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## HOUSE BILL NO. 1451

Offered January 8, 2020

Prefiled January 8, 2020

A BILL to amend and reenact § 56-585.2 of the Code of Virginia, relating to electric utility regulation; mandatory renewable energy portfolio standard; deficiency payments; energy storage deployment target.

Patrons—Sullivan, Lopez and Carroll Foy

Referred to Committee on Agriculture, Chesapeake and Natural Resources

**Be it enacted by the General Assembly of Virginia:**

**1. That § 56-585.2 of the Code of Virginia is amended and reenacted as follows:**

**§ 56-585.2. Renewable energy portfolio standard program.**

A. As used in this section:

"Qualified investment" means an expense incurred in the Commonwealth by a participating utility in conducting, either by itself or in partnership with institutions of higher education in the Commonwealth or with industrial or commercial customers that have established renewable energy research and development programs in the Commonwealth, research and development activities related to renewable or alternative energy sources, which expense (i) is designed to enhance the participating utility's understanding of emerging energy technologies and their potential impact on and value to the utility's system and customers within the Commonwealth; (ii) promotes economic development within the Commonwealth; (iii) supplements customer-driven alternative energy or energy efficiency initiatives; (iv) supplements alternative energy and energy efficiency initiatives at state or local governmental facilities in the Commonwealth; or (v) is designed to mitigate the environmental impacts of renewable energy projects.

"Accelerated renewable energy buyer" means a customer that is served within the commercial and industrial rate classes of a utility and that has indicated via a filing with the Commission that it intends to meet the compliance obligations laid out in subsections C, D, and F.

"Deployment" means the installation of energy storage systems through a variety of mechanisms, including utility procurement, customer installation, or other processes.

"Eligible energy storage system" means a commercially available technology that is capable of absorbing energy and storing it for use at a later time. "Eligible energy storage system" includes electrochemical, thermal, and electromechanical technologies.

"Energy storage system" means commercially available technology that is capable of absorbing energy and storing it for use at a later time. "Energy storage system" includes but is not limited to electrochemical, thermal, and electromechanical technologies. An energy storage system may have any of the following characteristics:

1. Be either large scale or distributed; and
2. Be either owned by a load-serving entity or local publicly owned electric utility, a customer of a load-serving entity or local publicly owned electric utility, or a third party, or is jointly owned by two or more of such entities.

"Procure" or "procurement" means to acquire by ownership or by a contractual right to use services provided by an energy storage system.

"Renewable energy" ~~shall have~~ has the same meaning ascribed to it in § 56-576, excluding any biomass or municipal solid waste other than energy from waste, provided such renewable energy is (i) generated in the Commonwealth or in the interconnection region of the regional transmission entity of which the participating utility is a member, as it may change from time to time, and purchased by a participating an electric utility under a power purchase agreement, provided, however, that if such agreement was executed on or after July 1, 2013, the agreement shall expressly transfer ownership of renewable attributes, in addition to ownership of the energy, to the participating electric utility; (ii) generated by a public utility providing electric service in the Commonwealth from a facility in which the public utility owns at least a 49 percent interest and that is located in the Commonwealth, in the interconnection region of the regional transmission entity of which the participating electric utility is a member, or in a control area adjacent to such interconnection region; or (iii) represented by renewable energy certificates. "Renewable energy" ~~shall~~ does not include electricity generated from pumped storage, but ~~shall include~~ includes run-of-river generation from a combined pumped-storage and run-of-river facility.

"Renewable energy certificate" means ~~either~~ (i) a certificate issued by an affiliate of the regional

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transmission entity of which the participating electric utility is a member, as it may change from time to time, or any successor to such affiliate, and held or acquired by such electric utility, that validates the generation of renewable energy by eligible sources in the interconnection region of the regional transmission entity or (ii) a certificate issued by the Commission pursuant to subsection J and held or acquired by a participating utility, that validates a qualified investment made by the participating utility.

"Renewable energy portfolio standard program" or "RPS program" means a program conducted by a utility under which the utility is required to achieve the RPS standards in accordance with the requirements of this section.

"RPS standard" means the requirement that the total electric energy sold by a utility in the Commonwealth in a calendar year be from renewable energy sources in accordance with the schedule set forth in subsection C.

"Total electric energy sold in the base previous calendar year" means total electric energy sold to Virginia jurisdictional retail customers by a participating an electric utility in the previous calendar year 2007, excluding an amount equivalent to the average of the annual percentages of the electric energy that was supplied to such customers from nuclear generating plants for the calendar years 2004 through 2006 in the previous calendar year, provided such nuclear units were already operating as of July 1, 2020.

"Utility" means an investor-owned incumbent electric utility.

B. Any investor-owned incumbent electric Each electric utility may apply to the Commission for approval to shall participate in a renewable energy portfolio standard program; as defined in pursuant to the provisions of this section. The Commission shall approve such application if the applicant demonstrates that it has a reasonable expectation of achieving 12 percent of its base year electric energy sales from renewable energy sources during calendar year 2022, and 15 percent of its base year electric energy sales from renewable energy sources during calendar year 2025, as provided in subsection D.

C. It is in the public interest for utilities that seek to have a renewable energy portfolio standard program to achieve the goals set forth in subsection D; such goals being referred to herein as "RPS Goals." A utility shall receive double credit toward meeting the renewable energy portfolio standard for energy derived from sunlight, from onshore wind, or from facilities in the Commonwealth fueled primarily by animal waste, and triple credit toward meeting the renewable energy portfolio standard for energy derived from offshore wind.

D. Regarding any Any utility's compliance with the renewable energy portfolio standard program; shall require the total electric energy sold by a the utility to meet the RPS Goals shall be by being composed of the following amounts of electric energy or renewable thermal energy equivalent from renewable energy sources, as adjusted for any sales volumes lost through operation of the customer choice provisions of subdivision A 3 or A 4 of § 56-577. An electric utility's RPS Goals shall be reduced in proportion to any sales volumes attributable to eligible contracts or commitments to purchase renewable energy of accelerated renewable energy buyers. The amounts set forth in the following table are referred to as the RPS Goals:

RPS Goal I: In calendar year 2010, 4 percent of total electric energy sold in the base year.

RPS Goal II: For calendar years 2011 through 2015, inclusive, an average of 4 percent of total electric energy sold in the base year, and in calendar year 2016, 7 percent of total electric energy sold in the base year.

RPS Goal III: For calendar years 2017 through 2021, inclusive, an average of 7 percent of total electric energy sold in the base year, and in calendar year 2022, 12 percent of total electric energy sold in the base year.

RPS Goal IV: For calendar years 2023 and 2024, inclusive, an average of 12 percent of total electric energy sold in the base year, and in calendar year 2025, 15 percent of total electric energy sold in the base year.

A utility may not apply renewable energy certificates issued pursuant to subsection J to meet more than 20 percent of the sales requirement for the RPS Goal in any year.

Date	RPS Goal
2021	14%
2022	17%
2023	20%
2024	23%
2025	26%
2026	29%
2027	32%
2028	35%
2029	38%
2030	41%
2031	45%
2032	48%

2033	51%
2034	55%
2035	58%
2036	61%
2037	63%
2038	66%
2039	69%
2040	72%
2041	75%
2042	78%
2043	81%
2044	83%
2045	86%
2046	89%
2047	92%
2048	95%
2049	97%
2050 and thereafter	100%

D. Eligible renewable energy sources shall be categorized as follows:

1. Tier 1 sources are renewable energy sources from offshore wind located off the coastline of, or interconnected in, the Commonwealth;

2. Tier 2A sources are renewable energy sources located in the Commonwealth that produce energy from sunlight, wind, or anaerobic digestion where the utility has not already entered into a power purchase agreement related to that facility pursuant to § 56-594, provided such facilities have an AC capacity of 20 kilowatts or less. A minimum of 10 percent of all energy required from Tier 2A sources in a given compliance year shall be sourced from low-to-moderate income (LMI) projects;

3. Tier 2B sources are renewable energy sources located in the Commonwealth that produce energy from sunlight, wind, or anaerobic digestion where the utility has not already entered into a power purchase agreement related to that facility pursuant to § 56-594, provided such facilities have an AC capacity that is between 20 kilowatts and 250 kilowatts. A minimum of 10 percent of all energy required from Tier 2B sources in a given compliance year shall be sourced from low-to-moderate income (LMI) projects;

4. Tier 2C sources are renewable energy sources located in the Commonwealth that produce energy from sunlight, wind, or anaerobic digestion where the utility has not already entered into a power purchase agreement related to that facility pursuant to § 56-594, provided such facilities have an AC capacity between 250 kilowatts and 1,000 kilowatts. A minimum of 10 percent of all energy required from Tier 2C sources in a given compliance year shall be sourced from low-to-moderate income (LMI) projects;

5. Tier 2D sources are renewable energy sources located in the Commonwealth that produce energy from sunlight, wind, or anaerobic digestion where the utility has not already entered into a power purchase agreement related to that facility pursuant to § 56-594, provided such facilities have an AC capacity between 1,000 kilowatts and 3,000 kilowatts. A minimum of 10 percent of all energy required from Tier 2D in a given compliance year shall be sourced from low-to-moderate income (LMI) projects;

6. Tier 3 sources are renewable energy sources located in the Commonwealth or off the Commonwealth's coastline that produce electricity from sunlight, wind, wave motion, tides, geothermal power, or energy from waste or landfill gas;

7. Tier 4 sources are renewable energy sources that are physically located in the PJM interconnection region or the interconnection region of the regional transmission entity of which the participating utility is a member, as it may change from time to time, that produce electricity from sunlight, wind, falling water, wave motion, tides, and geothermal power, subject to the constraint that an eligible renewable resource that produces electricity from falling water shall be limited to facilities with a generation capacity equal to or less than 65 megawatts and that began commercial operation after December 31, 1979; however, if a facility that produces electricity from falling water began incremental commercial operation after December 31, 1979, and such incremental energy generation is equal to or greater than 50 percent of the original nameplate rating, the facility shall qualify as a Tier 4 source regardless of the facility's output; and

8. Tier 5 sources are renewable energy sources that are physically located in the PJM interconnection region or the interconnection region of the regional transmission entity of which the participating utility is a member, as it may change from time to time, that produce electricity from falling water and with which the utility has an existing contract on July 1, 2020.

Tiers 2A, 2B, 2C, and 2D sources shall be implemented in accordance with the following schedule:

Year	Tier 2A	Tier 2B	Tier 2C	Tier 2D
2021	0.19%	0.13%	0.19%	0.13%

185	2022	0.29%	0.19%	0.29%	0.19%
186	2023	0.38%	0.26%	0.38%	0.26%
187	2024	0.48%	0.32%	0.48%	0.32%
188	2025	0.57%	0.38%	0.57%	0.38%
189	2026	0.66%	0.44%	0.66%	0.44%
190	2027	0.75%	0.50%	0.75%	0.50%
191	2028	0.84%	0.56%	0.84%	0.56%
192	2029	0.92%	0.61%	0.92%	0.61%
193	2030	1.0%	0.66%	1.0%	0.66%
194	2031	1.03%	0.69%	1.03%	0.69%
195	2032	1.05%	0.70%	1.05%	0.70%
196	2033	1.08%	0.72%	1.08%	0.72%
197	2034	1.11%	0.74%	1.11%	0.74%
198	2035	1.15%	0.77%	1.15%	0.77%
199	2036	1.19%	0.80%	1.19%	0.80%
200	2037	1.24%	0.83%	1.24%	0.83%
201	2038	1.29%	0.86%	1.29%	0.86%
202	2039	1.34%	0.90%	1.34%	0.90%
203	2040	1.40%	0.93%	1.40%	0.93%
204	2041	1.46%	0.97%	1.46%	0.97%
205	2042	1.52%	1.01%	1.52%	1.01%
206	2043	1.58%	1.06%	1.58%	1.06%
207	2044	1.65%	1.10%	1.65%	1.10%
208	2045	1.72%	1.15%	1.72%	1.15%
209	2046	1.79%	1.20%	1.79%	1.20%
210	2047	1.87%	1.25%	1.87%	1.25%
211	2048	1.95%	1.30%	1.95%	1.30%
212	2049	2.03%	1.35%	2.03%	1.35%
213	2050 and thereafter	2.12%	1.41%	2.12%	1.41%

**E. In:**

1. Any compliance year, no more than 878,500 RECs from facilities that produce electricity via energy from waste and no more than 654,000 RECs from facilities that produce electricity from landfill gas may be utilized to comply with the utility's RPS Goals. Only those facilities producing energy from waste and landfill gas in operation within the Commonwealth on July 1, 2020, are eligible to participate;

2. Compliance years 2021 through 2035, no more than 2.5 million RECs from existing facilities as of December 31, 2020, that produce electricity from falling water may be used to meet the utility's compliance obligation under Tier 4;

3. Compliance years 2036 through 2042, no more than 3.0 million RECs from existing facilities as of December 31, 2020, that produce electricity from falling water may be used to meet the utility's compliance obligation under Tier 4; and

4. Compliance years 2043 and thereafter, no more than 3.5 million RECs from existing facilities as of December 31, 2020, that produce electricity from falling water may be used to meet the utility's compliance obligation under Tier 4.

F. In any compliance year, each electric utility shall procure or produce a sufficient number of RECs from Tiers 1, 2, and 3 so as to meet the percentages set out in the following table:

231	Date	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5
232	2021	0%	3%	30%	38%	29%
233	2022	0%	5%	34%	45%	16%
234	2023	0%	6%	37%	51%	6%
235	2024	0%	7%	38%	49%	6%
236	2025	0%	7%	40%	48%	5%
237	2026	0%	8%	41%	47%	4%
238	2027	12%	8%	42%	34%	4%
239	2028	11%	9%	42%	35%	3%
240	2029	20%	9%	42%	26%	3%
241	2030	18%	9%	43%	27%	3%
242	2031	24%	9%	41%	23%	3%
243	2032	22%	8%	39%	28%	3%
244	2033	27%	8%	38%	25%	2%
245	2034	31%	8%	36%	23%	2%
246	2035	35%	8%	35%	20%	2%
247	2036	33%	8%	35%	22%	2%
248	2037	36%	8%	35%	20%	2%
249	2038	34%	7%	34%	23%	2%
250	2039	37%	7%	34%	20%	2%

251	2040	35%	7%	33%	23%	2%
252	2041	38%	7%	33%	20%	2%
253	2042	36%	8%	33%	21%	2%
254	2043	39%	8%	33%	19%	1%
255	2044	37%	8%	34%	20%	1%
256	2045	39%	8%	34%	18%	1%
257	2046	38%	8%	34%	19%	1%
258	2047	40%	8%	34%	17%	1%
259	2048	39%	8%	34%	18%	1%
260	2049	40%	8%	35%	16%	1%
261	2050 and thereafter	39%	8%	35%	18%	0%

REC's from Tiers 4 and 5 sources in excess of the percentages laid out in the table above may not be used by an electric utility to meet its annual RPS Goals.

All of the renewable energy resources used by a utility for compliance with the RPS Goals, including new construction, and energy, capacity, and renewable energy certificate purchases shall be subject to competitive procurement.

A G. An electric utility may apply renewable energy sales achieved or renewable energy certificates acquired during the periods covered by any such RPS Goal that are in excess of the sales requirement for that RPS Goal to the sales requirements for any future RPS Goals in the five calendar years after the renewable energy was generated or the renewable energy certificates were created; ~~except that a utility shall be able to apply renewable energy certificates acquired by the utility prior to January 1, 2014.~~

E. H. A specific deficiency payment shall apply to each tier identified in the table in subsection F. If the electric utility is unable to meet the compliance obligation of any tier, or if the cost of a REC in that tier should exceed the per megawatt-hour cost of the deficiency payment, the electric utility shall be obligated to make a deficiency payment equal to its megawatt-hour shortfall in the relevant tier for the year of noncompliance. The deficiency payment for each tier will decline annually by 2.5 percent adjusted for inflation. The deficiency payments, on a per megawatt-hour basis, for each tier are as follows:

Tier 1: If compliance buyers are unable to meet their annual Tier 1 targets, they are obligated to procure two and one-half times REC's from Tier 3, 4, or 5 or pay two and one-half times the Tier 3 deficiency payment in that year.

Tier 2A: \$115

Tier 2B: \$100

Tier 2C: \$80

Tier 2D: \$70

Tier 3: \$45

Tier 4: \$0

Tier 5: \$0

If, in any year, an electric utility meets their compliance obligation for Tiers 1, 2, and 3, but does not meet its overall RPS Goal, it shall make a deficiency payment equal to the overall REC shortfall in that year multiplied by the Tier 3 deficiency payment in the same year.

All proceeds from the deficiency payments shall be deposited into an interest-bearing account administered by the Department of Mines, Minerals and Energy. In administering this account, the Department shall manage the account as following: (i) 50 percent of total revenue shall be directed to low-income, disability, veteran, and age-qualifying energy efficiency programs; (ii) 16 percent shall be directed to additional energy efficiency measures for public facilities; (iii) 30 percent shall be directed to low-income, disability, veteran, and age-qualifying renewable energy programs; and (iv) four percent shall be directed to administrative costs.

A I. An electric utility ~~participating in such program~~ shall have the right to recover all reasonable and prudent incremental costs incurred for the purpose of ~~such participation in such~~ achieving the requirements of its program, as accrued against income, through rate adjustment clauses as provided in subdivisions A 5 and A 6 of § 56-585.1, including, ~~but not limited to,~~ administrative costs, ancillary costs, capacity costs, costs of energy represented by certificates described in subsection A, and, in the case of construction of renewable energy generation facilities, allowance for funds used during construction until such time as an enhanced rate of return, as determined pursuant to subdivision A 6 of § 56-585.1, on construction work in progress is included in rates, projected construction work in progress, planning, development and construction costs, life-cycle costs, and costs of infrastructure associated therewith, plus an enhanced rate of return, as determined pursuant to subdivision A 6 of § 56-585.1, ~~except that an electric utility shall not recover any costs associated with the construction of renewable energy generation facilities unless such facilities are developed through transparent and competitive solicitation processes as provided in subsection J and the Commission finds such costs to be reasonable and prudent. This subsection shall not apply to qualified investments as provided in~~

subsection K. All incremental costs of the RPS program shall be allocated to and recovered from the utility's customer classes based on the demand created by the class and within the class based on energy used by the individual customer in the class, except that the incremental costs of the RPS program shall not be allocated to or recovered from customers any customer that are served within the large industrial rate classes of the participating utilities and that are served at primary or transmission voltage the Commission certifies as being an accelerated renewable energy buyer. The Commission shall certify an applicant as an accelerated renewable energy buyer if, on an annual basis, the applicant demonstrates that it has met the obligations enumerated in subsections C, D, and F via the retirement of renewable energy credits from eligible resources or met the deficiency payment obligations stipulated in subsection H. Such obligations may be met via eligible contracts or commitments to purchase renewable energy, which shall include power purchase agreements; contracts for differences or financial commitments resulting in the delivery of electric energy within the regional transmission entity of the customer's utility, or subscriptions to voluntary renewable energy tariffs or programs offered by a utility. All renewable energy certificates retired via this process shall not be credited toward a utility's RPS Goals. The Commission may establish any standards or application procedures it deems necessary to implement the requirements of this subsection.

J. For the purposes of obtaining resources to meet any Tier III compliance obligation, a utility shall at least once per year conduct a request for proposals for renewable energy pursuant to this subsection. Such requests for proposals for Tier III resources shall quantify and describe the utility's need for energy, capacity, or renewable energy certificates. The requests for proposals shall be publicly announced and made available for public review on the utility's website. The requests for proposals shall provide, at a minimum, the following information: (i) the size, type, and timing of resources for which the utility anticipates contracting; (ii) any minimum thresholds that must be met by respondents; (iii) major assumptions to be used by the utility in the bid evaluation process, including environmental emission standards; (iv) explicit instructions for preparing bids so that bids can be evaluated on a consistent basis; (v) the preferred general location of additional capacity; and (vi) specific information concerning the factors involved in determining the price and non-price criteria used for selecting winning bids. A utility may evaluate responses to requests for proposals based on any criteria that it deems reasonable but shall at a minimum consider the following in its selection process: (a) the status of a particular project's development; (b) the age of existing generation facilities; (c) the demonstrated financial viability of a project and the developer; (d) a developer's prior experience in the field; (e) the location and effect on the transmission grid of a generation facility; (f) benefits to the Commonwealth that are associated with particular projects, including regional economic development and the use of goods and services from Virginia businesses; and (g) the environmental impacts of particular resources, including impacts on air quality within the Commonwealth and the carbon intensity of the utility's generation portfolio. For the purposes of obtaining resources to meet any Tier 2 compliance obligation, a utility shall conduct, and evaluate the results of, requests for proposals pursuant to the terms of this subsection, except that such utility shall give preference to renewable energy certificates generated at facilities owned by third parties. Notwithstanding the foregoing, if a utility is not able to procure eligible resources at reasonable cost from facilities owned by third parties, a utility may comply with its Tier 2 compliance obligation by utilizing energy generated at utility-owned facilities. The staff of the Commission shall oversee and review the results of any request for proposals for Tier 2 resources conducted pursuant to this subsection. The staff of the Commission, during any proceeding in which a utility seeks to recover from ratepayers the costs associated with the procurement of Tier 2 resources, shall provide its opinion as to whether the utility has complied with the terms of this subsection.

F. A K. An electric utility participating in such program shall apply towards toward meeting its RPS Goals standards any renewable energy from existing renewable energy sources owned by the participating electric utility or purchased as allowed by contract at no additional cost to customers to the extent feasible. A utility participating in such program shall not apply towards toward meeting its RPS Goals renewable energy certificates attributable to any renewable energy generated at a renewable energy generation source in operation as of July 1, 2007, that is operated by a person that is served within a utility's large industrial rate class and that is served at primary or transmission voltage, except for those persons providing renewable thermal energy equivalents to the utility. A participating An electric utility shall be required to fulfill any remaining deficit needed to fulfill its RPS Goals from new renewable energy supplies at reasonable cost and in a prudent manner to be determined by the Commission at the time of approval of any application made pursuant to subsection B. A participating utility may sell renewable energy certificates produced at its own generation facilities located in the Commonwealth or, if located outside the Commonwealth, owned by such utility and in operation as of January 1, 2010, or renewable energy certificates acquired as part of a purchase power agreement, to another entity and purchase lower cost renewable energy certificates and the net difference in price between the renewable energy certificates shall be credited to customers. Utilities participating in such program shall collectively, either through the installation of new generating facilities, through retrofit of

existing facilities or through purchases of electricity from new facilities located in Virginia; use or cause to be used no more than a total of 1.5 million tons per year of green wood chips, bark, sawdust, a tree or any portion of a tree which is used or can be used for lumber and pulp manufacturing by facilities located in Virginia; towards meeting RPS goals; excluding such fuel used at electric generating facilities using wood as fuel prior to January 1, 2007. A utility with an approved application shall be allocated a portion of the 1.5 million tons per year in proportion to its share of the total electric energy sold in the base year, as defined in subsection A, for all utilities participating in the RPS program. A utility may use in meeting RPS goals, without limitation, the following sustainable biomass and biomass based waste to energy resources: mill residue, except wood chips, sawdust and bark; pre-commercial soft wood thinning; slash; logging and construction debris; brush; yard waste; shipping crates; dunnage; non-merchantable waste paper; landscape or right-of-way tree trimmings; agricultural and vineyard materials; grain; legumes; sugar; and gas produced from the anaerobic decomposition of animal waste.

G. L. The Commission shall promulgate such rules and regulations as may be necessary to implement the provisions of this section, including a requirement that participants electric utilities verify whether the RPS goals Goals are met in accordance with this section.

M. The Commission shall open a proceeding to identify and develop appropriate mechanisms and programs to achieve a 2,400-megawatt energy storage deployment target for the Commonwealth. No later than January 1, 2021, the Commission shall adopt regulations for the implementation of the energy storage deployment target. The regulations will outline a deployment target of 2,400 megawatts by 2035. The regulations shall set forth the following interim targets: 100 megawatts by December 31, 2021; 300 megawatts by December 31, 2023; 600 megawatts by December 31, 2025; 900 megawatts by December 31, 2027; 1,200 megawatts by December 31, 2029; 1,600 megawatts by December 31, 2031; 2,000 megawatts by December 31, 2033, and 2,400 megawatts by December 31, 2035. Interim energy storage targets are cumulative and include Commission-approved energy storage system resources procured by a utility required to file a joint triennial integrated resource plan so long as the Commission approval date is after July 1, 2020. The deployment target shall be met through eligible energy storage systems. Energy storage systems that are large scale or distributed shall count toward the deployment target. Energy storage systems that count toward the target can be either owned by a load-serving entity or local publicly owned electric utility, a customer of a load-serving entity or local publicly owned electric utility, or a third party, or is jointly owned by two or more of such entities. A single energy storage system shall not be used to meet more than 500 megawatts of the deployment target in any year. The programs and mechanisms explored in such proceeding shall include competitive solicitations, behind-the-meter incentives, non-wires alternatives programs, and peak demand reduction programs. In developing these programs, the Commission shall engage stakeholders with opportunities for written comment and workshops to solicit input on the development of the programs. The Commission shall update existing utility planning and procurement regulations of electric utilities to incorporate requirements to procure energy storage resources. In adopting regulations to realize the energy storage deployment targets, the Commission shall incorporate the following elements:

1. The deployment target shall require that at least 10 percent of the interim storage targets be realized through distribution-connected systems, inclusive of customer-sited locations;

2. Provisions and programs that ensure competitive deployment of energy storage services from third parties; and

3. The inclusion of an energy storage plan within the utility's integrated resource plan, which energy storage plan shall contain a description of the utility's progress toward meeting the energy storage deployment target and a demonstration of how the utility plans to meet or exceed the energy storage deployment target.

H. N. Each investor-owned incumbent electric utility shall report to the Commission annually by November 1 identifying:

1. The utility's efforts, if any, to meet the RPS Goals, specifically identifying:

a. A list of all states where the purchased or owned renewable energy was generated, specifying the number of megawatt hours or renewable energy certificates originating from each state;

b. A list of the decades in which the purchased or owned renewable energy generating units were placed in service, specifying the number of megawatt hours or renewable energy certificates originating from those units; and

c. A list of fuel types used to generate the purchased or owned renewable energy, specifying the number of megawatt hours or renewable energy certificates originating from each fuel type;

2. The utility's overall generation of renewable energy; and

3. Advances in renewable generation technology that affect activities described in subdivisions 1 and 2; and

4. The electric utility's efforts to meet the energy storage deployment target, specifically identifying:

a. The electric utility's proposal to meet or exceed the interim and 2030 energy storage target that

436 *falls within the action plan period;*

437 *b. A summary of all energy storage system projects for which the electric utility seeks approval in*  
438 *the action plan or the distributed resource plan;*

439 *c. A description of how energy storage system resources are being modeled and considered in the*  
440 *existing planning process;*

441 *d. An evaluation of the costs and benefits for the deployment of energy storage, including a*  
442 *description of the utility's cost-benefit analysis framework; and*

443 *e. A description of how energy storage resources are being modeled and considered in the existing*  
444 *planning process, including whether the modeling tools were instructed to select energy storage*  
445 *technologies as part of the modeling exercise, and what the energy storage cost assumptions were and*  
446 *the source and date of those cost assumptions.*

447 *I. O. The Commission shall post on its website the reports submitted by each investor-owned*  
448 *incumbent electric utility pursuant to subsection H N.*

449 *J. The Commission shall issue to a participating utility a number of renewable energy certificates for*  
450 *qualified investments, upon request by a participating utility, if it finds that an expense satisfies the*  
451 *conditions set forth in this section for a qualified investment, as follows:*

452 *1. By March 31 of each year, the participating utility shall provide an analysis, as reasonably*  
453 *determined by a qualified independent broker, of the average for the preceding year of the publicly*  
454 *available prices for Tier 1 renewable energy certificates and Tier 2 renewable energy certificates,*  
455 *validating the generation of renewable energy by eligible sources, that were issued in the interconnection*  
456 *region of the regional transmission entity of which the participating utility is a member;*

457 *2. In the same annual analysis provided to the Commission, the participating utility shall divide the*  
458 *amount of the participating utility's qualified investments in the applicable period by the average price*  
459 *determined pursuant to subdivision 1;*

460 *3. The number of renewable energy certificates to be issued to the participating utility shall equal the*  
461 *product obtained pursuant to subdivision 2; and*

462 *4. The Commission shall review and validate the analysis provided by the participating utility within*  
463 *90 days of submittal of its analysis to the Commission. If no corrections are made by the Commission,*  
464 *then the analysis shall be deemed correct and the renewable energy certificates shall be deemed issued*  
465 *to the participating utility.*

466 *Each renewable energy certificate issued to a participating utility pursuant to this subsection shall*  
467 *represent the equivalent of one megawatt hour of renewable energy sales achieved when applied to an*  
468 *RPS Goal.*

469 *K. Qualified investments shall constitute reasonable and prudent operating expenses of a participating*  
470 *utility. Notwithstanding subsection E, a participating utility shall not be authorized to recover the costs*  
471 *associated with qualified investments through rate adjustment clauses as provided in subdivisions A 5*  
472 *and A 6 of § 56-585.1. In any proceeding conducted pursuant to § 56-585.1 or other provision of this*  
473 *title in which a participating utility seeks recovery of its qualified investments as an operating expense,*  
474 *the participating utility shall not be authorized to earn a return on its qualified investments.*

475 *L. A participating utility shall not be eligible for a research and development tax credit pursuant to §-*  
476 *58.1-439.12:08 or 58.1-439.12:11 with regard to any expense incurred or investment made by the*  
477 *participating utility that constitutes a qualified investment pursuant to this section.*