



November 26, 2018

Martha Lynn Jarvis  
Chief Clerk  
North Carolina Utilities Commission  
4325 Mail Service Center  
Raleigh, North Carolina 27699-4325

RE: NCUC Docket No. E-100, Sub 90  
NC GreenPower program revision

Dear Ms. Jarvis:

For more than a year, Duke Energy has met with NC GreenPower to discuss the renewable energy program we have been offering to North Carolina electric consumers since 2003. With the help of the electric utilities, our program has enabled customers to support more than 1000 renewable energy projects in our state, improving our local environment and economy. With the economic downturn in 2008, the enactment of the 2008 REPS law and other industry changes, donations have slowly declined. Because of these reasons, NC GreenPower's Board of Directors is requesting a change to our program.

We hereby submit our revised program plan to the NC Utilities Commission (NCUC) and Public Staff for your review and consideration. This revised plan has been approved by the Boards of Directors for both NC GreenPower Corporation and NC Advanced Energy Corporation on February 7, 2018 and February 13, 2018 respectively.

NC GreenPower appreciates the support and feedback from the NCUC, its staff and the Public Staff and welcomes any questions you may have.

Sincerely,

Robert K. Koger  
President

Robert H. Goodson  
Incoming President

Victoria McCann  
Vice President

cc: NCUC Commissioners  
NCUC Public Staff  
Sam Watson  
Kim Duffley

## Summary of Proposed Program Changes

Docket #E-100 Sub 90  
November 26, 2018

In July 2016, the NC GreenPower Board of Directors created a Transition Committee to discuss various options for replacing the current “50/50 Hybrid” pilot with a permanent program. The Committee met monthly to discuss and develop a proposal that was presented to the full Board in March 2017. This proposal suggested changes to the \$4.00 Mass Market (MM) Renewable Energy Certificate (REC) product that currently allocates half to support in-state renewable energy projects and half to support the installation of educational solar PV packages (Solar Schools) at NC K-12 schools. Instead of the even split of these funds, the new program would allocate a smaller portion of the \$4.00 MM donations to continue support of in-state green power projects while allocating a larger portion to support the Solar Schools initiative. No changes were proposed for the \$2.50 Large Volume (LV) REC, Carbon Offset or Brokered Bid products. With feedback from the Board, the Transition Committee continued to finalize the plan with the intent to file it with the NC Utilities Commission (NCUC) in fall 2017 for a January 2018 launch.

Then in June 2017, Duke Energy approached NC GreenPower with plans to develop their own REC program. While Duke Energy did not wish to compete with NC GreenPower’s REC products, a survey they conducted showed that their customers would support a REC offering from the utility.

In response to Duke Energy’s plans, the Transition Committee began meeting again to consider other options in order to revise their proposal accordingly. With input from Duke Energy, the Transition Committee developed a new program plan that was presented and approved by both the NC GreenPower and Advanced Energy Boards of Directors in March 2018.

NC GreenPower’s proposed plan is being filed with the NCUC to replace the current 50/50 Hybrid pilot program. While there are many similarities between the two, the new Solar<sup>+</sup> Schools program will terminate the \$4.00 MM REC product and small

solar generator incentive, allowing NC GreenPower to focus on providing solar PV packages to schools. Two revisions will be made to the \$2.50 LV REC product but no changes will be made to the Carbon Offsets and Brokered Bids products; all donations will continue supporting North Carolina projects.

## Transition to new Solar<sup>+</sup> Schools Program

### Background

In the past 14+ years since NC GreenPower first launched, there have been many changes both outside and within the program. Renewable energy in 2003 was new and exciting, and donors wanted to do their part to help the environment. Participation grew quickly and steadily for the first five years until the economy slumped in 2008. It was the same year Duke Energy asked that a Carbon Offset product be added to the NC GreenPower portfolio to offer consumers the option to offset their carbon footprint. The Carbon Offset product did not experience the same rapid adoption and growth rates as the Renewable Energy products, as many were still unsure of the veracity of global warming.

With a struggling economy and the novelty of renewable energy wearing off, NC GreenPower's \$4.00 MM REC product saw declining participation levels each year. In an effort to reinvigorate the program, which still had some support, the NC GreenPower Strategic Planning Committee was formed in 2012 to develop new program ideas that would hopefully make NC GreenPower financially sustainable for the future. The 50/50 Hybrid pilot was created, with the Solar Schools program as the headlining initiative. NC GreenPower Solar Schools has been well-received and has operated successfully through its first two pilot years, providing nine NC K-12 schools with solar PV educational packages. Five more systems will be installed in late 2018/early 2019 as a part of the program's third pilot year and another five schools were selected for the fourth pilot year in March 2018.

In early 2018, working in parallel with Duke Energy's plans for their own REC program, the Transition Committee developed a permanent program to replace the 50/50 Hybrid pilot in January 2019 – the new Solar<sup>+</sup> Schools program.

### **Current Program: NC GreenPower 50/50 Hybrid Pilot**

NC GreenPower's mission has been to improve the quality of the environment by encouraging the development of renewable energy resources through consumers' voluntary funding of green power purchases by electric utilities in North Carolina and the mitigation of greenhouse gas emissions through consumers' voluntary funding of carbon offsets\*.

NC GreenPower's objectives\* are to:

- 1) improve the quality of the environment,
- 2) increase the amount of generation from renewables,
- 3) mitigate greenhouse gases,
- 4) maximize the amount of investment in renewable generation, and
- 5) maximize the number of participants.

\*NOTE: Because the Solar Schools initiative is a pilot, it has not yet been incorporated into the mission or objectives of NC GreenPower. Having seen success with the pilot, the Board will make revisions to the mission and objectives at a later date.

The types of renewable energy resources that NC GreenPower accepts are:

- 1) biomass (methane from landfills, animal and agricultural waste; wood waste)
- 2) small hydropower (10 MW or less)
- 3) solar PV
- 4) wind

NC GreenPower contributors can donate to support Renewable Energy/Solar Schools and Carbon Offsets:

- 1) Renewable Energy product has three options:
  - a. Mass Market product (\$4.00 donation: supports RECs from a \$2.00 block of 50 kWh and remaining \$2.00 supports Solar Schools)
  - b. Large Volume product (RECs from a \$2.50 block of 100 kWh, minimum purchase of \$250.00/month)
  - c. Brokered Bid (minimum purchase of \$15,000/year at negotiated price/block)
- 2) Carbon Offsets product has two options:
  - a. \$4.00 block of 1,000 lbs. of carbon offset

- b. Brokered Bid (minimum purchase of \$15,000/year at negotiated price/block)

### **Proposed New Program: NC GreenPower Solar<sup>+</sup> Schools**

With the significant reduction in costs for residential rooftop solar PV, donations once needed to encourage such projects are no longer critical since systems are more affordable. Because of this, the \$4.00 MM REC product (currently split to support renewable energy and school projects) will be terminated, as will the small solar PV generator incentive program. The current 50/50 Hybrid pilot will be replaced with a new Solar<sup>+</sup> Schools program.

By directing all of the current \$4.00 MM REC donations to the Solar<sup>+</sup> Schools program, more schools will have an opportunity to receive our grant. A focused Solar<sup>+</sup> Schools initiative has the potential to be much more attractive to contributors as it allows people to feel connected to a specific project, possibly leading to increased contributions. Presently, the program provides educational solar PV packages to NC K-12 schools but will consider expanding to include other types of renewable energy and energy storage projects in the future, and may consider expanding the grant program to other recipients.

Solar<sup>+</sup> Schools will also reduce NC GreenPower's administrative and program expenses with fewer generators requiring ongoing payments. Efforts will shift to fund solar PV projects at schools and provide education/awareness to communities about renewable energy.

The \$2.50 LV REC product will be renamed as the "Clean Energy Supporter" REC product to better reflect the donors who support it. The minimum monthly purchase will be reduced from 100 blocks of 100 kWh each (or \$250.00) to 40 blocks of 100 kWh each (or \$100.00). Donations for this product will continue to support NC renewable energy generators.

There are no proposed changes to the Carbon Offset and Brokered Bid products. Donors may continue contributing to support local carbon mitigation projects. Large consumers will still be able to donate towards and/or purchase RECs and Carbon

Offsets through the Brokered Bid product, as well as consumers who purchase for event offsets and to earn LEED points.

**Additional Board-approved program changes will include:**

- **Updated definition of “new” renewables.** Having designed the NC GreenPower program based on the Center for Resource Solutions’ Green-e standards, the definition of new renewables will be changed to align with Green-e’s definition of “any eligible renewable facility beginning operation or repowered after the dates indicated on the following table:

Year of Sale	New Date
2016	2002
2017	2003
2018	2004
2019	2005
2020	2006
2021	2007

The New Date will continue to advance by one year each year after 2021.”

- **Increased grant amount for school solar systems.** In the first four years of the 50/50 Hybrid pilot, donated SunPower modules (435 W) were mounted on a single-pole, top-of-pole system for which schools received up to \$10,000 from NC GreenPower in grant funding. When the inventory of SunPower modules is depleted, smaller solar modules may be used but will require a two-pole, top-of-pole design. For these more expensive multiple-pole systems, NC GreenPower will increase grant funding up to \$15,000 per school to reduce the financial burden on the school.
- **Allowing roof-mounted arrays in prominent areas.** In an effort to reduce the fundraising burden on schools, NC GreenPower will permit the installation of roof-mounted arrays in very prominent locations at schools. These sites must be clearly visible to the general public (e.g. front of the school) and also have access to ideal solar conditions.
- **Program expenses will include more tasks.** NC GreenPower has always reserved at least 75% of donations to pay for program costs, which to-date,

has only been payments to generators. Other activities, such as verifying renewable energy generation, project and resource management for the Solar Schools initiative, will also be included as program costs as they should not be considered administrative costs; these changes have been confirmed with and approved by NC GreenPower's independent auditors and Board of Directors.

- **Updated fundraising options.** Currently, if a school is not successful in reaching their fundraising goal, they have four options:
  1. Request a 30-day extension to continue fundraising
  2. Decrease the size of solar PV array
  3. School may choose another school to which raised funds may be donated
  4. NC GreenPower may choose school to which raised funds may be donated

Options 3 and 4 will be removed and replaced with a new option: If options 1 and 2 have been granted and there are insufficient funds to install a small solar PV array, NC GreenPower will use the funds to purchase renewable energy educational materials and classroom kits for the school.

### Program Process Overview

Upon launching the new Solar<sup>+</sup> Schools program, existing donors that were supporting NC GreenPower's \$4.00 MM RECs will automatically have their funds transferred to support the Solar<sup>+</sup> Schools program. If contributors do not wish to support the Solar<sup>+</sup> Schools program, they can contact NC GreenPower or their electric utility to "opt out" and cancel their donation.

Using donations as funding, NC GreenPower will provide a grant for the lesser of 50% of the total solar package costs or \$10,000 for all 3-5 kW single-pole top-of-pole and roof-mounted arrays. For multiple-pole, top-of-pole arrays, the grant amount will be the lesser of 50% of the total solar package costs or \$15,000. The school is responsible for raising the remaining balance using the my.NCGreenPower.org fundraising tool or other approved method of their choosing.

All NC K-12 schools are eligible to participate, but preference will be given to those schools with greater need, such as those located in Tier 1 counties (areas in greatest economic distress), Title 1 schools, etc. NC GreenPower will work with the NC Department of Public Instruction to notify all schools and superintendents of the opportunity to participate in the program. Interested schools may apply to NC GreenPower for consideration to receive a 3-5 kW solar PV educational package; larger systems will be allowed but the schools would need to raise the additional funds to support the effort. NC GreenPower will convene a committee to review applications and select schools to receive the award.

The selected school can self-promote their project and start a “campaign” through my.NCGreenPower.org. This crowd-source funding campaign will help communities raise funds to support the renewable project at the school. Because Tier 1 communities may not be able to provide great financial support, the project will be promoted on NC GreenPower’s main website to attract support from other areas across the state. In addition, NC GreenPower will publicize the campaign via social media, press releases, and events to raise awareness and funds for the project. An unlimited number of schools can start campaigns on the my.NCGreenPower.org website but only one campaign can be started per project. Projects are not eligible for NC GreenPower incentives (REC agreement) and all campaigns and projects must be authorized by NC GreenPower (staff/Review Committee/Executive Committee/Board of Directors).

NC GreenPower will retain a small fee from each school’s fundraising to cover a portion of our costs as directed by the NC GreenPower Board of Directors; remaining funds will be used to support the solar PV project at the school. As the school fundraises, NC GreenPower will issue an RFP to get bids from qualified installers who meet specific program requirements. Once an installer is selected and funds are raised, NC GreenPower will oversee the entire installation process. Installers will assume all liability for the proper construction and operation of the educational solar PV system.

If a school does not raise enough funds, it will have three options:

- School may request a single 30-day extension for their fundraising deadline
- School may decrease the size of solar PV system to decrease project costs

- If raised funds are not adequate for a smaller solar PV system, NC GreenPower will use raised funds to purchase renewable energy education materials/classroom kits for school

If a school exceeds its fundraising goals, the school may use the excess funds to increase the solar PV installation size (size limits will apply for pole-mounted arrays), pay NC GreenPower or a contractor to provide energy efficiency consulting/upgrades or request NC GreenPower use raised funds to purchase additional energy education materials for their school.

NC GreenPower provides educational curriculum from an accredited organization, such as the National Energy Education Development (NEED) Project, to fully maximize the benefit of having the system as a teaching tool. The curriculum meets NC educational standards and is tailored for all grade levels to engage both teachers and students in multiple subject areas. The curriculum may also include information on other renewable energy sources as the program may expand beyond solar PV in the future. Expenses for curriculum and classroom materials will be paid by NC GreenPower's program funds.

Three to five teachers per school are required to attend a day-long curriculum training led by a NEED instructor and paid for by NC GreenPower. Solar installers will demonstrate basic operation/maintenance (O&M) for the solar PV system to teachers/school staff; O&M should be minimal but trained staff will save the school the expense of hiring a contractor except for more serious issues. The school's fundraising goal will include raising extra reserve funds for O&M repairs so any non-warranted expenses are covered after the project installation.

NC GreenPower will hold all contributions and pay the installer upon satisfactorily completing the installation of the solar PV system. Completed projects will display signage with recognition of NC GreenPower and other supporters. A press release and school event will be offered to celebrate the success of the project and further promote the program.

All donations to NC GreenPower, including those given to a school's campaign, are tax-deductible and will be used to support only in-state projects.

## Benefits

There are numerous benefits to be gained by contributors, generators, schools and NC GreenPower by offering this Solar<sup>+</sup> Schools program. A few examples are:

- For Contributors:
  - Ability to donate to specific school projects in North Carolina, especially those in need of resources
  - Knowledge that contributions provide education to children and energy savings for schools
  - Ability to make tax-deductible donations through a trusted nonprofit organization
  - Ability to support local renewable energy and carbon offsets without paying for their own project
  
- For REC and Carbon Offset Generators:
  - Additional revenue to offset cost of projects
  
- For Schools:
  - Educational tools and curriculum for teachers and students
  - Allows those who cannot normally afford renewable energy to have solar PV educational package
  - Potential energy savings and REC revenues
  
- For NC GreenPower:
  - Potential for new, ongoing contributors to program
  - Potential for decreased administrative costs due to fewer generators
  - Increased awareness for program, easier to market

## Solar<sup>+</sup> Schools Program Timeline

This new Solar<sup>+</sup> Schools program will be filed with the NCUC in November 2018. If it is approved, the program will be launched in the first quarter of 2019, in conjunction with the Duke Energy REC program. As with its other products and programs, NC GreenPower will monitor the success of the new initiative and track program and administration costs. The goal for the program will be to have a minimum of five (5) projects successfully funded each year. Any adjustments to

make the program more successful will be made with Board input and filed with the NCUC as necessary.

## Future: NC GreenPower is a Partner for Greener Communities

While the new Solar<sup>+</sup> Schools program is exciting and may prove to be the self-sustaining solution for NC GreenPower to succeed well into the future, it is important for staff to continue to achieve the three objectives defined by the UNC Environmental Finance Center's 2014 study: 1) increase contributions, 2) reduce the average cost of resource (generator) payments, and 3) decrease administrative costs. Staff will remain aware of funding opportunities through foundations and grant-giving organizations, as these resources will enable staff to continue educating North Carolinians on the importance and benefits of renewable energy.

The renaming from Solar Schools to Solar<sup>+</sup> Schools allows the program to implement not only solar PV but provide other renewable energy and energy storage technologies as part of educational packages to local communities. While NC GreenPower will continue to support in-state RECs for Clean Energy Supporters, LEED points, event offsets and Carbon Offsets, the focus on enhancing schools with sustainable technology will become the main initiative. The future could see NC GreenPower's reach broadening to become a community-based program supporting renewable energy/storage projects for schools and other similar organizations that would otherwise not be able to afford cleaner, greener energy projects.