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SENATE BILL NO. 557

Offered January 10, 2024

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A BILL to amend and reenact §§ 56-576 and 56-585.5 of the Code of Virginia, relating to renewable energy portfolio standard; eligibility of hydrogen and nuclear resources.

Patron—Hackworth

Referred to Committee on Agriculture, Conservation and Natural Resources

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

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

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

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

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

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

102 "In the public interest," for purposes of assessing energy efficiency programs, describes an energy
103 efficiency program if the Commission determines that the net present value of the benefits exceeds the net
104 present value of the costs as determined by not less than any three of the following four tests: (i) the Total
105 Resource Cost Test; (ii) the Utility Cost Test (also referred to as the Program Administrator Test); (iii) the
106 Participant Test; and (iv) the Ratepayer Impact Measure Test. Such determination shall include an analysis of
107 all four tests, and a program or portfolio of programs shall be approved if the net present value of the benefits
108 exceeds the net present value of the costs as determined by not less than any three of the four tests. If the
109 Commission determines that an energy efficiency program or portfolio of programs is not in the public
110 interest, its final order shall include all work product and analysis conducted by the Commission's staff in
111 relation to that program, including testimony relied upon by the Commission's staff, that has bearing upon the
112 Commission's decision. If the Commission reduces the proposed budget for a program or portfolio of
113 programs, its final order shall include an analysis of the impact such budget reduction has upon the cost-
114 effectiveness of such program or portfolio of programs. An order by the Commission (a) finding that a
115 program or portfolio of programs is not in the public interest or (b) reducing the proposed budget for any
116 program or portfolio of programs shall adhere to existing protocols for extraordinarily sensitive information.
117 In addition, an energy efficiency program may be deemed to be "in the public interest" if the program (1)
118 provides measurable and verifiable energy savings to low-income customers or elderly customers or (2) is a
119 pilot program of limited scope, cost, and duration, that is intended to determine whether a new or

120 substantially revised program or technology would be cost-effective.

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

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

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

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

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

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

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

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

147 "Previously developed project site" means any property, including related buffer areas, if any, that has
148 been previously disturbed or developed for non-single-family residential, non-agricultural, or non-
149 silvicultural use, regardless of whether such property currently is being used for any purpose.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

208 "Transmission of," "transmit," or "transmitting" electric energy means the transfer of electric energy
209 through the Commonwealth's interconnected transmission grid from a generator to either a distributor or a
210 retail customer.

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

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

215 **§ 56-585.5. Generation of electricity from renewable and zero carbon sources.**

216 A. As used in this section:

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

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

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

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

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

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

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

232 "Previously developed project site" means any property, including related buffer areas, if any, that has
233 been previously disturbed or developed for non-single-family residential, nonagricultural, or nonsilvicultural
234 use, regardless of whether such property currently is being used for any purpose. "Previously developed
235 project site" includes a brownfield as defined in § 10.1-1230 or any parcel that has been previously used (i)
236 for a retail, commercial, or industrial purpose; (ii) as a parking lot; (iii) as the site of a parking lot canopy or
237 structure; (iv) for mining, which is any lands affected by coal mining that took place before August 3, 1977,
238 or any lands upon which extraction activities have been permitted by the Department of Energy under Title
239 45.2; (v) for quarrying; or (vi) as a landfill.

240 "Total electric energy" means total electric energy sold to retail customers in the Commonwealth service
241 territory of a Phase I or Phase II Utility, other than accelerated renewable energy buyers, by the incumbent
242 electric utility or other retail supplier of electric energy in the previous calendar year, excluding an amount

243 equivalent to the annual percentages of the electric energy that was supplied to such customer from nuclear
244 generating plants located within the Commonwealth in the previous calendar year, provided such nuclear
245 units were operating by July 1, 2020, or from any zero-carbon electric generating facilities not otherwise RPS
246 eligible sources and placed into service in the Commonwealth after July 1, 2030.

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

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

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

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

261 C. Each Phase I and Phase II Utility shall participate in a renewable energy portfolio standard program
262 (RPS Program) that establishes annual goals for the sale of renewable *and zero-carbon* energy to all retail
263 customers in the utility's service territory, other than accelerated renewable energy buyers pursuant to
264 subsection G, regardless of whether such customers purchase electric supply service from the utility or from
265 suppliers other than the utility. To comply with the RPS Program, each Phase I and Phase II Utility shall
266 procure and retire Renewable Energy Certificates (RECs) originating from renewable energy standard
267 eligible sources (RPS eligible sources). For purposes of complying with the RPS Program from 2021 to 2024,
268 a Phase I and Phase II Utility may use RECs from any renewable energy facility, as defined in § 56-576,
269 provided that such facilities are located in the Commonwealth or are physically located within the PJM
270 Interconnection, LLC (PJM) region. However, at no time during this period or thereafter may any Phase I or
271 Phase II Utility use RECs from (i) renewable thermal energy, (ii) renewable thermal energy equivalent, or
272 (iii) biomass-fired facilities that are outside the Commonwealth. From compliance year 2025 and all years
273 after, each Phase I and Phase II Utility may only use RECs from RPS eligible sources for compliance with
274 the RPS Program.

275 In order to qualify as RPS eligible sources, such sources must be (a) electric-generating resources that
276 generate electric energy derived from solar or wind located in the Commonwealth or off the Commonwealth's
277 Atlantic shoreline or in federal waters and interconnected directly into the Commonwealth or physically
278 located within the PJM region; (b) falling water resources located in the Commonwealth or physically located
279 within the PJM region that were in operation as of January 1, 2020, that are owned by a Phase I or Phase II
280 Utility or for which a Phase I or Phase II Utility has entered into a contract prior to January 1, 2020, to
281 purchase the energy, capacity, and renewable attributes of such falling water resources; (c) non-utility-owned
282 resources from falling water that (1) are less than 65 megawatts, (2) began commercial operation after
283 December 31, 1979, or (3) added incremental generation representing greater than 50 percent of the original
284 nameplate capacity after December 31, 1979, provided that such resources are located in the Commonwealth
285 or are physically located within the PJM region; (d) waste-to-energy or landfill gas-fired generating resources
286 located in the Commonwealth and in operation as of January 1, 2020, provided that such resources do not use
287 waste heat from fossil fuel combustion; (e) *hydrogen resources that are produced from zero-carbon
288 generating facilities located in the Commonwealth*; (f) *zero-carbon nuclear generating facilities located in
289 the Commonwealth that were placed into service after July 1, 2024*; or ~~(e)~~ (g) biomass-fired facilities in
290 operation in the Commonwealth and in operation as of January 1, 2023, that (1) supply no more than 10
291 percent of their annual net electrical generation to the electric grid or no more than 15 percent of their annual
292 total useful energy to any entity other than the manufacturing facility to which the generating source is
293 interconnected and are fueled by forest-product manufacturing residuals, including pulping liquor, bark,
294 paper recycling residuals, biowastes, or biomass, as described in subdivisions A 1, 2, and 4 of § 10.1-1308.1,
295 provided that biomass as described in subdivision A 1 of § 10.1-1308.1 results from harvesting in accordance
296 with best management practices for the sustainable harvesting of biomass developed and enforced by the
297 State Forester pursuant to § 10.1-1105, or (2) are owned by a Phase I or phase II Utility, have less than 52
298 megawatts capacity, and are fueled by forest-product manufacturing residuals, biowastes, or biomass, as
299 described in subdivisions A 1, 2, and 4 of § 10.1-1308.1, provided that biomass as described in subdivision A
300 1 of § 10.1-1308.1 results from harvesting in accordance with best management practices for the sustainable
301 harvesting of biomass developed and enforced by the State Forester pursuant to § 10.1-1105. Regardless of
302 any future maintenance, expansion, or refurbishment activities, the total amount of RECs that may be sold by
303 any RPS eligible source using biomass in any year shall be no more than the number of megawatt hours of

304 electricity produced by that facility in 2022; however, in no year may any RPS eligible source using biomass
 305 sell RECs in excess of the actual megawatt-hours of electricity generated by such facility that year. In order
 306 to comply with the RPS Program, each Phase I and Phase II Utility may use and retire the environmental
 307 attributes associated with any existing owned or contracted solar, wind, falling water, or biomass electric
 308 generating resources in operation, or proposed for operation, in the Commonwealth or solar, wind, or falling
 309 water resources physically located within the PJM region, with such resource qualifying as a Commonwealth-
 310 located resource for purposes of this subsection, as of January 1, 2020, provided that such renewable
 311 attributes are verified as RECs consistent with the PJM-EIS Generation Attribute Tracking System.

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

314 Phase I Utilities		314 Phase II Utilities	
315 Year	RPS Program Requirement	315 Year	RPS Program Requirement
316 2021	6%	316 2021	14%
317 2022	7%	317 2022	17%
318 2023	8%	318 2023	20%
319 2024	10%	319 2024	23%
320 2025	14%	320 2025	26%
321 2026	17%	321 2026	29%
322 2027	20%	322 2027	32%
323 2028	24%	323 2028	35%
324 2029	27%	324 2029	38%
325 2030	30%	325 2030	41%
326 2031	33%	326 2031	45%
327 2032	36%	327 2032	49%
328 2033	39%	328 2033	52%
329 2034	42%	329 2034	55%
330 2035	45%	330 2035	59%
331 2036	53%	331 2036	63%
332 2037	53%	332 2037	67%
333 2038	57%	333 2038	71%
334 2039	61%	334 2039	75%
335 2040	65%	335 2040	79%
336 2041	68%	336 2041	83%
337 2042	71%	337 2042	87%
338 2043	74%	338 2043	91%
339 2044	77%	339 2044	95%
340 2045	80%	340 2045 and	100%
341		thereafter	
342 2046	84%		
343 2047	88%		
344 2048	92%		
345 2049	96%		
346 2050 and	100%		
347 thereafter			

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

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

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

361 D. Each Phase I or Phase II Utility shall petition the Commission for necessary approvals to procure zero-
 362 carbon electricity generating capacity as set forth in this subsection and energy storage resources as set forth

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

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

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

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

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

397 d. Nothing in this subdivision 1 shall prohibit such Phase I Utility from constructing, acquiring, or
 398 entering into agreements to purchase the energy, capacity, and environmental attributes of more than 600
 399 megawatts of generating capacity located in the Commonwealth using energy derived from sunlight or
 400 onshore wind, provided the utility receives approval from the Commission pursuant to §§ 56-580 and 56-
 401 585.1.

402 2. By December 31, 2035, each Phase II Utility shall petition the Commission for necessary approvals to
 403 (i) construct, acquire, or enter into agreements to purchase the energy, capacity, and environmental attributes
 404 of 16,100 megawatts of generating capacity located in the Commonwealth using energy derived from
 405 sunlight or onshore wind, which shall include 1,100 megawatts of solar generation of a nameplate capacity
 406 not to exceed three megawatts per individual project and 35 percent of such generating capacity procured
 407 shall be from the purchase of energy, capacity, and environmental attributes from solar facilities owned by
 408 persons other than a utility, including utility affiliates and deregulated affiliates and (ii) pursuant to § 56-
 409 585.1:11, construct or purchase one or more offshore wind generation facilities located off the
 410 Commonwealth's Atlantic shoreline or in federal waters and interconnected directly into the Commonwealth
 411 with an aggregate capacity of up to 5,200 megawatts. At least 200 megawatts of the 16,100 megawatts shall
 412 be placed on previously developed project sites.

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

420 b. By December 31, 2027, each Phase II Utility shall petition the Commission for necessary approvals to
 421 construct, acquire, or enter into agreements to purchase the energy, capacity, and environmental attributes of
 422 at least 3,000 megawatts of additional generating capacity located in the Commonwealth using energy
 423 derived from sunlight or onshore wind, and 35 percent of such generating capacity procured shall be from the

424 purchase of energy, capacity, and environmental attributes from solar or onshore wind facilities owned by
425 persons other than the utility, with the remainder, in the aggregate, being from construction or acquisition by
426 such Phase II Utility.

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

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

441 e. Nothing in this subdivision 2 shall prohibit such Phase II Utility from constructing, acquiring, or
442 entering into agreements to purchase the energy, capacity, and environmental attributes of more than 16,100
443 megawatts of generating capacity located in the Commonwealth using energy derived from sunlight or
444 onshore wind, provided the utility receives approval from the Commission pursuant to §§ 56-580 and 56-
445 585.1.

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

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

472 4. In connection with the requirements of this subsection, each Phase I and Phase II Utility shall,
473 commencing in 2020 and concluding in 2035, submit annually a plan and petition for approval for the
474 development of new solar and onshore wind generation capacity. Such plan shall reflect, in the aggregate and
475 over its duration, the requirements of subsection D concerning the allocation percentages for construction or
476 purchase of such capacity. Such petition shall contain any request for approval to construct such facilities
477 pursuant to subsection D of § 56-580 and a request for approval or update of a rate adjustment clause
478 pursuant to subdivision A 6 of § 56-585.1 to recover the costs of such facilities. Such plan shall also include
479 the utility's plan to meet the energy storage project targets of subsection E, including the goal of installing at
480 least 10 percent of such energy storage projects behind the meter. In determining whether to approve the
481 utility's plan and any associated petition requests, the Commission shall determine whether they are
482 reasonable and prudent and shall give due consideration to (i) the RPS and carbon dioxide reduction
483 requirements in this section, (ii) the promotion of new renewable generation and energy storage resources
484 within the Commonwealth, and associated economic development, and (iii) fuel savings projected to be

485 achieved by the plan. Notwithstanding any other provision of this title, the Commission's final order
 486 regarding any such petition and associated requests shall be entered by the Commission not more than six
 487 months after the date of the filing of such petition.

488 5. If, in any year, a Phase I or Phase II Utility is unable to meet the compliance obligation of the RPS
 489 Program requirements or if the cost of RECs necessary to comply with RPS Program requirements exceeds
 490 \$45 per megawatt hour, such supplier shall be obligated to make a deficiency payment equal to \$45 for each
 491 megawatt-hour shortfall for the year of noncompliance, except that the deficiency payment for any shortfall
 492 in procuring RECs for solar, wind, or anaerobic digesters located in the Commonwealth shall be \$75 per
 493 megawatts hour for resources one megawatt and lower. The amount of any deficiency payment shall increase
 494 by one percent annually after 2021. A Phase I or Phase II Utility shall be entitled to recover the costs of such
 495 payments as a cost of compliance with the requirements of this subsection pursuant to subdivision A 5 d of §
 496 56-585.1. All proceeds from the deficiency payments shall be deposited into an interest-bearing account
 497 administered by the Department of Energy. In administering this account, the Department of Energy shall
 498 manage the account as follows: (i) 50 percent of total revenue shall be directed to job training programs in
 499 historically economically disadvantaged communities; (ii) 16 percent of total revenue shall be directed to
 500 energy efficiency measures for public facilities; (iii) 30 percent of total revenue shall be directed to renewable
 501 energy programs located in historically economically disadvantaged communities; and (iv) four percent of
 502 total revenue shall be directed to administrative costs.

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

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

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

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

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

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

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

530 F. All costs incurred by a Phase I or Phase II Utility related to compliance with the requirements of this
 531 section or pursuant to § 56-585.1:11, including (i) costs of generation facilities powered by sunlight or
 532 onshore or offshore wind, or energy storage facilities, that are constructed or acquired by a Phase I or Phase II
 533 Utility after July 1, 2020, (ii) costs of capacity, energy, or environmental attributes from generation facilities
 534 powered by sunlight or onshore or offshore wind, or falling water, or energy storage facilities purchased by
 535 the utility from persons other than the utility through agreements after July 1, 2020, and (iii) all other costs of
 536 compliance, including costs associated with the purchase of RECs associated with RPS Program
 537 requirements pursuant to this section shall be recovered from all retail customers in the service territory of a
 538 Phase I or Phase II Utility as a non-bypassable charge, irrespective of the generation supplier of such
 539 customer, except (a) as provided in subsection G for an accelerated renewable energy buyer or (b) as
 540 provided in subdivision C 3 of § 56-585.1:11, with respect to the costs of an offshore wind generation
 541 facility, for a PIPP eligible utility customer or an advanced clean energy buyer or qualifying large general
 542 service customer, as those terms are defined in § 56-585.1:11. If a Phase I or Phase II Utility serves
 543 customers in more than one jurisdiction, such utility shall recover all of the costs of compliance with the RPS
 544 Program requirements from its Virginia customers through the applicable cost recovery mechanism, and all
 545 associated energy, capacity, and environmental attributes shall be assigned to Virginia to the extent that such

546 costs are requested but not recovered from any system customers outside the Commonwealth.

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

554 G. 1. An accelerated renewable energy buyer may contract with a Phase I or Phase II Utility, or a person
555 other than a Phase I or Phase II Utility, to obtain (i) RECs from RPS eligible resources or (ii) bundled
556 capacity, energy, and RECs from solar or wind generation resources located within the PJM region and
557 initially placed in commercial operation after January 1, 2015, including any contract with a utility for such
558 generation resources that does not allocate to or recover from any other customer of the utility the cost of
559 such resources. Such an accelerated renewable energy buyer may offset all or a portion of its electric load for
560 purposes of RPS compliance through such arrangements. An accelerated renewable energy buyer shall be
561 exempt from the assignment of non-bypassable RPS compliance costs pursuant to subsection F, with the
562 exception of the costs of an offshore wind generating facility pursuant to § 56-585.1:11, based on the amount
563 of RECs obtained pursuant to this subsection in proportion to the customer's total electric energy
564 consumption, on an annual basis. An accelerated renewable energy buyer obtaining RECs only shall not be
565 exempt from costs related to procurement of new solar or onshore wind generation capacity, energy, or
566 environmental attributes, or energy storage facilities, by the utility pursuant to subsections D and E, however,
567 an accelerated renewable energy buyer that is a customer of a Phase II Utility and was subscribed, as of
568 March 1, 2020, to a voluntary companion experimental tariff offering of the utility for the purchase of
569 renewable attributes from renewable energy facilities that requires a renewable facilities agreement and the
570 purchase of a minimum of 2,000 renewable attributes annually, shall be exempt from allocation of the net
571 costs related to procurement of new solar or onshore wind generation capacity, energy, or environmental
572 attributes, or energy storage facilities, by the utility pursuant to subsections D and E, based on the amount of
573 RECs associated with the customer's renewable facilities agreements associated with such tariff offering as of
574 that date in proportion to the customer's total electric energy consumption, on an annual basis. To the extent
575 that an accelerated renewable energy buyer contracts for the capacity of new solar or wind generation
576 resources pursuant to this subsection, the aggregate amount of such nameplate capacity shall be offset from
577 the utility's procurement requirements pursuant to subsection D. All RECs associated with contracts entered
578 into by an accelerated renewable energy buyer with the utility, or a person other than the utility, for an RPS
579 Program shall not be credited to the utility's compliance with its RPS requirements, and the calculation of the
580 utility's RPS Program requirements shall not include the electric load covered by customers certified as
581 accelerated renewable energy buyers.

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

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

591 H. No customer of a Phase II Utility with a peak demand in excess of 100 megawatts in 2019 that elected
592 pursuant to subdivision A 3 of § 56-577 to purchase electric energy from a competitive service provider prior
593 to April 1, 2019, shall be allocated any non-bypassable charges pursuant to subsection F for such period that
594 the customer is not purchasing electric energy from the utility, and such customer's electric load shall not be
595 included in the utility's RPS Program requirements. No customer of a Phase I Utility that elected pursuant to
596 subdivision A 3 of § 56-577 to purchase electric energy from a competitive service provider prior to February
597 1, 2019, shall be allocated any non-bypassable charges pursuant to subsection F for such period that the
598 customer is not purchasing electric energy from the utility, and such customer's electric load shall not be
599 included in the utility's RPS Program requirements.

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

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

605 K. The Commission shall adopt such rules and regulations as may be necessary to implement the
606 provisions of this section, including a requirement that participants verify whether the RPS Program

607 requirements are met in accordance with this section.

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