



Building People Power for Climate & Energy Justice

NORTH CAROLINA Clean Path 2025
Action Plan

Revised January 2018

Since President Trump announced his decision to leave the Paris climate agreement, there has been an outpouring of interest among local governments in setting ambitious emissions reduction targets or goals to be powered by clean energy. The challenge for these local governments and their residents now becomes moving beyond symbolic gestures and taking meaningful actions to meet these targets in order to help slow the climate crisis. NC Clean Path 2025 outlines an achievable, economical path to get North Carolina off fossil fuels through rapid growth of local solar, battery storage and energy efficiency.

Implementing NC Clean Path 2025 will require a collaborative effort of active residents and local leaders who will engage with them to move the effort forward. We need people from all backgrounds and walks of life to bring creative ideas to the table for moving our communities off of fossil fuels. We need to ramp up our collective actions to have greater impact than individual actions alone can achieve. This Action Plan is not meant to be a template followed to the letter, but rather it suggests measures that engaged residents can take in order to make NC Clean Path 2025 a reality, including:

1. Possible steps to deploy solar, battery storage and energy efficiency through the local government's own programs and initiatives.
2. Advocacy with Duke Energy and state leaders to press them to join efforts to achieve the goals of NC Clean Path 2025.
3. Special actions that can be taken by public (municipal or cooperative) utilities.

Please check www.nccleanpath2025.org for frequent updates, to read the NC Clean Path 2025 report, to see what actions are happening across the state and to connect with other local climate activists.

1. Possible steps to deploy solar, battery storage and energy efficiency at the local level

Set up an NC Clean Path 2025 Action Team

- Communities should form NC Clean Path 2025 Action Teams — to evaluate what actions will be best suited for each county and how best to implement them.
- In order to maximize effectiveness, NC Clean Path 2025 committees should include residents, elected officials and government staff.
- Electric utility issues are complex and ever-changing. If a sustainability or energy committee does not already exist, local government officials should dedicate staff to research: local energy usage patterns, existing energy initiatives and policies, benefits for residents and businesses, avenues to implement NC Clean Path 2025 and economic implications of pursuing different options.
- Use staff research to help the Clean Path Action Team and local elected leaders develop goals and actions.

Make local energy information and goals transparent

- Local government officials should keep residents apprised of energy goals and progress toward them so residents are engaged and inspired, and to hold local officials accountable.
- Visible energy initiatives of local governments will serve as a model for all residents, nonprofits, schools and businesses within the county.
- Share information with other Action Teams, cities and counties about which projects and programs have been successful and which have not on www.nccleanpath2025.org. Not all local governments will fit the same mold as they implement measures to pursue NC Clean Path 2025, but the lessons learned in one place can serve as a useful learning tool for those that come after.

EXAMPLE: *The Clean Path Action Team and government staff could produce annual reports or a regularly updated website where progress over time can be tracked. Minneapolis, MN, produces an annual report that clearly and publicly tracks its progress as part of its Clean Energy Partnership (described further below).¹*

¹ <https://mplscleanenergypartnership.org/recent-news/annual-report/>

Energy efficiency and solar power plus battery storage for government-owned facilities

- Allocate funds for implementing energy audits, efficiency measures and solar PV systems on government buildings and property, including rooftop, parking lot or ground-mounted systems.
- If a solar systems is under 1 MW (or 100 kW to avoid potential standby charges and fees), the facility will qualify for net metering with the utility (Duke Energy Progress, Duke Energy Carolinas or Dominion Energy) and be able to directly offset its usage and be reimbursed for excess output flowing back onto the grid.
- Battery storage has become cost-effective, especially in conjunction with solar, and any new system on government buildings should include batteries or the option to add battery storage in the future.
- Energy savings or usage that is displaced with solar power and efficiency projects will save the local government – and therefore its residents – money by lowering operating costs. Alternatively, funds from energy savings gained from initial projects can be used to fund additional renewable or energy efficiency projects.
- Local governments that face budget limitations and cannot fund the upfront cost of installing solar could consider utilizing tax-exempt bonds or leases.²

EXAMPLE: Washington DC contracted to have 11.4 MW of solar PV constructed across 34 district-owned rooftops and parking lots in 2015. The systems are expected to meet 3.5% of the government's total electricity needs each year and reduce peak electricity demand by 15%.³

CURRENT POLICY: Under NC House Bill 589, passed in 2017, government facilities may qualify for a rebate for on-site solar systems that are net metered and under 100 kW. Exact specifications and rebate amounts were proposed by Duke Energy in January 2018⁴ and will be approved or modified by the Utilities Commission in the near future. The law includes a set-aside for nonprofit and government utility customers. The law also provides for solar leasing opportunities that are expected to be available soon from Duke Energy and other lessors.⁵

² The US Department of Energy's *Solar Powering Your Community: A Guide for Local Governments* provides further details about possible funding mechanisms (see p. 137), as well as other helpful information for local governments interested in advancing clean energy: https://icma.org/sites/default/files/302295_Solar-Powering-Your-Community-Guide-For-Local-Governments.pdf

³ <https://mayor.dc.gov/release/mayor-bowser-announces-largest-municipal-onsite-solar-project-us>

⁴ <http://starw1.ncuc.net/NCUC/ViewFile.aspx?Id=b1af890f-df15-4a15-b3be-113foac9e480>

⁵ House Bill 589, Part VI and Part VIII:

<http://www.ncleg.net/Applications/BillLookup/LoadBillDocument.aspx?SessionCode=2017&DocNum=5510&SeqNum=0>

Solar projects through the Greensource Rider

- Government facilities with electricity demand of 1 MW or higher at a single facility or 5 MW or higher across multiple facilities can participate in the Greensource Rider.
- Governments could have solar projects constructed off-site and Duke Energy would pay the contract price to the project developer and pass those contract costs through to the local government while crediting the local government for energy produced by the system.

CURRENT POLICY: Under House Bill 589, the utilities have submitted a proposal for a new Greensource Rider program that the Utilities Commission will review.⁶

Simplify local permitting requirements for solar projects

- Local government permitting can be a complicating factor for completing residential and commercial solar energy projects.
- Some counties in the state already have low permitting costs (from \$50 to \$125) and only require an electrical permit and letter of approval from an engineer rather than both an electrical and building permit for solar installations.
- Making the process as streamlined and inexpensive as is reasonable helps solar installers to complete installations more quickly and cost-effectively.⁷

Energy efficiency and solar programs for residents and businesses

- Clean Path Action Teams should explore how the local government could facilitate residents and businesses getting energy efficiency upgrades and solar power systems – such as rebate/incentive offerings, low-interest loans or solar leases.
- Programs could be formed as partnerships with nonprofit organizations, companies or financial institutions.
- Federal grants or low-interest bonds may be available as a source of funding. If a program offers efficiency upgrades or solar installations that have no upfront costs and are repaid as the recipient realizes savings on energy bills, it may be possible to create a revolving fund where payments are reinvested back into the program.⁸

⁶ <http://starw1.ncuc.net/NCUC/ViewFile.aspx?Id=2f55a075-9d69-463c-a549-c204947b0c37>

⁷ The NC Clean Technology Center has created a model ordinance to encourage solar installations: <https://nccleantech.ncsu.edu/technology/renewable-energy/solar/template-ordinance-for-solar-energy-development-in-north-carolina/>

⁸ One resource for financing options is Kara A. Millonzi, "Addressing Climate Change Locally: North Carolina Local Government Financing Programs for Private Energy Efficiency Projects," *Local Finance Bulletin*, No. 41, February

EXAMPLE: In partnership with nonprofit organization Eden Housing, the City of Haywood, CA, helped to get efficiency upgrades and solar power for a 100-unit, low-income senior living facility. The upgrades helped reduce the facility's gas usage by 22%, electricity usage by 40% and water usage by 21%. The project was made possible in part by federal stimulus money and California solar rebates.⁹

EXAMPLE: San Francisco's GoSolarSF program offers cash incentives to homes and businesses that install solar, with the highest incentives being offered to low-income residents and affordable housing facilities. The program also encourages participants to hire designated local installers who employ graduates of the city's workforce development program.¹⁰

EXAMPLE: Solarize programs, including several across North Carolina, have helped expand solar power on homes and businesses in many communities. Although Solarize programs are often formed by nonprofit organizations, in some instances the effort has been spearheaded by the local government, neighborhood or group of active residents.¹¹

CURRENT POLICY: House Bill 589 may provide an avenue for local governments to create a leasing program for residents. Under the solar lease model, the government would pay the upfront cost of the system and be repaid by the participant at a flat rate over time.¹²

Create local clean energy jobs

- By developing local solar and energy efficiency resources spread across the state, NC Clean Path 2025 can provide 50 percent more jobs than Duke Energy's proposed energy path, in much less time.
- North Carolina's Renewable Energy Portfolio Standard (REPS) accounts for \$6.4 billion in annual revenues and over 34,000 jobs.¹³ Eighty-five percent of renewable energy investments over \$1 million were made in mostly rural counties that need economic development.

2010. UNC School of Government Environmental Finance Center,
<http://sogpubs.unc.edu/electronicversions/pdfs/lfb41.pdf>.

⁹ <https://www.edenhousing.org/press-release/flipping-switch-new-solar-system-and-green-upgrades-eden-issei-terrace-hayward>

¹⁰ See page 31: https://icma.org/sites/default/files/302295_Solar-Powering-Your-Community-Guide-For-Local-Governments.pdf.

¹¹ One example is Medfield, MA: <http://www.solarizemedfield.org/>. A useful guide to US Department of Energy Solarize programs can be found at: <http://www.nrel.gov/docs/fy12osti/54738.pdf>. NC's nonprofit-sponsored Solarize programs are described at <http://solarize-nc.org>.

¹² House Bill 589, Part VI:

<http://www.ncleg.net/Applications/BillLookup/LoadBillDocument.aspx?SessionCode=2017&DocNum=5510&SeqNum=0>

¹³ <https://energync.org/take-action/>

- Local governments can help to encourage this rapid growth by working with local organizations, solar and energy efficiency businesses, and universities or community colleges to develop programs that train residents for jobs in the industry.

EXAMPLE: *Some local resources are already available in North Carolina. Catawba College and the North Carolina Clean Energy Technology Center at NC State University offer internships and education programs for individuals pursuing work in the clean energy industry.¹⁴ The Urban League of Central Carolinas has expressed interest in working with the Faith in Solar initiative to include a job training component as part of the program.¹⁵*

EXAMPLE: *In New Orleans, Louisiana Technical College has partnered with a local nonprofit organization to create a course to train students in solar applications, National Electrical Code (NEC), tax credit incentives and state solar installation contractor requirements. Students who complete the program receive a certificate and fulfill part of the state's requirements to become a solar installation contractor.¹⁶*

Negotiate renewable energy requirements with the utility

- Review the city/town's franchise agreement with the utility and explore opportunities to negotiate a requirement that a certain percentage of electricity provided under the agreement must be produced from renewable energy sources (sited within the city/town limits as much as possible).
- The NC Clean Path 2025 Action Team and other decision makers should decide realistic renewable energy targets for the near and long term.
- Be prepared for the possibility that setting renewable requirements may be accompanied by some additional costs from the utility.

EXAMPLE: *Minneapolis has recently amended its municipal franchise agreements to include renewable energy requirements. In 2014, after an extensive sustainability study, the city entered a new franchise agreement with Xcel Energy, which included the creation of a partnership to support the city's Climate Action Plan.¹⁷*

¹⁴ See the NC Clean Tech Center diploma program at: <https://nccleantech.ncsu.edu/wp-content/uploads/RETDS-Fact-sheet-NC-CETC1.pdf>

See the Catawba College Energy Corps program at: <http://www.centerfortheenvironment.org/catawba-college-energy-corps.html>

¹⁵ <https://www.urbanleaguecc.org/>

¹⁶ See page 106: https://icma.org/sites/default/files/302295_Solar-Powering-Your-Community-Guide-For-Local-Governments.pdf

¹⁷ Information about the Minneapolis Clean Energy Partnership can be found at <https://mplscleanenergypartnership.org/>. The Institute for Local Self Reliance is a good resource for cities or towns interested in pursuing this option.

Local control of energy choices

- Research the option for the local government to take control of electric utility functions for itself and its residents rather than continue under franchise agreements with Duke Energy (known as municipalization).
- Municipalization means the city/town owns the electric utility that provides distribution service in the area, and either operates that utility or contracts with an experienced company to operate it.
- The municipality can contract to purchase power produced elsewhere (from Duke Energy or merchant generators) as well as build its own generation such as solar PV projects.
- There are currently about 75 municipal governments and university campuses in the state that retain local control of electricity service.¹⁸
- There are many factors to consider, including the current status of the municipality's franchise agreement with the utility and economic considerations such as cost to purchase the distribution system from Duke Energy and loss of electricity sales tax as a revenue stream.

EXAMPLE: *Boulder, Colorado, is a current model for cities or towns considering municipalization.¹⁹ Boulder elected officials and residents have been working toward terminating their franchise agreement with Xcel Energy in order to purchase their own clean energy for nearly a decade. Due to enormous pushback from Xcel, Boulder has spent over \$10 million so far in its efforts. However, this amount represents only a third of the profit Xcel makes from Boulder each year.²⁰ Boulder and Xcel are currently in negotiations being overseen by the Colorado Utilities Commission for a separation plan. If the municipalization efforts fail, Boulder may attempt to negotiate a plan with Xcel to move toward its goal to be powered by 100% clean energy by 2030, similar to the approach taken in Minneapolis.²¹*

¹⁸ See slide 16: <http://www.ncuc.commerce.state.nc.us/overview/overview.pdf>

¹⁹ The website for Boulder's community group organizing for municipalization has more helpful information and background: <http://www.renewablesyes.org/>

²⁰ http://www.dailycamera.com/news/boulder/ci_29599647/boulder-muni-spending-tops-10-million

²¹ <http://www.publicpower.org/Media/daily/ArticleDetail.cfm?ItemNumber=46807>

2. Advocacy issues that require elected official and resident engagement

A list of current priorities for advocating on specific policies and legislation can be found at nccleanpath2025.org.

Duke Energy

- Since Duke Energy provides electricity to the vast majority of the state, changing its business model is the fastest way to achieve the goals in NC Clean Path 2025.
- It is important for customers to push Duke Energy on these issues, but local elected officials and government bodies have more influence than individual customers alone.
- Local governments should join with faith leaders, business groups and other advocates in the state to call on Duke Energy to move away from its current path of burning fracked natural gas and coal and to move toward the clean energy future described in NC Clean Path 2025.
- An energy future reliant on local solar, battery storage and energy efficiency is critical to averting the worsening impacts of the climate crisis. It also saves local governments and customers money by avoiding over \$20 billion of utility investments in fracked natural gas projects and grid upgrades.

State government

- Use local government influence with state elected and appointed officials to publicly support programs and legislation that promote the growth of cheaper, clean, renewable energy and energy efficiency in the state.²²
- Intervene in NC Utilities Commission dockets and urge transparency in their proceedings.

EXAMPLE: *Net metering allows customers with rooftop solar to use the power created by their system and to be reimbursed at the full retail rate for excess electricity put back onto the grid that the utility can then sell to neighboring customers. It is important for favorable net metering rules to remain in place to continue encouraging customer adoption of rooftop solar. However, there are ongoing efforts by utilities in North Carolina and across the country to dismantle net metering programs. Under House Bill 589, passed in 2017, the Utilities Commission is set to review and make changes to existing net metering policies based on a*

²² Freeing the Grid has listed many best practices for net metering and interconnection policies: <http://freeingthegrid.org/#education-center/best-practices/>

proposal from Duke Energy.²³ It is important for local government leaders to stand up for the existing net metering model and its significance to implementing NC Clean Path 2025.

EXAMPLE: In states with enabling legislation in place, cities and counties can establish Property Assessed Clean Energy (PACE) programs that allow home and business owners to finance energy upgrades and pay the cost back on their property tax bills over time. Counties may finance PACE programs by revenue bonds, general obligation bonds or general revenues. Legislation is currently pending to allow PACE for commercial properties in NC.²⁴

EXAMPLE: Community Choice Aggregation (CCA) allows local governments to pool (or aggregate) their electricity purchases and to install generation projects on behalf of their residents and municipal accounts. CCAs are local, not-for-profit, public agencies that take on the decision-making role about sources of electricity generation. Once established, CCAs become the default service provider for customers in the area. In a CCA service territory, the existing utility continues to own and maintain the transmission and distribution infrastructure, metering and billing. CCA must be established by state enabling legislation, and is currently allowed in seven states (CA, IL, OH, MA, NJ, NY and RI).²⁵

EXAMPLE: Third party sales allow solar companies to install solar systems on customers' property for no upfront cost to the customer, who then purchases solar power generated from the system. North Carolina is one of only a handful of states where this arrangement is prohibited. Legislation that would allow third party sales was proposed in North Carolina in 2015 with bipartisan support, but was defeated due to extensive lobbying efforts by Duke Energy.²⁶ Third party sales have the potential to introduce much-needed competition to North Carolina's electric industry and break down a significant barrier to widespread rooftop solar adoption – the upfront cost.

EXAMPLE: On-bill financing of energy efficiency upgrades is available from some NC electric cooperatives (see page 11), but past efforts to persuade Duke Energy to offer on-bill financing have been unsuccessful.

²³ House Bill 589, Section VI:

<http://www.ncleg.net/Applications/BillLookup/LoadBillDocument.aspx?SessionCode=2017&DocNum=5510&SeqNum=0>

²⁴ Learn more about PACE at PACENation, <http://pacenation.us/>. Check the status of NC's C-PACE bill, S493, at <http://www.buildingnc.org/pace-financing>.

²⁵ Information about CCA can be found at <http://www.leanenergyus.org/what-is-cca/>

²⁶ Learn more about the Energy Freedom Act and third party sales at <http://www.ncwarn.org/energy-freedom/>

3. Special actions that can be taken by public (municipal or cooperative) utilities

Renewable energy projects for utility generation

- Public utilities can invest in solar PV (including ground-mounted, large industrial/commercial rooftop, or parking lot installations) and battery storage projects to meet part of their demand with renewable sources.
- The utility should put out a request for proposals (RFP) for projects from local installers to attract the most cost-competitive proposals.
- Projects that are close to customer load should be prioritized so that costly new transmission lines do not have to be built to integrate projects into the public utility distribution system.

EXAMPLE: *Tideland Electric Membership Corporation (EMC) in Ocracoke has combined an existing diesel generator with solar PV and batteries to create a pilot microgrid to help power the island.*²⁷

EXAMPLE: *Brunswick EMC is developing twelve solar-with-storage projects that will have a combined storage capacity of 12 MWh. The projects are scheduled to be online in October 2017.*²⁸

Community solar programs

- The utility can contract to construct a mid- to large-scale solar installation, then allow customers to purchase shares of the system and benefit from the power produced by their share.
- Community solar programs give customers who cannot generate solar power on their own property (due to shading, cost limitations, or living in a rental property) the chance to invest in solar.
- Make sure the program is affordable and transparent, and actually saves participants money. Some community solar programs have failed as a result of unaffordable pricing or failing to publicly discuss program details and rates.

EXAMPLE: *Roanoke and Brunswick EMCs have both implemented community solar programs for their members.*²⁹ *The Interstate Renewable Energy Council tracks and grades community solar efforts across the country.*³⁰

²⁷ <https://ocracokeobserver.com/2016/12/12/ocracoke-is-first-in-the-state-for-a-microgrid/>

²⁸ <http://www.utilitydive.com/news/cypress-creek-to-develop-12-solar-storage-projects-for-north-carolina-co-446290/>.

²⁹ Roanoke EMC: <http://roanokeelectric.com/content/community-solar-o>
Brunswick EMC: <http://www.bemc.org/content/community-solar>

On-bill financing programs for customers

- On-bill financing is a utility program that covers the upfront costs of energy efficiency and onsite solar upgrades, which are then paid over time via charges on utility bills.
- On-bill financing allows customers to overcome cost barriers that could otherwise prevent them from investing in solar and efficiency.
- Programs can include a “bill-neutrality” requirement, so that savings on monthly bills from efficiency and solar upgrades must be greater than or equal to a customer’s cost recovery payments.³¹

EXAMPLE: *Roanoke EMC provides an on-bill financing program called Upgrade to Save. The program is part of the U.S. Rural Utilities Service’s Energy Efficiency and Conservation Loan Program, which allows co-op members to access federal funding for improvements to home efficiency, such as new HVAC or weatherization. Under this program, co-op members can immediately save money on monthly bills, while paying off Roanoke EMC for the improvements.*³²

³⁰ IREC: <http://www.irecusa.org/regulatory-reform/shared-renewables/national-shared-renewables-scorecard/>

³¹ For more information about on-bill financing, see: <http://www.ncsl.org/research/energy/on-bill-financing-cost-free-energy-efficiency-improvements.aspx>. UNC’s Environmental Finance Center and the NC On-Bill Financing Working Group are developing resources to aid NC coops in establishing on-bill programs. More at <https://efc.sog.unc.edu/project/jump-starting-bill-energy-efficiency-programming-nc>.

³² Visit Roanoke EMC’s website for more information on Upgrade to Save: <http://roanokeelectric.coopwebbuilder2.com/UpgradeToSave>