

THE GENERAL ASSEMBLY OF PENNSYLVANIA

SENATE BILL

No. 1287 Session of  
2024

INTRODUCED BY STREET, FONTANA, KANE AND SCHWANK, JULY 17, 2024

REFERRED TO CONSUMER PROTECTION AND PROFESSIONAL LICENSURE,  
JULY 17, 2024

AN ACT

1 Amending the act of November 30, 2004 (P.L.1672, No.213),  
2 entitled "An act providing for the sale of electric energy  
3 generated from renewable and environmentally beneficial  
4 sources, for the acquisition of electric energy generated  
5 from renewable and environmentally beneficial sources by  
6 electric distribution and supply companies and for the powers  
7 and duties of the Pennsylvania Public Utility Commission,"  
8 further providing for short title, for definitions and for  
9 alternative energy portfolio standards; providing for Zero  
10 Emissions Carbon Certificate Program, for solar photovoltaic  
11 technology requirements and for decarbonization; and  
12 establishing the ZEC Fund.

13 The General Assembly of the Commonwealth of Pennsylvania  
14 hereby enacts as follows:

15 Section 1. Section 1 of the act of November 30, 2004  
16 (P.L.1672, No.213), known as the Alternative Energy Portfolio  
17 Standards Act, is amended to read:

18 Section 1. Short title.

19 This act shall be known and may be cited as the [Alternative  
20 Energy Portfolio Standards] Energy Future Act.

21 Section 2. The definitions of "alternative energy sources,"  
22 "reporting period" and "Tier II alternative energy source" in  
23 section 2 of the act are amended and the section is amended by

1 adding definitions to read:

2 Section 2. Definitions.

3 The following words and phrases when used in this act shall  
4 have the meanings given to them in this section unless the  
5 context clearly indicates otherwise:

6 "Advanced nuclear." A nuclear fission or fusion reactor,  
7 including a prototype plant as defined in 10 CFR 50.2 (relating  
8 to definitions) and 52.1 (relating to definitions), with  
9 significant improvements compared to commercial nuclear reactors  
10 under construction as of the effective date of this definition,  
11 including the following improvements:

- 12 (1) additional inherent safety features;
- 13 (2) significantly lower levelized cost of electricity;
- 14 (3) lower waste yields;
- 15 (4) greater fuel utilization;
- 16 (5) enhanced reliability;
- 17 (6) increased proliferation resistance;
- 18 (7) increased thermal efficiency; or
- 19 (8) ability to integrate into electric and nonelectric  
20 applications.

21 \* \* \*

22 "Alternative energy sources." The term shall include the  
23 following existing and new sources for the production of  
24 electricity:

- 25 (1) Solar photovoltaic or other solar electric energy.
- 26 (2) Solar thermal energy.
- 27 (3) Wind power.
- 28 (4) Large-scale hydropower, which shall mean the  
29 production of electric power by harnessing the hydroelectric  
30 potential of moving water impoundments, including pumped

1 storage that does not meet the requirements of low-impact  
2 hydropower under paragraph (5).

3 (5) Low-impact hydropower consisting of any technology  
4 that produces electric power and that harnesses the  
5 hydroelectric potential of moving water impoundments,  
6 provided such incremental hydroelectric development:

7 (i) does not adversely change existing impacts to  
8 aquatic systems;

9 (ii) meets the certification standards established  
10 by the Low Impact Hydropower Institute and American  
11 Rivers, Inc., or their successors;

12 (iii) provides an adequate water flow for protection  
13 of aquatic life and for safe and effective fish passage;

14 (iv) protects against erosion; and

15 (v) protects cultural and historic resources.

16 (6) Geothermal energy, which shall mean electricity  
17 produced by extracting hot water or steam from geothermal  
18 reserves in the earth's crust and supplied to steam turbines  
19 that drive generators to produce electricity.

20 (7) Biomass energy, which shall mean the generation of  
21 electricity utilizing the following:

22 (i) organic material from a plant that is grown for  
23 the purpose of being used to produce electricity or is  
24 protected by the Federal Conservation Reserve Program  
25 (CRP) and provided further that crop production on CRP  
26 lands does not prevent achievement of the water quality  
27 protection, soil erosion prevention or wildlife  
28 enhancement purposes for which the land was primarily set  
29 aside; or

30 (ii) any solid nonhazardous, cellulosic waste

1 material that is segregated from other waste materials,  
2 such as waste pallets, crates and landscape or right-of-  
3 way tree trimmings or agricultural sources, including  
4 orchard tree crops, vineyards, grain, legumes, sugar and  
5 other crop by-products or residues.

6 (8) Biologically derived methane gas, which shall  
7 include methane from the anaerobic digestion of organic  
8 materials from yard waste, such as grass clippings and  
9 leaves, food waste, animal waste and sewage sludge. The term  
10 also includes landfill methane gas.

11 (9) Fuel cells, which shall mean any electrochemical  
12 device that converts chemical energy in a hydrogen-rich fuel  
13 directly into electricity, heat and water without combustion.

14 (10) Waste coal, which shall include the combustion of  
15 waste coal in facilities in which the waste coal was disposed  
16 or abandoned prior to July 31, 1982, or disposed of  
17 thereafter in a permitted coal refuse disposal site  
18 regardless of when disposed of, and used to generate  
19 electricity, or such other waste coal combustion meeting  
20 alternate eligibility requirements established by regulation.  
21 Facilities combusting waste coal shall use at a minimum a  
22 combined fluidized bed boiler and be outfitted with a  
23 limestone injection system and a fabric filter particulate  
24 removal system. Alternative energy credits shall be  
25 calculated based upon the proportion of waste coal utilized  
26 to produce electricity at the facility.

27 (11) Coal mine methane, which shall mean methane gas  
28 emitting from abandoned or working coal mines.

29 (12) Demand-side management consisting of the management  
30 of customer consumption of electricity or the demand for

1 electricity through the implementation of:

2 (i) energy efficiency technologies, management  
3 practices or other strategies in residential, commercial,  
4 institutional or government customers that reduce  
5 electricity consumption by those customers;

6 (ii) load management or demand response  
7 technologies, management practices or other strategies in  
8 residential, commercial, industrial, institutional and  
9 government customers that shift electric load from  
10 periods of higher demand to periods of lower demand; or

11 (iii) industrial by-product technologies consisting  
12 of the use of a by-product from an industrial process,  
13 including the reuse of energy from exhaust gases or other  
14 manufacturing by-products that are used in the direct  
15 production of electricity at the facility of a customer.

16 (13) Distributed generation system, which shall mean:

17 (i) the small-scale power generation of electricity  
18 and useful thermal energy[.]; or

19 (ii) a combined heat and power system.

20 \* \* \*

21 "Carbon capture, utilization and storage technology."

22 Technology that has the principal purpose of capturing, reusing,  
23 storing, sequestering or using carbon dioxide emissions to  
24 prevent carbon dioxide from entering the atmosphere whether  
25 constructed integral or adjacent to a coal-fired or natural gas-  
26 fired generation facility.

27 "Carbon constrained coal facility." As follows:

28 (1) An electric generating facility located in this  
29 Commonwealth that uses primarily coal as a feedstock and that  
30 emits no more than 650 pounds of carbon dioxide per megawatt

1 hour of generated electricity averaged over one calendar year  
2 by 2026, no more than 214 pounds of carbon dioxide per  
3 megawatt hour of generated electricity averaged over one  
4 calendar year by 2031 and zero pounds of carbon dioxide per  
5 megawatt hour of generated electricity averaged over one  
6 calendar year by 2036.

7 (2) The power block of the carbon constrained coal  
8 facility does not exceed allowable emission rates for sulfur  
9 dioxide, nitrogen oxides, carbon monoxide, methane, nitrous  
10 oxide, volatile organic compounds, particulates and mercury  
11 for a natural gas-fired combined-cycle facility the same size  
12 as and in the same location as the carbon constrained coal  
13 facility at the time the carbon constrained coal facility  
14 obtains an approved air permit.

15 (3) The coal used by a carbon constrained coal facility  
16 is located in this Commonwealth.

17 "Carbon constrained energy facility." As follows:

18 (1) An electric generating facility located in this  
19 Commonwealth that uses primarily natural gas, coal or  
20 hydrogen as a feedstock and that emits no more than 650  
21 pounds of carbon dioxide per megawatt hour of generated  
22 electricity averaged over one calendar year by 2027, no more  
23 than 214 pounds of carbon dioxide per megawatt hour of  
24 generated electricity averaged over one calendar year by 2031  
25 and net zero pounds of carbon dioxide per megawatt hour of  
26 generated electricity averaged over one calendar year by  
27 2036.

28 (2) The power block of the carbon constrained natural  
29 gas facility, carbon constrained coal facility or carbon  
30 constrained hydrogen facility shall not exceed allowable

1 emission rates for sulfur dioxide, nitrogen oxides, carbon  
2 monoxide, methane, nitrous oxide, volatile organic compounds,  
3 particulates and mercury for a natural gas-fired combined-  
4 cycle facility the same size as and in the same location as  
5 the carbon constrained natural gas facility, carbon  
6 constrained coal facility or carbon constrained hydrogen  
7 facility at the time the carbon constrained energy facility  
8 obtains an approved air permit.

9 (3) The gas, coal and hydrogen used by a carbon  
10 constrained energy facility is sourced in this Commonwealth.  
11 "Carbon constrained energy system." A facility or energy  
12 system that uses carbon capture, utilization and storage  
13 technology that produces carbon emissions at or below the  
14 requirement under this act to generate electricity and delivers  
15 the electricity it generates to the distribution system of an  
16 electric distribution company or to the transmission system  
17 operated by a regional transmission organization.

18 "Carbon constrained hydrogen facility." As follows:

19 (1) An electric generating facility located in this  
20 Commonwealth that uses primarily hydrogen as a feedstock and  
21 that emits no more than 650 pounds of carbon dioxide per  
22 megawatt hour of generated electricity averaged over one  
23 calendar year by 2026, no more than 214 pounds of carbon  
24 dioxide per megawatt hour of generated electricity averaged  
25 over one calendar year by 2031 and zero pounds of carbon  
26 dioxide per megawatt hour of generated electricity averaged  
27 over one calendar year by 2036, including the carbon dioxide  
28 emissions from the generation of the utilized hydrogen.

29 (2) The power block of the carbon constrained hydrogen  
30 facility and generator of the utilized hydrogen does not

1 exceed allowable emission rates for sulfur dioxide, nitrogen  
2 oxides, carbon monoxide, methane, nitrous oxide, volatile  
3 organic compounds, particulates and mercury for a natural  
4 gas-fired combined-cycle facility the same size as and in the  
5 same location as the carbon constrained hydrogen facility at  
6 the time the carbon constrained hydrogen facility obtains an  
7 approved air permit.

8 (3) The hydrogen and associated feedstock used by a  
9 carbon constrained hydrogen facility is located in this  
10 Commonwealth.

11 "Carbon constrained natural gas facility." As follows:

12 (1) An electric generating facility located in this  
13 Commonwealth that uses primarily natural gas as a feedstock  
14 and that emits no more than 650 pounds of carbon dioxide per  
15 megawatt hour of generated electricity averaged over one  
16 calendar year by 2026, no more than 214 pounds of carbon  
17 dioxide per megawatt hour of generated electricity averaged  
18 over one calendar year by 2031 and zero pounds of carbon  
19 dioxide per megawatt hour of generated electricity averaged  
20 over one calendar year by 2036.

21 (2) The power block of the carbon constrained natural  
22 gas facility does not exceed allowable emission rates for  
23 sulfur dioxide, nitrogen oxides, carbon monoxide, methane,  
24 nitrous oxide, volatile organic compounds, particulates and  
25 mercury for a natural gas-fired combined-cycle facility the  
26 same size as and in the same location as the carbon  
27 constrained natural gas facility at the time the carbon  
28 constrained natural gas facility obtains an approved air  
29 permit.

30 (3) The natural gas used by a carbon constrained natural

1 gas facility is located in this Commonwealth.

2 "Combined heat and power system." A combined heat and power  
3 system installed on a commercial, institutional or industrial  
4 facility site within this Commonwealth that is a qualified  
5 facility under the Public Utility Regulatory Policies Act of  
6 1978 (Public Law 95-617, 92 Stat. 3117) and has an annual  
7 operating efficiency of at least 60%. A combined heat and power  
8 system shall qualify as a Tier II alternative energy source for  
9 up to 50 megawatts of combined generation on a site.

10 \* \* \*

11 "Eligibility period." The period of time, measured in energy  
12 years, during which a selected nuclear power plant may receive  
13 zero emissions carbon certificates under section 3.1.

14 "Eligible nuclear power plant." A nuclear power plant  
15 certified by the commission under section 3.1(e).

16 "Energy year." The 12-month period from June 1 through May  
17 31, numbered according to the calendar year in which it ends.

18 \* \* \*

19 "Nuclear power plant." An individual electric-generating  
20 unit utilizing nuclear fuel to produce electric power.

21 \* \* \*

22 "Renewable energy." The following:

23 (1) Energy derived from sunlight, wind, falling water,  
24 biomass, sustainable or otherwise, waste, landfill gas,  
25 municipal solid waste, wave motion, tides and geothermal  
26 power. The term includes the proportion of the thermal or  
27 electric energy from a facility that results from the  
28 cofiring of biomass.

29 (2) The term does not include energy derived from coal,  
30 oil, natural gas or nuclear power.

1           (3) The term does not include energy waste heat from  
2           fossil-fired facilities or electricity generated from pumped  
3           storage but includes run-of-river generation from a combined  
4           pumped-storage and run-of-river facility.

5           "Reporting [period.] period" or "reporting year." The 12-  
6 month period from June 1 through May 31. A reporting year shall  
7 be numbered according to the calendar year in which it begins  
8 and ends.

9           \* \* \*

10          "Selected nuclear power plant." An eligible nuclear power  
11 plant located in this Commonwealth selected by the commission to  
12 participate in the Zero Emissions Carbon Certificate Program  
13 under section 3.1.

14          \* \* \*

15          "Tier II alternative energy source." Energy derived from:

16           (1) Waste coal from a carbon constrained coal facility.

17           (2) Distributed generation systems.

18           (3) Demand-side management.

19           (4) Large-scale hydropower.

20           (5) Municipal solid waste.

21           (6) Generation of electricity utilizing by-products of  
22 the pulping process and wood manufacturing process, including  
23 bark, wood chips, sawdust and lignin in spent pulping  
24 liquors.

25           [(7) Integrated combined coal gasification technology.]

26           (8) A Tier I alternative energy source.

27          "Tier III carbon constrained energy source." Energy derived  
28 from a Pennsylvania-sourced carbon constrained energy facility.

29          "Tier IV carbon constrained energy source." Energy derived  
30 from Pennsylvania-existing nuclear generation.

1 "Tier V carbon constrained energy source." Energy derived  
2 from Pennsylvania-advanced nuclear generation.

3 "Tier VI carbon constrained energy source." Energy derived  
4 from a Pennsylvania-sourced carbon constrained hydrogen  
5 facility.

6 \* \* \*

7 Section 3. Section 3(a)(1) and (3), (b), (f) and (g)(2) of  
8 the act are amended and the section is amended by adding  
9 subsections to read:

10 Section 3. Alternative energy portfolio standards.

11 (a) General compliance and cost recovery.--

12 (1) From the effective date of this act through and  
13 including [the 15th year after enactment of this act and each  
14 year thereafter] 2045, the electric energy sold by an  
15 electric distribution company or electric generation supplier  
16 to retail electric customers in this Commonwealth shall be  
17 comprised of electricity generated from alternative energy  
18 sources and in the percentage amounts as described under  
19 [subsections (b) and (c)] this section.

20 \* \* \*

21 (3) All costs for:

22 (i) the purchase of electricity generated from  
23 alternative energy sources, including the costs of the  
24 regional transmission organization, in excess of the  
25 regional transmission organization real-time locational  
26 marginal pricing, or its successor, at the delivery point  
27 of the alternative energy source for the electrical  
28 production of the alternative energy sources; and

29 (ii) payments for alternative energy credits, in  
30 both cases that are voluntarily acquired by an electric

1 distribution company during the cost recovery period on  
2 behalf of its customers shall be deferred as a regulatory  
3 asset by the electric distribution company and fully  
4 recovered, with a return on the unamortized balance,  
5 pursuant to an automatic energy adjustment clause under  
6 66 Pa.C.S. § 1307 (relating to sliding scale of rates;  
7 adjustments) as a cost of generation supply under 66  
8 Pa.C.S. § 2807 (relating to duties of electric  
9 distribution companies) in the first year after the  
10 expiration of its cost-recovery period. After the cost-  
11 recovery period, any direct or indirect costs for the  
12 purchase by electric distribution companies of resources  
13 to comply with this section, including, but not limited  
14 to, the purchase of electricity generated from  
15 alternative energy sources, payments for alternative  
16 energy credits, cost of credits banked, payments to any  
17 third party administrators for performance under this act  
18 and costs levied by a regional transmission organization  
19 to ensure that alternative energy sources are reliable,  
20 shall be recovered on a full and current basis pursuant  
21 to an automatic energy adjustment clause under 66 Pa.C.S.  
22 § 1307 as a cost of generation supply under 66 Pa.C.S. §  
23 2807.

24 (b) Tier I and solar photovoltaic shares through the 18th  
25 reporting year.--

26 (1) Two years after the effective date of this act, at  
27 least 1.5% of the electric energy sold by an electric  
28 distribution company or electric generation supplier to  
29 retail electric customers in this Commonwealth shall be  
30 generated from Tier I alternative energy sources. Except as

1 provided in this section, the minimum percentage of electric  
2 energy required to be sold to retail electric customers from  
3 alternative energy sources shall increase to 2% three years  
4 after the effective date of this act. The minimum percentage  
5 of electric energy required to be sold to retail electric  
6 customers from alternative energy sources shall increase by  
7 at least 0.5% each year so that at least 8% of the electric  
8 energy sold by an electric distribution company or electric  
9 generation supplier to retail electric customers in that  
10 certificated territory in the 15th reporting year after the  
11 effective date of this subsection is sold from Tier I  
12 alternative energy resources.

13 (2) [The] Through the 18th reporting year ending May 31,  
14 2024, the total percentage of the electric energy sold by an  
15 electric distribution company or electric generation supplier  
16 to retail electric customers in this Commonwealth that must  
17 be sold from solar photovoltaic technologies is:

18 (i) 0.0013% for June 1, 2006, through May 31, 2007.

19 (ii) 0.0030% for June 1, 2007, through May 31, 2008.

20 (iii) 0.0063% for June 1, 2008, through May 31,

21 2009.

22 (iv) 0.0120% for June 1, 2009, through May 31, 2010.

23 (v) 0.0203% for June 1, 2010, through May 31, 2011.

24 (vi) 0.0325% for June 1, 2011, through May 31, 2012.

25 (vii) 0.0510% for June 1, 2012, through May 31,

26 2013.

27 (viii) 0.0840% for June 1, 2013, through May 31,

28 2014.

29 (ix) 0.1440% for June 1, 2014, through May 31, 2015.

30 (x) 0.2500% for June 1, 2015, through May 31, 2016.

1 (xi) 0.2933% for June 1, 2016, through May 31, 2017.

2 (xii) 0.3400% for June 1, 2017, through May 31,  
3 2018.

4 (xiii) 0.3900% for June 1, 2018, through May 31,  
5 2019.

6 (xiv) 0.4433% for June 1, 2019, through May 31,  
7 2020.

8 (xv) 0.5000% for June 1, 2020, [and thereafter.]  
9 through May 31, 2024.

10 (3) Upon commencement of the beginning of the 6th  
11 reporting year, the commission shall undertake a review of  
12 the compliance by electric distribution companies and  
13 electric generation suppliers with the requirements of this  
14 act. The review shall also include the status of alternative  
15 energy technologies within this Commonwealth and the capacity  
16 to add additional alternative energy resources. [The  
17 commission shall use the results of this review to recommend  
18 to the General Assembly additional compliance goals beyond  
19 year 15.] The commission shall work with the department in  
20 evaluating the future alternative energy resource potential.

21 (b.1) Tier I and solar photovoltaic shares beginning in the  
22 19th reporting year.--

23 (1) Each electric distribution company and electric  
24 generation supplier shall purchase, at a minimum, an amount  
25 of Tier I alternative energy credits equal to the percentage  
26 of electric energy required to be sold by an electric  
27 distribution company or electric generation supplier to  
28 retail electric customers from Tier I alternative energy  
29 sources for that reporting year and as provided under this  
30 subsection. Beginning in the 19th reporting year commencing

1 on June 1, 2024, the minimum percentage of electric energy  
2 required to be sold by an electric distribution company or  
3 electric generation supplier to retail electric customers in  
4 this Commonwealth from Tier I alternative energy sources for  
5 each reporting year is:

6 (i) 10.444% for June 1, 2024, through May 31, 2025.

7 (ii) 13.703% for June 1, 2025, through May 31, 2026.

8 (iii) 16.961% for June 1, 2026, through May 31,  
9 2027.

10 (iv) 20.22% for June 1, 2027, through May 31, 2028.

11 (v) 23.497% for June 1, 2028, through May 31, 2029.

12 (vi) 26.737% for June 1, 2029, through May 31, 2030.

13 (vii) 30% for June 1, 2030, through May 31, 2031,  
14 and thereafter.

15 (2) (i) Beginning in the 19th reporting year commencing  
16 on June 1, 2024, the minimum percentage of the electric  
17 energy sold by an electric distribution company or  
18 electric generation supplier to retail electric customers  
19 in this Commonwealth that must be sold from solar  
20 photovoltaic technologies that are owned and operated by  
21 customer-generators shall be:

22 (A) 0.65% for June 1, 2024, through May 31,  
23 2025.

24 (B) 0.85% for June 1, 2025, through May 31,  
25 2026.

26 (C) 1.05% for June 1, 2026, through May 31,  
27 2027.

28 (D) 1.25% for June 1, 2027, through May 31,  
29 2028.

30 (E) 1.55% for June 1, 2028, through May 31,

1           2029.

2           (F) 1.95% for June 1, 2029, through May 31,

3           2030.

4           (G) 2.5% for June 1, 2030, through May 31, 2031,

5           and thereafter.

6           (ii) For purposes of subparagraph (i), solar  
7           photovoltaic technologies that are owned and operated by  
8           customer-generators include any of the following:

9           (A) Solar photovoltaic technologies that were  
10           certified on or before May 31, 2024, under subsection  
11           (b) (2) and qualify to generate solar alternative  
12           energy credits in accordance with section 3.2.

13           (B) Solar photovoltaic technologies that qualify  
14           as customer-generators under subsection (b) (2).

15           (3) Beginning in the 19th reporting year commencing on  
16           June 1, 2024, and each reporting year thereafter, a solar  
17           photovoltaic system that is certified before or on May 31,  
18           2024, provided the system meets the requirements under  
19           section 3.2, shall be included in the percentage of the  
20           required solar photovoltaic energy systems owned and operated  
21           by customer-generators under paragraph (2).

22           (4) A solar photovoltaic energy system owned and  
23           operated by a customer-generator in accordance with paragraph  
24           (2) shall remain eligible to receive solar alternative energy  
25           credits for no more than 15 years beginning on June 1, 2024,  
26           or 15 years beginning on the date of the solar photovoltaic  
27           energy system's certification if the certification occurs  
28           after June 1, 2024. Upon expiration of the 15-year period  
29           specified under this paragraph, the solar photovoltaic energy  
30           system shall be eligible for alternative energy credits

1 provided for Tier I alternative energy sources under  
2 paragraph (1).

3 (5) Beginning in the 19th reporting year commencing on  
4 June 1, 2024, the minimum percentage of the electric energy  
5 sold by an electric distribution company or electric  
6 generation supplier to retail electric customers in this  
7 Commonwealth that must be sold from solar photovoltaic  
8 technologies from non-customer-generators is:

9 (i) 0.94% for June 1, 2024, through May 31, 2025.

10 (ii) 1.54% for June 1, 2025, through May 31, 2026.

11 (iii) 2.34% for June 1, 2026, through May 31, 2027.

12 (iv) 3.34% for June 1, 2027, through May 31, 2028.

13 (v) 4.54% for June 1, 2028, through May 31, 2029.

14 (vi) 5.94% for June 1, 2029, through May 31, 2030.

15 (vii) 7.5% for June 1, 2030, through May 31, 2031,

16 and thereafter.

17 (6) No later than one year after the effective date of  
18 this paragraph, the commission shall establish regulations to  
19 ensure diversification across all customer-generators under  
20 paragraph (2), including, but not limited to, solar  
21 photovoltaic systems that are interconnected at residential  
22 or commercial locations or customer-generators whose systems  
23 are for virtual meter aggregation.

24 (7) This subsection shall not apply to the certification  
25 of a solar photovoltaic energy system with a contract for the  
26 sale and purchase of alternative energy credits derived from  
27 solar photovoltaic energy sources entered into before or on  
28 May 31, 2024, provided that the system meets the requirements  
29 under section 3.2.

30 (8) This subsection shall apply to a contract for the

1 sale and purchase of alternative energy credits derived from  
2 solar photovoltaic energy sources entered into or renewed for  
3 reporting years commencing after May 31, 2024.

4 \* \* \*

5 (c.1) Tier III share.--Of the electrical energy required to  
6 be sold from a Tier III carbon constrained energy source, the  
7 percentage that must be from these technologies is for:

8 (1) Energy years 2026 through 2030 - 5.5%.

9 (2) Energy years 2031 through 2035 - 11%.

10 (3) Energy years 2036 through 2048 - 17.5%.

11 (c.2) Tier IV share.--Of the electrical energy required to  
12 be sold from a Tier IV carbon constrained energy source, the  
13 percentage that must be from these technologies is for:

14 (1) Energy years 2026 through 2030 - 2.5%.

15 (2) Energy years 2031 through 2035 - 5%.

16 (3) Energy years 2036 through 2048 - 7.5%.

17 (c.3) Tier V share.--Of the electrical energy required to be  
18 sold from a Tier V carbon constrained energy source, the  
19 percentage that must be from these technologies is for:

20 (1) Energy years 2026 through 2030 - 0.5%.

21 (2) Energy years 2031 through 2035 - 1%.

22 (3) Energy years 2036 through 2048 - 2%.

23 (c.4) Tier VI share.--Of the electrical energy required to  
24 be sold from a Tier VI carbon constrained energy source, the  
25 percentage that must be from these technologies is for:

26 (1) Energy years 2026 through 2030 - 0.5%.

27 (2) Energy years 2031 through 2035 - 1%.

28 (3) Energy years 2036 through 2048 - 2%.

29 \* \* \*

30 (f) Alternative compliance payment.--

1 (1) At the end of each program reporting year, the  
2 program administrator shall provide a report to the  
3 commission and to each covered electric distribution company  
4 showing their status level of alternative energy acquisition.

5 (2) The commission shall conduct a review of each  
6 determination made under subsections (b), (b.1) and (c). If,  
7 after notice and hearing, the commission determines that an  
8 electric distribution company or electric generation supplier  
9 has failed to comply with subsections (b), (b.1) and (c), the  
10 commission shall impose an alternative compliance payment on  
11 that electric distribution company or electric generation  
12 supplier.

13 (3) [The] Through May 31, 2024, the alternative  
14 compliance payment, with the exception of the solar  
15 photovoltaic share compliance requirement set forth in  
16 subsection (b) (2), shall be \$45 times the number of  
17 additional alternative energy credits needed in order to  
18 comply with subsection (b) or (c).

19 (4) [The] Through May 31, 2024, the alternative  
20 compliance payment for the solar photovoltaic share required  
21 under subsection (b) (2) shall be 200% of the average market  
22 value of solar renewable energy credits sold during the  
23 reporting period within the service region of the regional  
24 transmission organization, including, where applicable, the  
25 levelized up-front rebates received by sellers of solar  
26 [renewable] alternative energy credits in other jurisdictions  
27 in the PJM Interconnection, L.L.C. transmission organization  
28 (PJM) or its successor.

29 (4.1) Beginning June 1, 2024, the alternative compliance  
30 payment, with the exception of the customer-generator solar

1 photovoltaic share compliance requirement specified under  
2 subsection (b.1)(2), shall be \$45 multiplied by the number of  
3 additional alternative energy credits needed in order to  
4 comply with subsection (b.1) or (c).

5 (4.2) Beginning June 1, 2024, the alternative compliance  
6 payment for the customer-generator solar photovoltaic share  
7 compliance requirement specified under subsection (b.1)(2)  
8 shall be as follows:

9 (i) An amount equal to the product of \$125  
10 multiplied by the number of additional alternative energy  
11 credits required to comply with subsection (b.1)(2) from  
12 June 1, 2024, through May 31, 2029.

13 (ii) An amount equal to the product of \$100  
14 multiplied by the number of additional alternative energy  
15 credits required to comply with subsection (b.1)(2) from  
16 June 1, 2029, through May 31, 2031.

17 (iii) Beginning with the reporting year commencing  
18 on June 1, 2031, and each reporting year thereafter, the  
19 alternative compliance payment required for solar  
20 photovoltaic energy systems under subsection (b.1)(2)  
21 shall decrease by \$5 from the previous reporting year  
22 until the alternative compliance payment is  
23 \$45.

24 (5) The commission shall establish a process to provide  
25 for, at least annually, a review of the alternative energy  
26 market within this Commonwealth and the service territories  
27 of the regional transmission organizations that manage the  
28 transmission system in any part of this Commonwealth. The  
29 commission will use the results of this study to identify any  
30 needed changes to the cost associated with the alternative

1 compliance payment program. If the commission finds that the  
2 costs associated with the alternative compliance payment  
3 program must be changed, the commission shall present these  
4 findings to the General Assembly for legislative enactment.

5 (g) Transfer [to sustainable development funds] of  
6 alternative compliance payments.--

7 \* \* \*

8 (2) The alternative compliance payments shall be  
9 utilized solely for [projects] any of the following:

10 (i) Projects that will increase the amount of  
11 electric energy generated from alternative energy  
12 resources for purposes of compliance with subsections  
13 (b), (b.1) and (c).

14 (ii) Workforce development programs to train workers  
15 in renewable energy industries.

16 \* \* \*

17 Section 4. The act is amended by adding sections to read:  
18 Section 3.1. Zero Emissions Carbon Certificate Program.

19 (a) Establishment.--Notwithstanding any other law to the  
20 contrary, no later than 180 days after the effective date of  
21 this subsection, the commission shall allow the commencement of  
22 a program providing for the issuance by the commission of a zero  
23 emissions carbon certificate. The commission shall adopt, after  
24 notice, the opportunity for comment and public hearing, an order  
25 establishing the Zero Emissions Carbon Certificate Program for  
26 selected nuclear power plants which shall include:

27 (1) A method and application process for determination  
28 of the eligibility and selection of eligible nuclear power  
29 plants.

30 (2) Establishment of a mechanism for each electric

1 distribution company to purchase ZECs from selected nuclear  
2 power plants and a mechanism for the commission to effectuate  
3 the provisions of subsection (i).

4 (b) ZEC program application.--

5 (1) As part of an application submitted to the  
6 commission under subsection (c), a nuclear power plant  
7 seeking to participate in the ZEC program shall provide to  
8 the commission any financial information requested by the  
9 commission pertaining to the nuclear power plant, including  
10 certified cost projections over the next three energy years,  
11 including operation and maintenance expenses, fuel expenses,  
12 including spent fuel expenses, nonfuel capital expenses,  
13 fully allocated overhead costs, the cost of operational risks  
14 and market risks that would be avoided by ceasing operations  
15 and any other information, financial or otherwise, to  
16 demonstrate that the nuclear power plant's fuel diversity,  
17 air quality and other environmental attributes are at risk of  
18 loss because the nuclear power plant is projected to not  
19 fully cover its costs and risks, or alternatively is  
20 projected to not fully cover its costs and risks, including  
21 its risk-adjusted cost of capital.

22 (2) An application submitted to the commission under  
23 subsection (c) shall include a certification that the nuclear  
24 power plant will cease operations within three years unless  
25 the nuclear power plant experiences a material financial  
26 change. The certification shall specify the necessary steps  
27 required to be completed to cease the nuclear power plant's  
28 operations.

29 (3) The financial and other information required under  
30 this subsection may be submitted on a confidential basis and

1 shall be treated and maintained as confidential by the  
2 commission and, notwithstanding any other law to the  
3 contrary, shall not be subject to public disclosure. The  
4 commission and the Attorney General shall jointly approve the  
5 disclosure of confidential information to a party that the  
6 commission and the Attorney General deem essential to aid the  
7 commission in making the determinations required under this  
8 subsection, provided that the party is not in a position that  
9 disclosure could harm competition and the party agrees in  
10 writing to maintain the confidentiality of the confidential  
11 information.

12 (4) As used in this subsection, the following words and  
13 phrases shall have the meanings given to them in this  
14 paragraph unless the context clearly indicates otherwise:

15 "Market risks." The term shall include, but not be  
16 limited to, the risk of a forced outage and the associated  
17 costs arising from contractual obligations and the risk that  
18 output from the nuclear power plant may not be able to be  
19 sold at projected levels.

20 "Operational risks." The term shall include, but not be  
21 limited to, the risk that operating costs will be higher than  
22 anticipated because of new regulatory mandates or equipment  
23 failures and the risk that per megawatt hour costs will be  
24 higher than anticipated because of a lower than expected  
25 capacity factor.

26 (c) Submission of application.--No later than 210 days after  
27 the effective date of this subsection, a nuclear power plant  
28 seeking to participate in the ZEC program shall submit its  
29 application to the commission.

30 (d) List.--Notwithstanding any other law to the contrary,

1 the commission shall complete a proceeding no later than 330  
2 days after the effective date of this subsection and shall  
3 adopt, after notice, the opportunity for comment and public  
4 hearing, an order establishing a rank-ordered list of the  
5 nuclear power plants certified as eligible to receive ZECs, and  
6 establishing which eligible nuclear power plants have been  
7 selected to receive ZECs under this section. If the commission  
8 determines that no nuclear plant that applied satisfies the  
9 objectives of this section, the commission shall be under no  
10 obligation to certify any nuclear power plant as an eligible  
11 nuclear power plant.

12 (e) Requirements.--To be certified by the commission as an  
13 eligible nuclear power plant, a nuclear power plant shall:

14 (1) Be licensed to operate by the United States Nuclear  
15 Regulatory Commission by the effective date of this paragraph  
16 and through calendar year 2030 or later.

17 (2) Demonstrate to the satisfaction of the commission  
18 that the nuclear power plant makes a significant and material  
19 contribution to the air quality in this Commonwealth by  
20 minimizing emissions that result from electricity consumed in  
21 this Commonwealth, minimizing harmful emissions that  
22 adversely affect the residents of this Commonwealth and if  
23 the nuclear power plant were to be retired, that retirement  
24 would significantly and negatively impact this Commonwealth's  
25 ability to comply with State air emissions reduction  
26 requirements.

27 (3) Demonstrate to the satisfaction of the commission,  
28 through the financial and other confidential information  
29 submitted to the commission under subsection (b), and any  
30 other information required by the commission, which

1 information may be submitted on a confidential basis and  
2 shall be treated and maintained as confidential by the  
3 commission and, notwithstanding any law to the contrary,  
4 shall not be subject to public disclosure that the nuclear  
5 power plant's fuel diversity, air quality and other  
6 environmental attributes are at risk of loss because the  
7 nuclear power plant is projected to not fully cover its costs  
8 and risks, or alternatively is projected to not cover its  
9 costs, including its risk-adjusted cost of capital, and that  
10 the nuclear power plant will cease operations within three  
11 years unless the nuclear power plant experiences a material  
12 financial change.

13 (4) Certify annually that the nuclear power plant does  
14 not receive any direct or indirect payment or credit under a  
15 Federal law, rule, regulation, order, tariff or other action,  
16 or a law, rule, regulation, order, tariff or other action of  
17 this Commonwealth or any other state, or a regional compact,  
18 despite its reasonable best efforts to obtain any such  
19 payment or credit, for its fuel diversity, resilience, air  
20 quality or other environmental attributes that will eliminate  
21 the need for the nuclear power plant to retire, except for  
22 any payment or credit received under this section.

23 (5) Submit an application fee to the commission in an  
24 amount to be determined by the commission, but which shall  
25 not exceed \$250,000, to be used to defray the costs incurred  
26 by the commission to administer the ZEC program.

27 (f) Ranking.--The commission shall rank eligible nuclear  
28 power plants from first to last by considering how well the  
29 nuclear power plants satisfy the criteria provided under this  
30 section and other relevant factors, including sustainability or

1 long-term commitment to nuclear energy production in a manner  
2 that supports this Commonwealth's cost-effective transition to a  
3 zero carbon energy supply. Two or more eligible nuclear power  
4 plants may not have the same ranking.

5 (g) Selection.--

6 (1) The commission shall select eligible nuclear power  
7 plants to receive ZECs according to their ranking. Beginning  
8 with the top-ranked eligible nuclear power plant and  
9 continuing in rank order, the commission shall continue to  
10 select nuclear power plants until the point at which the  
11 combined number of megawatt hours of electricity produced in  
12 the energy year immediately prior to the effective date of  
13 this section by all selected nuclear power plants equals 40%  
14 of the total number of megawatt hours of electricity  
15 distributed by electric public utilities in this Commonwealth  
16 in the energy year immediately prior to the effective date of  
17 this section.

18 (2) The commission may not select an eligible nuclear  
19 power plant to receive ZECs if the addition of the  
20 electricity produced by that nuclear power plant in the  
21 energy year immediately prior to the effective date of this  
22 section by the selected nuclear power plants ranked ahead of  
23 that plant on the rank-ordered list exceeds 40% of the total  
24 number of megawatt hours of electricity distributed by  
25 electric public utilities in this Commonwealth in the energy  
26 year immediately prior to the effective date of this section.

27 (3) A selected nuclear power plant shall be eligible to  
28 receive ZECs 330 days after the effective date of this  
29 paragraph. In the first energy year in which an eligible  
30 nuclear power plant is selected, the selected nuclear power

1 plant shall receive a number of ZECs equal to the number of  
2 megawatt hours of electricity it produced in that energy year  
3 starting on the date of the eligible nuclear power plant's  
4 selection. In each energy year thereafter, each selected  
5 nuclear power plant shall receive a number of ZECs equal to  
6 the number of megawatt hours of electricity that it produced  
7 in that energy year.

8 (h) Eligibility periods.--

9 (1) Selected nuclear power plants shall initially  
10 receive ZECs for an eligibility period that shall run through  
11 the end of the first energy year in which the nuclear power  
12 plant is selected, plus an additional three energy years.

13 (2) No later than 13 months prior to the conclusion of  
14 the initial eligibility period established under paragraph  
15 (1), and no later than 13 months prior to the conclusion of  
16 each three energy year eligibility period thereafter, a  
17 nuclear power plant may demonstrate its eligibility to the  
18 commission and the commission may certify the nuclear power  
19 plant's eligibility to receive ZECs for additional  
20 eligibility periods of three energy years, consistent with  
21 the provisions of this section.

22 (3) A selected nuclear power plant shall annually  
23 certify to the commission that the nuclear power plant will  
24 continue operations at full or near full capacity for the  
25 duration of the period of its eligibility to receive ZECs,  
26 except with respect to nuclear power plant shutdowns for  
27 necessary maintenance and refueling.

28 (i) Price and purchase of ZECs by electric distribution  
29 companies.--

30 (1) The commission shall determine the price of a ZEC

1 each energy year by dividing the total number of dollars held  
2 by electric public utilities in the accounts established  
3 under subsection (j)(1) at the end of the prior energy year  
4 by the greater of:

5 (i) 40% of the total number of megawatt hours of  
6 electricity distributed by the electric public utilities  
7 in this Commonwealth in the prior energy year; or

8 (ii) the number of megawatt hours of electricity  
9 generated in the prior energy year by the selected  
10 nuclear power plants.

11 (2) Each electric distribution company in this  
12 Commonwealth shall be required to begin to purchase ZECs on a  
13 monthly basis from each selected nuclear power plant with  
14 payment to follow within 90 days after the conclusion of the  
15 first energy year in which selected nuclear power plants  
16 receive ZECs and within 90 days after the conclusion of each  
17 subsequent energy year. The number of ZECs an electric  
18 distribution company shall be required to purchase shall  
19 equal the total number of ZECs received by the selected  
20 nuclear power plants for the prior energy year under  
21 subsection (g) multiplied by the percentage of electricity  
22 distributed in this Commonwealth by the electric distribution  
23 company as compared to other electric public utilities in  
24 this Commonwealth.

25 (3) To ensure that a selected nuclear power plant does  
26 not receive double-payment for its fuel diversity,  
27 resilience, air quality or other environmental attributes,  
28 the commission shall annually determine the dollar amount  
29 received by the selected nuclear power plant in an energy  
30 year under a Federal law, rule, regulation, order, tariff or

1 other action, or a law, rule, regulation, order, tariff or  
2 other action of this Commonwealth or any other state, or a  
3 regional compact referenced in subsection (e) (4).

4 Notwithstanding paragraph (2), the number of ZECs purchased  
5 by each electric distribution company from a selected nuclear  
6 power plant for an energy year shall be reduced by the number  
7 of ZECs equal in value to the dollar amount determined by the  
8 commission in this paragraph, multiplied by the percentage of  
9 electricity distributed in this Commonwealth by the electric  
10 distribution company as compared to other electric public  
11 utilities in this Commonwealth. To the extent that the  
12 commission determines that a selected nuclear plant receives  
13 revenues for its fuel diversity, resilience, air quality or  
14 other environmental attributes, the commission shall  
15 immediately reduce the number of ZECs on a prospective basis  
16 consistent with the level of the revenues.

17 (i.1) ZEC Fund.--The ZEC Fund is established as a separate  
18 fund in the State Treasury. Money in the ZEC Fund is  
19 appropriated to the commission on a continuing basis for the  
20 purpose of implementing the ZEC program. All money received by  
21 the commission under this section shall be deposited into the  
22 ZEC Fund.

23 (j) Recovery of costs.--

24 (1) The commission shall order the full recovery of all  
25 costs associated with the electric distribution company's  
26 required procurement of ZECs, and with the commission's  
27 implementation of the ZEC program, through a nonbypassable,  
28 irrevocable charge imposed on the electric distribution  
29 company's retail distribution customers. Within 150 days  
30 after the effective date of this paragraph, each electric

1 distribution company shall file with the commission a tariff  
2 to recover from the electric distribution company's retail  
3 distribution customers as follows:

4 (i) For an electric distribution company whose rates  
5 are regulated by the commission, the commission shall  
6 determine the appropriate charges for the electric  
7 distribution company's tariff that permit recovery of the  
8 incremental cost of compliance subject to the retail rate  
9 impact limits provided under subparagraph (2).

10 (ii) An electric distribution company shall recover  
11 the incremental cost of compliance with the renewable  
12 energy standards. An electric distribution company may  
13 not comply with the renewable energy standards to the  
14 extent that, as determined by the commission, recovery of  
15 the incremental cost of compliance will have a retail  
16 rate impact that exceeds any of the following:

17 (A) \$3.00 per month per residential customer  
18 meter.

19 (B) \$16.58 per month per commercial secondary  
20 customer meter.

21 (C) \$187.50 per month per commercial primary or  
22 industrial customer meter.

23 (2) Within 60 days after the tariff filing under  
24 paragraph (1), after notice, the opportunity for comment and  
25 public hearing, the commission shall approve the tariff,  
26 provided that the tariff is consistent with the provisions of  
27 this subsection. No later than the date of the commission's  
28 order establishing the initial selected nuclear power plants  
29 to receive ZECs, each electric distribution company shall  
30 implement the tariff and begin collecting from its retail

1 distribution customers the approved charge. Revenues  
2 collected by the electric distribution company from the  
3 nonbypassable, irrevocable charge shall be placed in a  
4 separate, interest-bearing account and shall be used solely  
5 to purchase ZECs, and to reimburse the commission for  
6 reasonable, verifiable costs the commission incurs to  
7 implement the ZEC program to the extent the commission's  
8 costs exceed the application fees collected by the commission  
9 under subsection (e)(5).

10 (3) Notwithstanding any provision of this section, an  
11 electric distribution company shall not be required to  
12 purchase any additional number of ZECs if the cost of the  
13 additional number of ZECs exceeds the revenues deposited in  
14 the electric distribution company's separate, interest-  
15 bearing account, created under paragraph (2), for that energy  
16 year, after subtracting the reasonable, verifiable costs  
17 incurred by the commission during that energy year to  
18 implement the ZEC program, which costs shall be remitted to  
19 the commission and deposited into the ZEC Fund each energy  
20 year in a manner to be determined by the commission. Excess  
21 money in an electric distribution company's separate,  
22 interest-bearing account shall be refunded to its retail  
23 distribution customers at the end of each energy year.

24 (4) The following shall apply:

25 (i) Notwithstanding the provisions of paragraph (1),  
26 and to ensure that the ZEC program remains affordable to  
27 retail distribution customers in this Commonwealth, the  
28 commission may reduce the charge imposed by paragraph (1)  
29 starting in the second three-year eligibility period and  
30 for each subsequent three-year eligibility period

1 thereafter, provided that the commission determines that  
2 a reduced charge will nonetheless be sufficient to  
3 achieve the Commonwealth's air quality and other  
4 environmental objectives by preventing the retirement of  
5 the nuclear power plants that meet the eligibility  
6 criteria established under subsections (d) and (e).

7 (ii) If the commission reduces the charge imposed by  
8 paragraph (1), the reduction shall be applicable to the  
9 next eligibility period only and the commission shall  
10 make its determination no later than 13 months prior to  
11 the start of that eligibility period. Within 30 days  
12 thereafter, each electric distribution company shall  
13 file, in lieu of the tariff described in paragraph (1), a  
14 tariff consistent with the commission's determination.  
15 Within 60 days after filing of the tariff, after notice,  
16 the opportunity for comment and public hearing, the  
17 commission shall approve the revised tariff, provided  
18 that it is consistent with the commission's  
19 determination. The revised tariff shall take effect  
20 starting in the next eligibility period.

21 (iii) If the commission does not certify any nuclear  
22 power plants for a subsequent eligibility period under  
23 this section, the commission may reduce the charge  
24 imposed under paragraph (1) to ensure that the ZEC  
25 program remains affordable to retail distribution  
26 customers in this Commonwealth in the final year of the  
27 first eligibility period if the commission determines  
28 that a reduced charge will be sufficient to achieve the  
29 Commonwealth's air quality and other environmental  
30 objectives by preventing the retirement of the nuclear

1 power plants that meet the eligibility criteria  
2 established under subsections (d) and (e).

3 (iv) For the second three-year eligibility period,  
4 and every subsequent eligibility period thereafter, a  
5 selected nuclear power plant shall pay a renewal fee to  
6 the commission in an amount to be determined by the  
7 commission, but which shall not exceed \$250,000, to be  
8 used to defray the costs incurred by the commission to  
9 administer the ZEC program.

10 (k) Performance.--

11 (1) A selected nuclear power plant shall be excused from  
12 performance, including, but not limited to, the sale of ZECs,  
13 and a payment from an electric distribution company shall not  
14 be due to the selected nuclear power plant, if:

15 (i) the selected nuclear power suspends or ceases  
16 operations, despite the selected nuclear power plant's  
17 reasonable efforts to continue operations, due to an  
18 event beyond its control, including, but not limited to,  
19 acts of God, flood, drought, earthquake, storm, fire,  
20 lightning, epidemic, war, riot, labor dispute, labor or  
21 material shortage, sabotage or explosion. The selected  
22 nuclear power plant shall no longer be excused from  
23 performance, and a payment from an electric distribution  
24 company shall be due, after conclusion of the event;

25 (ii) the General Assembly enacts a law imposing a  
26 significant new tax, special assessment or fee on the  
27 generation of electricity, the ownership or leasehold of  
28 a generating unit or the privilege or occupation of the  
29 generation, ownership or leasehold of generation units by  
30 a selected nuclear power plant;

1           (iii) a Federal or State law is enacted that  
2           materially reduces the value of a ZEC or the commission  
3           exercises its discretion to reduce the amount of the per-  
4           kilowatt-hour charge under subsection (j) (3);

5           (iv) the selected nuclear power plant requires  
6           capital expenditures in excess of \$40,000,000 that were  
7           neither known nor reasonably foreseeable at the time it  
8           was selected to receive ZECs, and the capital  
9           expenditures are expenditures that a prudent owner or  
10          operator of a selected nuclear power plant would not  
11          undertake; or

12          (v) the United States Nuclear Regulatory Commission  
13          terminates the selected nuclear power plant's license.

14          (2) If a selected nuclear power plant ceases operations  
15          during an eligibility period for any reason other than those  
16          specified under this subsection, the selected nuclear power  
17          plant shall pay a charge to the electric distribution  
18          companies that purchased ZECs from the selected nuclear power  
19          plant in an amount equal to the compensation received for the  
20          sale of ZECs since the commission's last determination of the  
21          selected nuclear power plant's eligibility to receive ZECs.  
22          An electric distribution company shall provide a refund to  
23          its retail distribution customers in an amount equal to the  
24          charge paid by a selected nuclear power plant to the electric  
25          distribution company under this paragraph.

26          (3) The owner of a selected nuclear power plant shall,  
27          within two years after receiving ZECs, submit a plan to the  
28          commission to retain, retrain or compensate personnel whose  
29          employment would be eliminated as a direct result of the  
30          cessation of the selected nuclear power plant's operations,

1 including an alternative economic development plan for  
2 communities that rely on the selected nuclear power plant for  
3 a substantial portion of the community's tax revenues.

4 (l) Employee layoffs.--A selected nuclear power plant may  
5 not lay off any personnel unless the lay-off is due to employee  
6 misconduct or underperformance issues or due to the suspension  
7 or cessation of the selected nuclear power plant's operations as  
8 provided under subsection (k).

9 (m) Study and report by selected nuclear power plant.--The  
10 owner of a selected nuclear power plant shall, within two years  
11 after receiving ZECs, conduct a study and prepare a written  
12 report in cooperation with selected experts, to determine the  
13 optimal use of dry cask storage of spent nuclear fuel at its  
14 site, considering environmental impacts, worker safety and cost  
15 impacts.

16 (n) Study and report by commission.--No later than 10 years  
17 after the effective date of this section, the commission shall  
18 conduct a study to evaluate the efficacy of the ZEC program and  
19 submit a written report to the Governor and the General  
20 Assembly. In conducting the study, the commission shall evaluate  
21 the ZEC program's effect on the premature retirement of nuclear  
22 power plants, its effect on the air quality and environment in  
23 this Commonwealth and its contribution to a more reliable energy  
24 supply by assuring fuel diversity. The study shall also evaluate  
25 the ZEC program's benefits and costs to ratepayers. The written  
26 report shall:

27 (1) Summarize the study and analysis conducted under  
28 subsection (a).

29 (2) Discuss and quantify the potential benefits and  
30 costs associated with the ZEC program.

1           (3) Recommend any changes to the ZEC program or whether  
2 the ZEC program should continue.

3           (4) Recommend whether the ZEC program should be expanded  
4 to include other technologies.

5           (o) Definitions.--As used in this section, the following  
6 words and phrases shall have the meanings given to them in this  
7 subsection unless the context clearly indicates otherwise:

8           "ZEC." A zero emissions carbon certificate established by  
9 the commission under subsection (a).

10          "ZEC program." The Zero Emissions Carbon Certificate Program  
11 established by the commission under subsection (a).

12 Section 3.2. Solar photovoltaic technology requirements.

13          (a) System requirements.--Notwithstanding section 4, in  
14 order to qualify as an alternative energy source eligible to  
15 meet the solar photovoltaic share of the compliance requirements  
16 under section 3, a solar photovoltaic system must do one of the  
17 following:

18           (1) Directly deliver the electricity that the solar  
19 photovoltaic system generates to a retail customer of an  
20 electric distribution company or to the distribution system  
21 operated by an electric distribution company operating in  
22 this Commonwealth and currently obligated to meet the  
23 compliance requirements specified under section 3.

24           (2) Directly connect to the electric system of an  
25 electric cooperative or municipal electric system operating  
26 in this Commonwealth.

27           (3) Directly connect to the electric transmission system  
28 at a location within the service territory of an electric  
29 distribution company operating in this Commonwealth.

30          (b) Construction.--

1           (1) Nothing under this section or section 4 shall be  
2 construed to affect any of the following:

3           (i) A certification originating in this Commonwealth  
4 and granted before the effective date of this  
5 subparagraph of a solar photovoltaic energy generator as  
6 a qualifying alternative energy source eligible to meet  
7 the solar photovoltaic share of this Commonwealth's  
8 alternative energy portfolio compliance requirements  
9 under section 3.

10           (ii) A certification of a solar photovoltaic system  
11 with a binding written contract for the sale and purchase  
12 of alternative energy credits derived from solar  
13 photovoltaic energy sources entered into before October  
14 30, 2017.

15           (2) This section shall apply to contracts entered into  
16 or renewed on or after October 30, 2017.

17 Section 8.1. Decarbonization.

18           (a) General rule.--The minimum reduction of carbon dioxide  
19 emissions as a percentage of 2020 emissions from the generation  
20 of all of the electric energy sold by an electric distribution  
21 company or electric generation supplier to retail electric  
22 customers in this Commonwealth shall be as follows:

23           (1) 2.5% for energy year 2022.

24           (2) 13.1% for energy year 2026.

25           (3) 14.7% for energy year 2030.

26           (4) 23% for energy year 2034.

27           (5) 37.9% for energy year 2038.

28           (6) 47.9% for energy year 2042.

29           (7) 66% for energy year 2046.

30           (8) 100% for energy year 2050 and thereafter.

1       (b) Relief.--An electric distribution company may petition  
2 the commission for relief from the requirements under subsection  
3 (a) on the basis that the requirement would threaten the  
4 reliability or security of electric service to customers. The  
5 commission shall consider in-State and regional transmission  
6 entity resources and shall evaluate the reliability in ruling  
7 upon a petition for relief.

8       (c) Carbon constrained energy credit.--The commission shall  
9 complete a proceeding to allow for the issuance of carbon  
10 constrained energy credits to carbon constrained energy systems.  
11 A carbon constrained energy credit shall be a tradable  
12 instrument that is used to establish, verify and monitor  
13 compliance with this section. A unit of credit shall equal one  
14 megawatt hour of electricity from a carbon constrained source.  
15 The carbon constrained energy credit shall remain the property  
16 of the carbon constrained energy system until the carbon  
17 constrained energy credit is voluntarily transferred by the  
18 carbon constrained energy system.

19       Section 5. This act shall take effect in 90 days.