



# NY - GEO 2024

APRIL 8-9 | ALBANY NY



## Utility Thermal Energy Networks (UTEN) *Progressing through stage gate process*

**Moderator:** John Ciovacco / [Aztech Geothermal](#)

**Panel:** Joseph Hitt / [NYS Dept. of Public Service](#)  
Cole Burgess / [NYSEG](#) / [RG&E](#)  
Owen Brady-Traczyk / [National Grid](#)  
Katelyn Tsukada / [Con Edison](#)

**BUILDING ELECTRIFICATION - 2:30 PM**



Department  
of Public Service

# Utility Thermal Energy Network & Jobs Act

**Case 22-M-0429**

April 9, 2024

# Overview

- Definition –**Thermal Energy Network**: All real estate, fixtures and personal property operated, owned, used or to be used for or in connection with or to facilitate a utility-scale distribution infrastructure project that supplies thermal energy.
- **The Act (passed May 25<sup>th</sup>, 2022) amends various laws**, including the Public Service Law (PSL) to direct the PSC to:
  - **PSL §66-t(1): Initiate a proceeding within 3 months** to support development of thermal energy networks and consider the various ownership, market, and rate structures to support the provision of thermal energy services by the utilities.
  - **Promulgate rules and regulations within two years to:**
    - a) Create fair market access rules for utility-owned thermal energy networks to align with the climate justice and greenhouse gas emissions reductions requirements of the CLCPA and that does not increase greenhouse gas emissions or co-pollutants;
    - b) Exempt small-scale thermal energy networks not owned by utilities;
    - c) Promote the training and transition of utility workers impacted by the Act; and
    - d) Encourage 3<sup>rd</sup> party participation & competition where it will maximize benefits to customers.

## Overview (cont.)

- **PSL §66-t(2):** Requires the seven largest gas, electric, or combination gas and electric corporations (investor-owned utilities) to propose within three months of effective date between one and five thermal network pilot projects (Pilot Projects) –at least one of which must be sited in a Disadvantaged Community – for PSC review.
- **Amends LIPA's Enabling Statute:** LIPA & PSEG-LI are required to meet the same Pilot Project requirements, although subject to DPS review.
- **Also amends the Labor Law:**
  - Any thermal energy network created shall demonstrate that the gas or electric corporation has entered into a labor peace agreement with a bona fide labor organization or jurisdiction that is actively engaged in representing gas and electric corporation employees.
  - This law applies prevailing wage and direct entry pre-apprenticeship requirements to thermal energy projects.

# Timeline To-Date

- **July 2022** - Utility Thermal Energy Network and Jobs Act Signed into law
- **September 2022** – NYS PSC Initiating Order Case 22-M-0429
- **October 2022** - Utility Initial Pilot Project Proposal Filings
- **December 1, 2022** - Technical Conference Held Staff seeks discussion on the following matters: (1) the perceived technical and regulatory barriers and proposed solutions to implementing the proposed pilot projects; and (2) the proposed metrics by which to measure the proposed projects' effectiveness.
- **January 2023** - Utility Pilot Project Proposal Filings
- **April 2023** - Initial Comments Submitted
- **May, June, August 2023** - Supplemental Filings, Pilot Project Withdrawals and Additional Comments
- **September 2023** - Staff UTEN Report and Guidance Order
- **November 2023** - Technical Conference for UTEN Terms and Definitions
- **December 1, 2023** - UTEN Terms and Definitions filed in Case 22-M-0429
- **December 15, 2023** - Final UTEN Pilot Project Proposal
- **February 20, 2024** – DPS Staff UTEN Regulatory Proposal
- **March 19, 2024** - Technical Conference for Performance Metrics

# Initiating and Guidance Orders

- **September 2022** - Commission instituted a proceeding (Case 22-M-0429) and issued an Order on Developing Thermal Energy Networks Pursuant to the Utility Thermal Energy Network and Jobs Act
  - Recognizes the pilot projects as the primary mechanism in which to gain sufficient experience to consider necessary rules and establishes a stepped implementation approach
  - Directed Staff and utilities a process and timeline to file pilot projects for each of the seven largest utilities
  - In January 2023, the seven utilities proposed 14 pilot projects with estimated total costs of \$360-\$435 million and 1-2-year timeframes from approval to construction
  
- **September 2023** - Order Providing Guidance on Development of Utility Thermal Energy Network Pilot Projects
  - Setup a **Phased Implementation** approach of 5 stages, outlined as follows:
    1. Pilot Project Scope, Feasibility, and Stakeholder Engagement
    2. Pilot Project Engineering Design and Customer Protection Plan – this filing will be subject to a public comment period after which the Commission will consider whether to authorize the project to advance to Stage 3
    3. Customer Enrollment and Pilot Project Construction
    4. Pilot Project Operation and Management
    5. Pilot Project Review, Recommendations, and Conclusion
  - Directed Staff to convene a **Technical Conference** to develop mutually agreed upon key terms and definitions
  - Established four categories of **Performance Metrics**: 1) Technical 2) Financial 3) Customer or Societal 4) Safety and Reliability
  - Utilities are directed to file monthly **Progress & Expenditure Reports** starting Nov. 15, 2023



# Initiating and Guidance Orders (cont.)

## Further Guidance Provided in the following areas via the September 2023 Guidance Order:

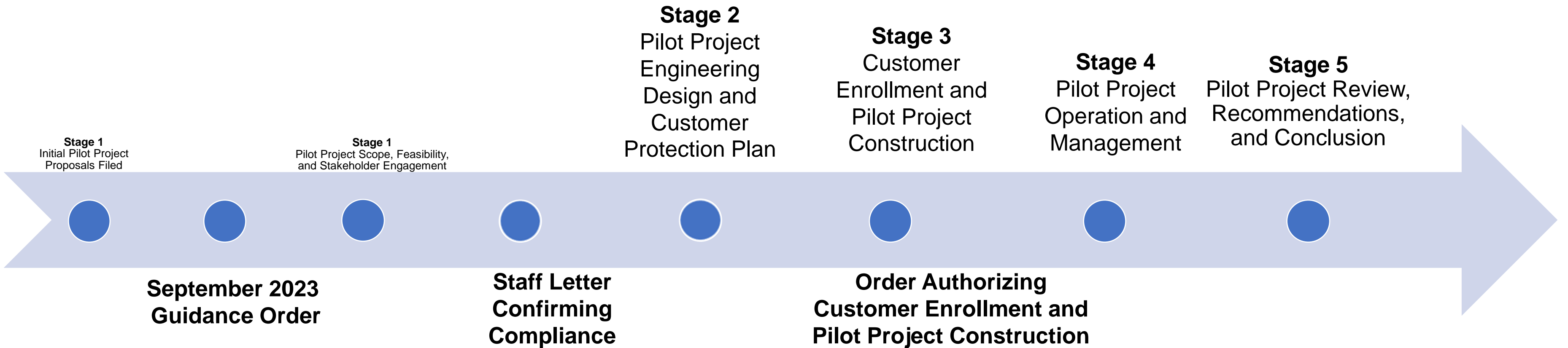
- **Clarification on UTEN Design Options** - Each Utility's proposed Pilot Projects should consider the most efficient, reliable, and affordable solutions in the design and operation of their proposed UTENs.
- **Diversity of Pilot Projects** - Diversity of Pilot Project design will provide important information that can be evaluated to support further thermal energy development.
- **Disadvantaged Communities** - The Act requires each utility to propose at least one Pilot Project located in a Disadvantaged Community within that utility's service territory.
- **Technical, Economic and Operational Aspects**
  - UTEN Optimization and Balancing
  - Thermal Energy Resources
  - Safety, Reliability, and Resiliency
  - On-site Energy Efficiency Upgrades
  - Comparative Analysis of UTEN Systems vs Individual Electrification
- **Customer Protection Plans** - At the core of a successful UTEN Pilot Project is customer adoption and satisfaction. The Final UTEN Pilot Project Proposal shall include a Preliminary Customer Protection Plan, that includes the following components: (1) the basic conceptual structure of the Final Customer Protection Plan, (2) customer engagement activities, and (3) a customer agreement template that documents the customers' rights and responsibilities that are associated with the Pilot Project.
- **Labor Requirements** - The Act clearly calls for the Utilities to not just develop and operate UTENs but to do so in ways that support good jobs and training opportunities in the localities where UTENs are to be located.

# Guidance Order – Procedural Approach

- Development and implementation of UTEN pilot projects is a complex undertaking that requires utilities to design and engineer systems and develop pricing and rate structures that have not been a part of their core business to date. Garnering participation in the pilot projects will also require novel approaches to customer engagement.
- The process adopted here to review and steer project development must recognize the dynamic nature of this endeavor. It must also provide structure and transparency as well as clarity to the Utilities regarding the requirements they must meet to advance their projects. And it must minimize risk while advancing projects that are in the public interest as quickly as possible.



# Pilot Project Stages and Timeline



All pilot project proposals are currently in Stage 1.

- Initial Pilot Project Proposals filed on January 9, 2023.
- Guidance Order provides clarifications, establishes stage-gate approach, and identifies additional information needed to advance projects to next stage.
- Utilities file Final UTEN Pilot Project Proposals by December 15, 2023.

Individual pilot project decisions will be provided beginning at Stage 2.

- Staff issues letter confirming compliance with Guidance Order and advances project(s) to Stage 2 or notes deficiencies to be addressed.
- **Utilities file Final Engineering Design and Customer Protection Plans for each pilot project within 9 months of Staff letter.**

Advancement of Pilot Project to Stage 3 through project-specific Commission Order(s).

- **Utilities file Final UTEN Pilot Project Engineering Design and Customer Protection Plans. Filings will be issued for public comment.**
- Order will finalize pilot project operational requirements, cost recovery, CPPs, performance monitoring and reporting structure.
- Pilot project will be operational for a minimum of 5 years.

# Stage-Gating Approach - Five Distinct Stages

- The Commission adopted a process that entails stepwise advancement through five distinct stages:

Stage 1: Pilot Project Scope, Feasibility, and Stakeholder Engagement

Stage 2: Pilot Project Engineering Design and Customer Protection Plan

Stage 3: Customer Enrollment and Pilot Project Construction

Stage 4: Pilot Project Operation and Management

Stage 5: Pilot Project Review, Recommendations, and Conclusion

- Under this “stage-gating” approach, a Utility’s pilot project will proceed from one stage to the next only after Staff or the Commission, as appropriate, is satisfied that the Utility has complied with the requirements for each stage, as described below.

# Stage 1: Project Scope, Feasibility, and Stakeholder Engagement

- All active pilot project proposals received to date are currently in Stage 1. The proposals required further development before they could advance to Stage 2. The Utilities supplemented their proposals by filing a Final UTEN Pilot Project Proposal on or before December 15, 2023. The filing where to include the following information:
  - the specific objectives of the pilot project, including the novel or unique technical or business model approaches it will explore and anticipated findings;
  - preliminary cost estimates and timeline associated with the Stages presented here, and other key milestones identified by the Utility;
  - potential barriers and risks associated with the proposed pilot project and steps the Utility will take to address them;
  - and a description of benefits to residents of the Disadvantaged Community, if applicable.

# Stage 1: Project Scope, Feasibility, and Stakeholder Engagement (cont.)

- The Final UTEN Pilot Project Proposal must also adequately address the other guidance provided in the Order. Further, this filing must also include a Preliminary Customer Protection Plan, including a description of required customer engagement activities and customer agreement template that recognizes customer protections, also discussed below.
- Relatedly, if any of the Utilities decide to withdraw a pilot project prior to completing the pilot phase, the Utility shall, in consultation with Staff, file a Pilot Project withdrawal letter with the Secretary to the Commission. This filing shall describe the reasons for withdrawing the pilot project and document any key findings or recommendations from the pilot project.

## Approval to Advance to Stage 2

- Staff is required to conduct a compliance review to determine if the filing meets the requirements set forth in this Order.
- If Staff confirms that a Final UTEN Pilot Project Proposal complies with all requirements, the Director of Energy System Planning and Performance shall issue a letter confirming compliance and advancing the pilot project to Stage 2. The approval letter may also include Staff feedback that the Utility should consider in the next stage of development.
- If Staff identifies one or more aspects of a Utility's Final UTEN Pilot Project Proposal that is non-compliant or presents feasibility concerns, the Director of Energy System Planning and Performance shall issue a letter identifying the deficiencies and/or concerns and setting forth a timeline for the Utility to respond with the necessary information.

# Stage 2: Pilot Project Engineering Design, and Customer Protection Plan

- This stage entails the development of a final project engineering design, including acquisition of all necessary permits and the development of all documents required to begin construction of the pilot project. Stage 2 also includes development of a project-specific Final Customer Protection Plan. Stage 2 will also entail the further development of operational requirements, the cost recovery approach, performance metrics, and other data collection and reporting structures.



## Approval to Advance to Stage 3

- Within nine months of Staff issuance of a Utility's individual pilot project-specific compliance letter advancing a project to Stage 2, the Utility shall file a Final UTEN Pilot Project Engineering Design and Customer Protection Plan.
- The final pilot project design shall contain decision-quality information for the Commission to assess the merits of the pilot project. As such, prior to authorization for the further expenditure of ratepayer funds to proceed with pilot project construction, the Utility shall present construction specifications for the system.
- Also, the Utility shall identify the training and qualification programs and activities that will be required to ensure the integrity of the system.
- The Final UTEN Pilot Project Engineering Design and Customer Protection Plan filings will be issued for public comment and subsequent Commission Order(s) will determine whether the specific pilot projects can advance to Stage 3.

# Stage 3: Customer Enrollment and Pilot Project Construction

The two sub-stages of Stage 3 are to be completed in sequence.

## Stage 3a: Customer Enrollment

- Formal enrollment of customers into the pilot project requires the execution of a Customer Agreement. For each pilot project, the Utility must enroll a prescribed minimum number of customers, to be detailed in the forthcoming order(s) determining whether to authorize the pilot projects to advance to Stage 3.

## Stage 3b: Pilot Project Construction

- Construction may not begin until the Utility files a letter with the Secretary documenting its enrollment of sufficient customers. The Commission will determine specific reporting requirements in the forthcoming order(s) determining whether to authorize the pilot projects to advance to Stage 3.

## Stage 4: Pilot Project Operation and Management

- Stage 4 represents the full operation of the pilot project and the start of performance monitoring. The Commission anticipates the pilot phase of the projects will be a minimum of five years to capture sufficient seasonal data for conducting analysis such as, thermal loop performance, building energy benchmarking, load shape analysis, energy consumption, occupancy predictions, and HVAC control impacts, to understand building operations and impacts on energy use, energy costs, and GHG emissions.
- The Commission anticipates requiring performance metric reporting quarterly. The operation and management phase will ensure the pilot project is performing as designed while remaining adaptable to incorporate any necessary changes.

## Stage 5: Pilot Project Review, Recommendations, and Close Out

- In this stage, the Utility shall review the project, document key findings, and propose recommendations for the Commission to consider regarding future UTEN pilots, full-scale UTEN deployment, or the promulgation of regulations necessary to support UTEN operations. This information shall be detailed in a Pilot Project Review and Recommendations Report, which shall be developed in consultation with Staff. Relatedly, the Commission may consider requiring a separate, third-party evaluation of the pilot project(s).
- Additionally, the Commission requires that the Utility file a Pilot Project Close Out Report for each applicable pilot project, detailing the Utility's proposed steps for closing out the pilot project.

## Stage 5: Pilot Project Review, Recommendations, and Close Out (cont.)

- At conclusion of the pilot phase, the project will be considered complete for informational purposes outlined in the Act. While project specific report requirements and filing timing will be detailed in subsequent order(s), the Commission expects the Pilot Project Close Out Report will include but not be limited to details on continuing to serve customers through the UTEN as a normal course of business or transitioning customers to alternatives in accordance with provisions outlined in the Customer Agreement, and all associated tariff filings.
- If, at any point in time, a pilot project is not progressing through the Stages in accordance with the stage-gating criteria described in this and future orders, or if design, construction, or operational deficiencies become apparent, the Commission retains the authority to require project modifications or rescind approval and cease the pilot project.

## Timeline Near-term

- **April 2024** – The DPS Director of Energy System Planning and Performance expected to issue letters for each distinct pilot project identifying approval to enter Stage 2; or identified deficiencies and/or feasibility concerns and set forth a timeline for the Utility to respond with the necessary information.
- **April 25, 2024** - Technical Conference for Performance Metrics scheduled 1 – 5 pm; focus on identifying and developing Financial, Customer, and Societal Metrics.
- **May 6, 2024** – On February 20, 2024, the DPS Staff filed the *Staff Proposal for Initial Utility Thermal Energy Network Rules*. Comments addressing the content of the Staff Proposal and identifying any additional data or analysis necessary to further develop comprehensive rules and regulations for utility thermal energy networks are requested by May 6, 2024, from any interested person or entity. Comments should reference “Case 22-M-0429”.
- **May 7, 2024** – Technical Conference for Performance Metrics scheduled 1-5 pm; focus on identifying and developing Technical, Safety, and Reliability Metrics.



# Document and Matter links

**Utility Thermal Energy Networks and Jobs Act, Legislation 2021-S9422**

<https://www.nysenate.gov/legislation/bills/2021/S9422>

**Proceeding on Motion of the Commission to Implement the Requirements of the Utility Thermal Energy Network and Jobs Act, Case 22-M-0429**

<https://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterCaseNo=22-m-0429&CaseSearch=Search>

**In the Matter of Utility Thermal Energy Network Terms and Definitions, Matter 23-02117**

<https://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterSeq=71833&MNO=23-02117>

**In the Matter of Utility Thermal Energy Network Performance Metrics, Matter 24-00515**

[#https://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterSeq=73006&MNO=24-00515](https://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterSeq=73006&MNO=24-00515)

# **NYSEG & RG&E Utility Thermal Energy Networks (UTENs)**

# Companies Introduction

## New York State Electric & Gas (NYSEG)

- Combination utility: electric, gas, and thermal (proposed)
- 2.7 million people served
- 905,005 electricity customers
- 271,547 natural gas customers
- 42 Counties served

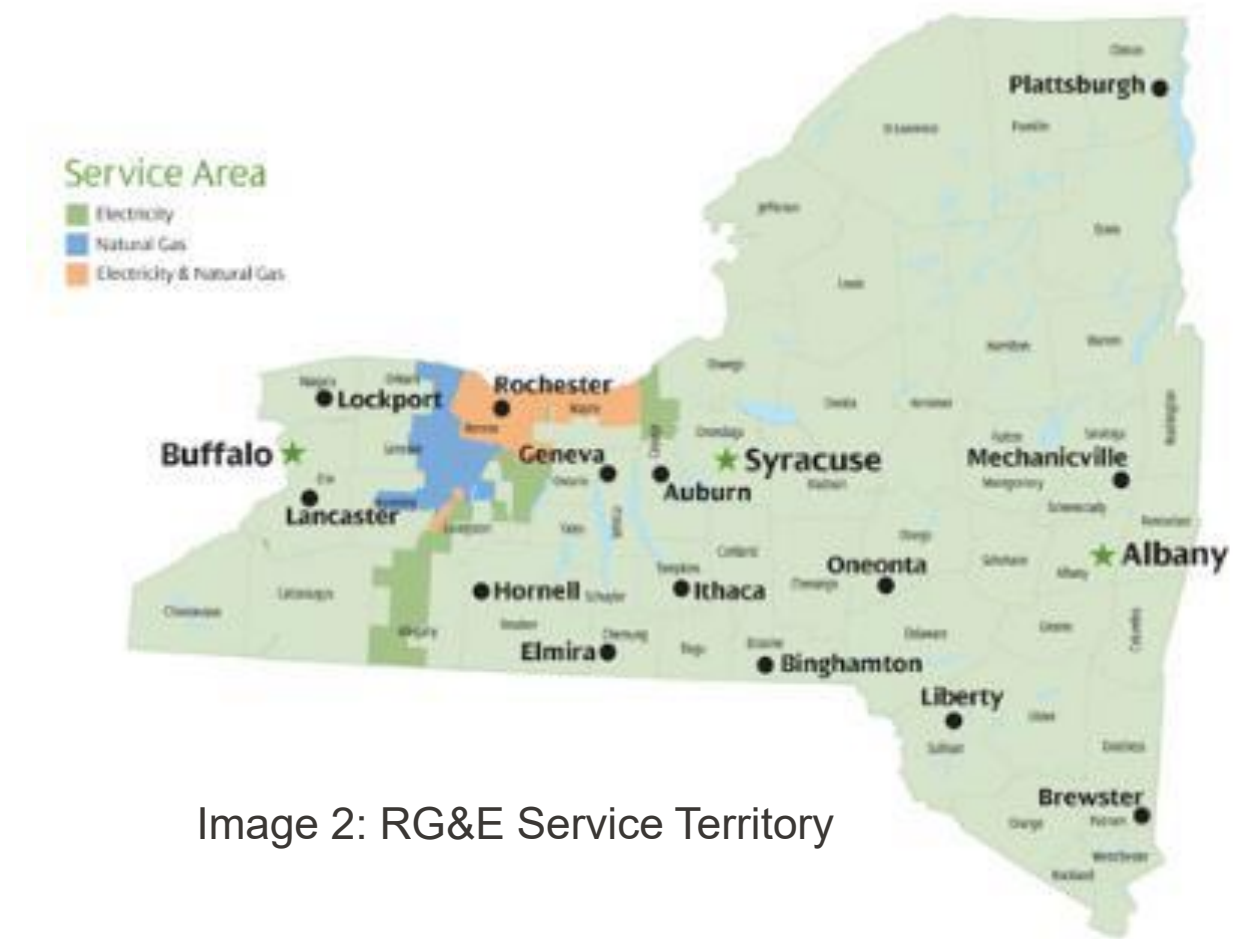


Image 2: RG&E Service Territory

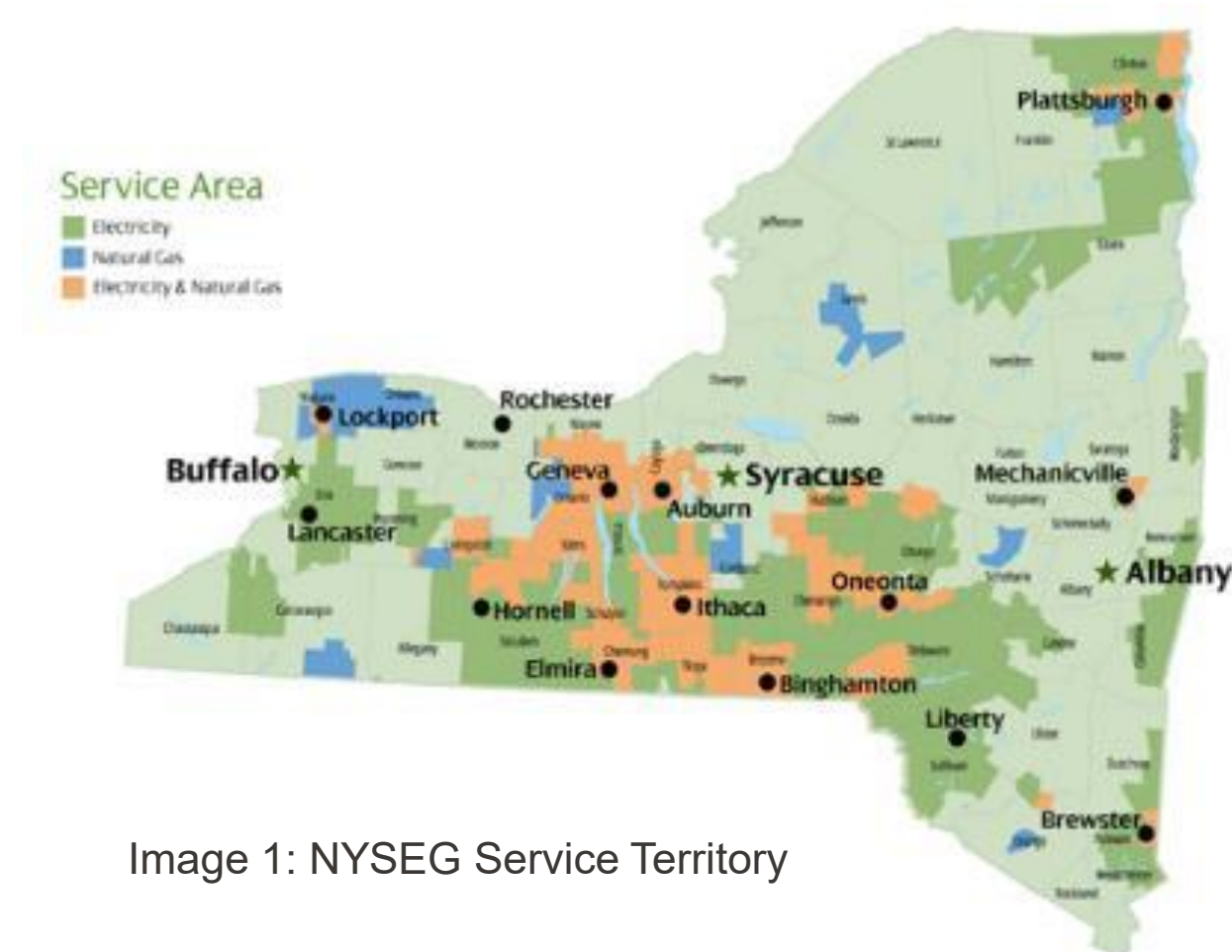


Image 1: NYSEG Service Territory

## Rochester Gas & Electric (RG&E)

- Combination utility: electric, gas, and thermal (proposed)
- 1 million people served
- 388,737 electricity customers
- 271,547 natural gas customers
- 9 Counties served



# RG&E Utility Thermal Energy Network Rochester South Wedge Pilot Proposal



- Closed Loop Geothermal System
  - 183 Wells Proposed
  - 300 Foot Well Depth Proposed
- 21 Proposed Buildings
  - 4 Non-Residential
  - 17 Residential



Image 3: Proposed Rochester UTEN



# NYSEG Utility Thermal Energy Network Ithaca Pilot Proposal

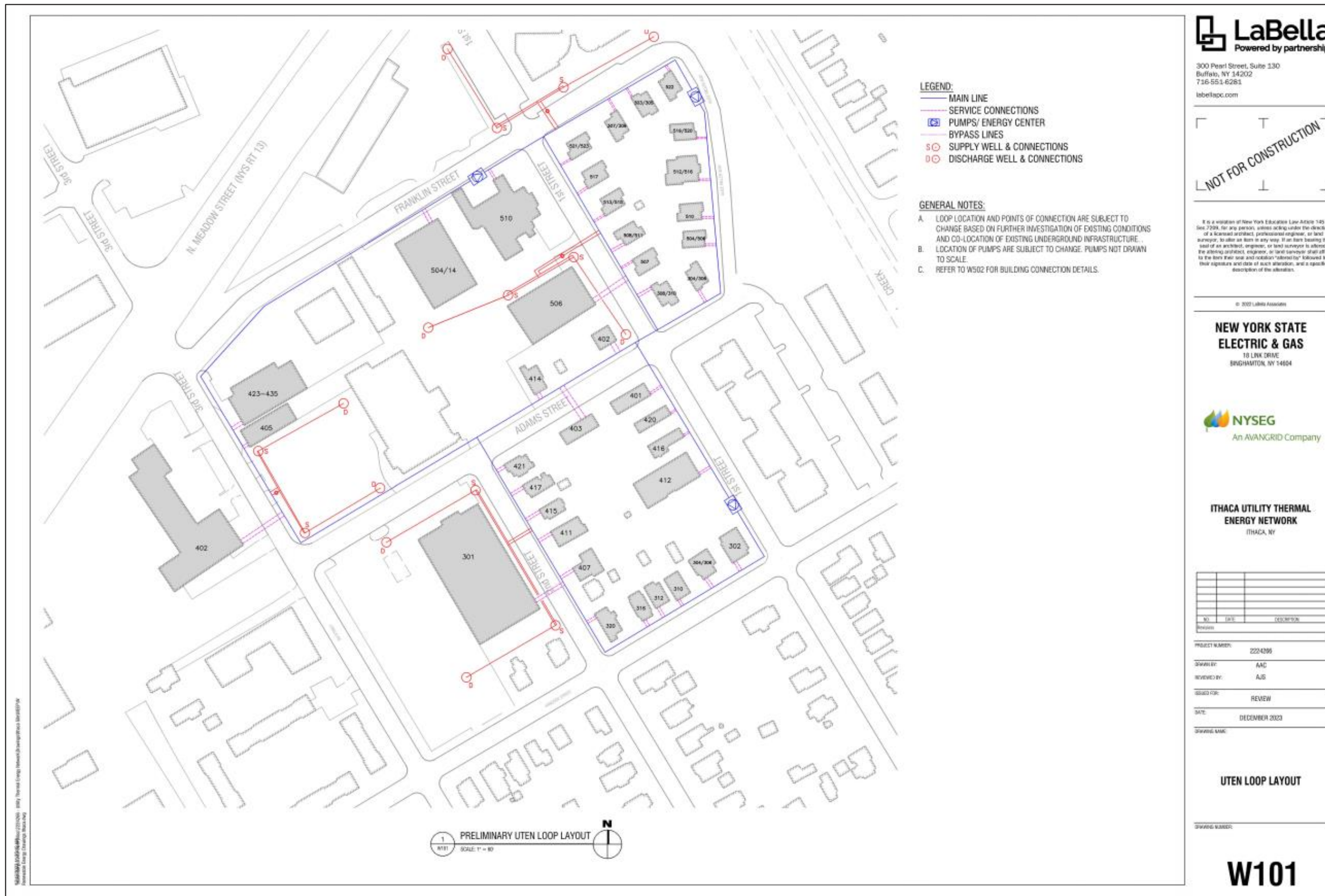


Image 4: Proposed Ithaca UTEN

- Open Loop Geothermal System
  - 8 Supply Wells Proposed
  - 8 Discharge Wells Proposed
  - Additional DEC Permitting Requirements
- 39 Proposed Buildings
  - 8 Non-Residential Buildings
  - 31 Residential Buildings
- Project area is inclusive of a grouping of Ithaca Neighborhood Housing Services homes.





# Ithaca Well Testing Coordinated Effort

NYSEG coordinated a pump testing opportunity with a customer to utilize one of their open-source water wells to help inform the company of the thermal resource potential of the groundwater around the proposed Ithaca UTEN project.

## Tests Performed:

- Step-Down Pump Test
- 24-Hour Pump Test

## Testing Confirmations:

- Acceptable water quality
- Drawdown and flowrate yield provide beneficial results

Results provided data verification points of the groundwater thermal resource potential to support a UTEN within the immediate proposed Ithaca UTEN pilot project area.

Measured flowrate of the well opens the design options for the proposed Ithaca UTEN. Detailed engineered design will be focused on several factors not limited to, safety, reliability, resiliency, and costs.



Image 5: Step-Down Pump Test



Image 6: 24 Hour Pump Test



Image 7: Instantaneous Flow Rate



## Stage 2 – Customer & Community Engagement Plan

*Bringing a utility project solution to a need a customer may not know they have*

- Who are the Customers?
- What is the Company trying to Accomplish?
- What are the Tactics?
- What are the Considerations?

## Stage 2 – Existing Customer Considerations

- Each customer is unique
- Both Landlord & Tenants are directly impacted parties

### Existing Utility Engagement

- Current Billing Program Enrollment
- Current Account Balance(s)
- Critical Facility Status
- Personal perception of clean energy, electrification, natural gas, etc.
- Personal perception of the utility company
- Recent Heating Ventilation and Cooling (HVAC) replacement
- Recent utility interactions for existing electric or gas services.
- Type of utility service or services provided currently.

### Individual & Business Disruptions

- Building Envelope Improvements (if applicable)
- Construction
- HVAC Renovations

## Closing Thought

Introduction of a new utility service, Thermal Energy, and the placement of a new type of utility project into service, Utility Thermal Energy Networks (UTENs) is a comprehensive company effort. NYSEG & RG&E have identified that over 100 business departments within the companies will ultimately be involved in UTEN.



# UTEN Pilot Updates

NY-GEO Conference – Albany

April 9, 2024

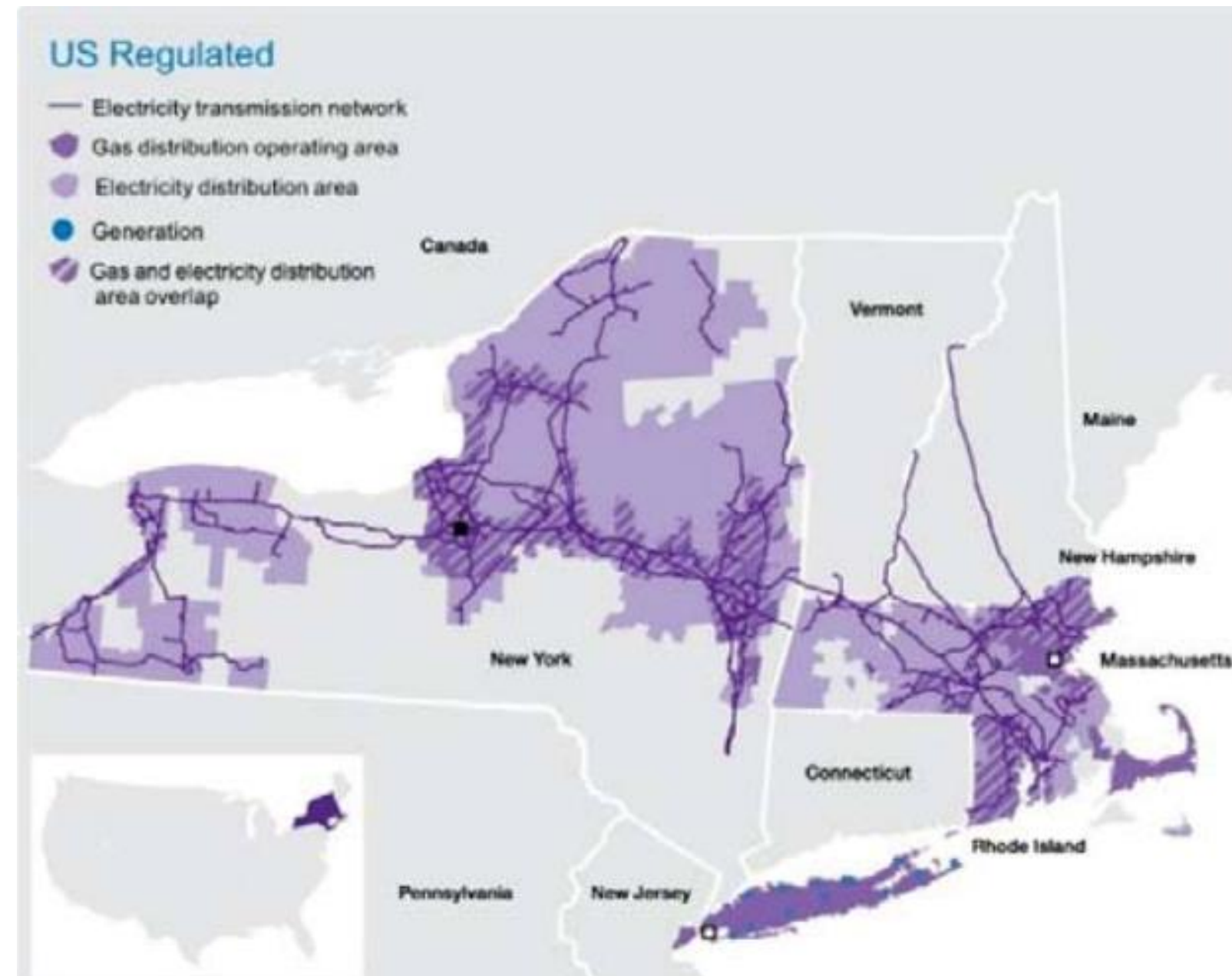


nationalgrid



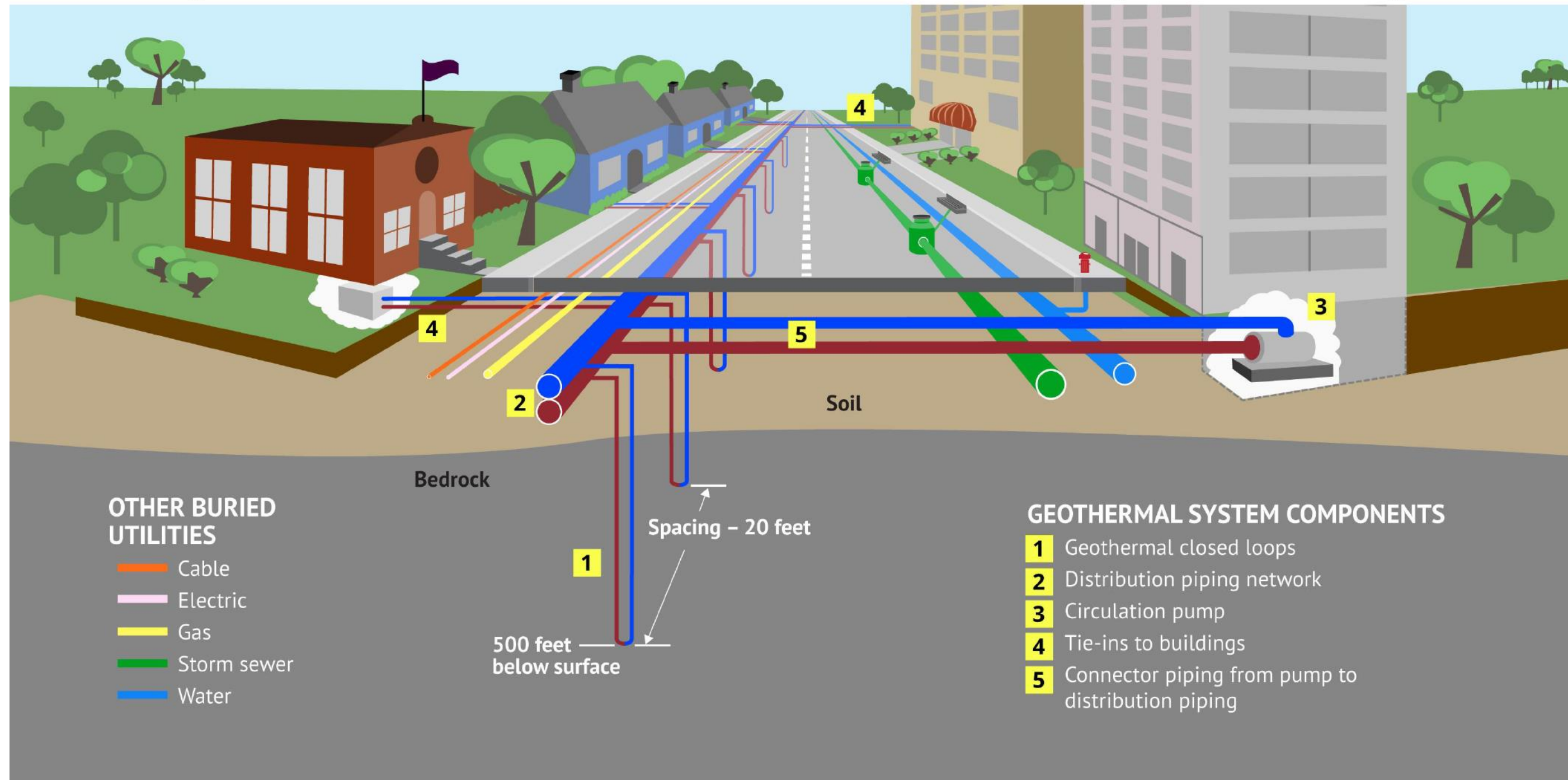
# National Grid Overview

- One of the largest investor-owned utilities in the US
  - Over 7 million gas and electric customers across NY and MA
- Headquartered in the U.K.
- Committed to delivering safe and reliable energy to the customers and communities we serve



# What is a Thermal Energy Network?

## Utility-Scale Geothermal Conceptual Layout





# Summary of National Grid's December 15<sup>th</sup> Filings

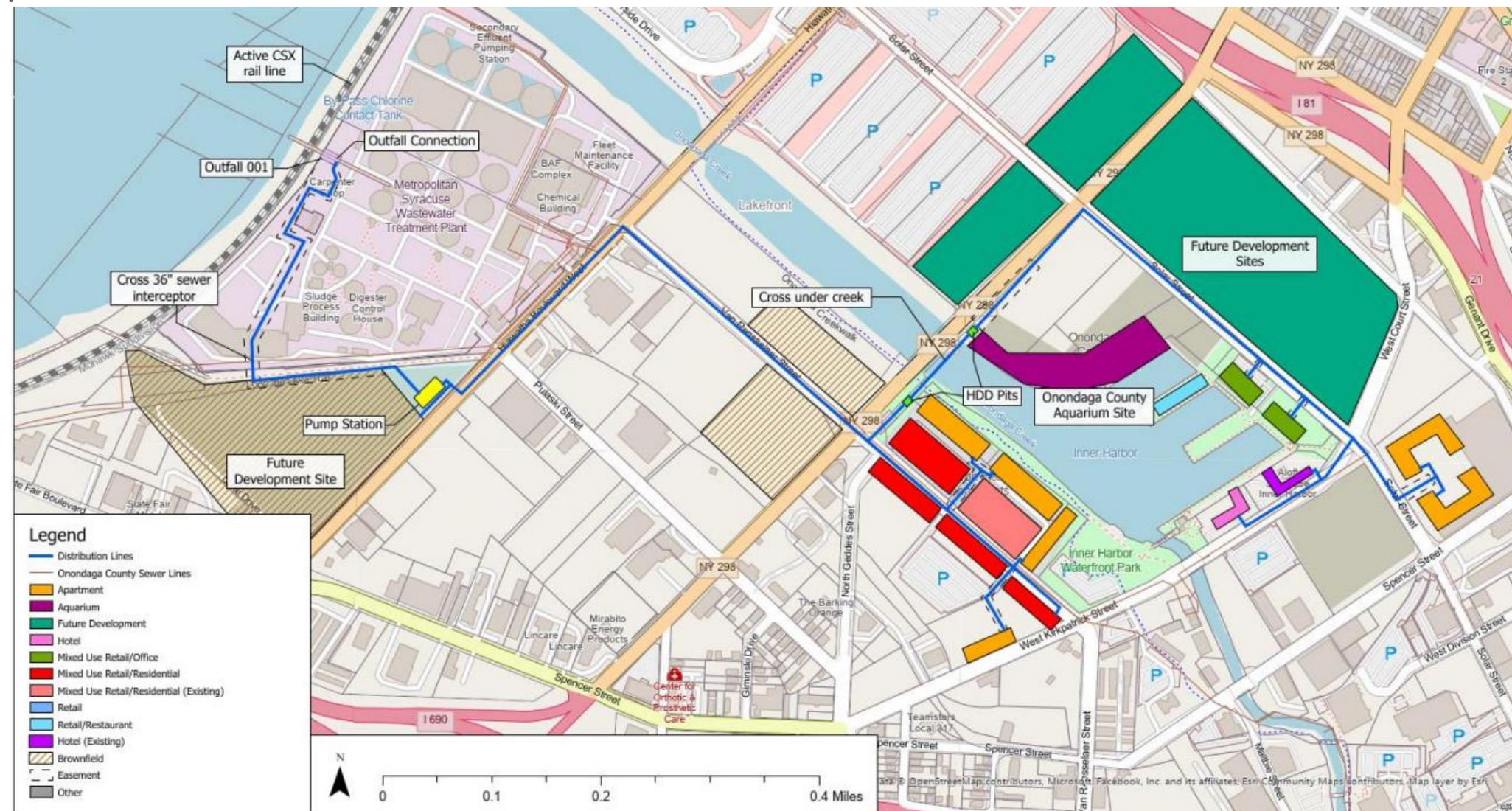
- Four pilots proposed (2 in Upstate NY, 2 in Downstate NY)
  - Long Island pilot proposed in partnership with PSEG-LI
- Total estimated cost of \$416M
- Projects would avoid ~5,550 metric tons of carbon emissions each year while producing operational efficiencies for customers in terms of lower kWh sales than in an air-source electrification scenario

	<b>KEDLI</b>	<b>KEDNY</b>	<b>NMPC - Troy</b>	<b>NMPC - Syracuse</b>
<b>Cost</b>	<b>\$122M</b>	<b>\$108M</b>	<b>\$53M</b>	<b>\$133M</b>
<b>Capacity</b> (tons)	<b>1,530</b>	<b>560</b>	<b>790</b>	<b>2,460</b>
<b>GHG Reductions</b> (MT CO <sub>2</sub> e / year)	<b>-517</b>	<b>-448</b>	<b>-1,782</b>	<b>-2,798</b>

# Syracuse Pilot Specifics

- **The outfall of wastewater treatment plants is an untapped resource.**
  - will harness the waste heat available in the outfall and deliver it to customers in the inner harbor area
- **The energy needs of customers planned for the first phase of the pilot represent ¼ of the capacity of the system**
  - The system will be initially oversized to allow for expansion into the downtown area in the future

	NMPC - Syracuse
<b>Cost</b>	<b>\$133M</b>
<b>Capacity</b> (tons)	<b>2,460</b>
<b>GHG Reduction</b> <b>S</b> (MT CO <sub>2</sub> e / year)	<b>-2,798</b>





# Troy Specifics

- **Managing customer timelines has been the largest difficulty.**
- **Developing a unique, bifurcated business model**
  - Enables municipalities to participate in the energy transition
  - Mimics other energy systems

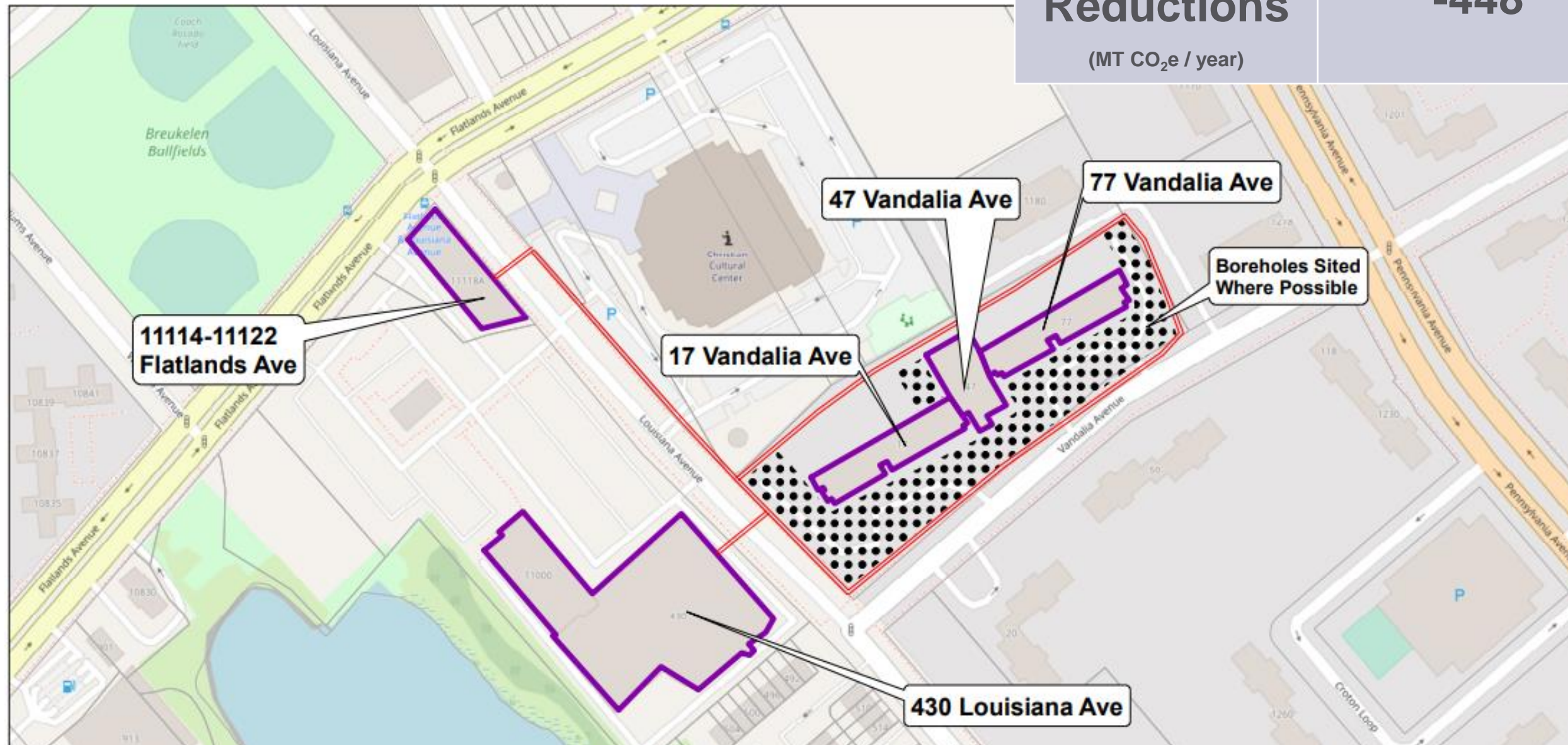
	<b>NMPC - Troy</b>
<b>Cost</b>	<b>\$53M</b>
<b>Capacity</b> (tons)	<b>790</b>
<b>GHG Reductions</b> (MT CO <sub>2</sub> e / year)	<b>-1,782</b>



# KEDNY Specifics

- Install a water-source VRF mechanical system to provide heating and cooling to the residents of the NYCHA building.
- Residents are not currently provided central cooling
- Assessing the feasibility of utilizing waste heat from MTA dewatering efforts and capturing waste heat from the nearby 26<sup>th</sup> Ward WWTP.
- Potential to tie into the “Urban Village” redevelopment

	<b>KEDNY</b>
<b>Cost</b>	<b>\$108M</b>
<b>Capacity</b> (tons)	<b>560</b>
<b>GHG Reductions</b> (MT CO <sub>2</sub> e / year)	<b>-448</b>

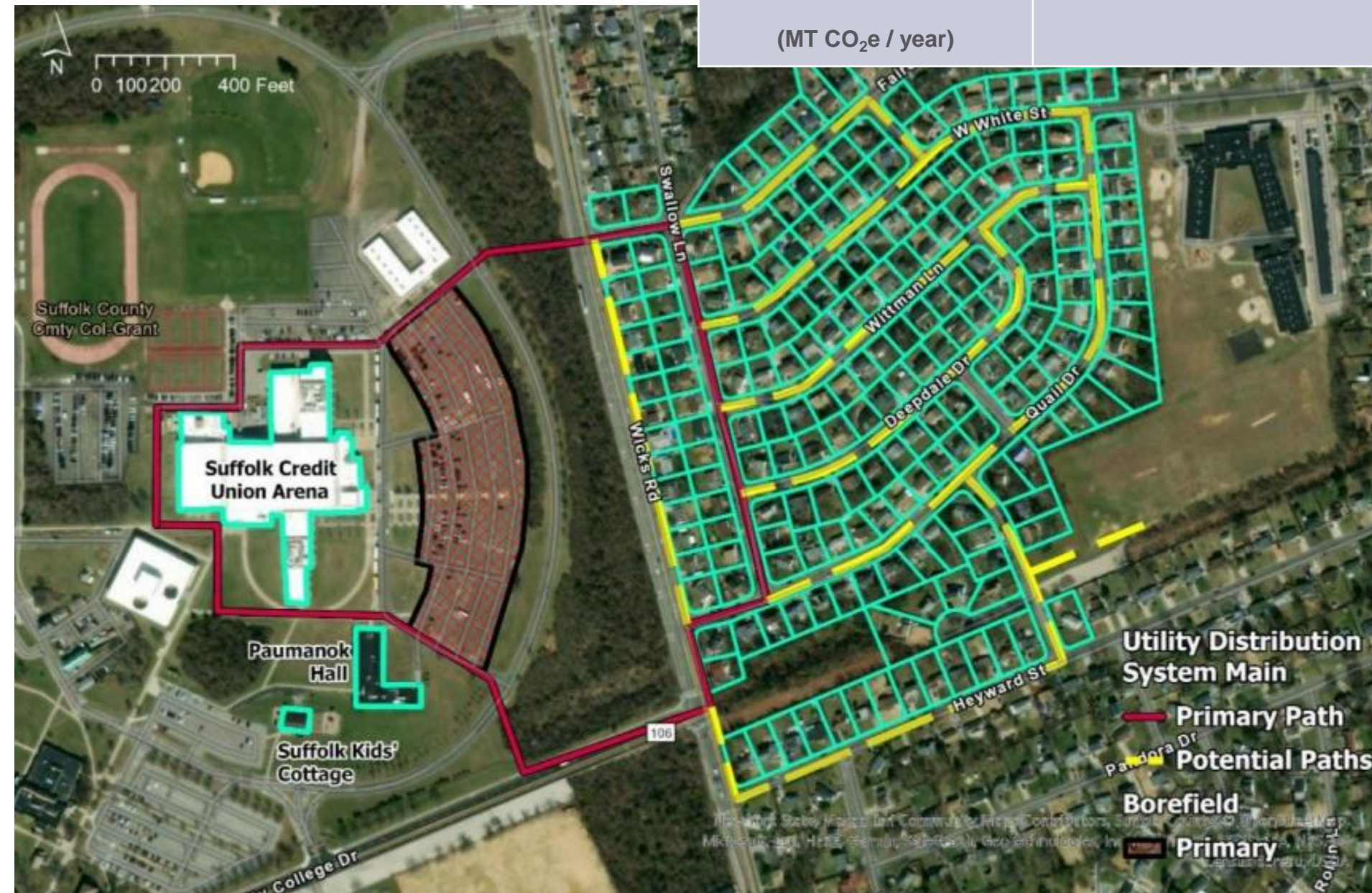




# KEDLI Specifics

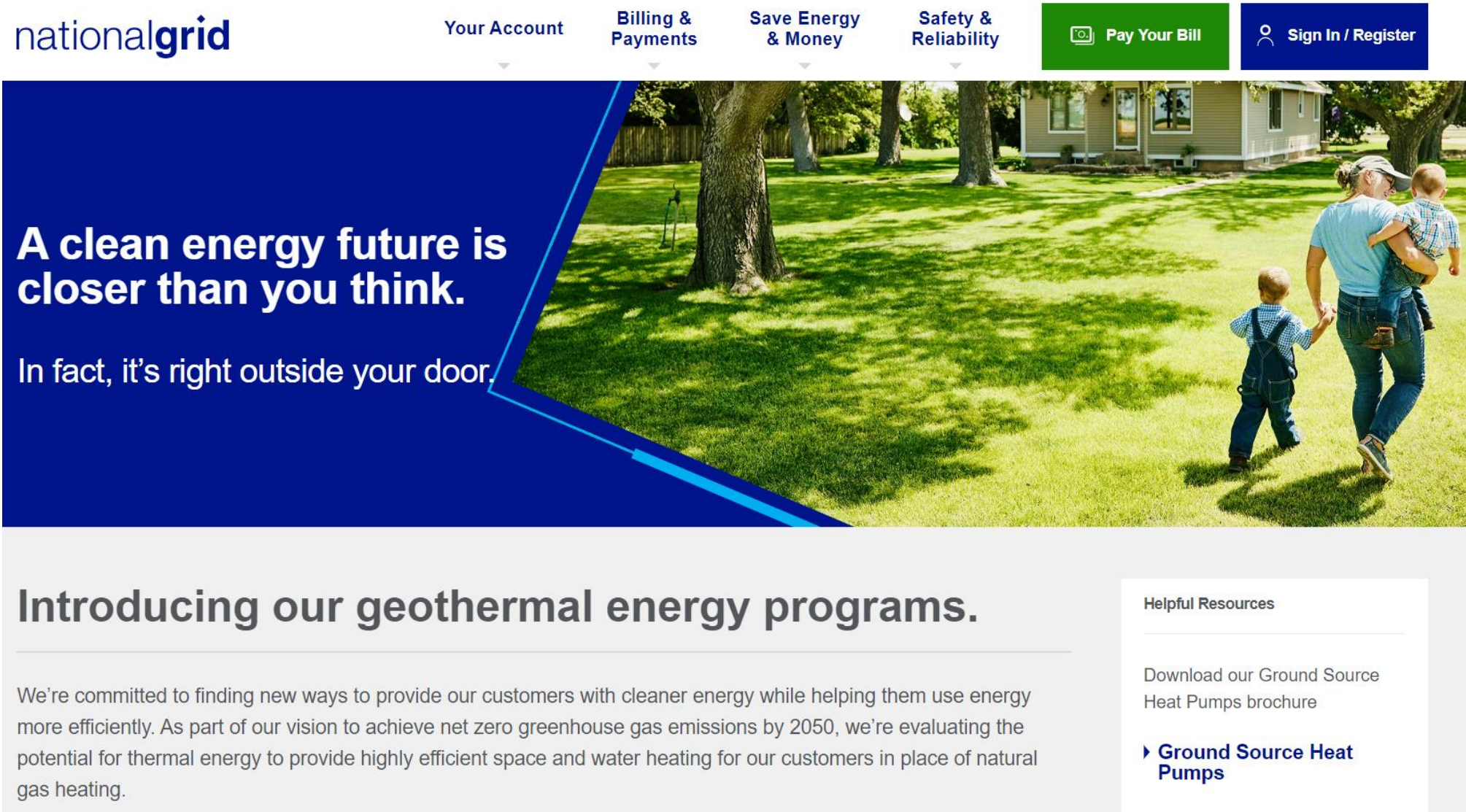
- **Suffolk Credit Union Arena building currently utilizes 185 °F water.**
- Will require specific engineering and equipment to be able to meet building needs while balancing COPs
- **Proposing to connect a minimum of 10 residential homes in a neighborhood adjacent to the campus**

	KEDLI
<b>Cost</b>	<b>\$122M</b>
<b>Capacity</b> (tons)	<b>1,530</b>
<b>GHG Reductions</b> (MT CO <sub>2</sub> e / year)	<b>-517</b>





For more information, visit our website at:  
<https://www.nationalgridus.com/Geothermal-Energy-Program>



The screenshot shows the top navigation bar of the National Grid website. On the left is the 'nationalgrid' logo. To its right are several menu items: 'Your Account', 'Billing & Payments', 'Save Energy & Money', and 'Safety & Reliability'. Further right are two buttons: a green 'Pay Your Bill' button and a dark blue 'Sign In / Register' button. Below the navigation bar is a large banner image of a woman carrying a child on her back, walking with another child on a grassy lawn in front of a house. A dark blue diagonal overlay on the left side of the banner contains the text: 'A clean energy future is closer than you think. In fact, it's right outside your door.' Below the banner, the main content area has a heading 'Introducing our geothermal energy programs.' followed by a paragraph: 'We're committed to finding new ways to provide our customers with cleaner energy while helping them use energy more efficiently. As part of our vision to achieve net zero greenhouse gas emissions by 2050, we're evaluating the potential for thermal energy to provide highly efficient space and water heating for our customers in place of natural gas heating.' To the right of this text is a 'Helpful Resources' section with a link: 'Download our Ground Source Heat Pumps brochure' and a button: 'Ground Source Heat Pumps'.

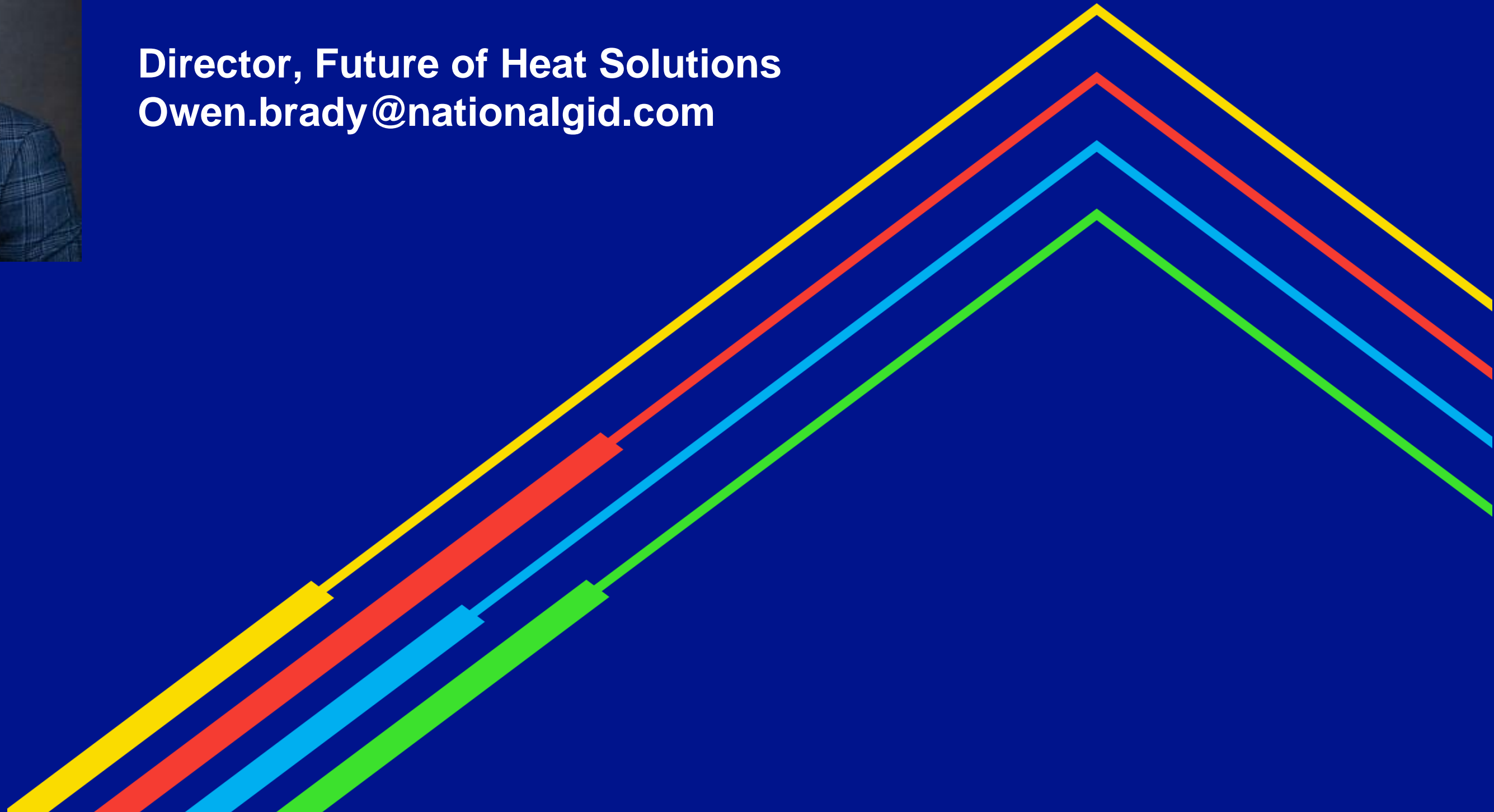






**Owen Brady-Traczyk**

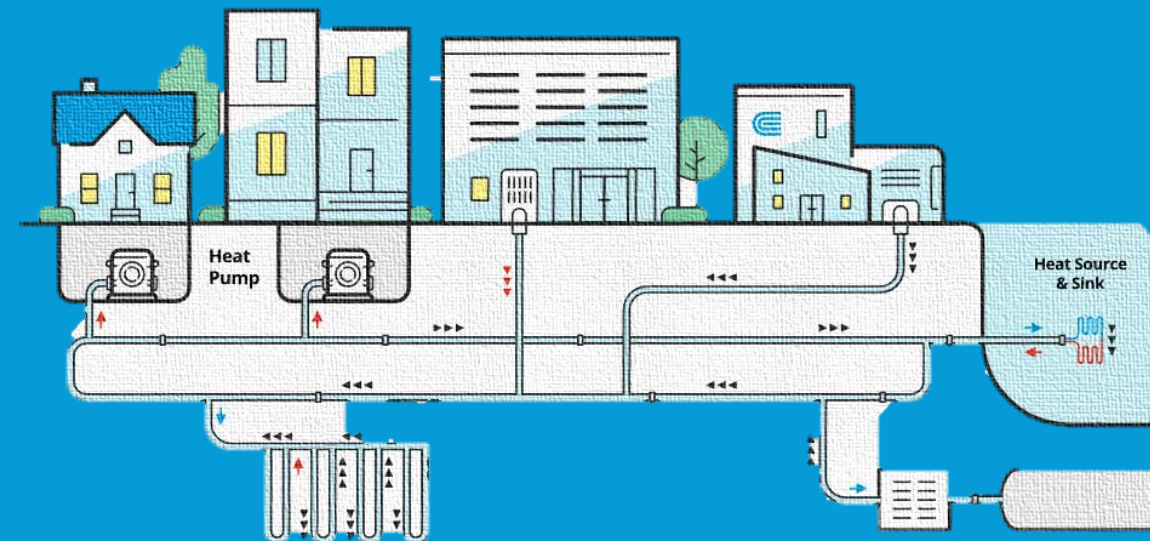
Director, Future of Heat Solutions  
[Owen.brady@nationalgrid.com](mailto:Owen.brady@nationalgrid.com)



**nationalgrid**

# Utility Thermal Energy Networks

## Con Edison



Katelyn Tsukada

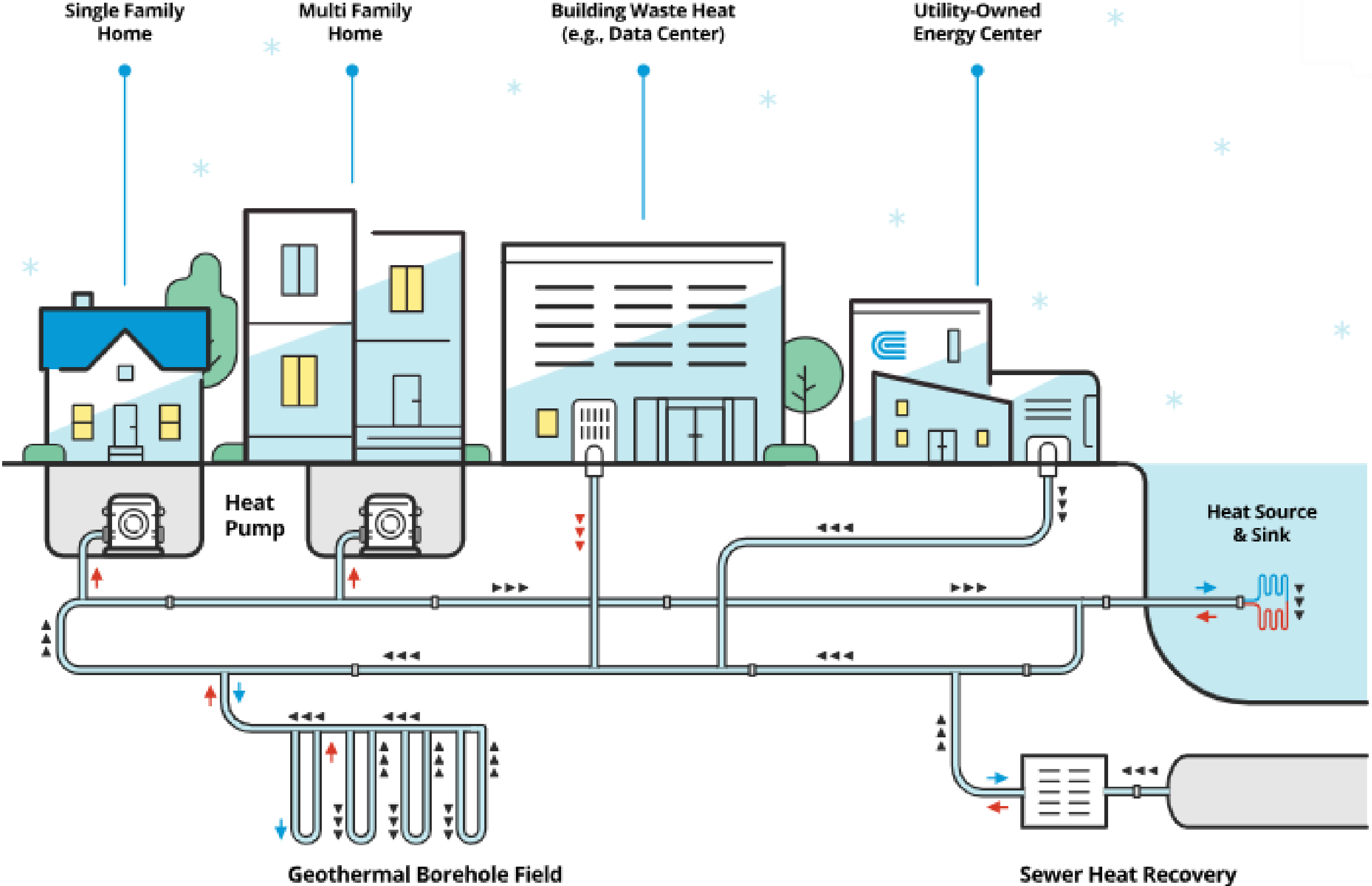
April 9, 2024

# Con Edison

- 3.5 million electric customers
- 1.1 million gas customers
- 1,600 steam customers
- Businesses:
  - Con Edison of New York
  - Orange & Rockland Utilities
  - Con Edison Transmission



# Utility Thermal Energy Network



# Background and Current Project Status

Con Edison proposed three pilot projects testing a variety of heat sources and requested \$255MM to design, construct, and operate the pilots

- The September 2023 Guidance Order authorized 10% of project costs (\$17MM) for engineering design once DPS reviews and approves projects
- Waiting on DPS Compliance Letter(s) to move forward with Stage 2
  - Engineering Design
  - Customer Agreements (including outreach)
- Drafting comments on UTEN regulatory framework in parallel to UTEN pilot project development



# Mount Vernon Pilot Project

## Highlights

Two connected district geothermal loops

Over 100 boreholes

Up to 76 buildings

Residential, churches, fire station, medical offices and recreational center

Heating, cooling & hot water

Retirement of up to 500' section of leak-prone gas pipe

New Energy Center building





# Chelsea Pilot Project

## Highlights

Waste heat from commercial office building with data center

4 New York City Housing Authority (NYCHA) buildings

Heating, cooling & hot water

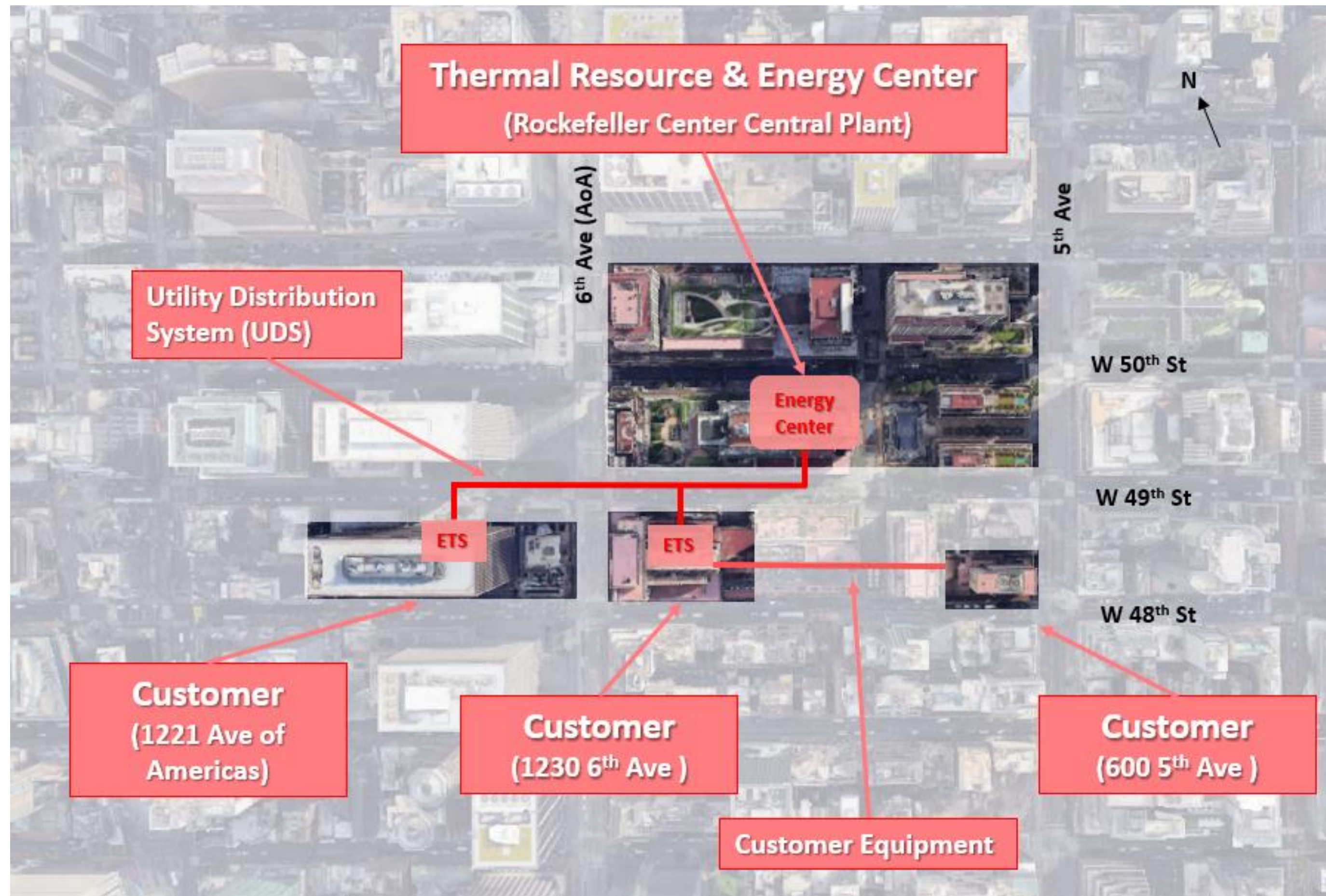
Designed to connect to newly constructed NYCHA buildings

Proximity to added thermal resources including Hudson River for potential expansion





# Rockefeller Center Pilot Project



## Highlights

Waste heat from Rockefeller Center Central Plant

Variety of waste heat sources: chilled water system, steam condensate, ice chillers

3 large commercial office buildings in Midtown Manhattan

Building heating converted to large scale WSHPs

Creation of “marketplace” to exchange waste heat energy between independent building owners

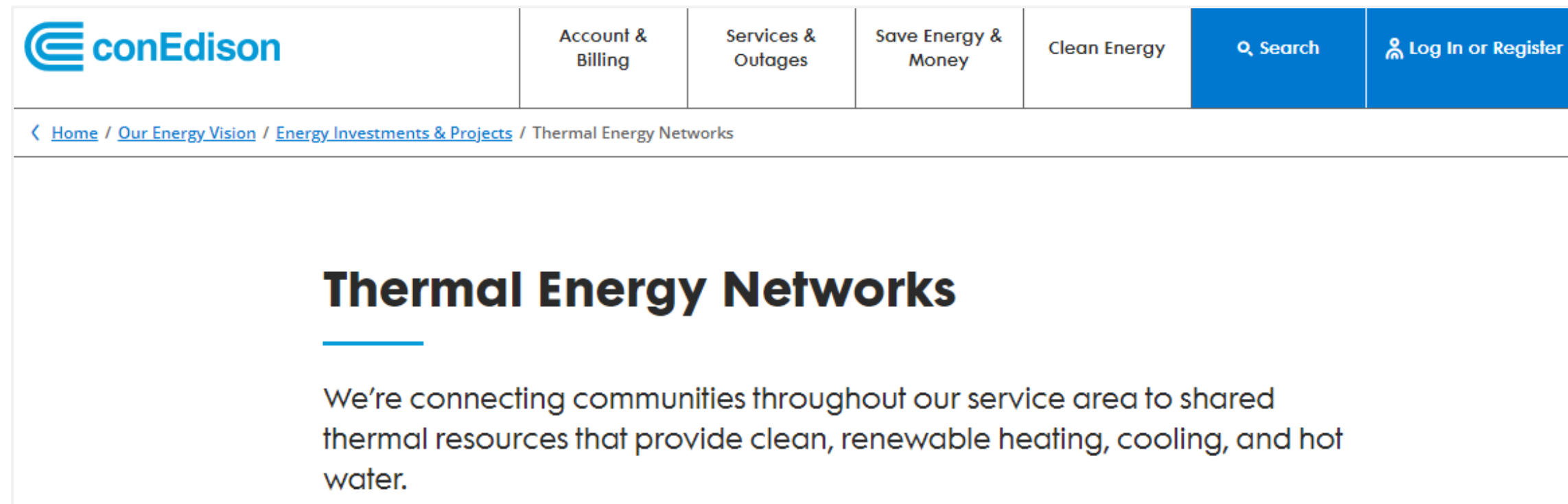
# UTEN Development and Next Steps

- Stage 2 deliverables
- Marketing, outreach, and customer engagement
- Supportive regulatory framework
- Complexity of rate design and billing configuration
  - Customer type
  - Thermal energy resource provider
  - Behavioral incentive
  - Ownership structure
  - Payment and billing process
  - Bill cap guarantee



For more information, visit our website at:

[coned.com/thermalenergy](https://coned.com/thermalenergy)



The screenshot shows the top navigation bar of the conEdison website. The navigation bar includes the conEdison logo, and several menu items: Account & Billing, Services & Outages, Save Energy & Money, Clean Energy, Search, and Log In or Register. Below the navigation bar is a breadcrumb trail: < Home / Our Energy Vision / Energy Investments & Projects / Thermal Energy Networks. The main content area features the heading "Thermal Energy Networks" with a blue underline. Below the heading is a paragraph of text: "We're connecting communities throughout our service area to shared thermal resources that provide clean, renewable heating, cooling, and hot water."

**Katelyn Tsukada**  
[tsukadak@coned.com](mailto:tsukadak@coned.com)



# NY - GEO 2024

APRIL 8-9 | ALBANY NY



## Utility Thermal Energy Networks (UTEN) *Progressing through stage gate process*

**Moderator:** John Ciovacco / [Aztech Geothermal](#)

**Panel:** Joseph Hitt / [NYS Dept. of Public Service](#)  
Cole Burgess / [NYSEG](#) / [RG&E](#)  
Owen Brady-Traczyk / [National Grid](#)  
Katelyn Tsukada / [Con Edison](#)