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NOTICE OF REQUEST FOR COMMENTS¹

ESTABLISHMENT OF AN URBAN HEAT ISLAND ("UHI") MITIGATION PROGRAM

[Docket No. QO24100834](#)

PLEASE TAKE NOTICE that New Jersey Board of Public Utilities ("Board") Staff ("Staff") hereby invites all interested parties and members of the public to submit comments on the establishment and proposed funding structure of an UHI Mitigation Program.

Background

The proposed UHI Mitigation Program ("UHI Program") is a comprehensive approach to address extreme heat impacts and enhance resilience in overburdened communities ("OBCs"). The UHI Program will employ interventions proposed by community-based organizations ("CBOs") and will be supported by interventions described in the following state plans: 2019 State Energy Master Plan ("EMP"),² Community Energy Plans,³ NJ Extreme Heat Resilience Action Plan,⁴ Priority Climate Action Plan ("PCAP"),⁵ and the Regional Greenhouse Gas Initiative ("RGGI") Strategic Funding Plan.⁶

In 2024, New Jersey recorded its second-hottest June–July period on record, with eight (8) of the warmest Julys occurring since 2010, based on records dating back to 1895.⁷ New Jersey is also the fastest-warming state in the Northeast, due in part by its dense urban development, which contributes to UHI effect.⁸ UHIs occur when built-up urban areas experience significantly higher temperatures than surrounding areas due

¹ Not a paid legal advertisement.

² 2019 New Jersey Energy Master Plan ("2019 NJ EMP"), https://nj.gov/bpu/pdf/publicnotice/NJBPU_EMP.pdf.

³ See Community Energy Plans, <https://www.njcleanenergy.com/CEP>.

⁴ New Jersey Extreme Heat Resilience Action Plan (2024), https://dep.nj.gov/wp-content/uploads/climatechange/extreme_heat_rap_071924-screen-version.pdf.

⁵ New Jersey's Priority Climate Action Plan (2024), https://dep.nj.gov/wp-content/uploads/climatechange/nj_pcap_final-1.pdf.

⁶ Regional Greenhouse Gas Initiative Strategic Funding Plan: Years 2023–2025, Version 2.0 (2024), <https://nj.gov/rggi/docs/rggi-strategic-funding-plan.pdf>.

⁷ See Combined, June and July were second hottest on record in NJ: State climatologist, <https://www.app.com/story/weather/2024/08/09/weather-in-new-jersey-june-july-2024-second-hottest-on-record/74719840007/>.

⁸ See N.J. Is Warming at An Alarming Rate and It's Making Our Air Harder to Breathe, <https://www.climatecentral.org/partnership-journalism/n.j.-is-warming-at-an-alarming-rate-and-its-making-our-air-harder-to-breathe>.

to heat-absorbing surfaces like asphalt and concrete.⁹ Extreme heat exacerbated by UHIs is the leading cause of weather-related death in the U.S., worsens health conditions, compromises air quality, degrades water quality, and increases energy consumption.¹⁰

As climate change accelerates, OBCs experiencing the UHI effect face disproportionate exposure to extreme heat events. Decades of systemic inequities, including historic redlining and ongoing disinvestment, have left OBCs with minimal natural cooling infrastructure and a high concentration of impervious surfaces.¹¹ These conditions increase their exposure to extreme heat and increase energy costs. Multiple OBCs are often located in municipalities classified as overburdened municipalities (“OBMs”).¹² Several major New Jersey cities, which also qualify as OBMs, have less than 30% tree canopy coverage.¹³ Built-up urban areas in these major cities experience atmospheric temperatures up to 10°F higher than outlying areas.¹⁴

Low-income residents (0-200% of the federal poverty level (“FPL”)) in these densely populated areas face high to severe energy burdens, defined as spending 6% or more (high) or 10% or more (severe) of household income on energy costs.¹⁵ Additionally, a high percentage of renters live in New Jersey’s cities.¹⁶ Therefore these residents have limited control over building modifications and system or appliance reliability that could reduce indoor heat exposure. As a result, many residents face the difficult decision of limiting or foregoing air conditioning; according to the 2023–2024 Extreme Heat Survey, cooling costs are a top concern for New Jersey residents during extreme heat events.¹⁷ Extreme heat also poses significant risks for outdoor laborers, including utility workers, who work in communities facing UHI effect. Addressing these vulnerabilities requires urgent intervention that expands public cooling infrastructure accessible for all community members and outdoor workers—such as fountains, green spaces, and shade structures—which can offer refuge from the heat, reduce energy costs, and promote social and economic growth.¹⁸

In 2003, the BPU first addressed the UHI effect through the Cool Cities Program, an urban forest initiative aimed to lower energy demand, which planted 3,000 trees in Trenton and Paterson.¹⁹ In 2007, this initiative

⁹ See UHI definition and impacts at University of Michigan School for Environment and Sustainability, *Urban heat islands and a climate of inequities*, <https://seas.umich.edu/news/urban-heat-islands-and-climate-inequities-0>.

¹⁰ See impacts of extreme heat at Massachusetts Institute of Technology Climate Portal, *Extreme Heat*, <https://climate.mit.edu/explainers/extreme-heat#:~:text=It%20is%20the%20leading%20weather-related%20cause%20of%20death,contribute%20to%20natural%20disasters%20like%20droughts%20and%20wildfires>.

¹¹ See UHI exposure linked to redlining and limited investment in green spaces at Scientific American and Nature, *Discrimination Has Trapped People of Color in Unhealthy Urban ‘Heat Islands,’* <https://www.nature.com/articles/d41586-023-02618-1>

¹² See list of OBMs and criteria for determining OBMs at *Community Energy Plans*, <https://www.njcleanenergy.com/CEP>

¹³ Determined from Tree Equity Score, <https://www.treeequityscore.org/>.

¹⁴ See UHI indexes in New Jersey cities at NJ.com, *The strange but true reason this city is always hotter than everywhere else in N.J.*, <https://www.nj.com/essex/2024/07/nj-is-one-of-the-fastest-warming-states-and-this-city-is-bearing-the-brunt-of-the-heat.html>.

¹⁵ See energy burden data based on census tract for low-income communities (0-200% FPL) at United States Department of Energy, Low-Income Energy Affordability Data (LEAD) Tool, <https://lead.openei.org/>; and definition of energy burden at American Council for an Energy-Efficient Economy, *How High Are Household Energy Burdens?* (2020), <https://www.energy.gov/sites/default/files/2021-12/ACEEE%2C%20Household%20Energy%20Burdens.pdf>.

¹⁶ The top three cities with the most renters in the U.S. are in NJ. See IPX 1031, *Cities With the Most Renters and Homeowners*, <https://www.ipx1031.com/cities-with-the-most-renters-data/>.

¹⁷ See NJ Extreme Heat Resilience Action Plan, n. 4, at page 1

¹⁸ Yu Luo *et al.*, *Cooling Benefits of Urban Cooling Infrastructures: A Review* 559, 441–55 (2025), https://link.springer.com/chapter/10.1007/978-981-97-8401-1_31.

¹⁹ New Jersey Department of Environmental Protection, News Release, *State to Plant 1,500 Trees in City of Trenton: DEP & BPU Kick-Off Cool Cities: an Urban Forest Energy Efficiency Initiative* (Oct. 21, 2003),

expanded under a Memorandum of Agreement with the New Jersey Department of Environmental Protection (“DEP”), to further reduce the heat island effect and energy consumption in the state’s largest cities through tree planting.²⁰ More recent courses of action in New Jersey to address the UHI effect include climate change-related hazard vulnerability assessments under the New Jersey Municipal Land Use Law,²¹ air temperature and air quality monitoring in environmental justice (“EJ”) communities,^{22,23} tree planting initiatives,²⁴ an interactive cooling center map,²⁵ heat island assessment and planning incentivization,^{26,27} and public engagement on extreme heat as part of the New Jersey Extreme Heat Resilience Action Plan. The proposed UHI Program aims to build on past and existing efforts by focusing on targeted interventions that prioritize urban revitalization through redeveloping public spaces, fortifying cooling centers to increase access during heatwaves, improving energy efficiency (“EE”), and cooling the built environment, enhancing urban forestry through sustained maintenance, and supporting community-based programs. These strategies are designed to reduce energy demand and improve community resilience during extreme heat. The UHI Program aligns with Goal 6.1.1 within Strategy 6 of the EMP, emphasizing community revitalization initiatives that provide both economic and health benefits.²⁸ The program is also supported by the NJ Extreme Heat Resilience Action Plan, which advocates for diverse strategies to reduce the UHI effect.²⁹

https://www.nj.gov/dep/newsrel/releases/03_0153.htm.

²⁰ In re Comprehensive Energy Efficiency and Renewable Energy Resource Analysis for 2005–2008: 2007 Programs and Budgets: Compliance Filings, BPU Docket No. EX04040276, Order dated August 1, 2007.

²¹ See New Jersey Department of Environmental Protection, *Environmental Justice Action Plans: Guidance for Municipalities, Intersecting municipal environmental justice efforts with Climate Change-Related Hazard Vulnerability Assessment requirements of the Municipal Land Use Law*, [https://dep.nj.gov/municipal-ej-guidance/environmental-justice-and-climate-change/#:~:text=In%202021,%20New%20Jersey%20passed%20a%20law%20\(P.L.%202021,%20c6\)](https://dep.nj.gov/municipal-ej-guidance/environmental-justice-and-climate-change/#:~:text=In%202021,%20New%20Jersey%20passed%20a%20law%20(P.L.%202021,%20c6)).

²² See Heat Watch Jersey City, Newark, and Elizabeth (CAPA, NIHHS), [OSF | Heat Watch Jersey City Newark Elizabeth Summary Report 101521.pdf](#).

²³ See Research with Rutgers, *Civic Innovation Challenge Full Award Track Smart Kids and Cool Seniors*, <https://www.researchwithrutgers.com/en/projects/civic-fa-track-a-smart-kids-and-cool-seniors>.

²⁴ See New Jersey Department of Environmental Protection, News Release, *Murphy Administration Awards \$24.3 Million Through Its Natural Climate Solutions Grant Program* (Jan. 18, 2023), https://dep.nj.gov/newsrel/23_0003/

²⁵ See Heat Hub NJ, Chill Out NJ, <https://heat-hub-new-jersey-njdep.hub.arcgis.com/pages/chill-out-nj-nearby-app>.

²⁶ See Sustainable Jersey, *Heat Island Assessment & Mitigation Plan*, <https://heat-hub-new-jersey-njdep.hub.arcgis.com/pages/chill-out-nj-nearby-app>.

²⁷ See Sustainable Jersey, Guide to Local Climate Change Adaptation Planning: The Model Climate Change-Related Hazard Vulnerability Assessment for New Jersey Municipalities, https://www.sustainablejersey.com/fileadmin/media/Grants_and_Resources/Technical_Assistance/CCRHVA_Technical_Assistance/Model_CCRHVA_for_NJ_Municipalities.pdf.

²⁸ 2019 NJ EMP, n.2, at page 1.

²⁹ NJ Extreme Heat Resilience Action Plan, n.4, at page 1.

Proposed UHI Mitigation Program Funding Structure

Staff proposes to use \$5M in funding from the NJ Clean Energy Fund to provide grants to eligible entities. \$2.5M of the funding comes from the Fiscal Year 2023 Division of Clean Energy Filing, which allocated \$2.5M toward an interagency initiative offering incentives to address the underlying factors contributing to UHI while promoting EE and resilience. An additional \$2.5M comes from the funds remaining in OCEE’s Community Energy Plan Program.

The proposed structure is similar to that used in the Community Energy Planning Grant (“CEPG”) and Community Energy Plan Implementation (“CEPI”) grant programs. These programs support municipal efforts to align with the EMP by facilitating the planning and implementation of local initiatives that reduce emissions and enhance EE in response to climate change and extreme heat. All New Jersey municipalities are eligible to apply for funding, provided that the proposed interventions specifically benefit heat-vulnerable and overburdened communities.

Staff recommends that the program be structured so that grants are available in three (3) main categories: Comprehensive UHI Interventions, Cooling the Built Environment, and Urban Microclimate Interventions.

Table 1. Summarized Grant Categories

Category #	1.	2.	3.
Mitigation Category	Comprehensive Public Space UHI Interventions	Cooling the Built Environment	Urban Microclimate Interventions
Number of Grants	Two (2)	Four (4)	20
Scope	Grants of up to \$1M each will be awarded to major community revitalization projects that focus on the improvement of public spaces and parks development via a “whole neighborhood approach.”	Grants of up to \$500,000 each will be awarded to projects focusing on public cooling center fortification and implementing measures for public buildings that promote cooling and EE to form resilience hubs.	Grants of up to \$50,000 each will be awarded for small-scale and localized community projects focused on CBOs to mitigate UHI effect, provide efficient cooling of key community assets, and support community programming.

1. Comprehensive UHI Interventions

Applicants will be able to receive up to \$1M in funding for proposals aimed at revitalizing public spaces and parks through an integrated, place-based neighborhood approach. These projects should include capital investments meant either to address infrastructure-related issues that exacerbate UHI effect or to help build community resiliency against UHI effect. As urban design and heavily developed land are the primary drivers of UHIs, increasing vegetative cover and implementing smart growth development strategies directly reduce heat island effect.³⁰ Expanding urban canopy cover can lower surface temperatures by 20–45 °F compared to unshaded areas and reduce indoor cooling energy demand by up to 90%.³¹ Investments in large continuous green spaces such as urban parks and green corridors are among the most effective strategies to cool vulnerable neighborhoods, revitalize communities, and enhance resilience.³² This revitalization approach aligns with Goal 6.1.1 of Strategy 6 within the EMP, which calls for the development of a holistic Community Energy Plan program that works to identify local energy needs and establish ways to participate in and benefit from the clean energy transition, with prioritization in EJ communities.³³ The EMP and PCAP highlight that comprehensive community redevelopment mechanisms—such as expanding accessible public spaces, improving connectivity and equitable transportation, and greening the neighborhood—offers significant co-benefits in addition to reducing emissions.³⁴ Interventions such as cool pavement coatings, green spaces, and accessible restrooms can transform public spaces into more comfortable and inviting environments that support community renovations, promote local economic activity, and encourage the development of open-air markets and small businesses.³⁵

The 2023–2024 Extreme Heat Survey referenced in the NJ Extreme Heat Resilience Action Plan underscored New Jersey residents' priority amenities. These include shade structures (e.g., pavilions, canopies, shade sails, awnings, and transit stop shelters), trees in parks and playgrounds, free water stations, and public water features (e.g., fountains and splash pads). Residents also emphasized the importance of locating these community facilities near mass transit.³⁶ Staff recommends funding the expansion and further development of such amenities to mitigate UHIs at a larger scale in OBCs, aligning with the goals of CEPI to support municipalities in implementing high-priority and impactful projects that enhance climate and energy resilience.

³⁰ See smart growth development strategies in addressing UHI at United States Environmental Protection Agency, *Smart Growth and Heat Islands*, <https://www.epa.gov/heatislands/smart-growth-and-heat-islands>.

³¹ See tree canopy cover for UHI mitigation at United States Environmental Protection Agency, *Using Trees and Vegetation to Reduce Heat Islands*, https://19january2017snapshot.epa.gov/heat-islands/using-trees-and-vegetation-reduce-heat-islands_.html; and Yekang Ko, *Trees and vegetation for residential energy conservation: A critical review for evidence-based urban greening in North America*, 34 *Urban Forestry & Urban Greening* 318–335 (Aug. 2018), <https://doi.org/10.1016/j.ufug.2018.07.021>.

³² See Pinar Pamukcu-Albers *et al.*, *Building green infrastructure to enhance urban resilience to climate change and pandemics*, 36 *Landscape Ecology* 665–673 (Mar. 4, 2021), <https://link.springer.com/article/10.1007/s10980-021-01212-y>.

³³ 2019 NJ EMP, n.2, at page 1.

³⁴ 2019 NJ EMP, n.2, at page 1; PCAP, n.5, at page 1.

³⁵ Nour M. Ahmed *et al.*, *Optimizing human thermal comfort and mitigating the urban heat island effect on public open spaces in Rome, Italy through sustainable design strategies*, 14 *Sci. Rep.* 19931 (Aug. 27, 2024), <https://doi.org/10.1038/s41598-024-65794-8>.

³⁶ NJ Extreme Heat Resilience Action Plan, n.4, at page 1.

2. Cooling the Built Environment

According to the New Jersey Extreme Heat Resilience Action Plan, activating cooling centers that serve as publicly available spaces, such as libraries and community centers, is a cost-effective response strategy to extreme heat; it requires fewer resources and less staffing than operating an official cooling center. Additionally, in the 2023–2024 Extreme Heat Survey, respondents identified free, air-conditioned spaces as one of the most valuable amenities for relief during extreme heat.³⁷ Residents also highlighted free Wi-Fi and electricity access as desirable features in public spaces serving as cooling centers. Staff proposes prioritizing funding of up to \$500,000,³⁸ to improve cooling efficiency in public buildings through upgrades such as cool roofs and green roofs, geothermal heat pump installation, and weatherization. In tandem with these improvements and in response to residents' expressed preferences, Staff recommends providing enhanced Wi-Fi and electricity access in publicly accessible buildings to establish resilience hubs for use during extreme heat and other extreme weather events. Focused funding of public buildings is particularly appropriate in these communities as a high percentage of low-income residents in major OBM are renters.³⁹ Funding for well-established community managed facilities as resilience hubs, will have long term investment returns, as communities would have a reliable source of clean power year-round and a place for social connection. Resilience hubs have additional co-benefits such as reducing energy demand in vulnerable communities, lowering the burden of emergency services, generating cost savings, and lowering emissions.⁴⁰

3. Urban Microclimate Interventions

CBO applicants will be able to receive up to \$50,000 in funding for smaller scale interventions for addressing UHI effect that have been identified at the community level. These applicants should have a letter of support from the mayor in the respective municipality where the work will take place.⁴¹ Examples include, but are not limited to, establishing or expanding community gardens; improving bus stop cooling infrastructure; installing park benches with shading; beautifying spaces through greenery and creative place making; and implementing water stations. Staff also recommends funding community programs focused on recreation, youth engagement, and community-building. These were identified as priorities by Extreme Heat Survey respondents and play an important role in heat resilience as explained further below.⁴²

Activities and community spaces that strengthen social cohesion and foster support networks enhance community well-being and have been shown to bolster resilience by reducing vulnerability to extreme heat, severe weather, and climate displacement.⁴³ Additionally, smaller scale green spaces, like community gardens, provide relief from the heat, lower emissions, and strengthen community and ecological connections.⁴⁴

Evaluation Criteria of Grant Proposals

³⁷ See NJ Extreme Heat Resilience Action Plan, n.4, at page 1.

³⁸ See resilience hub start-up costs at CDP, *US cities undertaking sustainable infrastructure projects to build resilience*, <https://www.cdp.net/en/articles/cities/us-cities-undertaking-sustainable-infrastructure-projects-to-build-resilience>.

³⁹ See NJ.com, *Nearly half of N.J. renters are paying more than they should. See latest data.*, <https://www.nj.com/realestate-news/2024/10/nearly-half-of-nj-renters-are-paying-more-than-they-should-see-latest-data.html>.

⁴⁰ See Urban Sustainability Directors Network, *Guide to Developing Resilience Hubs* (2019), https://resilience-hub.org/wp-content/uploads/2019/10/USDN_ResilienceHubsGuidance-1.pdf.

⁴¹ Staff recommends that the municipality should be made aware of any CBO projects.

⁴² NJ Extreme Heat Resilience Action Plan, n.4, at page 1.

⁴³ See benefits of community cohesion in addressing extreme heat at Center for American Progress, *Social Cohesion: The Secret Weapon in the Fight for Equitable Climate Resilience* (2015), <https://cdn.americanprogress.org/wp-content/uploads/2015/05/SocialCohesion-report2.pdf>.

⁴⁴ Ines Cabral et al., *Urban Gardens as Multifunctional Nature-Based Solutions for Societal Goals in a Changing Climate* (Sept. 2, 2017), https://link.springer.com/chapter/10.1007/978-3-319-56091-5_14.

Table 2. Weighting of Evaluation Criteria

Criterion	Weight
Projected Co-benefit Outcomes (benefits in addition to heat reduction)	30%
Project Preparedness	15%
Project Sustainability	15%
Likelihood of Success	15%
Municipal Level and Community-Level Evaluation (OBM status, tree equity score based on census block, and census tract energy burden for 0-200% income level)	15%
Alignment with Relevant State Plans (2019 EMP, Community Energy Plans, NJ Extreme Heat Resilience Action Plan, PCAP, and RGGI Strategic Funding Plan)	10%

Request for Comments

The Board is also accepting written and/or electronic comments. All public comments should be filed under BPU Docket No. QO24100834, In the Matter of the Establishment of an Urban Heat Island ("UHI") Mitigation Program. **The deadline for comments on this matter is 5 p.m. on April 17, 2025.**

Please submit comments directly to the specific docket listed above using the "Post Comments" button on the Board's [Public Document Search](#) tool. All comments are considered public documents for purposes of the State's Open Public Records Act. Only public documents should be submitted using the "Post Comments" button on the Board's Public Document Search tool. Commenters may identify any information they seek to keep confidential by submitting them in accordance with the procedures set forth in N.J.A.C. 14:1-12.3.

In addition to hard copy submissions, confidential information may also be filed electronically via the Board's e-filing system or by email to the Secretary of the Board. Please include "Confidential Information" in the subject line of any email. Instructions for confidential e-filing are found on the Board's webpage <https://www.nj.gov/bpu/agenda/efiling/>.

Emailed and/or written comments may also be submitted to:

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Board Staff looks forward to receiving and reviewing your responses.

Sherri L. Lewis

Sherri L. Lewis
Secretary of the Board

Dated: 03-17-2025