



Smart Electric
Power Alliance

Mapping Tool for Identifying Disadvantaged Communities in North Carolina

**ENSURING EQUITABLE BENEFITS FROM STATE
AND FEDERAL CLEAN ENERGY INVESTMENTS**

AUGUST 2023

In Partnership with



NORTH CAROLINA
Environmental Quality

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Partners

Smart Electric Power Alliance (SEPA) and North Carolina Department of Environmental Quality (NCDEQ) State Energy Office

About SEPA

The Smart Electric Power Alliance (SEPA) is dedicated to helping electric power stakeholders address the most pressing issues they encounter as they pursue the transformation to a carbon-free energy system. We are a trusted partner providing education, research, standards, and collaboration to help utilities, electric customers, and other industry players across three pathways: Electrification, Grid Integration, Regulatory and Business Innovation. Through educational activities, working groups, peer-to-peer engagements and advisory services, SEPA convenes interested parties to facilitate information exchange and knowledge transfer to offer the highest value for our members and partner organizations. For more information, visit www.sepapower.org.

About North Carolina Department of Environmental Quality (NCDEQ) State Energy Office

The North Carolina Department of Environmental Quality (NCDEQ) State Energy Office is dedicated to ensuring a sustainable energy future for the citizens of North Carolina. The Office provides services and technical expertise focused on energy efficiency in the public sector, encouraging the growth and development of the state's energy economy with the goal of making North Carolina a leader in the creation of energy jobs. The Office also works to increase the use of renewable energy and alternative fuels and improve energy efficiency throughout the state, serving as the principal source of information for these energy areas. In addition, the group provides staffing for the state Energy Policy Council.

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SEPA's Layered Energy Equity Definition Tool

The [Justice40 Initiative](#) requires that 40 percent of the overall benefits of federal climate, clean energy, affordable and sustainable housing, clean water, and other investments go to disadvantaged communities that are overburdened by pollution. Identifying underserved populations and disadvantaged communities (DACs) communities is key for leveraging the full benefits of new legislation and funding to drive equitable change. Multiple state and federal level definitions and screenings exist for the purpose of identifying disadvantaged communities. A geographic information system (GIS) map that includes both state and federal definitions is an important tool for ensuring investments and programs are being developed for and implemented in these areas.

The Smart Electric Power Alliance (SEPA) and the North Carolina Department of Environmental Quality (NCDEQ) developed a resource called the [Layered Energy Equity Definition tool](#). It displays 21 data layers from nine sources to allow users to identify vulnerable populations and DACs. The mapping tool can be used to view energy equity and environmental justice attributes of specific locations, block groups, and census tracts. It aligns state and federal definitions to provide justification for projects that benefit communities in need and helps users monitor current grants and reporting programs.

Federal Agency and North Carolina State Definitions of Underserved and Disadvantaged Communities

State defined screenings from North Carolina:

- [NCDEQ's Potentially Underserved Communities](#)
- [North Carolina Department of Commerce's Tiered Counties](#)

Federally-defined screenings:

- [The White House Council of Environmental Quality's \(CEQ\) CEJST](#)
- [U.S. Environmental Protection Agency's \(EPA\) EJScreen](#)
- [U.S. Department of Transportation's \(DOT\) DAC](#)
- [U.S. Department of Energy \(DOE\) DAC](#)
- [U.S. Internal Revenue Service's \(IRS\) IRA Energy Communities](#)
- [U.S. Center for Disease Control's \(CDC\) Environmental Justice Index](#)



KEY STATISTICS IN NORTH CAROLINA

Socioeconomic Factors

Burdens related to demographics, economics, and education to help identify areas with high poverty, low wealth, lack of local jobs, proportion of limited or non-English speakers, low educational attainment, and high inequality.

Transportation, Housing, and Infrastructure

Burdens related to transit, traffic, housing, and infrastructure. Identifies communities that spend more and take longer to get where they need to go, have lower access to transportation, suffer inferior housing quality, stability, and inequality in their living space of neighborhood.

Climate Change Risks

Burdens associated with climate change such as projected loss of life and property, energy stability and increase in costs, and an area's reliance on fossil fuels. Identifies communities vulnerable to hazards caused by climate change and energy inequity.

Health, Environmental, and Pollution Risks

Burdens related to health issues and complications from pollution, identifies communities with disproportionate pollution burden, inferior environmental quality, adverse health outcomes, disability, and environmental exposure.

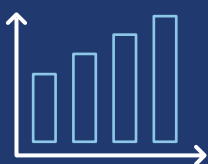
Socioeconomic								
Burden Indicator	North Carolina		Federal					
	DEQ	DOC	CEQ	EPA	DOT	DOE	IRA	CDC
Population								
Racial/ Ethnic Diversity	✓			✓				✓
Poverty	✓		✓	✓		✓		✓
Low Income		✓	✓	✓	✓	✓		✓
Unemployment Rate		✓	✓	✓	✓	✓		✓
Limited Non-English			✓	✓	✓	✓		✓
Education			✓	✓	✓	✓		✓
Age				✓	✓	✓		✓

Transportation, Housing, and Infrastructure								
Burden Indicator	North Carolina		Federal					
	DEQ	DOC	CEQ	EPA	DOT	DOE	IRA	CDC
Commute/ Traffic, Transportation, \$			✓	✓	✓	✓		✓
Vehicle Transportation Access					✓	✓		✓
Built Environment			✓	✓	✓	✓		✓
Housing Quality/Type			✓		✓	✓		✓
Housing Costs		✓	✓		✓	✓		✓

Climate Change								
Burden Indicator	North Carolina		Federal					
	DEQ	DOC	CEQ	EPA	DOT	DOE	IRA	CDC
Est. Population/ Property Losses			✓		✓	✓		
Energy Reliability/Cost			✓			✓		
Fossil Fuel Reliance						✓	✓	

Health, Environmental, and Pollution								
Burden Indicator	North Carolina		Federal					
	DEQ	DOC	CEQ	EPA	DOT	DOE	IRA	CDC
Hazardous and Toxic Sites			✓	✓		✓	✓	✓
Air Quality			✓	✓	✓	✓		✓
Water Quality			✓	✓		✓		✓
Health Vulnerability			✓	✓	✓	✓		✓
Disability					✓	✓		✓

Key Statistics on Disadvantaged Communities in North Carolina:



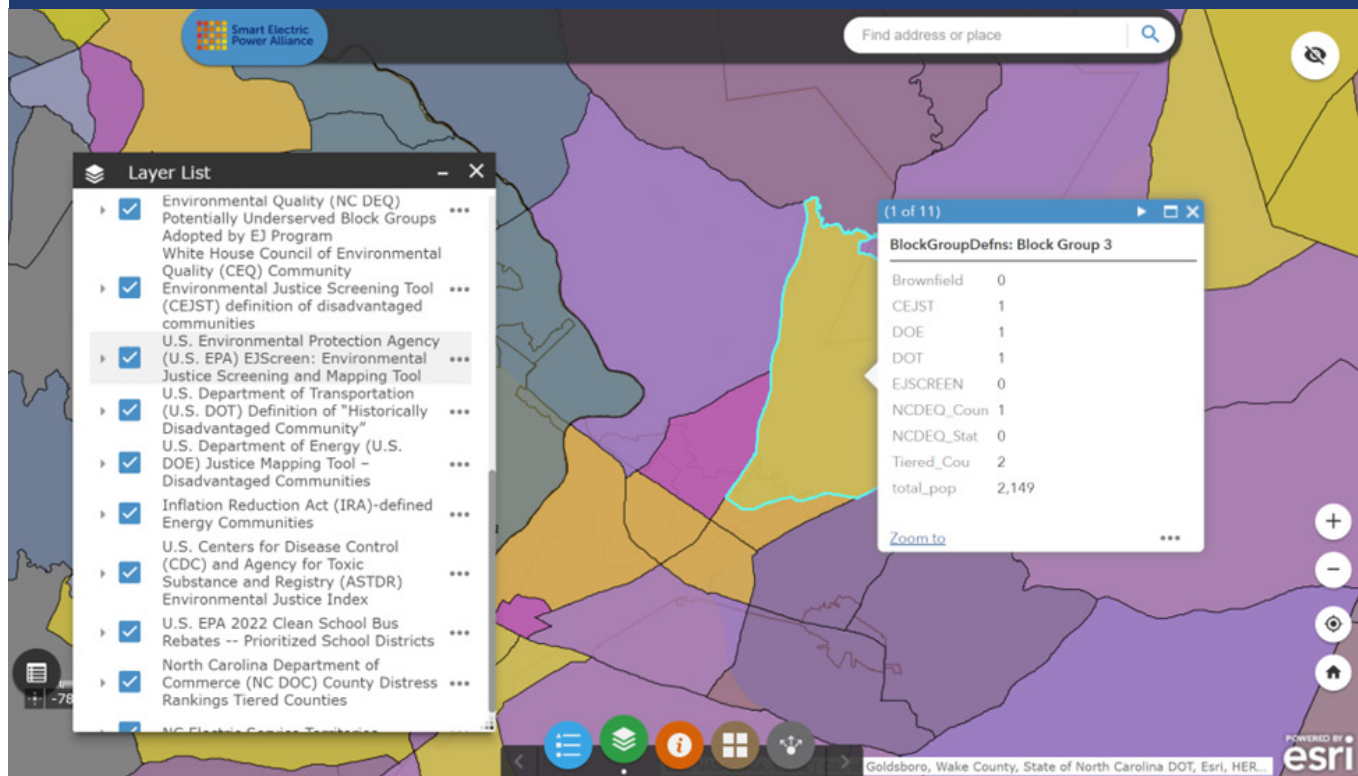
- **Federally-defined screenings cover** about 70% of land area, 60% of the population, and 62% of block groups in North Carolina.
- **State-defined screenings cover** about 51% of land area, 51% of the population, and 54% of block groups in North Carolina.
- **State and federally-defined screenings cover** about 84% of land area, 74% of the population, and 77% of block groups.



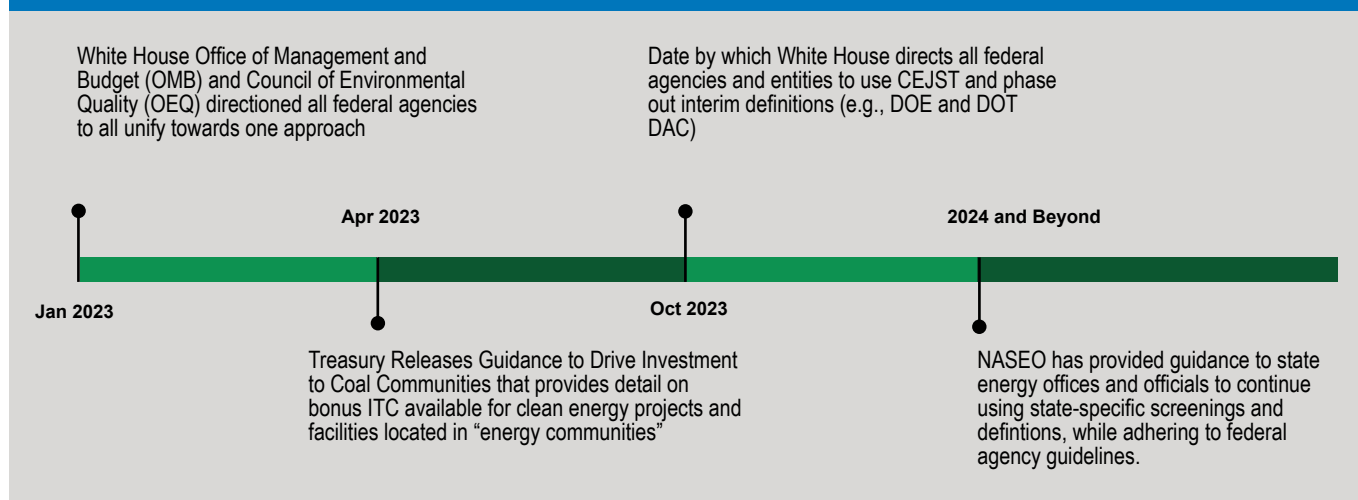
EXPLORING THE MAP

For any defined area in North Carolina, users are able to determine if the community passes various state and federal screenings for disadvantaged communities. The figure above illustrates that the North Carolina Block Group selected is defined as a disadvantaged community according to the CEJST, DOE, and DOT definitions. It is also defined as a "Potentially Underserved Block Group" by NCDEQ. These designations can support stakeholders in evaluating and monitoring energy-related grant and utility programs.






Figure 1. Snapshot of Evaluating Communities against Disadvantaged Community Screenings using Tool



Timeline of Federal Guidance Pertaining to the Justice40 Initiative and Screening Tools





Call to Action 	SEPA's mapping tool offers a valuable resource for state energy offices and regional stakeholders to identify potential focus areas for clean energy projects, support grant applications, and evaluate the effectiveness of ongoing programs. It can help to ensure that both state and federal resources are targeted towards the highest needs communities, thereby improving energy equity and environmental justice outcomes.
	Identify equity-related characteristics of communities across the state and compare their need for various types of support.
	Justify project sites for application and funding by identifying quantitative and qualitative benefits to disadvantaged communities.
	Select and implement sites within disadvantaged communities.
	Use the tool as a baseline to identify how well state programs are serving targeted communities.
The equitable clean energy transition is paramount to federal initiatives and is a guiding force to SEPA's mission. See here to learn more about the North Carolina mapping tool and how it helps translate equitable benefits.	



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