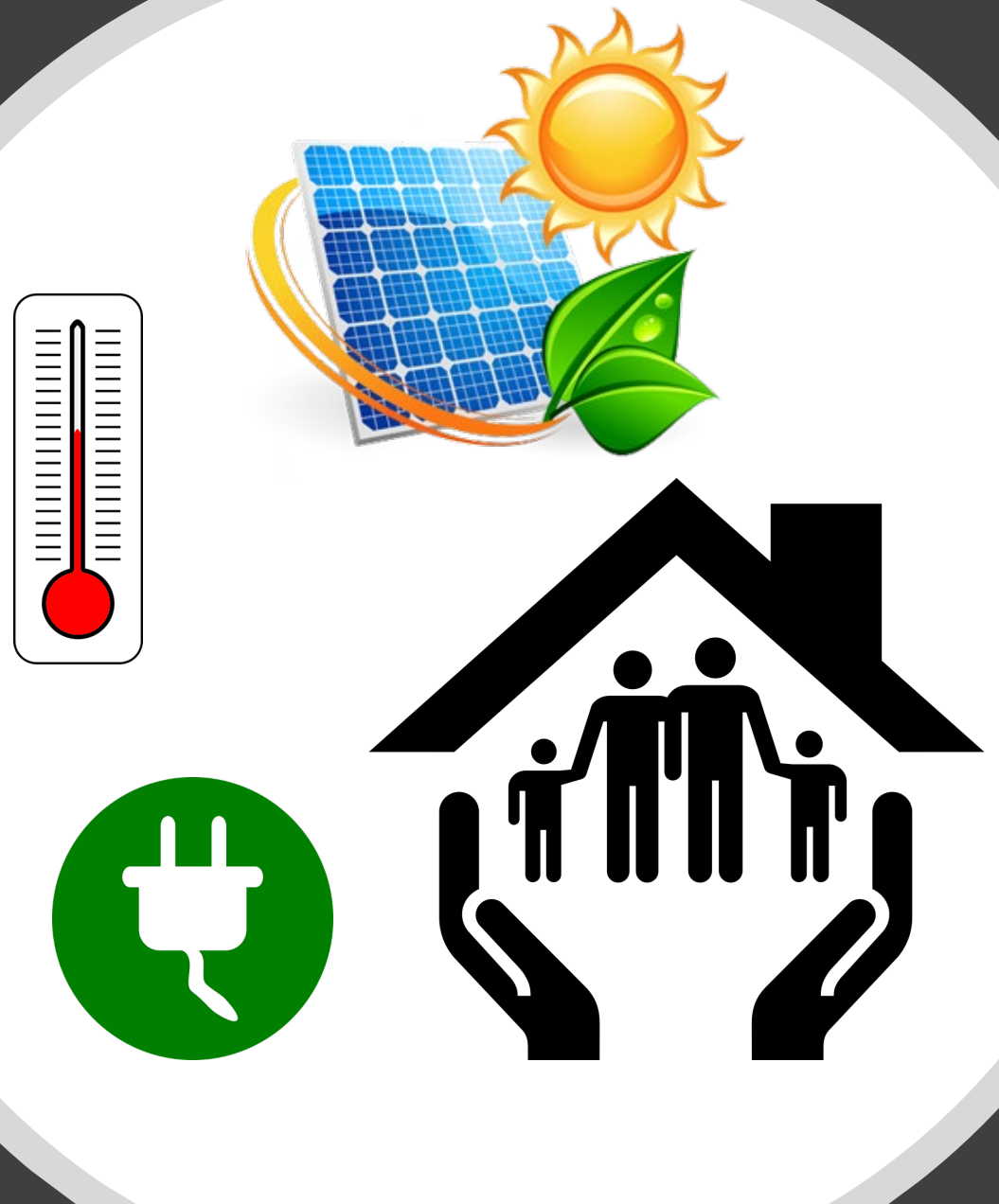
DEVELOPING RESILIENCE HUBS

Identifying Heat Island Hot Spots and Deploying Solar Power Storage at Neighborhood Hubs



Facilitators:

Stephanie P. Dalke, Environmental Finance Center

Deb Perry, Cadmus

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What is a Resilience Hub?

- Resilience Hubs are community facilities that have been enhanced to better "support residents, coordinate communication, distribute resources, and reduce carbon pollution while enhancing quality of life."

- Hubs can be designed to meet a variety of goals, but they should at least provide emergency heating and cooling and electricity for medical needs and device charging.

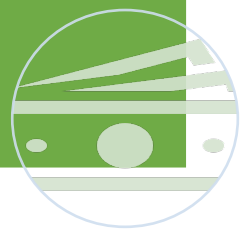
Benefits of Resilience Hubs and Heat Mapping

- A Hub's solar power reduces greenhouse gas emissions and air pollution
- Planting trees in "hot spots" provides habitat, slows down stormwater, and improves air quality

Environmental Benefit

- Correcting neighborhood "hot spots" will save money on cooling

Economic Benefit



- Hubs
  - provide a location to access electricity for medication, etc. during outages
  - serve as cooling and heating centers to prevent deaths
  - support community members
- Correcting neighborhood "hot spots" will reduce heat-related health impacts on vulnerable populations

Human Health Benefit

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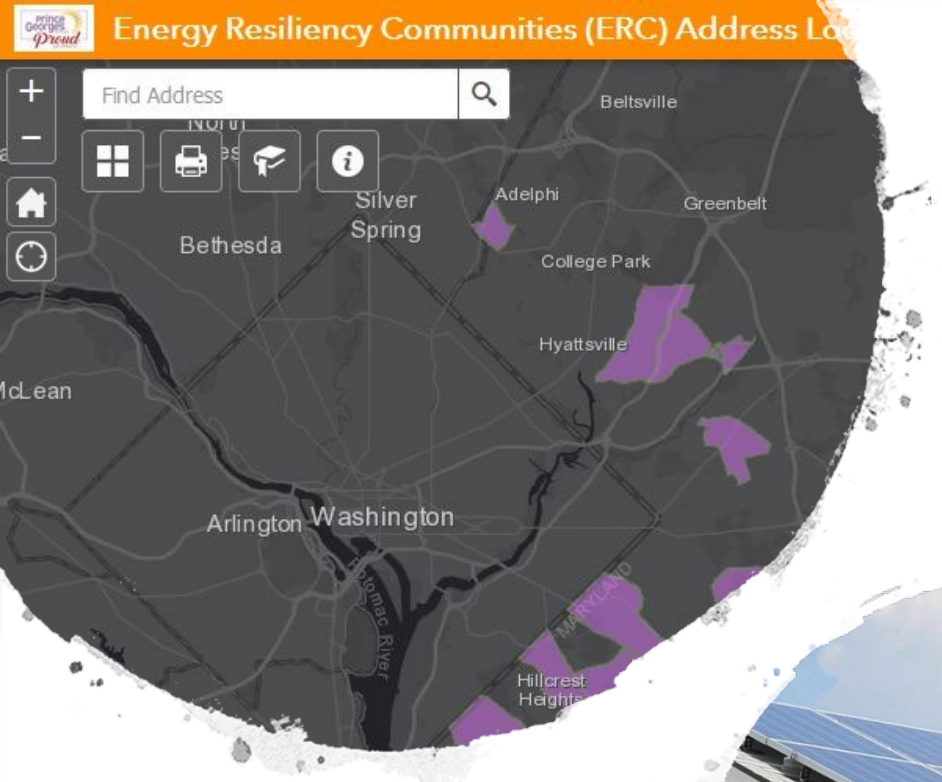
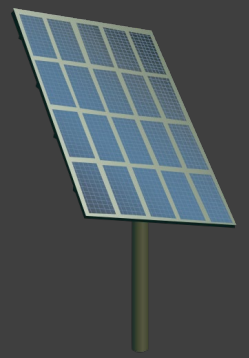


Snapshot of Efforts in the County

- Provide residents with information on avoiding heat-related illnesses
- *Plan 2035 (open space, GI)*
- The *County's Energy Resiliency Zones (ERZs) Initiative focuses* on uplifting neighborhoods that face challenges. This includes deploying distributed energy resources (e.g. energy efficiency, renewables such as solar PV and thermal, battery storage, and microgrids).
- Green roofs, which help with cooling, have been installed at newer developments and town buildings.

Change is Happening

- Baltimore now has several Resiliency Hubs across the City.
- The Maryland Energy Administration (MEA) created a Resiliency Hub Grant Program to support development and construction of “solar plus” energy storage systems at Resiliency Hubs. The program prioritizes high density, Low and Moderate Income (LMI) neighborhoods and community/public buildings.
- In 2020, MEA funded 3 sites in Prince George’s County to study microgrid deployment, including: Fairmount Heights, a multi-family complex in Adelphi, and one in Forestville. In 2021 MEA granted $200,000 for construction of a microgrid in Fairmount Heights.
- MEA also supported solar energy upgrades, including battery storage, at St. Jude Regional Catholic School in Rockville in order to create a Resiliency Hub that is within walking distance of about 3,000 residents.



Maryland Announces Funding for 14 Microgrid Projects

June 11, 2020 By Elisa Wood

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Maryland yesterday announced winners in its resilience solicitation, 14 facilities that speak to the range of operations now pursuing microgrid projects — from marginalized neighborhoods to food production operations to a marine terminal.

The winners will divvy up $1.05 million provided by the Maryland Energy Administration's (MEA) Resilient Maryland program. The funding will go toward completing detailed feasibility analyses, engineering, planning, and designs, positioning them to seek financing.

In all, the program attracted 25 microgrid proposals from a broad geographic and socio-economic swath of Maryland.

“The response to this pilot was incredible, in fact, it was one of our most popular programs this year,” said Mary Beth Tung, MEA director.

Maryland, site of the Montgomery County microgrid project, pictured, is funding 14 new projects. Photo courtesy of Schneider Electric

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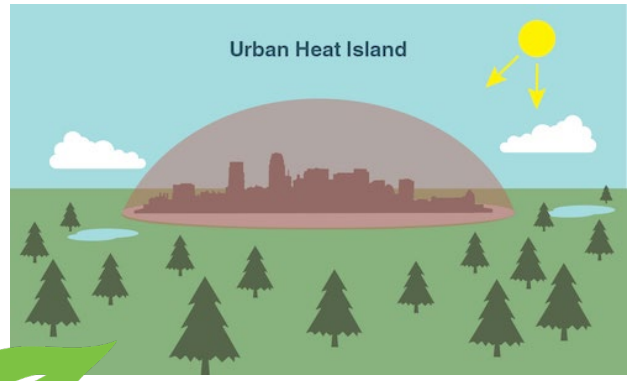

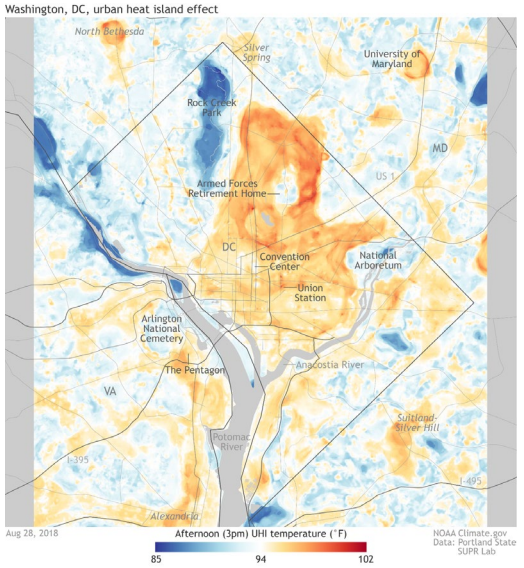

Preliminary Resilience Hub and Heat Mapping Action Recommendations

- Perform thermal mapping to identify urban heat island hot spots, including impacted vulnerable populations, areas for greatest potential for cooling, and potential areas for mitigation strategies and use to develop a County comprehensive extreme heat strategy. Use to inform selection of Resilience Hubs.
- Assess the potential to establish Resilience Hubs in those communities within a 10-minute walking radius. Prioritize County-owned properties such as adult daycare centers, recreation centers, and other existing community focal buildings.

What does a successful Prince George's County Resilience Hub and heat mapping program look like?

- WHO?
- WHAT?
- WHEN?
- WHERE?
- HOW?

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What could a Resilience Hub and heat mapping program in Prince George's County look like?

- *E.g., Hubs provide XXXXX services to their neighborhood, Hubs hold events for community members beyond disaster support, heat mapping efforts include interviews with residents to learn how they would like to solve the issue, etc.*
- *Need to provide grant funding (community organizations don't have the money to make investments on solar/storage, etc)*
- *Resilience of utilities is as important as establishing hubs - they still need to be resilient to floods, etc.*
- *Heat maps are very important and should be mapped as quickly as possible so focus can shift to solutions. The maps themselves will also help to educate/motivate residents.*
- *Heat maps also link to work related to protecting trees- losing trees creates more heat islands*

Challenges

- *E.g., not located somewhere I can get to*
- *How to identify vulnerable communities*
- *Factors that could guide locations- put them in "high traffic" areas; hubs need to be self-sustaining, have generator, solar– Harmony Hall would be a good choice.*
- *Question about putting solar on condos (or larger/multi-family housing) - residents of one complex have inquired and were told by companies that they only do single-family homes (*need for more information on how these types of housing can get solar etc.*)*
- *Utilities are having a lot of brown-outs (unrelated to storms)- have had equipment failures*
- *The need to protect existing trees and prioritize planting trees in areas lacking canopy STILL EXISTS, even if resilience hubs are put in place*
- *Comfort - people already don't use cooling centers if they know the chairs are uncomfortable, etc. - need to engage residents in designing the hubs so that they will actually want to use them*

Opportunities

- *E.g., build community capacity outside of just climate change*
- *An opportunity for the County to look beyond vulnerability to heat alone, to address additional vulnerabilities (e.g., economic, social), etc.*
- *Students would love to engage and participate with County & public, college students with research capabilities*
- *Specifically, Morgan State students who live in PG Co.*

Who benefits?

- Benefit those most impacted by extreme heat

Who is burdened or left out?

- People who are less mobile - seniors or handicapped people (locating hubs within walking distance still does not make them accessible to everyone)
- People with mental disabilities also may need targeted outreach or accommodations so they are not left out of hubs' benefits

How do we ensure equitable outcomes?

- *E.g., Prioritize projects, promotion of opportunities, or technical support in low-income communities*
- Make sure hubs and their operations have included the most vulnerable people so they aren't left out (e.g., see "who is burdened or left out")

What does success in the County look like in the next 3-5 years?

- Research and Data Needs
- Policy/Ordinance Changes
- Residential Outreach Efforts
- Monitoring and Evaluation

- Heat maps should be completed ASAP to identify hot spots
- Funding – how to fully take advantage of federal infrastructure funding - is the County ready?
- Role of the MD Nat'l Park & Planning Commission – they have operated "cooling centers." Often not walkable. Not comfortable. Needs to be more than a place with cool air. Need to find a model, video, introduce locally. Get Park & Planning Commission on board -- engage them in heat mapping/solutions, as well as hub planning.
- Improve management of forest & trees – need support/improvement from MD Nat'l Park & Planning
- May need legislative initiatives to push & make this a priority
- Continue to build strong communities, strong communication networks so people know what's going on and people look after one another
- Get maps out using "all of the above" approach- online, TV, through community groups
- Heat mapping and resilience hub efforts MUST be communicated well. If people don't know about them they cannot use them.

Stay Engaged

Apply to be a County Climate Action Resident Expert

- https://forms.gle/z92cx7LLrYTmNLN17

Visit the DMV Climate Partners Website

- https://climatepartners.org

Learn More About Upcoming Meetings

- mypgc.us/climateactionplan

Explore the County CAP Virtual House

- https://bit.ly/2S7PgEQ

Provide Comments and Feedback

- https://bit.ly/3vBKqNJ

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8. DEVELOPING COMMUNITY RESILIENCE HUBS CHAT TEXT

20:04:55	From Zelda Bell to 🙋 Facilitator: Stephanie Dalke, UMD, EFC(Direct Message) : My question is a bit tangential. I live in a high density condo complex in the county populated by many, many seniors. A couple of us had inquired about the possibility of obtaining solar panels, thereby lowering utility bills. We were told this can only happen in single family homes. How can this be changed? If it is true.
20:29:00	From 🙋 Facilitator: Stephanie Dalke, UMD, EFC : https://www.phila.gov/departments/office-of-sustainability/beat-the-heat-toolkit/
20:31:30	From 🙋 Facilitator: Stephanie Dalke, UMD, EFC : Going forward - STAY ENGAGED! ✔ Apply to be a County Climate Action Resident Expert: https://forms.gle/z92cx7LLrYTmNLN17 ✔ Visit the DMV Climate Partners Website: https://climatepartners.org ✔ Learn More About Upcoming Meetings: mypgc.us/climateactionplan ✔ Explore the County CAP Virtual House: https://bit.ly/2S7PgEQ 📣 Provide Comments and Feedback: https://bit.ly/3vBKqNJ