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HOUSE BILL NO. 2365

Offered January 13, 2025

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A BILL to amend and reenact §§ 56-576 and 56-585.5 of the Code of Virginia, relating to electric utilities; renewable energy portfolio standard; zero-carbon electricity.

Patrons—Wilt, Campbell, Green, Phillips, Walker and Williams; Senator: Head

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.

"Curtailement" 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

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

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

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

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

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

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

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

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

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

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

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

120 5. Does not feed electricity back to the grid.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

249 **§ 56-585.5. Generation of electricity from renewable and zero-carbon sources.**

250 A. As used in this section:

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

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

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

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

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

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

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

266 "Previously developed project site" means any property, including related buffer areas, if any, that has
267 been previously disturbed or developed for non-single-family residential, nonagricultural, or nonsilvicultural
268 use, regardless of whether such property currently is being used for any purpose. "Previously developed
269 project site" includes a brownfield as defined in § 10.1-1230 or any parcel that has been previously used (i)
270 for a retail, commercial, or industrial purpose; (ii) as a parking lot; (iii) as the site of a parking lot canopy or
271 structure; (iv) for mining, which is any lands affected by coal mining that took place before August 3, 1977,
272 or any lands upon which extraction activities have been permitted by the Department of Energy under Title
273 45.2; (v) for quarrying; or (vi) as a landfill.

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

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

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

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

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

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

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

309 In order to qualify as RPS eligible sources, such sources must be (a) electric-generating resources that
 310 generate electric energy derived from solar or wind located in the Commonwealth or off the Commonwealth's
 311 Atlantic shoreline or in federal waters and interconnected directly into the Commonwealth or physically
 312 located within the PJM region; (b) falling water resources located in the Commonwealth or physically located
 313 within the PJM region that were in operation as of January 1, 2020, that are owned by a Phase I or Phase II
 314 Utility or for which a Phase I or Phase II Utility has entered into a contract prior to January 1, 2020, to
 315 purchase the energy, capacity, and renewable attributes of such falling water resources; (c) non-utility-owned
 316 resources from falling water that (1) are less than 65 megawatts, (2) began commercial operation after
 317 December 31, 1979, or (3) added incremental generation representing greater than 50 percent of the original
 318 nameplate capacity after December 31, 1979, provided that such resources are located in the Commonwealth
 319 or are physically located within the PJM region; (d) waste-to-energy or landfill gas-fired generating resources
 320 located in the Commonwealth and in operation as of January 1, 2020, provided that such resources do not use
 321 waste heat from fossil fuel combustion; (e) geothermal heating and cooling systems located in the
 322 Commonwealth; ~~or~~ (f) *zero-carbon electricity generating resources*; (g) *resources approved by the*
 323 *Commission after July 1, 2025, that provide reasonable and prudent means to reduce greenhouse gas*
 324 *emissions in comparison to marginal grid emissions at the time of installation*; or (h) biomass-fired facilities
 325 in operation in the Commonwealth and in operation as of January 1, 2023, that (1) supply no more than 10
 326 percent of their annual net electrical generation to the electric grid or no more than 15 percent of their annual
 327 total useful energy to any entity other than the manufacturing facility to which the generating source is
 328 interconnected and are fueled by forest-product manufacturing residuals, including pulping liquor, bark,
 329 paper recycling residuals, biowastes, or biomass, as described in subdivisions A 1, 2, and 4 of § 10.1-1308.1,
 330 provided that biomass as described in subdivision A 1 of § 10.1-1308.1 results from harvesting in accordance
 331 with best management practices for the sustainable harvesting of biomass developed and enforced by the
 332 State Forester pursuant to § 10.1-1105, or (2) are owned by a Phase I or Phase II Utility, have less than 52
 333 megawatts capacity, and are fueled by forest-product manufacturing residuals, biowastes, or biomass, as
 334 described in subdivisions A 1, 2, and 4 of § 10.1-1308.1, provided that biomass as described in subdivision A
 335 1 of § 10.1-1308.1 results from harvesting in accordance with best management practices for the sustainable
 336 harvesting of biomass developed and enforced by the State Forester pursuant to § 10.1-1105. Regardless of
 337 any future maintenance, expansion, or refurbishment activities, the total amount of RECs that may be sold by
 338 any RPS eligible source using biomass in any year shall be no more than the number of megawatt hours of
 339 electricity produced by that facility in 2022; however, in no year may any RPS eligible source using biomass
 340 sell RECs in excess of the actual megawatt-hours of electricity generated by such facility that year. In order
 341 to comply with the RPS Program, each Phase I and Phase II Utility may use and retire the environmental
 342 attributes associated with any existing owned or contracted solar, wind, falling water, or biomass electric
 343 generating resources in operation, or proposed for operation, in the Commonwealth or solar, wind, or falling
 344 water resources physically located within the PJM region, with such resource qualifying as a
 345 Commonwealth-located resource for purposes of this subsection, as of January 1, 2020, provided that such
 346 renewable attributes are verified as RECs consistent with the PJM-EIS Generation Attribute Tracking
 347 System.

348 1. The RPS Program requirements shall be a percentage of the total electric energy sold in the previous
 349 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%

365	2034	42%	2034	55%
366	2035	45%	2035	59%
367	2036	53%	2036	63%
368	2037	53%	2037	67%
369	2038	57%	2038	71%
370	2039	61%	2039	75%
371	2040	65%	2040	79%
372	2041	68%	2041	83%
373	2042	71%	2042	87%
374	2043	74%	2043	91%
375	2044	77%	2044	95%
376	2045	80%	2045 and	100%
377			thereafter	
378	2046	84%		
379	2047	88%		
380	2048	92%		
381	2049	96%		
382	2050 and	100%		
383	thereafter			

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

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

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

398 5. Energy from a geothermal heating and cooling system is eligible for inclusion in meeting the
399 requirements of the RPS Program. RECs from a geothermal heating and cooling system are created based on
400 the amount of energy, converted from BTUs to kilowatt-hours, that is generated by a geothermal heating and
401 cooling system for space heating and cooling or water heating. The Commission shall determine the form and
402 manner in which such RECs are verified.

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

415 1. Each Phase I Utility shall petition the Commission for necessary approvals to construct, acquire, or
416 enter into agreements to purchase the energy, capacity, and environmental attributes of 600 megawatts of
417 generating capacity using energy derived from sunlight or onshore wind.

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

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

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

439 d. Nothing in this subdivision 1 shall prohibit such Phase I Utility from constructing, acquiring, or
440 entering into agreements to purchase the energy, capacity, and environmental attributes of more than 600
441 megawatts of generating capacity located in the Commonwealth using energy derived from sunlight or
442 onshore wind, provided the utility receives approval from the Commission pursuant to §§ 56-580 and
443 56-585.1.

444 2. By December 31, 2035, each Phase II Utility shall petition the Commission for necessary approvals to
445 (i) construct, acquire, or enter into agreements to purchase the energy, capacity, and environmental attributes
446 of 16,100 megawatts of generating capacity located in the Commonwealth using energy derived from
447 sunlight or onshore wind, which shall include 1,100 megawatts of solar generation of a nameplate capacity
448 not to exceed three megawatts per individual project and 35 percent of such generating capacity procured
449 shall be from the purchase of energy, capacity, and environmental attributes from solar facilities owned by
450 persons other than a utility, including utility affiliates and deregulated affiliates and (ii) pursuant to §
451 56-585.1:11, construct or purchase one or more offshore wind generation facilities located off the
452 Commonwealth's Atlantic shoreline or in federal waters and interconnected directly into the Commonwealth
453 with an aggregate capacity of up to 5,200 megawatts. At least 200 megawatts of the 16,100 megawatts shall
454 be placed on previously developed project sites.

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

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

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

476 d. By December 31, 2035, each Phase II Utility shall petition the Commission for necessary approvals to
477 construct, acquire, or enter into agreements to purchase the energy, capacity, and environmental attributes of
478 at least 6,100 megawatts of additional generating capacity located in the Commonwealth using energy
479 derived from sunlight or onshore wind, and 35 percent of such generating capacity procured shall be from the
480 purchase of energy, capacity, and environmental attributes from solar or onshore wind facilities owned by
481 persons other than the utility, with the remainder, in the aggregate, being from construction or acquisition by
482 such Phase II Utility.

483 e. Nothing in this subdivision 2 shall prohibit such Phase II Utility from constructing, acquiring, or
484 entering into agreements to purchase the energy, capacity, and environmental attributes of more than 16,100
485 megawatts of generating capacity located in the Commonwealth using energy derived from sunlight or

486 onshore wind, provided the utility receives approval from the Commission pursuant to §§ 56-580 and
487 56-585.1.

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

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

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

530 5. If, in any year, a Phase I or Phase II Utility is unable to meet the compliance obligation of the RPS
531 Program requirements or if the cost of RECs necessary to comply with RPS Program requirements exceeds
532 \$45 per megawatt hour, such supplier shall be obligated to make a deficiency payment equal to \$45 for each
533 megawatt-hour shortfall for the year of noncompliance, except that the deficiency payment for any shortfall
534 in procuring RECs for solar, wind, or anaerobic digesters located in the Commonwealth shall be \$75 per
535 megawatts hour for resources one megawatt and lower. The amount of any deficiency payment shall increase
536 by one percent annually after 2021. A Phase I or Phase II Utility shall be entitled to recover the costs of such
537 payments as a cost of compliance with the requirements of this subsection pursuant to subdivision A 5 d of §
538 56-585.1. All proceeds from the deficiency payments shall be deposited into an interest-bearing account
539 administered by the Department of Energy. In administering this account, the Department of Energy shall
540 manage the account as follows: (i) 50 percent of total revenue shall be directed to job training programs in
541 historically economically disadvantaged communities; (ii) 16 percent of total revenue shall be directed to
542 energy efficiency measures for public facilities; (iii) 30 percent of total revenue shall be directed to renewable
543 energy programs located in historically economically disadvantaged communities; and (iv) four percent of
544 total revenue shall be directed to administrative costs.

545 For any project constructed pursuant to this subsection or subsection E, a utility shall, subject to a
546 competitive procurement process, procure equipment from a Virginia-based or United States-based

547 manufacturer using materials or product components made in Virginia or the United States, if reasonably
548 available and competitively priced.

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

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

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

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

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

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

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

589 By September 1, 2020, the Commission shall direct the initiation of a proceeding for each Phase I and
590 Phase II Utility to review and determine the amount of such costs, net of benefits, that should be allocated to
591 retail customers within the utility's service territory which have elected to receive electric supply service from
592 a supplier of electric energy other than the utility, and shall direct that tariff provisions be implemented to
593 recover those costs from such customers beginning no later than January 1, 2021. Thereafter, such charges
594 and tariff provisions shall be updated and tried up by the utility on an annual basis, subject to continuing
595 review and approval by the Commission.

596 G. 1. An accelerated renewable energy buyer may contract with a Phase I or Phase II Utility, or a person
597 other than a Phase I or Phase II Utility, to obtain (i) RECs from RPS eligible resources or (ii) bundled
598 capacity, energy, and RECs from solar or wind generation resources located within the PJM region and
599 initially placed in commercial operation after January 1, 2015, including any contract with a utility for such
600 generation resources that does not allocate to or recover from any other customer of the utility the cost of
601 such resources. Such an accelerated renewable energy buyer may offset all or a portion of its electric load for
602 purposes of RPS compliance through such arrangements. An accelerated renewable energy buyer shall be
603 exempt from the assignment of non-bypassable RPS compliance costs pursuant to subsection F, with the
604 exception of the costs of an offshore wind generating facility pursuant to § 56-585.1:11, based on the amount
605 of RECs obtained pursuant to this subsection in proportion to the customer's total electric energy
606 consumption, on an annual basis. An accelerated renewable energy buyer obtaining RECs only shall not be
607 exempt from costs related to procurement of new solar or onshore wind generation capacity, energy, or

608 environmental attributes, or energy storage facilities, by the utility pursuant to subsections D and E, however,
 609 an accelerated renewable energy buyer that is a customer of a Phase II Utility and was subscribed, as of
 610 March 1, 2020, to a voluntary companion experimental tariff offering of the utility for the purchase of
 611 renewable attributes from renewable energy facilities that requires a renewable facilities agreement and the
 612 purchase of a minimum of 2,000 renewable attributes annually, shall be exempt from allocation of the net
 613 costs related to procurement of new solar or onshore wind generation capacity, energy, or environmental
 614 attributes, or energy storage facilities, by the utility pursuant to subsections D and E, based on the amount of
 615 RECs associated with the customer's renewable facilities agreements associated with such tariff offering as of
 616 that date in proportion to the customer's total electric energy consumption, on an annual basis. To the extent
 617 that an accelerated renewable energy buyer contracts for the capacity of new solar or wind generation
 618 resources pursuant to this subsection, the aggregate amount of such nameplate capacity shall be offset from
 619 the utility's procurement requirements pursuant to subsection D. All RECs associated with contracts entered
 620 into by an accelerated renewable energy buyer with the utility, or a person other than the utility, for an RPS
 621 Program shall not be credited to the utility's compliance with its RPS requirements, and the calculation of the
 622 utility's RPS Program requirements shall not include the electric load covered by customers certified as
 623 accelerated renewable energy buyers.

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

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

633 H. No customer of a Phase II Utility with a peak demand in excess of 100 megawatts in 2019 that elected
 634 pursuant to subdivision A 3 of § 56-577 to purchase electric energy from a competitive service provider prior
 635 to April 1, 2019, shall be allocated any non-bypassable charges pursuant to subsection F for such period that
 636 the customer is not purchasing electric energy from the utility, and such customer's electric load shall not be
 637 included in the utility's RPS Program requirements. No customer of a Phase I Utility that elected pursuant to
 638 subdivision A 3 of § 56-577 to purchase electric energy from a competitive service provider prior to February
 639 1, 2019, shall be allocated any non-bypassable charges pursuant to subsection F for such period that the
 640 customer is not purchasing electric energy from the utility, and such customer's electric load shall not be
 641 included in the utility's RPS Program requirements.

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

646 J. Notwithstanding any contrary provision of law, for the purposes of this section, any falling water
 647 generation facility located in the Commonwealth and commencing commercial operations prior to July 1,
 648 2024, shall be considered a renewable energy portfolio standard (RPS) eligible source.

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

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