A BILL TO BE ENTITLED
AN ACT TO REQUIRE (I) RESPONSIBLE DECOMMISSIONING OF UTILITY-SCALE SOLAR FACILITIES AND WIND ENERGY FACILITIES UPON CESSATION OF ACTIVITIES AT A FACILITY AND (II) RECYCLING OF ALL END-OF-LIFE SOLAR ENERGY EQUIPMENT LOCATED WITHIN THE STATE.

The General Assembly of North Carolina enacts:

DECOMMISSIONING OF UTILITY-SCALE SOLAR FACILITIES AND WIND ENERGY FACILITIES UPON CESSATION OF ACTIVITIES AT A FACILITY

SECTION 1. (a) Article 17 of Chapter 62 of the General Statutes is amended by adding a new section to read:

"§ 62-352. 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 one year following completion of the operations. 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, including solar panels, 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 collect and ship them to another project for reuse, or recycle all of the components thereof capable of being recycled, in compliance with subsection (d) of this section. For components that will not be shipped to another project for reuse, and are incapable of being recycled, those components shall be properly disposed of in a manner prescribed by the Department.

(b) Financial Assurance Requirement. — The owner or operator of a utility-scale solar project shall establish financial assurance in an amount acceptable to the Department of Environmental Quality that will ensure that sufficient funds are available for decommissioning of the facility and reclamation of the property to its condition prior to commencement of activities on the site, even if the owner or operator becomes insolvent or ceases to reside in, be incorporated, do business, or maintain assets in the State. To establish sufficient availability of funds under this section, the owner or operator of a utility-scale solar project may use insurance,
financial tests, third-party guarantees by persons who can pass the financial test, guarantees by
corporate parents who can pass the financial test, irrevocable letters of credit, trusts, surety bonds,
or any other financial device, or any combination of the foregoing, shown to provide protection
equivalent to the financial protection that would be provided by insurance if insurance were the
only mechanism used.

(c) Financial Assurance Rules. – The Department of Environmental Quality shall adopt
rules establishing criteria to set the amount of financial assurance required for utility-scale solar
projects as set forth in subsection (b) of this section. These rules shall consider, at a minimum,
the solar technology to be employed, i.e., PV, CPV, or CSP; the approximate number and size of
solar panels included in the solar arrays to be constructed; any ancillary facilities to be
constructed in association with the project; the condition of the property prior to construction of
a utility-scale solar project; the amount of acreage that would be impacted by the proposed
project; and any other factors designed to enable establishment of adequate financial assurance
for decommissioning and reclamation on a site-by-site basis.

(d) Recycling Requirements. – In addition to the requirements for recycling components
of utility-scale solar projects established under subsection (a) of this section, an owner or operator
of a utility-scale solar project shall be responsible for properly recycling each solar panel used in
the project at the end of the panel's useful life. Recycling requirements established by this section
shall be conducted in compliance with environmentally sound management practices to transport
and recycle such items. An owner or operator shall conduct and document due diligence
assessments of the recyclers it contracts with, including an assessment of compliance with
environmentally sound recovery standards adopted by the Department. An 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.

(e) Definitions. – For purposes of this section the following definitions apply:

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

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

(3) "Reuse" means any operation by which a solar module or other equipment
    from utility-scale solar projects, or their components, changes ownership and
    is used for the same purpose for which it was originally purchased.

(f) No later than September 1 of each year, the Utilities Commission shall provide the
Department of Environmental Quality with an annual list of all utility-scale solar projects
operating within the State as of the date of the report."

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

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

(a) Decommissioning Requirement. – The owner or operator of a wind energy facility
shall be responsible for proper decommissioning of the facility 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 one year following completion of the
operations. At a minimum, an owner or operator shall take all of the following steps in decommissioning a project:

(1) Disconnect the facility from the power grid.

(2) Remove all the turbines, accessory buildings, transmission facilities, and any other equipment necessary for the operation of the facility, including aboveground electrical interconnection and distribution cables that are no longer deemed necessary, any metal fencing, and electrical and electronic devices, including transformers and inverters, and collect and ship them to another project for reuse, or recycle all of the components thereof capable of being recycled, in compliance with subsection (c) of this section. For components that will not be shipped to another project for reuse, and are incapable of being recycled, those components shall be properly disposed of in a manner prescribed by the Department.

(b) Financial Assurance. – The applicant for a permit or a permit holder for a wind energy facility shall establish financial assurance that will ensure that sufficient funds are available for decommissioning of the facility and reclamation of the property to its condition prior to commencement of activities on the site, even if the applicant or permit holder becomes insolvent or ceases to reside in, be incorporated, do business, or maintain assets in the State. To establish sufficient availability of funds under this section, the applicant for a permit or a permit holder for a wind energy facility may use insurance, financial tests, third-party guarantees by persons who can pass the financial test, irrevocable letters of credit, trusts, surety bonds, or any other financial device, or any combination of the foregoing, shown to provide protection equivalent to the financial protection that would be provided by insurance if insurance were the only mechanism used.

(c) Recycling Requirements. – In addition to the requirements for recycling of wind energy facility equipment established under subsection (a) of this section, an owner or operator of a wind energy facility shall be responsible for properly recycling turbines, accessory buildings, transmission facilities, and any other equipment necessary for the operation of the facility, including aboveground electrical interconnection and distribution cables that are no longer deemed necessary, any metal fencing, and electrical and electronic devices, including transformers and inverters, and collect and ship them to another project for reuse, or recycle all of the components thereof capable of being recycled, at the end of the equipment’s useful life. Recycling requirements established by this section shall be conducted in compliance with environmentally sound management practices to transport and recycle such items. An owner or operator shall conduct and document due diligence assessments of the recyclers it contracts with, including an assessment of compliance with environmentally sound recovery standards adopted by the Department. An 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.

(d) Definitions. – For purposes of this section the following definitions apply:

(1) "Recycle" means the processing, including disassembling, dismantling, and shredding of equipment from wind energy projects, or their components, to recover a usable product. Recycle does not include any process that results in the incineration of such equipment.

(2) "Reuse" means any operation by which equipment from wind energy projects, or their components, changes ownership and is used for the same purpose for which it was originally purchased.

SECTION 2. 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. Recycling required for end-of-life solar energy equipment.

(a) Findings. – The legislature finds:

(1) According to a publication by the International Renewable Energy Agency (IRENA), solar photovoltaic deployment has grown at unprecedented rates since the early 2000s. As the global PV market increases, so will the volume of decommissioned PV panels, and large amounts of annual waste are anticipated by the early 2030s. Growing PV panel waste presents a new environmental challenge, but also unprecedented opportunities to create value and pursue new economic avenues. In addition, the report found: (i) more than 90 percent (90%) of the materials in typical photovoltaic solar panels, including silicon, aluminum, and glass, can be recycled and used again in the production of new solar panels; (ii) recycling or repurposing solar photovoltaic panels at the end of their roughly 30-year lifetime can unlock an estimated stock of 78 million tons of raw materials and other valuable components globally by 2050; (iv) if fully injected back into the economy, the value of the recovered material could exceed 15 billion dollars by 2050.

(2) Heavy metals like cadmium and lead are found in solar cells, which can harm the natural environment if they are not recycled or disposed of properly.

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

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

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

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

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

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

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

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

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

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

   e. Imports or has imported a photovoltaic module into the United States that is sold in or into this State. However, if the imported photovoltaic module is manufactured by any person with a presence in the United States, it is not subject to this definition.
States meeting the criteria of manufacturer under a. through d. of this subdivision, that person is the manufacturer.

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

g. Elects to assume the responsibility and register in lieu of a manufacturer as defined under (3)a. through e. of this subdivision.

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

(5) "Rare earth element" means lanthanum, cerium, praseodymium, neodymium, promethium, samarium, europium, gadolinium, terbium, dysprosium, holmium, erbium, thulium, ytterbium, lutetium, yttrium, or scandium.

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

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

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

(9) "Reuse" means any operation by which a photovoltaic module or a component of a photovoltaic module changes ownership and is used for the same purpose for which it was originally purchased.

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

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

(c) Program Guidance, Review, and Approval. – The Department must develop guidance for a photovoltaic module stewardship and takeback program to guide manufacturers in preparing and implementing a self-directed program to ensure the convenient, safe, and environmentally sound takeback and recycling of photovoltaic modules and their components and materials. By January 1, 2020, the Department must establish a process to develop guidance for photovoltaic module stewardship plans by working with manufacturers, stewardship organizations, and other stakeholders on the content, review, and approval of stewardship plans. The Department's process must be fully implemented and stewardship plan guidance completed by July 1, 2020.

(d) Stewardship Organization as Agent of Manufacturer. – A stewardship organization may be designated to act as an agent on behalf of a manufacturer or manufacturers in operating and implementing the stewardship program required under this section. Any stewardship organization that has obtained such designation must provide to the department a list of the manufacturers and brand names that the stewardship organization represents within 60 days of its designation by a manufacturer as its agent, or within 60 days of removal of such designation.
Registration and Stewardship Plans. – Each manufacturer shall prepare and submit a stewardship plan to the Department by the later of January 1, 2021, or within 30 days of its first sale of a photovoltaic module in or into the State. A stewardship plan shall:

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

2. Describe how the program will minimize the release of hazardous substances into the environment and maximize the recovery of other components, including rare earth elements and commercially valuable materials.

3. Provide for takeback of photovoltaic modules at locations that are within the region of the State in which the photovoltaic modules were used and are as convenient as reasonably practicable, and if no such location within the region of the State exists, include an explanation for the lack of such location.

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

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

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

Plan Approval and Implementation. – No later than six months after receipt of a stewardship plan submitted for approval pursuant to subsection (e) of this section, the Department shall approve, approve with modifications, or deny a stewardship plan. The Department shall only approve a plan if it determines that the plan addresses each of the criteria set forth in subsection (e) of this section, and any rules adopted thereunder. Once approved, the manufacturer shall implement the approved plan.

Annual Report. –

1. The report may include any recommendations to the Department or the legislature on modifications to the program that would enhance the effectiveness of the program, including management of program costs, and mitigation of environmental impacts of photovoltaic modules.

2. The manufacturer or stewardship organization must post this report on a publicly accessible Web site.
(i) Enforcement. – Beginning July 1, 2021, no manufacturer may sell or offer for sale a photovoltaic module in or into the State unless the manufacturer has submitted to the Department a stewardship plan, which has been approved by the Department. After that date, the Department shall send a Notice of Violation to any manufacturer that does not have an approved plan, which shall inform the manufacturer that it must submit a plan or participate in a plan within 30 days of the notice, subject to the assessment of civil penalties. The Department may assess a penalty of up to ten thousand dollars ($10,000) for each sale of a photovoltaic module in or into the State that occurs after issuance of the Notice of Violation. Parties aggrieved by a final decision of the Department issued pursuant to subsection (d) of this section may appeal the decision as provided under Article 3 of Chapter 150B of the General Statutes.

(j) Fee. – A manufacturer, before selling or offering for sale photovoltaic modules in the State shall pay an initial registration fee of two thousand five hundred dollars ($2,500) to the Department. An initial registration shall be valid from the day of registration through the last day of the fiscal year in which the registration fee was paid. A manufacturer that has registered shall pay an annual renewal registration fee of two thousand five hundred dollars ($2,500) to the Department. The annual renewal registration fee shall be paid to the Department each fiscal year no later than June 30 of the previous fiscal year. The proceeds of these fees shall be credited to the Photovoltaic Module Management Fund.

(k) Account. – The Photovoltaic Module Management Fund is created as a special fund within the Department. The Fund consists of revenue credited to the Fund from the proceeds of the fee imposed on computer equipment manufacturers under subsection (j) of this section. Moneys in the Fund shall be used by the Department to implement the provisions of this section.

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

DEPARTMENT OF ENVIRONMENTAL QUALITY TO ADOPT RULES AND REPORTING

SECTION 3. The Department of Environmental Quality shall adopt temporary rules implementing the requirements of this act no later than September 1, 2019. Notwithstanding G.S. 150B-21.1(d), the temporary rules shall remain in effect until the effective date of the permanent rule adopted to replace the temporary rule.

SECTION 4. No later than September 1, 2019, the Department of Environmental Quality shall report to the Environmental Review Commission and the Joint Legislative Commission on Energy Policy on the status of the rule making required by this act and shall include in the report an estimate of moneys needed by the Department in order to implement a program to oversee the recycling requirements established by this act.

SEVERABILITY CLAUSE

SECTION 5. If any section or provision of this act is declared unconstitutional or invalid by the courts, it does not affect the validity of this act as a whole or any part other than the part declared to be unconstitutional or invalid.

EFFECTIVE DATE

SECTION 6. This act becomes effective September 1, 2019, except: (i) Section 3 of this act becomes effective when this act becomes law and (ii) the financial assurance requirements established in G.S. 62-352(b), as enacted by Section 1(a) of this act, shall become effective January 1, 2020.