

GENERAL ASSEMBLY OF NORTH CAROLINA  
SESSION 2023

S

1

SENATE BILL 669

Short Title: Solar Decommissioning Rqmts. (Public)

Sponsors: Senators P. Newton, Moffitt, and Rabon (Primary Sponsors).

Referred to: Rules and Operations of the Senate

April 10, 2023

1 A BILL TO BE ENTITLED  
2 AN ACT TO REQUIRE RESPONSIBLE DECOMMISSIONING OF NEWLY-SITED  
3 UTILITY-SCALE SOLAR PROJECTS UPON CESSATION OF OPERATIONS.  
4 The General Assembly of North Carolina enacts:

5  
6 **DECOMMISSIONING OF UTILITY-SCALE SOLAR PROJECTS UPON CESSATION**  
7 **OF OPERATIONS**

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

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

11 **"§ 130A-309.240. Decommissioning and restoration requirements for utility-scale solar**  
12 **projects; recycling of project components required; financial assurance**  
13 **requirements.**

14 (a) Definitions. – For purposes of this Part, the following definitions apply:

- 15 (1) "Cessation of operations" means a utility-scale solar project has not produced  
16 power for a period of 12 months.
- 17 (2) "Expansion" or "expanded," when used in reference to a utility-scale solar  
18 project, means adding 2 megawatts AC (MW AC) or more of directly  
19 connected solar energy generating capacity to the local or regional electrical  
20 grid with the ability to deliver power to the electrical grid.
- 21 (3) "Photovoltaic module" or "PV module" means the smallest nondivisible,  
22 environmentally protected assembly of photovoltaic cells or other  
23 photovoltaic collector technology and ancillary parts intended to generate  
24 electrical power under sunlight, that is part of a utility-scale solar project.
- 25 (4) "Rebuild" or "rebuilt" when used in reference to a utility-scale solar project  
26 means a utility-scale solar project for which more than fifty percent (50%) of  
27 the original photovoltaic modules have been replaced with a different type of  
28 photovoltaic module or other fuel source and the facility is deemed to be new  
29 for income tax purposes.
- 30 (5) "Recycle" means the processing, including disassembling, dismantling, and  
31 shredding of PV modules or other equipment from utility-scale solar projects,  
32 or their components, to recover a usable product. Recycle does not include  
33 any process that results in the incineration of such equipment.
- 34 (6) "Transfer" or "transferred" when used in reference to ownership of a  
35 utility-scale solar project means that an owner or operator has conveyed, by



\* S 6 6 9 - V - 1 \*

1 sale or otherwise, fifty percent (50%) or more of the ownership interest of the  
2 utility-scale solar project to another person or entity.

3 (7) "Utility-scale solar project" means a ground-mounted photovoltaic (PV),  
4 concentrating photovoltaic (CPV), or concentrating solar power (CSP or solar  
5 thermal) project capable of generating 2 megawatts AC (MW AC) or more  
6 directly connected to the local or regional electrical grid with the ability to  
7 deliver power to the electrical grid. The term includes the solar arrays,  
8 accessory buildings, battery storage facilities, transmission facilities, and any  
9 other infrastructure necessary for the operation of the project. For purposes of  
10 this section, a utility-scale solar facility does not include renewable energy  
11 facilities owned or leased by a retail electric customer intended primarily for  
12 the customer's own use or to offset the customer's own retail electrical energy  
13 consumption at the premises or for net metering.

14 (b) Decommissioning Requirement. – The owner or operator of a utility-scale solar  
15 project shall be responsible for proper decommissioning of the project upon cessation of  
16 operations and restoration of the property to its condition before the utility-scale solar project  
17 was sited, including all costs associated therewith, no later than one year following cessation of  
18 operations. The owner or operator shall notify the Department within 30 days of cessation of  
19 operations, which notice shall include a detailed description of the steps to be taken to properly  
20 decommission the project, and for restoration of the site. At a minimum, an owner or operator  
21 shall take all of the following steps in decommissioning a project:

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

23 (2) Remove all equipment from the solar project, and collect and ship equipment  
24 for reuse, or recycle all of the components thereof capable of being recycled,  
25 including the PV modules; the entire solar module racking system;  
26 aboveground electrical interconnection and distribution cables that are no  
27 longer deemed necessary; subsurface cable no longer deemed necessary; any  
28 metal fencing; electrical and electronic devices, including transformers and  
29 inverters; and energy storage system batteries, as that term is defined under  
30 subsection (a) of this section. Components that will not be shipped for reuse,  
31 and are incapable of being recycled, shall be properly disposed of in (i) an  
32 industrial landfill, (ii) a municipal solid waste landfill, or (iii) a hazardous  
33 waste disposal facility, for materials determined to be hazardous. Recycling  
34 of equipment shall be conducted in compliance with environmentally sound  
35 management practices to transport and recycle such items. An owner or  
36 operator shall conduct and document due diligence assessments of the  
37 recyclers it contracts with, including an assessment of compliance with  
38 environmentally sound recovery standards. The Department shall adopt rules  
39 to establish environmentally sound recovery standards for this purpose.

40 (3) Restore the property to (i) its condition before the utility-scale solar project  
41 was sited or (ii) an alternative condition approved by both the landowner and  
42 the Department. Land that was filled, graded, or cleared of trees for the solar  
43 project may be revegetated or reforested with seedlings instead of restored to  
44 its original condition.

45 (c) Decommissioning Plan. –The owner or operator of a utility-scale solar project shall  
46 submit a decommissioning plan to the Department for approval, which shall be prepared, signed,  
47 and sealed by a professional engineer licensed in the State as follows: (i) by August 1, 2025, or  
48 at least 90 days prior to the construction of the project if the project is constructed after August  
49 1, 2025; (ii) at least 90 days prior to rebuild or expansion of a utility-scale solar project; and (iii)  
50 within 90 days following the transfer of ownership of a utility-scale solar project. The plan shall  
51 contain all of the following information:

- 1           (1)   The name, address, and contact information for the owner or operator of the  
2           project, and name, address, and contact information for the landowner of the  
3           property on which the project is sited, if different than the owner or operator.  
4           (2)   A narrative description of how the decommissioning will be conducted,  
5           including: the decommissioning sequencing; the disposal methods to be used  
6           upon decommissioning, such as landfilling, reuse, or recycling of project  
7           equipment, which shall specifically delineate methods to be used for solid and  
8           hazardous waste; and a schedule for completion of the decommissioning  
9           activities.  
10          (3)   Information on equipment proposed to be salvaged, including estimated  
11          salvage value of the equipment for the purpose of determining financial  
12          assurance.  
13          (4)   Information on steps to be taken to restore the property to its condition before  
14          the utility-scale solar project was sited.  
15          (5)   A cost estimate for decommissioning the project and restoration of the  
16          property to its condition before the utility-scale solar project was sited.  
17          (6)   The proposed mechanism to satisfy the financial assurance requirements  
18          established under subsection (d) of this section, including information on  
19          which legal entity will establish the mechanism, when it will be established in  
20          accordance with the requirements of this section, and how the Department, or  
21          local government if applicable pursuant to subsection (i) of this section, will  
22          access the funds from the mechanism if needed.  
23        (d)   Financial Assurance Requirement. –  
24           (1)   The owner or operator of a utility-scale solar project shall establish financial  
25           assurance in an amount acceptable to the Department that will ensure that  
26           sufficient funds are available for decommissioning of the project and  
27           restoration of the property in compliance with subdivision (3) of subsection  
28           (b) of this section before the utility-scale solar project was sited, even if the  
29           owner or operator becomes insolvent or ceases to reside in, be incorporated,  
30           do business, or maintain assets in the State. To establish sufficient availability  
31           of funds under this section, the owner or operator of a utility-scale solar project  
32           may use insurance, financial tests, third-party guarantees by persons who can  
33           pass the financial test, guarantees by corporate parents who can pass the  
34           financial test, irrevocable letters of credit, trusts, surety bonds, or any other  
35           financial device, or any combination of the foregoing, shown to provide  
36           protection equivalent to the financial protection that would be provided by  
37           insurance if insurance were the only mechanism used. In the event of a transfer  
38           of ownership of a utility-scale solar project, the (i) transferee shall establish  
39           financial assurance acceptable to the Department within 90 days of the transfer  
40           and (ii) financial assurance established by the transferor of a project shall  
41           remain in effect until the transferee has established acceptable financial  
42           assurance.  
43           (2)   Financial assurance shall be established by an owner or operator of a  
44           utility-scale solar project as follows: (i) by August 1, 2025, or at least 90 days  
45           prior to the construction of the project if the project is constructed after August  
46           1, 2025, and (ii) at least 90 days prior to rebuild or expansion of a utility-scale  
47           solar project. The financial assurance shall be maintained until such time as  
48           the project is decommissioned and restoration of the property has been  
49           completed in compliance with this section.  
50        (e)   Registration. – Each owner or operator of a utility-scale solar project shall (i) register  
51        with the Department by August 1, 2025, or at least 30 days prior to the construction of the

1 utility-scale solar project if the project is constructed after August 1, 2025, and (ii) update such  
2 registration every five years. At the time of registration, or periodic required update, the owner  
3 or operator shall provide all of the following information:

- 4 (1) Identification of the owner or operator and any other legal entity that will be  
5 responsible for (i) decommissioning the project and (ii) establishment of  
6 financial assurance, if applicable.
- 7 (2) Summary of project equipment that will be subject to decommissioning  
8 requirements under this section, including the location, size, number, and type  
9 of PV modules, as well as identification of any per- and poly-fluoroalkyl  
10 substances (PFAS) associated with the project, and a determination as to  
11 whether the PV modules are likely to be characterized as hazardous waste  
12 upon decommissioning. The hazardous waste determination must be made  
13 using test methods approved by the Department.
- 14 (3) Summary of project time line, including actual or anticipated initiation and  
15 completion of construction, initiation of operations, and expected service life  
16 of the project.
- 17 (4) Estimates of costs to decommission the project and restore the property.
- 18 (5) Proposed financial assurance mechanism to be used to meet the requirements  
19 of this section, if applicable.
- 20 (6) Copies of any decommissioning plan executed, or documentation of financial  
21 assurance established, pursuant to local government ordinance or agreement  
22 with a landowner, prior to registration under this subsection.
- 23 (7) Any other information the Department may require.

24 (f) Annual List. – The Utilities Commission shall develop and maintain a list of all  
25 utility-scale solar projects operating within the State and shall provide the Department with an  
26 updated list annually on or before July 1 of each year.

27 (g) Landowner and Local Authority not Preempted for Adoption of More Stringent  
28 Requirements. – Nothing in this section shall be construed as limiting the authority of any:

- 29 (1) Local government to establish and implement requirements that are more  
30 stringent than those set forth in this section for decommissioning and financial  
31 assurance for utility-scale solar projects located within its jurisdiction.
- 32 (2) Landowner to enter into an agreement with an owner or operator to lease  
33 property on which a utility-scale solar project will be sited that expressly  
34 establishes requirements that are more stringent than those set forth in this  
35 section for decommissioning and financial assurance for utility-scale solar  
36 projects to be located on the landowner's property.

37 (h) Fees. – The Department shall collect fees from the owner or operator of a utility-scale  
38 solar project subject to the requirements of this section at the time of registration and periodic  
39 update, as required by subsection (e) of this section. Fees collected under this subsection shall be  
40 applied to the Department's cost of administering the program.

41 (i) Local Government Delegation to Administer. – The Department may delegate  
42 responsibility, or partial responsibility, for the implementation and enforcement of the  
43 requirements of this section to a unit of local government upon request of the local government.  
44 Any unit of local government may request that responsibility for the implementation and  
45 enforcement of the requirements of this section be delegated to the unit of local government, and  
46 the Department and the local government may subsequently execute a memorandum of  
47 understanding to set forth delegated responsibilities. To this end, units of local government may  
48 adopt ordinances necessary to establish and enforce requirements that are at least as stringent as  
49 those set forth in this section.

50 (j) Department Report. – Information regarding implementation of the requirements of  
51 this section shall be included in the annual report required under G.S. 130A-309.06(c).

1       (k) Rules Required. – The Department shall adopt rules establishing criteria to set the  
2 amount of financial assurance required for utility-scale solar projects as set forth in subsection  
3 (d) of this section. These rules shall consider, at a minimum, the solar technology to be employed,  
4 i.e., PV, CPV, CSP, or other technology; the approximate number and size of PV modules  
5 included in the solar arrays to be constructed; any ancillary facilities to be constructed in  
6 association with the project; the condition of the property prior to construction of a utility-scale  
7 solar project; the amount of acreage that would be impacted by the proposed project; and any  
8 other factors designed to enable establishment of adequate financial assurance for  
9 decommissioning and restoration on a site-by-site basis. In establishing requirements for  
10 financial assurance for a utility-scale solar project, the Department may consider the salvage  
11 value of the project's equipment. In addition, the Department shall adopt rules as necessary to  
12 implement other requirements of this section, including rules to address the following matters:

13           (1) Requirements for decommissioning plans, including required information,  
14 and processes for submittal and review of plans.

15           (2) Requirements for financial assurance, including processes to estimate costs of  
16 decommissioning, information on salvage values that may offset  
17 decommissioning costs, and periodic updates to be provided by owners or  
18 operators to the Department.

19           (3) Fees to be assessed upon registration.

20           (4) Any other matter the Department deems necessary.

21 **"§ 130A-309.241. Grants and incentives for recycling of solar panels.**

22       The Department of Commerce, in consultation with the Department of Environmental  
23 Quality, shall identify existing incentives and grant programs that may be used to encourage  
24 research and development on recycling and reuse of PV modules and to facilitate growth of the  
25 State's PV module recycling and reuse industry.

26 **"§ 130A-309.242. Enforcement and appeals.**

27           (a) This Part may be enforced as provided by Part 2 of Article 1 of this Chapter.

28           (b) Appeals concerning the enforcement of rules, the imposition of administrative  
29 penalties, or any other action taken by the Department under authority of this Part shall be  
30 governed by the provisions for appeals set forth in Part 2 of Article 1 of this Chapter."

31       **SECTION 1.(b)** G.S. 130A-309.06(c) reads as rewritten:

32 **"§ 130A-309.06. Additional powers and duties of the Department.**

33       ...

34           (c) The Department shall report to the Environmental Review Commission and the Fiscal  
35 Research Division on or before April 15 of each year on the status of solid waste management  
36 efforts in the State. The report shall include all of the following:

37       ...

38           (21) A report on the management of solar energy equipment pursuant to Part 2J of  
39 this Article."

40  
41 **DEPARTMENT OF ENVIRONMENTAL QUALITY TO ADOPT RULES AND REPORT**

42       **SECTION 2.(a)** The Department of Environmental Quality shall adopt permanent  
43 rules implementing the requirements of this act no later than August 1, 2025.

44       **SECTION 2.(b)** Beginning December 1, 2023, through December 1, 2025, the  
45 Department of Environmental Quality shall submit quarterly reports to the Environmental  
46 Review Commission and the Joint Legislative Commission on Energy Policy on implementation  
47 of the requirements of this act, including program development and the status of the rulemaking.  
48

49 **FUNDING FOR DEPARTMENT OF ENVIRONMENTAL QUALITY TO ESTABLISH**  
50 **AND OPERATE PROGRAM**

1           **SECTION 3.** There is appropriated to the Department of Environmental Quality the  
2 sum of (i) ten thousand dollars (\$10,000) in nonrecurring funds for the 2023-2024 fiscal year for  
3 operational start-up costs to establish the program as required by this act and (ii) the sum of three  
4 hundred seventy-nine thousand dollars (\$379,000) in recurring funds for the 2023-2024 fiscal  
5 year for three full-time equivalent (FTE) positions to implement the program as required by this  
6 act.

#### 7 8 **APPLICABILITY TO EXISTING CONTRACTS**

9           **SECTION 4.** Nothing in Section 1 of this act shall be construed to abrogate or impair  
10 a contractual provision executed on or before the effective date of this act that is binding on an  
11 owner or operator, or their successors in interests, that expressly requires decommissioning  
12 and/or restoration activities in direct conflict with the requirements of those sections, such as a  
13 contractual provision granting a landowner the right to retain project equipment after cessation  
14 of operations, as that term is defined under G.S. 130A-309.240. In such case, compliance with  
15 the provisions of this act shall be required to the maximum extent that decommissioning and/or  
16 restoration activities are not in direct conflict with the terms of such a contractual provision.

#### 17 18 **PUBLIC STAFF OF THE UTILITIES COMMISSION TO PROVIDE INFORMATION** 19 **CONCERNING DECOMMISSIONING COSTS FOR EXISTING UTILITY-SCALE** 20 **SOLAR FACILITIES NOT SUBJECT TO FINANCIAL ASSURANCE** 21 **REQUIREMENTS**

22           **SECTION 5.** The Public Staff of the Utilities Commission shall, in an effort to  
23 ensure proper decommissioning of all utility-scale solar projects:

- 24           (1) Identify existing laws, which do not require ratepayer contribution or  
25 governmental appropriations, that would enable recovery of the costs of  
26 decommissioning for utility-scale solar facilities that are not subject to a  
27 financial assurance requirement pursuant to (i) Section 1 of this act, (ii) a  
28 requirement of a local government with jurisdiction over the property on  
29 which the facility is sited, or (iii) a lease or other binding contract with the  
30 landowner of the property on which the facility is sited.
- 31           (2) In consultation with the Department of Environmental Quality as needed,  
32 compile a list of all utility-scale solar projects operating within the State as of  
33 the effective date of this act.

34           The Public Staff shall report the information required by this section to the General  
35 Assembly no later than January 1, 2025.

#### 36 37 **SEVERABILITY CLAUSE**

38           **SECTION 6.** If any section or provision of this act is declared unconstitutional or  
39 invalid by the courts, it does not affect the validity of this act as a whole or any part other than  
40 the part declared to be unconstitutional or invalid.

#### 41 42 **EFFECTIVE DATE**

43           **SECTION 7.** This act becomes effective as follows:

- 44           (1) Section 1 of this act is effective when it becomes law, except as follows:
- 45           a. The requirements for decommissioning and registration established  
46 under G.S. 130A-309.240(b) and (e), respectively, as enacted by  
47 Section 1 of this act, become effective August 1, 2025, and apply to  
48 utility-scale solar projects constructed prior to or after that date.
- 49           b. The requirements for submittal of a decommissioning plan and  
50 financial assurance established under G.S. 130A-309.240(c) and (d),  
51 respectively, as enacted by Section 1 of this act, become effective

1 August 1, 2025, and shall only apply to (i) utility-scale solar projects  
2 for which applications for certificates of public convenience and  
3 necessity are pending or submitted on or after the effective date of this  
4 act; (ii) utility-scale solar projects in operation on the date this act  
5 becomes effective, only if the project is rebuilt or expanded, as those  
6 terms are defined by G.S. 130A-309.240(a)(2) and (4), after the  
7 effective date of this act, in which case the project shall be subject to  
8 the requirements of G.S. 130A-309.240(c) and (d); and (iii)  
9 utility-scale solar projects in operation on the date this act becomes  
10 effective, if ownership of the project is transferred after the effective  
11 date of this act, in which case the project shall be subject to the  
12 requirements of G.S. 130A-309.240(c) and (d) upon transfer of  
13 ownership.

14 (2) The remainder of this act is effective when it becomes law.