

GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 2019

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SENATE BILL 568
PROPOSED COMMITTEE SUBSTITUTE S568-PCS45305-RIF-14

Short Title: Recycling and Restoration/Renewable Energy.

(Public)

Sponsors:

Referred to:

April 4, 2019

1 A BILL TO BE ENTITLED
2 AN ACT TO REQUIRE (I) RESPONSIBLE DECOMMISSIONING OF UTILITY-SCALE
3 SOLAR PROJECTS AND WIND ENERGY FACILITIES UPON CESSATION OF
4 ACTIVITIES AND (II) RECYCLING OF ALL END-OF-LIFE PHOTOVOLTAIC
5 MODULES AND ENERGY STORAGE SYSTEM BATTERIES LOCATED WITHIN THE
6 STATE, AND PROHIBITING THEIR DISPOSAL IN LANDFILLS.

7 The General Assembly of North Carolina enacts:

8
9 **DECOMMISSIONING OF UTILITY-SCALE SOLAR PROJECTS AND WIND**
10 **ENERGY FACILITIES UPON CESSATION OF ACTIVITIES**

11 **SECTION 1.(a)** Article 9 of Chapter 130A of the General Statutes is amended by
12 adding a new Part to read:

13 "Part 2J. Management of Solar Energy Equipment.

14 **"§130A-309.240. Decommissioning and reclamation of utility-scale solar projects; financial**
15 **assurance requirements; recycling of project components required.**

16 (a) Decommissioning Requirement. – The owner or operator of a utility-scale solar
17 project shall be responsible for proper decommissioning of the project upon cessation of activities
18 and reclamation of the property to its condition prior to commencement of activities on the site,
19 including all costs associated therewith, no later than two years following completion of the
20 operations. The owner or operator shall notify the Department within 30 days of cessation of
21 activities for the purpose of completion of the project's operations, which notice shall include a
22 detailed description of the steps to be taken to properly decommission the project, and for
23 reclamation of the site. At a minimum, an owner or operator shall take all of the following steps
24 in decommissioning a project:

25 (1) Disconnect the solar project from the power grid.

26 (2) Remove all equipment from the solar project, and collect and ship equipment
27 for reuse, or recycle all of the components thereof capable of being recycled,
28 in compliance with subsection (e) of this section, including: the PV modules;
29 the entire solar module racking system; aboveground electrical
30 interconnection and distribution cables that are no longer deemed necessary;
31 any metal fencing; electrical and electronic devices, including transformers
32 and inverters; and energy storage batteries, as that term is defined under
33 G.S. 130A-309.10(f). Components that will not be shipped for reuse, and are
34 incapable of being recycled, shall be properly disposed of in a manner
35 prescribed by the Department.



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1 (3) Clear, clean, and remove the foundation, and any subsurface cable or other
2 equipment, from the ground to a depth of at least three feet below the surface
3 grade of the land on which the foundation was installed. Provided, however,
4 the Department shall waive this requirement for property on which soil
5 contamination is present for which the utility-scale solar project is not
6 responsible.

7 (b) Financial Assurance Requirement. – The owner or operator of a utility-scale solar
8 project shall establish financial assurance in an amount acceptable to the Department that will
9 ensure that sufficient funds are available for decommissioning of the facility and reclamation of
10 the property to its condition prior to commencement of activities on the site, even if the owner or
11 operator becomes insolvent or ceases to reside in, be incorporated, do business, or maintain assets
12 in the State. To establish sufficient availability of funds under this section, the owner or operator
13 of a utility-scale solar project may use insurance, financial tests, third-party guarantees by
14 persons who can pass the financial test, guarantees by corporate parents who can pass the
15 financial test, irrevocable letters of credit, trusts, surety bonds, or any other financial device, or
16 any combination of the foregoing, shown to provide protection equivalent to the financial
17 protection that would be provided by insurance if insurance were the only mechanism used.
18 Financial assurance shall be maintained by an owner or operator of a utility-scale solar project at
19 all times during the project's operation until decommissioning of the facility and reclamation of
20 the property has been completed in compliance with subsection (a) of this section. In the event
21 of a transfer of ownership of a utility-scale solar project, the financial assurance established by
22 the transferor of a project shall remain in effect until the transferee has established financial
23 assurance acceptable to the Department.

24 (c) Financial Assurance Rules. – The Department shall adopt rules establishing criteria
25 to set the amount of financial assurance required for utility-scale solar projects as set forth in
26 subsection (b) of this section. These rules shall consider, at a minimum, the solar technology to
27 be employed, i.e., PV, CPV, or CSP; the approximate number and size of PV modules included
28 in the solar arrays to be constructed; any ancillary facilities to be constructed in association with
29 the project; the condition of the property prior to construction of a utility-scale solar project; the
30 amount of acreage that would be impacted by the proposed project; and any other factors
31 designed to enable establishment of adequate financial assurance for decommissioning and
32 reclamation on a site-by-site basis. In establishing requirements for financial assurance for a
33 utility-scale solar project, the Department may take into account the salvage value of the project's
34 equipment.

35 (d) Fees. – The owner or operator of a utility-scale solar project shall pay a fee of three
36 thousand five hundred dollars (\$3,500) to the Department at the time the owner or operator
37 establishes financial assurance acceptable to the Department.

38 (e) Recycling Requirements. – In addition to the requirements for recycling components
39 of utility-scale solar projects established under subsection (a) of this section, an owner or operator
40 of a utility-scale solar project shall be responsible for properly recycling each PV module used
41 in the project at the end of the module's useful life. Recycling requirements established by this
42 section shall be conducted in compliance with environmentally sound management practices to
43 transport and recycle such items. An owner or operator shall conduct and document due diligence
44 assessments of the recyclers it contracts with, including an assessment of compliance with
45 environmentally sound recovery standards. The Department shall adopt rules to establish
46 environmentally sound recovery standards for this purpose and may adopt rules it otherwise
47 deems necessary to implement the recycling requirements established by this section.

48 (f) Definitions. – For purposes of this section, the following definitions apply:

49 (1) "End-of-life photovoltaic module" means a photovoltaic module that is
50 removed and taken out of service that will not be reused.

1 (2) "Photovoltaic module" or "PV module" means the smallest nondivisible,
2 environmentally protected assembly of photovoltaic cells or other
3 photovoltaic collector technology and ancillary parts intended to generate
4 electrical power under sunlight, that is part of a utility-scale solar project.

5 (3) "Recycle" means the processing, including disassembling, dismantling, and
6 shredding of PV modules or other equipment from utility-scale solar projects,
7 or their components, to recover a usable product. Recycle does not include
8 any process that results in the incineration of such equipment.

9 (4) "Utility-scale solar project" means a ground-mounted photovoltaic (PV),
10 concentrating photovoltaic (CPV), or concentrating solar power (CSP or solar
11 thermal) project capable of generating one megawatt (MW) or more directly
12 connected to the electrical grid for sale to wholesale customers. The term
13 includes the solar arrays, accessory buildings, transmission facilities, and any
14 other infrastructure necessary for the operation of the project.

15 (g) Annual List. – No later than September 1 of each year, the Utilities Commission shall
16 provide the Department with an annual list of all utility-scale solar projects operating within the
17 State as of the date of the report."

18 SECTION 1.(b) G.S. 143-215.121 reads as rewritten:

19 "**§ 143-215.121. Financial assurance requirements. Decommissioning and reclamation of**
20 **wind energy facilities; financial assurance requirements; recycling of project components**
21 **required.**

22 (a) Decommissioning Requirement. – The permit holder for a wind energy facility shall
23 be responsible for proper decommissioning of the facility upon cessation of activities and
24 reclamation of the property to its condition prior to commencement of activities on the site,
25 including all costs associated therewith, no later than two years following completion of the
26 operations. A permit holder shall notify the Department within 30 days of cessation of activities
27 for the purpose of completion of the project's operations, which notice shall include a detailed
28 description of the steps to be taken to properly decommission the project, and for reclamation of
29 the site. At a minimum, a permit holder shall take all of the following steps in decommissioning
30 a project:

31 (1) Disconnect the facility from the power grid.

32 (2) Remove all the turbines, accessory buildings, transmission facilities, and any
33 other equipment necessary for the operation of the facility, including
34 aboveground electrical interconnection and distribution cables that are no
35 longer deemed necessary; any metal fencing; electrical and electronic devices,
36 including transformers and inverters; and energy storage batteries, as that term
37 is defined under G.S. 130A-309.10(f), and collect and ship the equipment for
38 reuse, or recycle all of the components thereof capable of being recycled, in
39 compliance with subsection (e) of this section. For components that will not
40 be shipped for reuse, and are incapable of being recycled, those components
41 shall be properly disposed of in a manner prescribed by the Department.

42 (3) Clear, clean, and remove the foundation, and any subsurface cable or other
43 equipment, from the ground to a depth of a least three feet below the surface
44 grade of the land on which the foundation was installed. Provided, however,
45 the Department shall waive this requirement for property on which soil
46 contamination is present for which the utility-scale wind energy facility is not
47 responsible.

48 (b) Financial Assurance Requirement. – The applicant for a permit or a permit holder for
49 a wind energy facility shall establish financial assurance that will ensure that sufficient funds are
50 available for decommissioning of the facility and reclamation of the property to its condition
51 prior to commencement of activities on the site, even if the applicant or permit holder becomes

1 insolvent or ceases to reside in, be incorporated, do business, or maintain assets in the State. To
2 establish sufficient availability of funds under this section, the applicant for a permit or a permit
3 holder for a wind energy facility may use insurance, financial tests, third-party guarantees by
4 persons who can pass the financial test, guarantees by corporate parents who can pass the
5 financial test, irrevocable letters of credit, trusts, surety bonds, or any other financial device, or
6 any combination of the foregoing, shown to provide protection equivalent to the financial
7 protection that would be provided by insurance if insurance were the only mechanism used.
8 Financial assurance shall be maintained by a permit holder for a wind energy facility at all times
9 during the facility's operation until decommissioning of the facility and reclamation of the
10 property has been completed in compliance with subsection (a) of this section. In the event of a
11 transfer of ownership of a wind energy facility, the financial assurance established by the
12 transferor of a facility shall remain in effect until the transferee has established financial
13 assurance acceptable to the Department.

14 (c) Financial Assurance Rules. – The Department shall adopt rules establishing criteria
15 to set the amount of financial assurance required for wind energy facilities as set forth in
16 subsection (b) of this section. These rules shall consider, at a minimum, the approximate number
17 and size of the turbines to be constructed; any ancillary facilities to be constructed in association
18 with the facility; the condition of the property prior to construction of a wind energy facility; the
19 amount of acreage that would be impacted by the proposed facility; and any other factors
20 designed to enable establishment of adequate financial assurance for decommissioning and
21 reclamation on a site-by-site basis. In establishing requirements for financial assurance for a wind
22 energy facility, the Department may take into account the salvage value of the facility's
23 equipment.

24 (d) Recycling Requirements. – In addition to the requirements for recycling of wind
25 energy facility equipment established under subsection (a) of this section, an owner or operator
26 of a wind energy facility shall be responsible for properly recycling turbines, accessory buildings,
27 transmission facilities, and any other equipment necessary for the operation of the facility,
28 including aboveground electrical interconnection and distribution cables that are no longer
29 deemed necessary, any metal fencing, and electrical and electronic devices, including
30 transformers and inverters, and collect and ship them for reuse, or recycle all of the components
31 thereof capable of being recycled, at the end of the equipment's useful life. Recycling
32 requirements established by this section shall be conducted in compliance with environmentally
33 sound management practices to transport and recycle such items. An owner or operator shall
34 conduct and document due diligence assessments of the recyclers it contracts with, including an
35 assessment of compliance with environmentally sound recovery standards. The Department shall
36 adopt rules to establish environmentally sound recovery standards for this purpose and may adopt
37 rules it otherwise deems necessary to implement the recycling requirements established by this
38 section.

39 (e) Definitions. – For purposes of this section the term "recycle" means the processing,
40 including disassembling, dismantling, and shredding of equipment from wind energy projects, or
41 their components, to recover a usable product. Recycle does not include any process that results
42 in the incineration of such equipment."

44 **REQUIRE RECYCLING OF ALL END-OF-LIFE PHOTOVOLTAIC MODULES AND** 45 **ENERGY STORAGE SYSTEM BATTERIES**

46 **SECTION 2.** Part 2J of Article 9 of Chapter 130A of the General Statutes, as enacted
47 by Section 1 of this act, is amended by adding two new sections to read:

48 **"§ 130A-309.241. Recycling required for end-of-life solar energy equipment.**

49 (a) Findings. – The General Assembly finds:

50 (1) According to a publication by the International Renewable Energy Agency
51 (IRENA), solar photovoltaic deployment has grown at unprecedented rates

1 since the early 2000s. As the global PV market increases, so will the volume
2 of decommissioned PV panels, and large amounts of annual waste are
3 anticipated by the early 2030s. Growing PV panel waste presents a new
4 environmental challenge, but also unprecedented opportunities to create value
5 and pursue new economic avenues. In addition, the report found (i) more than
6 ninety percent (90%) of the materials in typical photovoltaic solar panels,
7 including silicon, aluminum, and glass, can be recycled and used again in the
8 production of new solar panels, (ii) recycling or repurposing solar
9 photovoltaic panels at the end of their roughly 30-year lifetime can unlock an
10 estimated stock of 78 million tons of raw materials and other valuable
11 components globally by 2050, and (iii) if fully injected back into the economy,
12 the value of the recovered material could exceed fifteen billion dollars
13 (\$15,000,000,000) by 2050.

14 (2) Solar panel wastes can include heavy metals such as silver, copper, lead,
15 arsenic, cadmium, and selenium that at certain levels may be classified as
16 hazardous wastes.

17 (3) That a convenient, safe, and environmentally sound system for the recycling
18 of photovoltaic modules, minimization of hazardous waste, and recovery of
19 commercially valuable materials must be established.

20 (4) That manufacturers are responsible for employing environmentally sound
21 management practices to fulfill their obligations under this Part to finance and
22 implement a stewardship plan to recycle or reuse the photovoltaic modules
23 they manufacture.

24 (b) Definitions. – For purposes of this section, the following definitions apply:

25 (1) "Consumer electronic device" means any device containing an electronic
26 circuit board that is intended for everyday use by individuals, such as a watch,
27 calculator, or mobile telephone.

28 (2) "End-of-life photovoltaic module" means a photovoltaic module that is
29 removed and taken out of service that will not be reused.

30 (3) "Manufacturer" means any person in business or no longer in business, but
31 having a successor in interest who, irrespective of the selling technique used,
32 including by means of distance or remote sale, meets any of the following
33 criteria:

34 a. Manufactures or has manufactured a photovoltaic module under its
35 own brand names for sale in or into this State.

36 b. Assembles or has assembled a photovoltaic module that uses parts
37 manufactured by others for sale in or into this State under the
38 assembler's brand names.

39 c. Resells or has resold in or into this State under its own brand names a
40 photovoltaic module produced by other suppliers, including retail
41 establishments that sell photovoltaic modules under their own brand
42 names.

43 d. Manufactures or has manufactured a cobranded photovoltaic module
44 product for sale in or into this State that carries the name of both the
45 manufacturer and a retailer.

46 e. Imports or has imported a photovoltaic module into the United States
47 that is sold in or into this State. However, if the imported photovoltaic
48 module is manufactured by any person with a presence in the United
49 States meeting the criteria of manufacturer under sub-subdivisions a.
50 through d. of this subdivision, that person is the manufacturer.

1 f. Sells at retail in or into this State a photovoltaic module acquired from
2 an importer that is the manufacturer and elects to register as the
3 manufacturer for those products.

4 g. Elects to assume the responsibility and register in lieu of a
5 manufacturer as defined under sub-subdivisions a. through e. of this
6 subdivision.

7 (4) "Photovoltaic module" or "PV module" means the smallest nondivisible,
8 environmentally protected assembly of photovoltaic cells or other
9 photovoltaic collector technology and ancillary parts intended to generate
10 electrical power under sunlight, except that "photovoltaic module" does not
11 include (i) a photovoltaic cell that is part of a consumer electronic device for
12 which it provides electricity needed to make the consumer electronic device
13 function or (ii) a photovoltaic cell that is part of a utility-scale solar project as
14 that term is defined under G.S. 62-352(e). "Photovoltaic module" includes
15 interconnections, terminals, and protective devices such as diodes that (i) are
16 installed on, connected to, or integral with buildings or (ii) are used as
17 components of freestanding, off-grid, power generation systems, such as for
18 powering water pumping stations, electric vehicle charging stations, fencing,
19 street and signage lights, and other commercial or agricultural purposes.

20 (5) "Recover" means the process of reusing or recycling photovoltaic modules.

21 (6) "Recycle" means the processing, including disassembling, dismantling, and
22 shredding, of photovoltaic modules or their components to recover a usable
23 product. Recycle does not include any process that results in the incineration
24 of photovoltaic modules.

25 (7) "Recycler" means a person that recycles photovoltaic modules.

26 (8) "Stewardship plan" means the plan developed by a manufacturer or its
27 designated stewardship organization for a self-directed stewardship program.

28 (9) "Stewardship program" means the activities conducted by a manufacturer or
29 a stewardship organization to fulfill the requirements of this section and
30 implement the activities described in its stewardship plan.

31 (c) Stewardship Organization as Agent of Manufacturer. – A stewardship organization
32 may be designated to act as an agent on behalf of a manufacturer or manufacturers in operating
33 and implementing the stewardship program required under this section. Any stewardship
34 organization that has obtained such designation must provide to the Department a list of the
35 manufacturers and brand names that the stewardship organization represents within 60 days of
36 its designation by a manufacturer as its agent, or within 60 days of removal of such designation.

37 (d) Registration and Stewardship Plans. – Each manufacturer shall register and prepare
38 and submit a stewardship plan to the Department by the later of December 1, 2021, or within 30
39 days of its first sale of a photovoltaic module in or into the State. A stewardship plan shall:

40 (1) Describe how the manufacturer will finance the takeback and recycling or
41 reuse of all PV modules it manufactures that are sold in or into the State and
42 identify an adequate funding mechanism to finance the costs of collection,
43 management, and recycling or reuse of PV modules and residuals sold in or
44 into the State by the manufacturer with a mechanism that ensures that PV
45 modules can be delivered to takeback locations without cost to the last owner
46 or holder.

47 (2) Describe how the program will minimize the release of hazardous substances
48 into the environment and maximize the recovery of other components,
49 including commercially valuable materials.

50 (3) Provide for takeback of PV modules at locations that are within the region of
51 the State in which the photovoltaic modules were used and are as convenient

1 as reasonably practicable, and if no such location within the region of the State
2 exists, include an explanation for the lack of such location.

3 (4) Identify how relevant stakeholders, including consumers, installers, building
4 demolition firms, and recycling and treatment facilities, will receive
5 information required in order for them to properly dismantle, transport, and
6 treat the end-of-life PV modules in a manner consistent with the objectives
7 described in subdivision (2) of this subsection.

8 (5) Provide for environmentally sound management practices to transport and
9 recycle discarded PV modules. The manufacturer shall provide proof of
10 contract or agreement with a recycler that (i) is certified as adhering to
11 Responsible Recycling ("R2") practices, (ii) is certified as an e-Steward
12 recycler adhering to the e-Stewards Standard for Responsible Recycling and
13 Reuse of Electronic Equipment®, or (iii) maintains another certification
14 approved by the Department for responsible recycling of PV modules to
15 process the discarded PV modules. The manufacturer shall notify the
16 Department within 30 days of any change in status of a certified recycler with
17 which it contracts.

18 (e) Stewardship Plan Amendments. – A manufacturer may periodically amend its
19 stewardship plan. The Department shall approve the amendment if it meets the requirements of
20 subsection (d) of this section and rules adopted thereunder. When submitting proposed
21 amendments, the manufacturer must include an explanation of why such amendments are
22 necessary.

23 (f) Plan Approval and Implementation. – No later than six months after receipt of a
24 stewardship plan submitted for approval pursuant to subsection (d) of this section, the
25 Department shall approve, approve with modifications, or deny a stewardship plan. The
26 Department shall only approve a plan if it determines that the plan addresses each of the criteria
27 set forth in subsection (d) of this section and any rules adopted thereunder. Once approved, the
28 manufacturer shall implement the approved plan. Beginning July 1, 2022, no manufacturer may
29 sell or offer for sale a photovoltaic module in or into the State unless the manufacturer has
30 submitted to the Department a stewardship plan which has been approved by the Department.

31 (g) Fee. – The Department shall establish (i) an initial registration fee, not to exceed ten
32 thousand dollars (\$10,000), to be paid by a manufacturer, before the manufacturer sells or offers
33 for sale photovoltaic modules in the State and (ii) an annual registration fee, not to exceed ten
34 thousand dollars (\$10,000), to be paid by a manufacturer. An initial registration shall be valid
35 from the day of registration through the last day of the fiscal year in which the registration fee
36 was paid. The annual renewal registration fee shall be paid to the Department each fiscal year no
37 later than June 30 of the previous fiscal year. The proceeds of these fees shall be credited to the
38 Photovoltaic Module Management Fund.

39 (h) Account. – The Photovoltaic Module Management Fund is created as a special fund
40 within the Department. The Fund consists of revenue credited to the Fund from the proceeds of
41 the fee imposed on PV module manufacturers under subsection (g) of this section. Moneys in the
42 Fund shall be used by the Department to implement the provisions of this section.

43 (i) Manufacturer Report. – Each manufacturer or stewardship organization shall submit
44 a report to the Department by October 1 of each year stating the total weight of all photovoltaic
45 modules collected for recycling or reuse in the previous fiscal year and a summary of other
46 actions taken to comply with the requirements of this section. The manufacturer or stewardship
47 organization must post this report on a publicly accessible Web site.

48 (j) Department Report. – Information regarding permanent recycling programs for
49 photovoltaic modules for which funds are received pursuant to this section shall be included in
50 the annual report required under G.S. 130A-309.09A.

1 (k) Rules Required. – The Department shall adopt rules as necessary to implement the
2 requirements of this section.

3 **"§ 130A-309.241. Enforcement.**

4 This Part may be enforced as provided by Part 2 of Article 1 of this Chapter."

5 **SECTION 3.** Article 9 of Chapter 130A of the General Statutes is amended by
6 adding a new Part to read:

7 "Part 2K. Management of Energy Storage Batteries.

8 **"§ 130A-309.250. Recycling required for batteries used for energy storage.**

9 (a) Findings. – The General Assembly finds:

10 (1) The use of batteries for energy storage, which include lithium-ion batteries,
11 lead acid batteries, sodium sulfur batteries, and vanadium redox flow batteries,
12 has surged in recent years and these batteries contain toxic, flammable, and
13 volatile chemical components and pose substantial disposal concerns.

14 (2) The United States Department of Energy (DOE) recently opened a battery
15 recycling research and development center at Argonne National Laboratory to
16 reclaim and recycle valuable materials such as cobalt and lithium from spent
17 lithium-ion batteries, which Department personnel report will (i) help the
18 United States grow a globally competitive recycling industry and reduce our
19 reliance on foreign sources of battery materials, (ii) create jobs and create a
20 national supply of lithium-based battery materials, and (iii) reduce production
21 costs of new batteries by ten percent (10%) to thirty percent (30%) through
22 the use of recycled materials.

23 (b) Definitions. – For purposes of this section, the following definitions apply:

24 (1) "Consumer electronic device" means any device containing an electronic
25 circuit board that is intended for everyday use by individuals, such as a watch,
26 calculator, or mobile telephone.

27 (2) "End-of-life energy storage system battery" means a battery, including a
28 lithium-ion battery, lead acid battery, sodium sulfur battery, and vanadium
29 redox flow battery, used in an energy storage system that is removed and taken
30 out of service, which will not be reused.

31 (3) "Energy storage system battery" means a battery that is part of a system used
32 to store chemical energy that was once electrical energy, for use in a process
33 that contributes to end-user demand management or grid operation and
34 reliability. For purposes of this section, the term does not include energy
35 storage system batteries (i) used in utility-scale solar projects or utility-scale
36 wind facilities, (ii) that are part of a consumer electronic device for which it
37 provides electricity needed to make the consumer electronic device function,
38 or (iii) that are part of a plug-in electric vehicle as defined in
39 G.S. 20-4.01(28a), or an alternative fuel vehicle (AFV) as that term is defined
40 in G.S. 143-58.4(a)(1).

41 (4) "Manufacturer" means any person in business or no longer in business but
42 having a successor in interest who, irrespective of the selling technique used,
43 including by means of distance or remote sale, meets any of the following
44 criteria:

45 a. Manufactures or has manufactured a battery for use in an energy
46 storage system under its own brand names for sale in or into this State.

47 b. Assembles or has assembled a battery for use in an energy storage
48 system that uses parts manufactured by others for sale in or into this
49 State under the assembler's brand names.

50 c. Resells or has resold in or into this State under its own brand names a
51 battery for use in an energy storage system produced by other

- 1 suppliers, including retail establishments that sell batteries for use in
2 an energy storage system under their own brand names.
- 3 d. Manufactures or has manufactured a cobranded battery for use in an
4 energy storage system for sale in or into this State that carries the name
5 of both the manufacturer and a retailer.
- 6 e. Imports or has imported a battery for use in an energy storage system
7 into the United States that is sold in or into this State. However, if the
8 imported battery for use in an energy storage system is manufactured
9 by any person with a presence in the United States meeting the criteria
10 of manufacturer under sub-subdivisions a. through d. of this
11 subdivision, that person is the manufacturer.
- 12 f. Sells at retail in or into this State a battery for use in an energy storage
13 system acquired from an importer that is the manufacturer and elects
14 to register as the manufacturer for those products.
- 15 g. Elects to assume the responsibility and register in lieu of a
16 manufacturer as defined under sub-subdivisions a. through e. of this
17 subdivision.
- 18 (5) "Recover" means the process of reusing or recycling an energy storage system
19 battery.
- 20 (6) "Recycle" means the processing, including disassembling, dismantling, and
21 shredding, of an energy storage system battery or its components to recover a
22 usable product. Recycle does not include any process that results in the
23 incineration of an energy storage system battery.
- 24 (7) "Recycler" means a person that recycles an energy storage system battery.
- 25 (8) "Stewardship plan" means the plan developed by a manufacturer or its
26 designated stewardship organization for a self-directed stewardship program.
- 27 (9) "Stewardship program" means the activities conducted by a manufacturer or
28 a stewardship organization to fulfill the requirements of this section and
29 implement the activities described in its stewardship plan.
- 30 (c) Stewardship Organization as Agent of Manufacturer. – A stewardship organization
31 may be designated to act as an agent on behalf of a manufacturer or manufacturers in operating
32 and implementing the stewardship program required under this section. Any stewardship
33 organization that has obtained such designation must provide to the Department a list of the
34 manufacturers and brand names that the stewardship organization represents within 60 days of
35 its designation by a manufacturer as its agent, or within 60 days of removal of such designation.
- 36 (d) Registration and Stewardship Plans. – Each manufacturer shall register and prepare
37 and submit a stewardship plan to the Department by the later of December 1, 2021, or within 30
38 days of its first sale of an energy storage system battery in or into the State. A stewardship plan
39 shall:
- 40 (1) Describe how the manufacturer will finance the takeback and recycling or
41 reuse of all energy storage system batteries it manufactures that are sold in or
42 into the State and identify an adequate funding mechanism to finance the costs
43 of collection, management, and recycling or reuse of an energy storage system
44 battery and residuals sold in or into the State by the manufacturer with a
45 mechanism that ensures that an energy storage system battery can be delivered
46 to takeback locations without cost to the last owner or holder.
- 47 (2) Describe how the program will minimize the release of hazardous substances
48 into the environment and maximize the recovery of other components,
49 including commercially valuable materials.
- 50 (3) Provide for takeback of energy storage system batteries at locations that are
51 within the region of the State in which the energy storage system batteries

1 were used and are as convenient as reasonably practicable, and if no such
2 location within the region of the State exists, include an explanation for the
3 lack of such location.

4 (4) Identify how relevant stakeholders, including consumers, installers, building
5 demolition firms, and recycling and treatment facilities, will receive
6 information required in order for them to properly dismantle, transport, and
7 treat the end-of-life energy storage system batteries in a manner consistent
8 with the objectives described in subdivision (2) of this subsection.

9 (5) Provide for environmentally sound management practices to transport and
10 recycle discarded energy storage system batteries. The manufacturer shall
11 provide proof of contract or agreement with a recycler that: (i) is certified as
12 adhering to Responsible Recycling ("R2") practices, (ii) is certified as an
13 e-Steward recycler adhering to the e-Stewards Standard for Responsible
14 Recycling and Reuse of Electronic Equipment®, or (iii) maintains another
15 certification approved by the Department for responsible recycling of energy
16 storage system batteries to process the discarded batteries. The manufacturer
17 shall notify the Department within 30 days of any change in status of a
18 certified recycler with which it contracts.

19 (e) Stewardship Plan Amendments. – A manufacturer may periodically amend its
20 stewardship plan. The Department shall approve the amendment if it meets the requirements of
21 subsection (d) of this section and rules adopted thereunder. When submitting proposed
22 amendments, the manufacturer must include an explanation of why such amendments are
23 necessary.

24 (f) Plan Approval and Implementation. – No later than six months after receipt of a
25 stewardship plan submitted for approval pursuant to subsection (d) of this section, the
26 Department shall approve, approve with modifications, or deny a stewardship plan. The
27 Department shall only approve a plan if it determines that the plan addresses each of the criteria
28 set forth in subsection (d) of this section and any rules adopted thereunder. Once approved, the
29 manufacturer shall implement the approved plan. Beginning July 1, 2022, no manufacturer may
30 sell or offer for sale an energy storage system battery in or into the State unless the manufacturer
31 has submitted to the Department a stewardship plan which has been approved by the Department.

32 (g) Fee. – The Department shall establish (i) an initial registration fee, not to exceed ten
33 thousand dollars (\$10,000), to be paid by a manufacturer, before the manufacturer sells or offers
34 for sale energy storage system batteries in the State and (ii) an annual registration fee, not to
35 exceed ten thousand dollars (\$10,000), to be paid by a manufacturer. An initial registration shall
36 be valid from the day of registration through the last day of the fiscal year in which the
37 registration fee was paid. The annual renewal registration fee shall be paid to the Department
38 each fiscal year no later than June 30 of the previous fiscal year. The proceeds of these fees shall
39 be credited to the Energy Storage System Battery Management Fund.

40 (h) Account. – The Energy Storage System Battery Management Fund is created as a
41 special fund within the Department. The Fund consists of revenue credited to the Fund from the
42 proceeds of the fee imposed on energy storage system battery manufacturers under subsection
43 (g) of this section. Moneys in the Fund shall be used by the Department to implement the
44 provisions of this section.

45 (i) Manufacturer Report. – Each manufacturer or stewardship organization shall submit
46 a report to the Department by October 1 of each year stating the total weight of all energy storage
47 system batteries collected for recycling or reuse in the previous fiscal year and a summary of
48 other actions taken to comply with the requirements of this section. The manufacturer or
49 stewardship organization must post this report on a publicly accessible Web site.

50 (j) Department Report. – The Department shall include in the status of the solid waste
51 management report required to be submitted on or before January 15 of each year pursuant to

1 G.S. 130A-309.06(c) a report on the recycling of energy storage system batteries in the State
2 under this Part. The report must include an evaluation of the recycling rates in the State for energy
3 storage system batteries, a discussion of compliance and enforcement related to the requirements
4 of this Part, and any recommendations for any changes to the system of collection and recycling
5 of energy storage system batteries.

6 (k) Enforcement. – This Part may be enforced as provided by Part 2 of Article 1 of this
7 Chapter.

8 (l) Rules Required. – The Department shall adopt rules as necessary to implement the
9 requirements of this section."

10
11 **PROHIBIT DISPOSAL OF PHOTOVOLTAIC MODULES AND ENERGY STORAGE**
12 **SYSTEM BATTERIES IN LANDFILLS**

13 **SECTION 4.** G.S. 130A-309.10 reads as rewritten:

14 **"§ 130A-309.10. Prohibited acts relating to packaging; coded labeling of plastic containers**
15 **required; disposal of certain solid wastes in landfills or by incineration**
16 **prohibited.**

17 ...

18 (f) No person shall knowingly dispose of the following solid wastes in landfills:

19 ...

20 (16) Photovoltaic modules. For purposes of this section, "photovoltaic module"
21 means the smallest nondivisible, environmentally protected assembly of
22 photovoltaic cells or other photovoltaic collector technology and ancillary
23 parts intended to generate electrical power under sunlight, except that
24 "photovoltaic module" does not include a photovoltaic cell that is part of a
25 consumer electronic device for which it provides electricity needed to make
26 the consumer electronic device function. "Photovoltaic module" includes
27 interconnections, terminals, and protective devices such as diodes that (i) are
28 installed on, connected to, or integral with buildings or (ii) are used as
29 components of freestanding, off-grid, power generation systems, such as for
30 powering water pumping stations, electric vehicle charging stations, fencing,
31 street and signage lights, and other commercial or agricultural purposes.

32 (17) Energy storage system batteries. For purposes of this section, "energy storage
33 system battery" means a battery that is part of a system used to store chemical
34 energy that was once electrical energy for use in a process that contributes to
35 end-user demand management or grid operation and reliability. The term does
36 not include energy storage system batteries (i) that are part of a consumer
37 electronic device for which they provide electricity needed to make the
38 consumer electronic device function or (ii) that are part of a plug-in electric
39 vehicle as defined in G.S. 20-4.01(28a), or an alternative fuel vehicle (AFV)
40 as that term is defined in G.S. 143-58.4(a)(1).

41 (f1) No person shall knowingly dispose of the following solid wastes by incineration in
42 an incinerator for which a permit is required under this Article:

43 (1) Antifreeze (ethylene glycol) used solely in motor vehicles.

44 (2) Aluminum cans.

45 (3) Repealed by Session Laws 1995 (Regular Session, 1996), c. 594, s. 17.

46 (4) White goods.

47 (5) Lead-acid batteries, as provided in G.S. 130A-309.70.

48 (6) Repealed by Session Laws 2011-394, s. 4, effective July 1, 2011.

49 (7) Discarded computer equipment, as defined in G.S. 130A-309.131.

50 (8) Discarded televisions, as defined in G.S. 130A-309.131.

51 (9) Photovoltaic modules.

1 (10) Energy storage system batteries.

2 "

3
4 **DEPARTMENT OF ENVIRONMENTAL QUALITY TO ADOPT RULES AND REPORT**

5 **SECTION 5.** The Department of Environmental Quality shall adopt permanent rules
6 implementing the requirements of this act no later than July 1, 2021.

7 **SECTION 6.** Beginning December 1, 2019, the Department of Environmental
8 Quality shall submit quarterly reports to the Environmental Review Commission and the Joint
9 Legislative Commission on Energy Policy on the status of the rule making required by this act
10 and shall include in the report an estimate of moneys needed by the Department in order to
11 implement a program to oversee the recycling requirements established by this act.

12
13 **APPLICABILITY TO EXISTING CONTRACTS**

14 **SECTION 7.** Nothing in Sections 1(a) or 1(b) of this act shall be construed to
15 abrogate or impair a contractual provision executed on or before the effective date of this act that
16 is binding on an owner or operator, in the case of Section 1(a), or a permit holder, in the case of
17 Section 1(b), or their successors in interests, that expressly requires decommissioning and/or
18 reclamation activities in direct conflict with the requirements of those sections, such as a
19 contractual provision granting a landowner the right to retain project equipment after cessation
20 of activities. In such case, compliance with the provisions of this act shall be required to the
21 maximum extent that decommissioning and/or reclamation activities are not in direct conflict
22 with the terms of such a contractual provision.

23
24 **SEVERABILITY CLAUSE**

25 **SECTION 8.** If any section or provision of this act is declared unconstitutional or
26 invalid by the courts, it does not affect the validity of this act as a whole or any part other than
27 the part declared to be unconstitutional or invalid.

28
29 **EFFECTIVE DATE**

30 **SECTION 9.** Sections 1(a) and 1(b) of this act become effective September 1, 2019,
31 except that the financial assurance requirements established in G.S. 130A-309.240(b), as enacted
32 by Section 1(a) of this act, and G.S. 143-215.121(b), as amended by Section 1(b) of this act, shall
33 become effective August 1, 2021. Section 1(b) of this act applies to applications for permits for
34 wind energy facilities and wind energy facility expansions pending or submitted on or after the
35 effective date of this act. The remainder of this act becomes effective when it becomes law.