal heating and cooling system shall be installed in accordance with applicable state well construction and local building code standards.

e. A post-2019 geothermal system with a 360,000 BTU or greater generating capacity is eligible for inclusion in meeting the renewable energy portfolio standard only if the company installing the system provides for its employees family-sustaining wages, employer-provided health care with affordable deductibles and copays, career advancement training as provided in this subdivision, fair scheduling, employer-paid workers' compensation and unemployment insurance, a retirement plan, paid time off, and the right to bargain collectively for wages and benefits. As part of the career advancement training the company installing the system provides, the company shall ensure that a minimum of 10 percent of the employees working on the installation are enrolled in an apprenticeship program approved by and registered with the state or federal government. Compliance with the requirements of this subdivision shall be regulated and enforced by the Department of Labor and Industry.

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 hour for resources one megawatt and lower. 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 the Strategic Energy Investment Fund established under § 56-585.5:1.

If, in any year, a Phase I or Phase II Utility is unable to meet the compliance obligation of the RPS Program requirements that are required to be derived from post-2019 geothermal systems for the applicable year, the electricity supplier shall pay the following amounts for each kilowatt-hour of shortfall into the Strategic Energy Investment Fund established under § 56-585.5:1:

- a. 10 cents in 2025 through 2026;*
- b. 9.0 cents in 2027;*
- c. 8.0 cents in 2028; and*
- d. 6.5 cents in 2029 and thereafter.*

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 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 to or recover from any other customer of the utility the cost of such resources. 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 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

678 onshore wind generation capacity, energy, or environmental attributes, or energy storage facilities, by the
679 utility pursuant to subsections D and E, based on the amount of RECs associated with the customer's
680 renewable facilities agreements associated with such tariff offering as of that date in proportion to the
681 customer's total electric energy consumption, on an annual basis. To the extent that an accelerated
682 renewable energy buyer contracts for the capacity of new solar or wind generation resources pursuant to
683 this subsection, the aggregate amount of such nameplate capacity shall be offset from the utility's
684 procurement requirements pursuant to subsection D. All RECs associated with contracts entered into by
685 an accelerated renewable energy buyer with the utility, or a person other than the utility, for an RPS
686 Program shall not be credited to the utility's compliance with its RPS requirements, and the calculation
687 of the utility's RPS Program requirements shall not include the electric load covered by customers
688 certified as accelerated renewable energy buyers.

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

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

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

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

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

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

716 **§ 56-585.5:1. Strategic Energy Investment Fund and Program.**

717 A. *There is hereby created in the state treasury a special nonreverting fund to be known as the*
718 *Strategic Energy Investment Fund, referred to in this section as "the Fund." The Fund shall be*
719 *established on the books of the Comptroller. All funds appropriated for such purpose and any gifts,*
720 *donations, grants, bequests, and other funds received on its behalf shall be paid into the state treasury*
721 *and credited to the Fund. Interest earned on moneys in the Fund shall remain in the Fund and be*
722 *credited to it. Any moneys remaining in the Fund, including interest thereon, at the end of each fiscal*
723 *year shall not revert to the general fund but shall remain in the Fund. Moneys in the Fund shall be*
724 *used solely for the purpose of implementing the Strategic Energy Investment Program (the Program)*
725 *and associated administrative costs. The purposes of the Program are to establish and support the*
726 *implementation of job training programs in historically economically disadvantaged communities, energy*
727 *efficiency measures for public facilities, and renewable energy programs located in historically*
728 *economically disadvantaged communities. Expenditures and disbursements from the Fund shall be made*
729 *by the State Treasurer on warrants issued by the Comptroller upon written request signed by the*
730 *Director of the Department of Energy or his designee.*

731 B. *In administering the Fund, the Department of Energy shall manage the account as follows: (i) 50*
732 *percent of total revenue shall be directed to job training programs in historically economically*
733 *disadvantaged communities; (ii) 16 percent of total revenue shall be directed to energy efficiency*
734 *measures for public facilities; (iii) 30 percent of total revenue shall be directed to renewable energy*
735 *programs located in historically economically disadvantaged communities; and (iv) four percent of total*
736 *revenue shall be directed to administrative costs.*

737 C. *Fees for noncompliance with renewable energy portfolio standard program requirements derived*
738 *from post-2019 geothermal systems paid into the Fund pursuant to subdivision D 5 of § 56-585.5 shall*
739 *be accounted for separately within the Fund and may be used only to make loans and grants to promote*

increased opportunities for the growth and development of small, minority-owned, women-owned, and veteran-owned businesses in the Commonwealth that install geothermal systems in the Commonwealth.

§ 56-585.5:2. Geothermal Energy Work Group; report.

A. There is hereby established a Geothermal Energy Work Group (the Work Group) consisting of the following members:

1. At least one member of the Senate Committee on Commerce and Labor;
2. At least one member of the House Committee on Commerce and Energy;
3. The Director of the Department of Energy or the Director's designee;
4. The following members selected by the Department of Energy: (i) at least one representative of an environmental advocacy organization, (ii) at least one representative of an environmental justice organization, (iii) at least one representative of the geothermal industry, and (iv) at least one representative of a Phase I Utility as defined in subdivision A 1 of § 56-585.1 and at least one representative of a Phase II Utility as defined in subdivision A 1 of § 56-585.1;
5. Two representatives selected by the Virginia State Building and Construction Trades Council of the Virginia AFL-CIO;
6. One representative selected by the Virginia AFL-CIO; and
7. Any other individuals considered necessary by the Department of Energy.

The Director of the Department of Energy or the Director's designee shall serve as the chairman of the Work Group, and the Department of Energy shall provide staffing and administrative support for the Work Group.

B. No member of the Work Group shall receive compensation as a member of the Work Group, but members are entitled to reimbursement for expenses under standard state travel regulations as provided in the budget.

C. The Work Group shall (i) study the status and impact of increasing the use of geothermal heating and cooling systems in the Commonwealth; (ii) examine methods for growing the geothermal industry in the Commonwealth, with a focus on increasing the use of geothermal heating and cooling systems in environmental justice communities; (iii) examine methods for ensuring that any jobs created in the geothermal industry offer benefits and family-sustaining wages; (iv) examine methods for the Department of Labor and Industry to require that geothermal installers adhere to the labor and apprenticeship requirements for large-scale geothermal projects required under subdivision C 6 e of § 56-585.5; (v) examine methods to promote increased opportunities for the growth and development of small, minority-owned, women-owned, and veteran-owned businesses in the Commonwealth that will install geothermal systems in the Commonwealth and will promote career training opportunities in the geothermal industry for local residents, minorities, women, and veterans, including developing a baseline survey of the current levels of participation of these businesses and workers in the Commonwealth; and (vi) develop recommendations for legislation that will encourage and incentivize the use of geothermal heating and cooling systems in the Commonwealth.

D. Beginning in 2025, the Work Group shall submit an annual report to the Chairmen of the Senate Committee on Commerce and Labor and the House Committee on Commerce and Energy no later than December 1 of each year. The annual report shall include the Work Group's findings from its study, any updates to information from previous annual reports, and any legislative recommendations.

2. That the Department of Labor and Industry shall promulgate rules and regulations related to employment standards for a company installing a post-2019 geothermal system with a 360,000 BTU or greater generating capacity for inclusion in the renewable energy portfolio standard established by § 56-585.5 of the Code of Virginia, as amended by this act. The Department of Labor and Industry shall have authority to enforce compliance with the requirements of subdivision C 6 e of § 56-585.5 of the Code of Virginia, as amended by this act.

3. That the Department of Energy (the Department) shall conduct a comprehensive technical study on the status of geothermal heating and cooling systems in the Commonwealth and the potential impact of expanding and incentivizing the use of geothermal heating and cooling systems in the Commonwealth. The study shall include (i) the number of geothermal heating and cooling units currently operating in the Commonwealth; (ii) the cost and feasibility of increasing the use of geothermal heating and cooling systems in the Commonwealth; (iii) national and international best practices designed to incentivize the use of geothermal heating and cooling systems; (iv) the potential for geothermal heating and cooling systems to reduce peak electricity demand; (v) the potential reduction to all Virginia ratepayers in electricity costs associated with the increased use of geothermal heating and cooling systems, including savings from reduced peak electricity demand; (vi) the economic benefits of increasing the use of geothermal heating and cooling systems to the Commonwealth; (vii) the potential to aggregate geothermal renewable energy credits; (viii) the potential greenhouse gas reductions resulting from the use of geothermal heating and cooling systems; (ix) the impact of geothermal heating and cooling systems on indoor air quality and

801 localized pollution; (x) the life-cycle costs of using geothermal heating and cooling systems in
802 public school buildings over a 50-year period, including a comparison of the costs and energy
803 efficiency associated with using geothermal heating and cooling systems compared to traditional
804 energy systems; (xi) the potential for family-sustaining job creation resulting from the expansion of
805 geothermal heating and cooling systems in the Commonwealth; (xii) the potential to build
806 neighborhood-scale district geothermal systems or convert existing utility infrastructure so that it
807 can provide geothermal heating and cooling to an entire community; and (xiii) any other factors
808 related to expanding the use of geothermal heating and cooling systems that the Department
809 considers necessary. The Department shall complete its study by November 30, 2024, and shall
810 submit to the Governor, the Geothermal Energy Work Group established pursuant to §
811 56-585.5:2 of the Code of Virginia, as created by this act, the Chairman of the House Committee
812 on Commerce and Energy, and the Chairman of the Senate Committee on Commerce and Labor
813 an executive summary and a report of its findings and recommendations. The executive summary
814 and report shall be submitted as provided in the procedures of the Division of Legislative
815 Automated Systems for the processing of legislative documents and reports no later than the first
816 day of the 2025 Regular Session of the General Assembly and shall be posted on the General
817 Assembly's website.

818 4. That the Department of Energy, in consultation with the Geothermal Energy Work Group
819 established pursuant to § 56-585.5:2 of the Code of Virginia, as created by this act, shall develop
820 recommendations for an incentive structure that will increase the deployment of geothermal
821 heating and cooling systems in the Commonwealth. Such incentives may include grants, loans,
822 rebates, carve outs in the Commonwealth's renewable energy portfolio standard for geothermal
823 renewable energy credits, and tax credits. The Department of Energy and the Geothermal Energy
824 Work Group shall report their findings and recommendations to the Chairmen of the Senate
825 Committee on Commerce and Labor and the House Committee on Commerce and Energy no later
826 than December 1, 2024.

827 5. That nothing in this act shall be construed to impair or limit a presently existing contract
828 obligation or contract right.

829 6. That the provisions of the first enactment of this act shall become effective on January 1, 2025,
830 except that the provisions of § 56-585.5:2 of the Code of Virginia, as created by this act, shall be
831 effective in due course.