

GENERAL ASSEMBLY OF NORTH CAROLINA  
SESSION 2019

S

2

SENATE BILL 568

Agriculture/Environment/Natural Resources Committee Substitute Adopted 6/13/19

Short Title: Recycling and Restoration/Renewable Energy.

(Public)

Sponsors:

Referred to:

April 4, 2019

A BILL TO BE ENTITLED

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

The General Assembly of North Carolina enacts:

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

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

"Part 2J. Management of Solar Energy Equipment.

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

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

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

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



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."  
43

#### 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.