Bipartisan Infrastructure Law - **Section 40101(d)**

**Preventing Outages and Enhancing the Resilience of the Electric Grid**

**State of North Carolina**

**North Carolina State Energy Office**

**March 31, 2023**

**Proposed Program Narrative**

**Overview**

Under the Grid Resilience Formula Grant Program through Section 40101(d) of the Infrastructure Investment and Jobs Act (IIJA), the U.S. Department of Energy (DOE) will provide an estimated $2.3 billion in formula grants to States and Indian Tribes (eligible applicants) to improve the resilience of the electric grid against disruptive events. The North Carolina Department of Environmental Quality's (NC DEQs) State Energy Office (SEO) will administer funding to subawardees, an estimated value of $9.2 million annually for the next five years.

North Carolina is the second-highest state in the nation for average electric power service interruptions per customer in total duration, averaging roughly eleven hours annually.[[1]](#footnote-23416) Our state will focus on enhancing the electric system’s adaptive capacity during a disruptive event such that the power grid continues to supply electricity to the affected community. We will work on building and improving resiliency of the grid infrastructure and will supplement existing funding to provide support for projects that reduce the likelihood and consequences of grid failure due to natural disasters such as extreme weather events.

This program narrative outlines North Carolina’s plan to implement this Program, including developing objectives and metrics that:

* Address system adaptive capacity and increase resilience against natural hazards;
* Describe the criteria and methods on sub-awarding funds to eligible entities; and
* Propose funding distributions.

Program objectives, metrics, and criteria are based on the North Carolina Clean Energy Plan (CEP) and the NC Climate Risk Assessment and Resilience Plan (RARP), developed in 2019 and 2020, respectively, by the state of North Carolina.

**Table 1.** *North Carolina’s Annualized Frequency of and Property Damage*

*Due to Natural Hazards, 2009-2019[[2]](#footnote-4)*

|  |  |  |
| --- | --- | --- |
| **Hazard Type** | **Hazard Frequency – Annualized** | **Property Damage – Annualized (Millions of dollars per year)** |
| Hurricane | 3 | $186 |
| Flood | 55 | $124 |
| Tornado | 16 | $62 |
| Thunderstorm & Lightning | 203 | $24 |
| Winter Storm & Extreme Cold | 41 | $3 |
| Landslide | 2 | $1 |
| Drought | 1 | $0 |
| Extreme Heat | 1 | $0 |
| Wildfire | 1 | $0 |
| Earthquake (≥ 3M) | 0 | $0 |



**Figure 1.** North Carolina geographic locations that are vulnerable to extreme weather events. All maps were created using GIS Pro software based on the risk index score. Highlighted areas are at high to very high risk of the respective disaster within the United States.[[3]](#footnote-5)

North Carolina strives to be a state where our communities, economies, and ecosystems are better able to rebound, positively adapt to, and thrive amid changing conditions and challenges, including but not limited to disasters and climate change.[[4]](#footnote-6) We aim to maintain or improve our quality of life, healthy growth, durable systems, and to conserve resources for present and future generations.[[5]](#footnote-7) North Carolina has suffered from multiple natural disasters in recent years (**Table 1**). Storms are becoming stronger and more intense, taking an enormous toll on human life, the environment, public health and our economy. Hurricane Dorian in 2019 was the third most significant hurricane to impact the state following Hurricanes Matthew (2016) and Florence (2018). These storms have cost lives, along with billions of dollars in damage and inflicted psychological stress on those whose lives and livelihood have been disrupted many times over.[[6]](#footnote-16022)

Disruptions to the electric power grid from increased storm intensity can be mitigated by securing a diverse source of utility-scale and distributed generation assets such as: microgrids equipped with renewable energy and battery storage devices; hardening the grid/transmission infrastructure; undergrounding existing distribution and transmission lines; reducing demand for power; modernizing existing grid assets with smart meters, controllers, automation; and analytics to manage a diverse source of power supply, transmission, and distribution system components.[[7]](#footnote-8)

The goal of the power grid and transmission system is to deliver reliable electricity at a reasonable cost. Weather-related hazards and other stressors to the system work against these goals by lowering efficiency of both the grid and transmission system and reducing the overall capacity. Additionally, long duration and large-scale outages impact hospitals and other critical services, halting emergency assistance for those in disadvantaged communities (DACs).

NCSEO plans to coordinate public outreach opportunities to energy industry stakeholders as well as a range of other organizations (environmental, equity, and community-based, etc.). NCSEO also plans to coordinate with state electric utility commission, consumer advocates, emergency and hazard mitigation planner, the Energy Policy Council, and other entities charged with providing a safe, reliable and resilient energy system for the state.

A summary table of the provisional objectives and metrics that North Carolina will use as guidance to fund DOE resiliency projects is below:

**Table 2.** Objectives and Metrics for Project Proposals

|  |  |
| --- | --- |
| **Objective 1. Grid Modernization.** Addition of grid technologies that strengthen resilience and increase the flexibility of the grid. | Type of hazard addressed |
| Number of projects funded by measure type |
| Number and type of critical infrastructure supported |
| Number and type of projects located in areas with frequent energy disruptions |
| Frequency of outages, including but not limited to: Customer Average Interruption Duration Index (CAIDI), Customers Experiencing Multiple Interruptions (CEMI), and Long Interruption Durations (CELID) |
| Number of consumers anticipated to benefit from the project, including low-income customers |
| Number of workers trained to operate and maintain the resilience project once completed |
| **Objective 2. Equitable Access to Resilient & Reliable Energy.** Projects that will improve energy reliability and resiliency in disadvantaged communities, which are more impacted by outages and subject to higher energy burdens. | Number and size (MWh) of community resilience infrastructure deployed in DACs |
| Number of DACs in project area and percent of LMI households within the project area |
| Estimated dollars saved [$] in energy expenditures due to resilient technology adoption in DACs |
| Frequency (occurrences per year) pf electricity service disruptions of one hour or more to DACs |
| Number and type of weather events resulting in outages (hurricanes, floods, and extreme temperature conditions) in project area over the last 5 years |
| Impacts on surface water, groundwater, and soil in DACs |
| Number and type of critical facilities receiving improved ability to provide services without grid power |
| Number of hours/days critical facilities are closed due to lack of electricity |
| **Objective 3. Equitable Workforce Development.** Commitment to equitable workforce development through projects that will attract, train, and retain an appropriately skilled workforce. | Number of anticipated jobs with living wages and benefits created due to proposed project |
| Percentage of underserved and underrepresented workers trained for the proposed project |
| Number of clean energy and energy efficiency apprenticeship and pre-apprenticeship trainees working on proposed project |
| Percent of contracted or minority-owned industries and businesses used by the project, including companies where resources are purchased |
| Number of apprentices retained for long-term hire |

1. **Objectives and Metrics**

**I. Grid Modernization**

NCSEO aims to support and deploy grid modernization technologies that strengthen resiliency and increase the flexibility of the grid. These technologies will focus on strategies that have demonstrated benefits for customers, particularly for critical infrastructure and communities prone to energy disruptions.

As recommended by the CEP, modernizing the grid may include greater deployment of energy storage, increased use of clean energy, greater use of demand-side resources, and enhanced grid operation for more flexibility and reduced response time.[[8]](#footnote-27058) Disruptions to the electric power grid from increased storm intensity and frequency in North Carolina can be mitigated through modernization of the grid with the implementation of these strategies.

Metrics

* Type of hazard addressed
* Number of projects funded by measure type
* Number and type of critical infrastructure supported
* Number of projects located in areas with frequent energy disruptions
* Frequency of outages, including but not limited to: Customer Average Interruption Duration Index (CAIDI), Customers Experiencing Multiple Interruptions (CEMI), and Long Interruption Durations (CELID)
* Number of consumers anticipated to benefit from the project, including number of low-income customers
* Number of workers trained to operate and maintain the resilience project once completed

**II. Equitable Access to Resilient & Reliable Energy**

North Carolina’s residents deserve access to robust, reliable, and resilient power that is affordable. Special consideration will be given to energy resilience within vulnerable, low-income communities in order to ensure equitable energy access. The southeastern region of North Carolina in particular has seen increased frequencies and intensities of severe weather events, most notably widespread flooding, as the impacts of climate change become more widespread (**Figure 1**). As described in North Carolina’s CEP, severe weather-events “can have an extremely negative long-term impact on the economic health and culture of a region”.[[9]](#footnote-6725)

Disadvantaged communities (DACs)[[10]](#footnote-10) in North Carolina are disproportionally impacted by storm-related power outages and are generally more subject to climate-related hazards. Furthermore, DACs are subject to higher energy burdens, making it difficult for low-income residents to efficiently heat and cool their homes during extreme winter and summer temperatures. The CEP recommends expanding energy efficiency and clean energy programs specifically targeted at underserved markets and low-income communities.[[11]](#footnote-17933) These adaptive measures can reduce the overall demand for power generation during a disruptive event. Focusing on the resiliency and reliability of energy in DACs also directly complements the goals of the Justice40 initiative.

With the above considerations, North Carolina will prioritize projects that:

* Improve the resiliency and reliability of energy access in DACs that also sit in vulnerable locations as it relates to extreme weather events.
* Allow vulnerable DACs to better withstand grid impacts and recover from outages faster.
* Enhance resilience of critical facilities against disruptive events and outages, such as emergency shelters and hospitals.
* Allow for the analysis of the costs and benefits of installing resilient infrastructure in vulnerable DACs compared to the human and economic burdens of disaster recovery.

Metrics

* Number and size (MWh) of community resilience infrastructure deployed in DACs
* Number of DACs in project area and percent of LMI households within the project area
* Estimated dollars saved [$] in energy expenditures due to resilient technology adoption in DACs
* Frequency (occurrences per year) pf electricity service disruptions of one hour or more to DACs
* Number and type of weather events resulting in outages (hurricanes, floods, and extreme temperature conditions) in project area over the last 5 years
* Impacts on surface water, groundwater, and soil in DACs
* Number and type of critical facilities receiving improved ability to provide services without grid power
* Number of hours/days critical facilities are closed due to lack of electricity

**III. Equitable Workforce Development**

North Carolina is committed to equitable workforce development to transition the State to a clean energy economy, prevent prolonged outages, and enhance the resilience of the electric grid. While transitioning, the State will focus on projects that will attract, train, and retain an appropriately skilled workforce. Such initiatives include the expansion of the clean energy and energy efficiency apprenticeship programs that were recommended in the NC CEP.[[12]](#footnote-11) A coalition of universities, community colleges, state agencies and educational non-profits are working together on clean energy workforce development initiatives. North Carolina began piloting these initiatives in the summer of 2021 with NC A&T State University, which is a Historically Black College and University (HBCU) serving as the lead university for the program.

The initial 2021 pilot served all participants, but particularly focused on those underrepresented and historically excluded. Of those participating, 93% were minorities and 69% were females. The program also led to four registered apprenticeships and pre-apprenticeship programs in clean energy and energy efficiency through Apprenticeship NC.

North Carolina will prioritize projects that have strong labor standards and protections to continue successful workforce initiatives that have already begun in the State. Ideally, subawardees will commit to hiring pre-apprentices and apprentices from North Carolina state workforce development programs to ensure equitable opportunities for persons of diverse and underserved backgrounds.

Metrics:

* Number of anticipated jobs with living wages and benefits created due to proposed project
* Percentage of underserved and underrepresented workers trained for the proposed project
* Number of clean energy and energy efficiency apprenticeship and pre-apprenticeship trainees working on proposed project
* Percent of contracted or minority-owned industries and businesses used by the project, including companies where resources are purchased
* Number of apprentices retained for long-term hire
1. **Criteria**

Under Section 40101(e), the following resilience-based investments are permitted:

* Weatherization technologies and equipment;
* Fire-resistant technologies and fire prevention systems;
* Monitoring and control technologies;
* The undergrounding of electrical equipment;
* Utility pole management;
* The relocation of power lines or the reconductoring of power lines with low-sag, advanced conductors;
* The use of construction of distributed energy resources for enhancing system adaptive capacity during disruptive events, including:
	+ Microgrids; and
	+ Battery-storage subcomponents;
* Adaptive protection technologies;
* Advanced modeling technologies;
* Hardening of power lines, facilities, substations, of other systems; and
* The replacement of old overhead conductors and underground cables.
* Vegetation and fuel-load management
* Other measures as determined or approved by DOE

The following activities are not permitted under this program:

* Construction of a new:
	+ Electric generating facility; or
	+ Large-scale battery-storage facility that is not used for enhancing system adaptive capacity during disruptive events; or
* Cybersecurity

NCSEO anticipates subawards will be granted to eligible entities through either a competitive or a non-competitive (i.e., formula) process only if the energy resilience proposals align with the State’s goals set forth in the CEP and the RARP. North Carolina aims to “strengthen the resilience and flexibility of the grid” with a priority for clean energy technologies and equitable energy access and a just transition in workforce.[[13]](#footnote-15391) We can ensure North Carolina’s goals for our energy future are met by supporting resilience-based projects that meet the following criteria:

* Award recipients must be eligible entities as defined in BIL Section 40101(d)(a)(2); this includes: electric grid operators, electricity storage operators, electricity generators, transmission owners or operators, distribution providers, fuel suppliers, and any other relevant entity as determined by the Secretary (of DOE).
* In ordinance with the Federal Justice40 Initiative and CEP Strategy E, project proposals must indicate a community benefit in reducing the likelihood and/or consequences of power outage events, with particular focus on DACs (as defined by the DOE)[[14]](#footnote-31648) in Tier 1 and 2 counties[[15]](#footnote-12) and communities most vulnerable to extreme flooding and weather events.
* Aligned with CEP Strategy areas I and J, projects must support equitable and sustainable workforce development for clean energy and/or grid infrastructure and resilience.

To make certain proposed projects meet the criteria above, eligible subaward applicants will be expected to provide, at minimum, the following information concerning the proposed projects:

* A description of the proposed project(s), including the project need and how the project shall enhance and improve the resilience of the electric grid from disruptive events.
* A technical summary of the proposed technologies and associated equipment and installation, including a list of alternative approaches and technologies that were considered to achieve the proposed project objectives.
* A community benefits section describing the area in which the project(s) will be located, specifically the affected population, demographic characteristics, and total number of customers broken down by general customer class (e.g., residential, commercial, and/or industrial). Eligible entities shall identify and quantify the percentage of disadvantaged communities the project will serve and describe the benefits as well as risks the project will have in DACs.
* A description of the current infrastructure in the proposed project area(s) that may be upgraded, replaced, or otherwise modified, and how the upgrades, replacement, or modifications will enhance grid resilience.
* Submission of reliability metrics, including, but not limited to, System Average Interruption Duration Index (SAIDI), System Average Interruption Frequency Index (SAIFI), Customer Average Interruption Duration Index (CAIDI), Customers Experiencing Multiple Interruptions (CEMI) and Customers Experiencing Long Interruption Durations (CELID) over the last three years (both with and without MEDs) in the proposed project area(s), and the goals or estimates of how the proposed project(s) may improve the reliability metrics in the area.
* Regular reporting on objectives metrics, project progress, and any project setbacks (with root cause analysis) encountered. More guidance on reporting will be shared with subgrantees.
* A detailed workforce development plan describing how this project will support equitable job opportunities, an increase in the diversity of hired employees, training within the energy sector, and a commitment to jobs with living wages and benefits.
* A detailed budget and estimated timeline for completion of proposed project(s).
	+ Note: The recipient may not use more than 5% of Federal funding for providing technical assistance and facilitating the distribution/sharing of information to reduce the likelihood and consequences of disruptive events; and administrative expenses associated with the program required by 40101(d)(7).
* A description of the reporting that will be provided, including metrics to show program success, outage reductions, and impacts to the community.Additional data that can be collected as required by NCSEO include:
	+ Project locations
	+ Measurable improvements of resilience
	+ Transmission capacity upgraded, expanded, or built
	+ Electricity storage capacity installed
	+ Funding leveraged
	+ Stakeholders engaged
	+ Technical Assistance
	+ Value of contracts/agreements with minority owned business for supplies, services, or equipment

Additionally, per DOE Guidance, applicants must meet the **Cost Matching and NEPA requirements**:

* DOE’s decision whether and how to distribute federal funds under this ALRD is subject to the National Environmental Policy Act (42 USC 4321 et seq.). NEPA requires Federal agencies to integrate environmental values into their decision-making processes by considering the potential environmental impacts of their proposed actions. For additional background on NEPA, please see DOE’s NEPA website, at <http://nepa.energy.gov/>.

Any eligible entity that receives a subaward under this program is required to match 100 percent of the amount of the subaward as required by Section 40101(h)(1). However, if the eligible entity sells not more than 4,000,000 megawatt hours of electricity per year, the required match will be one-third of the amount of the subaward as required by Section 40101(h)(2). Applicants are encouraged to refer to 2 CFR 200.306 as amended by 2 CFR 910.130 for additional cost matching requirements.
* Applicants must submit an environmental questionnaire (NETL Form 451.1-1/3) for each work location proposed in the application. A NEPA representative will review these documents and any other pertinent information to determine the likely level of NEPA documentation required for qualified projects. Computer modeling, data analysis and classroom training are examples of actions typically covered by NEPA categorical exclusions (CX’s). If any projects are likely to require an environmental assessment (EA) or environmental impact statement (EIS), the NEPA representative will provide further documentation.

DOE’s funding allocation to North Carolina is estimated at $46.1 million over five years. Not less than 31% of North Carolina’s award ($14.29 million) will be eligible to entities that sell less than or equal to 4 million megawatt hours of electricity per year. Approximately 31% of North Carolina utility customers are served by small utilities, such as electric membership corporations and municipally owned utilities within the state.[[16]](#footnote-13) Small utilities that apply for an award must certify the electricity sold over the past five years, and the average electricity sold must be not more than 4 million megawatt hours. Although significant changes in utility-customer ratios are not expected to change significantly, SEO will annually verify the 31% award set aside for small utilities with the most up-to-date Energy Information Administration (EIA)[[17]](#footnote-1649) data to ensure the most accurate data is utilized for pursuance with the minimum set aside required by 40101(d)(6).

1. **Methods**

Grant solicitations and award information will be released publicly through announcements including press releases, posting of information on the NCSEO website, and a listserv that any member of the public or stakeholder can sign up for online The State anticipates using a combination of competitive solicitations, direct awards, and financial instruments to award the funds and they will be distributed to subrecipients through contracts meeting criteria and priorities established in the solicitation.

NCSEO will enter into a subgrant agreement with awarded eligible entities, where projects will be monitored and reported upon quarterly. NCSEO will publish a Quarterly Progress Report to the DOE for any resilience project subaward over $250,000. This report with include the metrics demonstrating the beneficial impact of the resilience project on the resilience of the grid and to the community served. These Quarterly Progress Reports will be released publicly through an announcement including a press release, posting of information on the NCSEO website, and a listserv. Outcome reporting will cover the three objectives: 1) grid modernization; 2) equitable energy access; and 3) equitable workforce expansion. Reporting will use metrics for each objective to communicate how program funds addressed each objective. Highlights of this reporting will include: improved grid resilience, direct community benefits resulting from resilience strategies, and equitable workforce expansion.

1. **Funding Distribution**

While all who may be eligible under Section 40101(d) can apply, NCSEO will prioritize entities that directly provide resilient electricity to the public and offer the greatest community benefit as outlined in this tentative program narrative. Per federal requirements, eligible entities for grid infrastructure and resilience subgrants include: electric grid operators, electricity storage operators, electricity generators, transmission owners or operators, distribution providers, fuel suppliers, or other entity determined by DOE Secretary.

NCSEO anticipates providing the 15% state match requirement with the use of qualified funds. The subaward recipients will be required to cost match in cash or in-kind contributions at a rate of either 100 percent if the utility sells greater than 4 million MWh or one-third if the utility sells not more than 4 million MWh of electricity per year, as required by the DOE program. The average electricity sold over the past five years will be used to determine electricity sales.

A portion of formula funds will be reserved and allocated to small utilities. However, if small utilities do not avail themselves of the opportunity, the funds may be made available to other eligible entities until the federal grant dollars are fully allocated per Section 40101(d)(6). Alternatively, small utilities are not excluded from receiving awards outside of the allotted amount and may still be eligible for awards once the small utility set-aside has been exhausted.

1. **Equity Approach**

North Carolina will invest in programs that enhance and modernize the electric grid to continue to supply electricity during disruptive events and reduce the duration of outages while including specific elements that will accelerate job growth and job quality, generate the best community benefits, and advance the State’s commitment to equity, environmental, and energy justice priorities. Whether rural or urban, it is important to the State that no one bears a disproportionately high burden for electric services in terms of environmental, social, or economic impacts. To further its approach to energy equity, the State will use a combination of resources and tools to identify disadvantaged communities including, but not limited to, EPA’s Environmental Justice Screening and Mapping Tool,[[18]](#footnote-23793) DOE’s Justice40 Guidance,[[19]](#footnote-24970) DOE’s Energy Justice Mapping Tool,[[20]](#footnote-14) DOE’s Low-Income Energy Affordability (LEAD) Tool,[[21]](#footnote-15) and the Climate and Economic Justice Screening Tool.[[22]](#footnote-16)

Available resources and tools will be utilized to evaluate the benefits of projects to communities as a whole. The State will strive to prioritize projects that will create the greatest community benefits while reducing the chance of disruptive events to the grid. The State will interface directly with stakeholders in rural and urban communities across the state to ensure that projects funded by this program will consider variable statewide needs and ensure the viability of the electric grid infrastructure in the future.

Quality Jobs and Training: The loss of manufacturing industries have disproportionately impacted workers across North Carolina, particularly in rural areas. Per objective 3, the Program will support and encourage the creation of long-term jobs with living wages and benefits in renewables and grid infrastructure industries for low-income communities and displaced workers as recommended in the CEP.[[23]](#footnote-8533) The Program will also create workforce opportunities in communities that have lost or may lose jobs due to displacements of fossil energy jobs through the STEPs4GROWTH program.

STEPs4GROWTH is a four year, $23.7M initiative led by the Center for Energy Research and Technology at NC A&T State Universityand funded by the Department of Commerce’s Good Jobs Challenge. The program began in 2022 to help Industry develop and grow a skilled talent pipeline in renewable and clean energy. STEPs4GROWTH is a Comprehensive Clean Energy (CE) Workforce Development Project for North Carolina and America, focused on creating the next generation of renewable talent. The program will center in 4 CE Sectors including: Energy Efficiency, Renewable Energy, Clean Vehicles, and Grid & Resiliency. Over four years, CE jobs will be created exponentially in North Carolina with 100 CE jobs in 2023, 400 CE jobs in 2024; 1000 CE jobs in 2025; and 1500 jobs in 2026 for a total of 3,000 new CE jobs in 4 years. Industry partners will have a commitment to hire the CE Graduates with Certificates and On-the-Job Training and have an opportunity to help develop the curriculum for the clean technology industry.

As of the beginning of 2023, STEPs4GROWTH has partnered with Community Colleges, 4-year Universities, Workforce Boards, Chambers of Commerce, Office of the Governor, NC Business Committee for Education, 1000+ Clean Energy Industries in NC, worker support organizations, and many others across the State. For more detailed information on STEPs4GROWTH:

<https://sites.google.com/view/steps4growth/files>

Community Benefits: Priority will be given to projects that will generate the greatest community benefit in reducing the likelihood of and consequences of disruptive events. To ensure that disadvantaged or vulnerable communities will benefit from this program, the State will consider how the proposed projects will reduce the frequency and duration of outages from the electric grid in the communities. Where feasible, the State will also assess the environmental, social and economic benefits to the communities from the reduced power outages and methods to quantify the impacts.

Diversity, Equity, Inclusion, and Accessibility (DEIA): North Carolina is strongly committed to reaching historically underserved populations. As recommended in the CEP, the State will ensure the inclusion and meaningful involvement of historically marginalized individuals in decision-making.[[24]](#footnote-3884) Statewide efforts will be used to employ strategies that create the connectivity and conditions for growth where they may not exist, particularly in rural and disadvantaged communities.

1. **Technical Assistance and Administration**

NCSEO will utilize up to 5% of federal grant funds in support of technical assistance and project administration efforts. These funds will go toward ensuring all reporting requirements associated with the funding are met, including all financial and contractual obligations associated with receipt of the funds. This may include NCSEO’s own project administration personnel, both existing and new, third-party consultants that will provide additional support for reporting requirements, contract and grant administration, application processing, compliance, auditing, and QA/QC efforts. Additionally, these project administration and technical assistance funds will be used for subaward solicitations and management of such once awarded. NCSEO will continue to refine the beneficial use of the program administration and technical assistance funds to further support and enhance the Program.

1. **Public Notice and Hearing**

NCSEO held a public hearing to solicit stakeholder input on objectives, metrics, and criteria for the formula grant (Preventing Outages and Enhancing the Resilience of the Electric Grid) on Friday, March 17, 2023, from 10:00 am – 12:00 pm as both an in-person and virtual (hybrid) hearing. NASEO accepted comments both at the hearing and via email. The comments received consisted of\_[*summary of comments will be added here after the public hearing*]\_\_\_\_. Based on comments received, [*changes made to Program Narrative will be stated here*].

A brief description of the notice and public hearing process, including the number and types of organizations that attended is provided in the Public Hearing Report in Appendix A.    A copy of the notice in the form of an attachment to the Program Narrative will also be provided.

1. [Average frequency and duration of electric distribution outages vary by states](https://www.eia.gov/todayinenergy/detail.php?id=35652), U.S. Energy Information Administration (2018), XX. [↑](#footnote-ref-23416)
2. *North Carolina Climate Risk Assessment and Resilience Plan*. (2020, June). <https://files.nc.gov/ncdeq/climate-change/resilience-plan/2020-Climate-Risk-Assessment-and-Resilience-Plan.pdf> [↑](#footnote-ref-4)
3. Data obtained from [FEMA Natural Risk Index for Natural Hazards](https://hazards.fema.gov/nri/natural-hazards). Accessed February 2023. [↑](#footnote-ref-5)
4. *North Carolina Climate Risk Assessment and Resilience Plan*. (2020, June). <https://files.nc.gov/ncdeq/climate-change/resilience-plan/2020-Climate-Risk-Assessment-and-Resilience-Plan.pdf> [↑](#footnote-ref-6)
5. Ibid., 7 [↑](#footnote-ref-7)
6. Ibid., 7 [↑](#footnote-ref-16022)
7. Ibid., 26 [↑](#footnote-ref-8)
8. [North Carolina Clean Energy Plan: Policy & Action Recommendations](https://files.nc.gov/ncdeq/climate-change/clean-energy-plan/NC_Clean_Energy_Plan_OCT_2019_.pdf), NC Department of Environmental Quality, (2019). [↑](#footnote-ref-27058)
9. Ibid., 91. [↑](#footnote-ref-6725)
10. Definition of disadvantaged community found on pages 5-9 in [General Guidance for Justice40 Implementation](https://www.energy.gov/sites/default/files/2022-07/Final%20DOE%20Justice40%20General%20Guidance%20072522.pdf), Department of Energy. [↑](#footnote-ref-10)
11. [North Carolina Clean Energy Plan: Policy & Action Recommendations](https://files.nc.gov/ncdeq/climate-change/clean-energy-plan/NC_Clean_Energy_Plan_OCT_2019_.pdf), NC Department of Environmental Quality, (2019), XX. [↑](#footnote-ref-17933)
12. Ibid., XX [↑](#footnote-ref-11)
13. [North Carolina Clean Energy Plan: Policy & Action Recommendations](https://files.nc.gov/ncdeq/climate-change/clean-energy-plan/NC_Clean_Energy_Plan_OCT_2019_.pdf), NC Department of Environmental Quality, (2019), XX. [↑](#footnote-ref-15391)
14. Definition of disadvantaged community found on pages 5-9 in [General Guidance for Justice40 Implementation](https://www.energy.gov/sites/default/files/2022-07/Final%20DOE%20Justice40%20General%20Guidance%20072522.pdf), Department of Energy. [↑](#footnote-ref-31648)
15. [Department of Commerce, NC County Distress Rankings](https://www.commerce.nc.gov/grants-incentives/county-distress-rankings-tiers#TierRankingbyCounty-495), (2023). [↑](#footnote-ref-12)
16. [EIA 861-M data](https://www.eia.gov/electricity/data.php#sales),Annual retail sales of electricity to ultimate customers by state and utility (total all sectors). Released October 5, 2022. [↑](#footnote-ref-13)
17. U.S. Energy Information Administration, Electricity Data Browser, <https://www.eia.gov/electricity/data/browser/> [↑](#footnote-ref-1649)
18. Link toEJScreen: Environmental Justice Screening and Mapping Tool <https://www.epa.gov/ejscreen> [↑](#footnote-ref-23793)
19. [General Guidance for Justice40 Implementation](https://www.energy.gov/sites/default/files/2022-07/Final%20DOE%20Justice40%20General%20Guidance%20072522.pdf), Department of Energy. [↑](#footnote-ref-24970)
20. Link to [DOE’s Energy Justice Mapping Tool](https://energyjustice.egs.anl.gov/) [↑](#footnote-ref-14)
21. Link to [DOE’s LEAD Tool](https://www.energy.gov/scep/slsc/lead-tool) [↑](#footnote-ref-15)
22. Link to [Climate and Economic Justice Screening Tool](https://screeningtool.geoplatform.gov/en/%22%20%5Cl%20%2210.58/28.6092/-104.7301) [↑](#footnote-ref-16)
23. [North Carolina Clean Energy Plan: Policy & Action Recommendations](https://files.nc.gov/ncdeq/climate-change/clean-energy-plan/NC_Clean_Energy_Plan_OCT_2019_.pdf), NC Department of Environmental Quality, (2019), XX. [↑](#footnote-ref-8533)
24. Ibid., XX. [↑](#footnote-ref-3884)