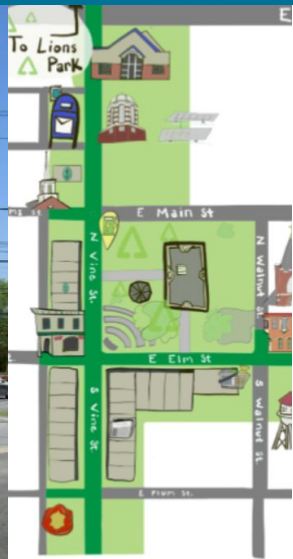




Municipal Thermal Energy Network Accelerator



SUSTAINABLE
WESTCHESTER



THANK YOU TO OUR FUNDER!

*The New York
Community Trust*
of Westchester

A COLLABORATION BETWEEN:



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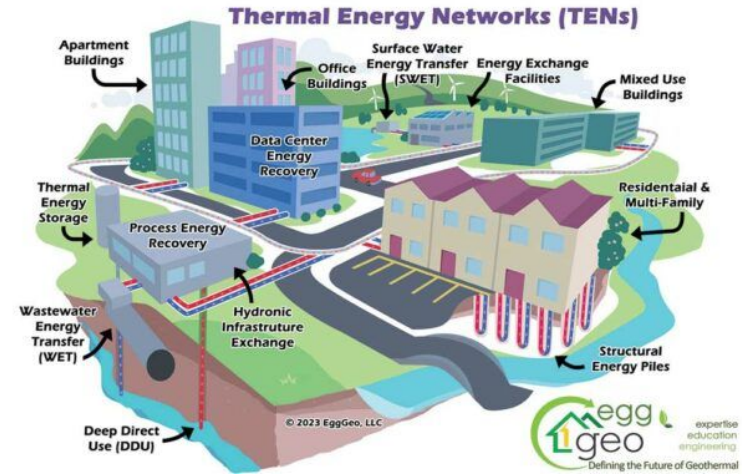
[Chatham House Rule - Wikipedia](#)

State Legal and Regulatory Landscape for Municipal Thermal Energy Networks (TENs)

1. Session #1 Recap and Live Poll
2. Bodies of Law Overview
3. Legal & Regulatory Approach to District Energy in Denmark
4. Advancing TENS Under Existing State Law: The Public Service Law and Utility Thermal Energy Network & Jobs Act (UTENJA)
5. Non-UTENJA Priority Projects: Campus-Style and Municipal
6. How UTENJA Interacts with State Laws Regulating Municipal Utilities

Session #1 Recap

- **Thermal Energy Network:** A highly efficient and clean system of underground pipes that provides heating and cooling to a diverse set of buildings, using heat pumps.
- **Benefits:** safe and clean technology that can provide affordable, reliable, and resilient heating (+ cooling) services
- **To consider:** concurrent infrastructure projects, availability of thermal resources



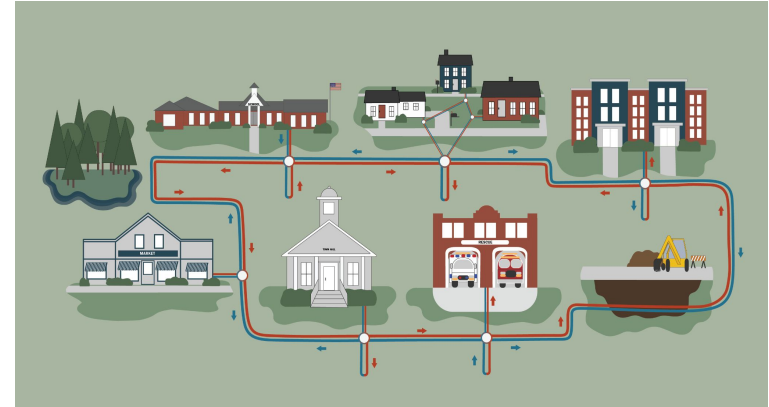
Credit: EggGeo

Summary document / Resource Guide for Session #1: now available!



Poll: What thermal resources are you interested in exploring for your community?

- Wastewater treatment plants / sewer systems
- Grocery stores and large refrigeration centers
- Ice arenas
- Data processing centers
- Food and drink sales/service (breweries, bakeries, fast food restaurants...)
- Ponds or reservoirs
- Office buildings with central cooling systems/year-round cooling loads
- Large industrial facilities
- Open space for geothermal borefields



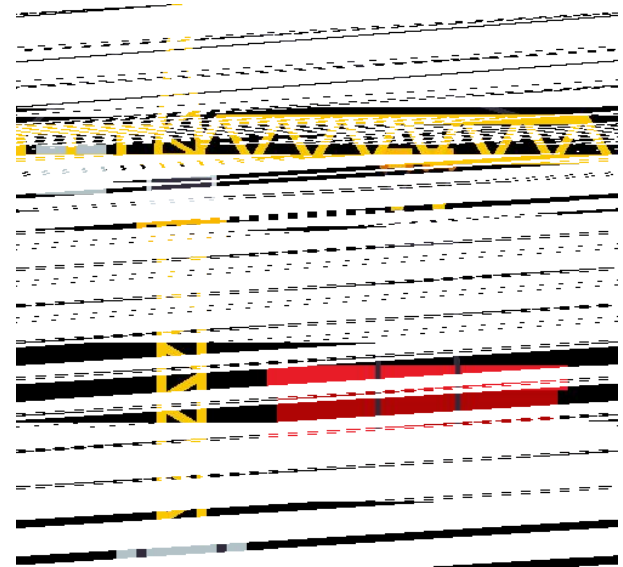
Credit: Vermont Community Thermal Networks

Keep in Mind for Discussion:

Past infrastructure projects and lessons learned:

- Challenges
- Strategies, resources, and/or other opportunities

The Big Question:
What is still needed?



Four Bodies of Law

- Public Service Commission
 - Public Service Law
 - Utility Thermal Energy Network & Jobs Act (UTENJA)
 - Docket **22-M-0429**
- New York State Law concerning Municipalities
 - NYS Constitution
 - Municipal Home Rule Law
 - NYS Laws governing Counties, Cities, Towns and Villages
- Inflation Reduction Act
 - Federal Tax Credits and Rules
- Industrial Development Agencies/Local Development Corporations
 - General Municipal Law Art 18-A
 - Section 1411 of the Not-for-Profit Corporation Law

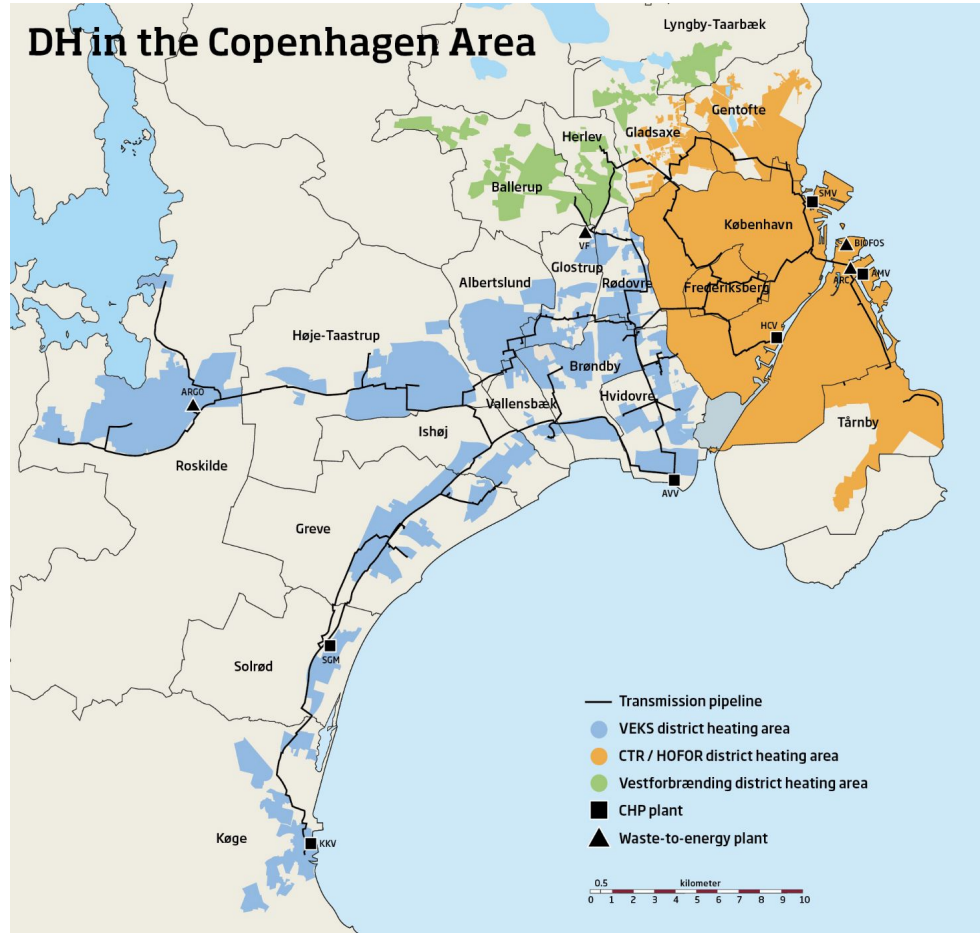


State Legislation Shaping Pilot Projects and Local Government Roles

- Public Service Commission
 - Public Service Law
 - Utility Thermal Energy Networks & Jobs Act (UTENJA)
 - Docket **22-M-0429**
- New York State Law concerning Municipal Utilities
 - NYS Constitution
 - Municipal Home Rule Law
 - NYS Laws governing Counties, Cities, Towns and Villages

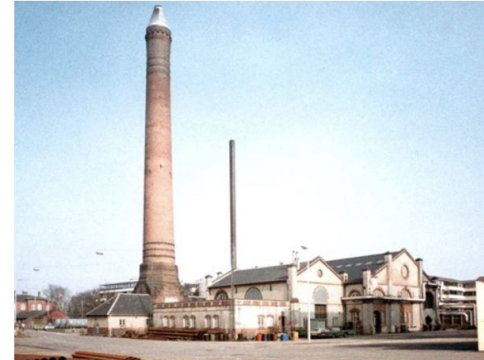


Legal & Regulatory Approach to District Energy in Denmark



Remarks

- Danish district heating is a complex structure developed over 100+ years
- *“The Danish Model”*
 - Works well in Denmark
 - Can inspire others
 - A solution to the natural monopoly



Plan – Coordinate – Legislate - Support

Consistent Energy Policy

Long Term planning

Legislation

- 1976 – Electricity Act (CHP, Cost Eff)
- 1979 – Heat Supply Act + RES + WtE
- 1986 – Decentralized CHP
- 1990, 1993, 2008 – Increased biomass (new CHP and conversion)

Incentives

- 1981 – Investment grants for biomass DH/CHP
- 1984, 1992 – Subsidies for CHP
- 1994 – Financial support to establish DH on biomass or natural gas
- 1991 – High energy tax and CO₂ tax on fossil fuels

Clear business model

- Co-op or municipal
- Non-for-profit
- Long term perspective
- Municipal guaranteed loans
- Planning and zoning



Trust

- made DH a succes in Denmark

- Democratic ownership
- Consumer protection
- Strong control of the natural monopoly
- Transparency
- Not-for-profit



Advancing Thermal Energy Networks Under Existing State Law

Game Rules

- We accept the laws as written
- Aside from UTENJA and initial PSC orders in its implementing docket, all New York State laws and regulations are being *interpreted* to apply to networked thermal energy services
- Municipal officials are prudently risk-averse



The Public Service Law

- Modern heat and cooling provision to the public by private utilities regulated by the Public Service Commission under the Public Service Law
- Allowance of the “natural monopoly” under the **Regulatory Compact**:

“The regulatory compact grants utilities exclusive service rights and a fair return on investments in exchange for a duty to provide safe, reliable, and nondiscriminatory service under regulatory oversight for just and reasonable rates.”

- Public Service Law remains silent on provision of heating and cooling through thermal and geothermal

Utility Thermal Energy Network & Jobs Act (2022)

- UTENJA authorized and directed joint gas utilities to propose TENS pilots
- Pilots allow regulators to “consider the appropriate ownership, market, and rate structures” for TENS and determine if utility-led TENS serve the public interest
- 10 pilots reaching end of Phase 2 – Design
- Initial Rules deferred on exempting systems owned by **municipal utilities**, HOAs, and cooperatives. ***These entities must request exemption on case-by-case basis***
- Only ownership model granted regulatory exemption are single-owner campuses

Why Begin With Investor-Owned Utility Pilots?

Thermal Technologies are Non-Pipe Alternatives (NPAs) for Gas Utilities

- NPAs are targeted investments or activities intended to defer, reduce, or remove the need to construct or upgrade components of the natural gas system.
- NPA Solutions include:
 - Heat Pumps
 - Thermal Storage
 - Heat Recovery Systems



Why Begin With Investor-Owned Utility Pilots?

Pilot Project Highlights: Troy

TROY.NY
LOCAL DEVELOPMENT
CORPORATION



nationalgrid



Why Begin With Investor-Owned Utility Pilots?

NMPC Troy: Mixed use commercial and multi-family buildings in downtown Troy in a Disadvantaged Community currently served by natural gas

Total Connected Load: 550 tons, up to 350,000 sq. ft

Special feature: National Grid to construct, own, and operate the distribution loop and energy center. Troy Land Development Corp. to construct and own borefield providing thermal energy to customers on National Grid's distribution loop.



Why Begin With Investor-Owned Utility Pilots?

Mount Vernon Project



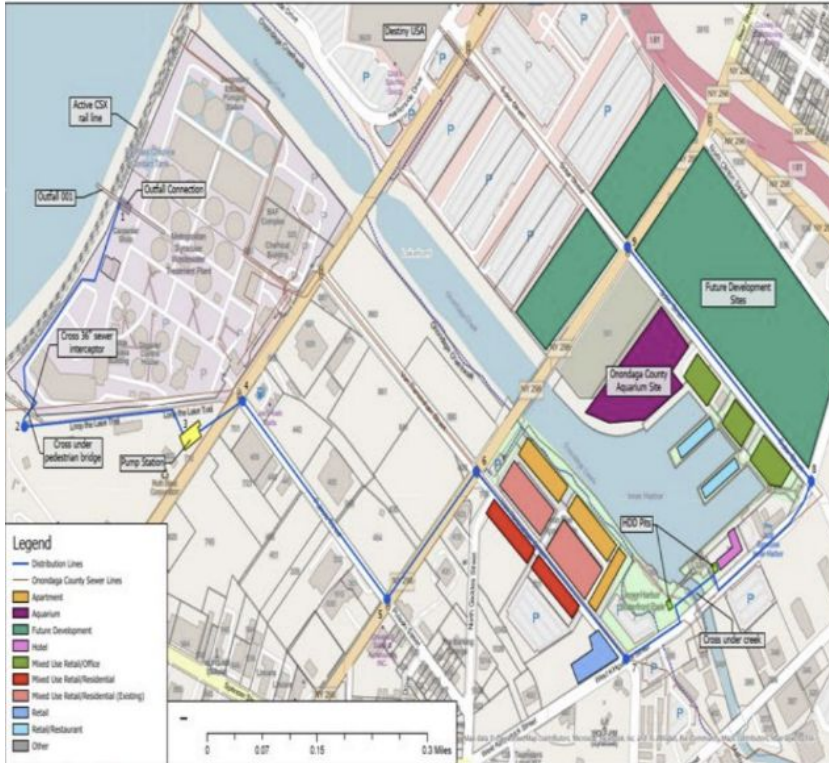
Why Begin With Investor-Owned Utility Pilots?

Syracuse Pilot

NMPC Syracuse: Mixed use commercial and multi-family buildings, mostly new construction, in the Inner Harbor

Total Connected Load: 2,000 tons, up to 1.6 million sq. ft to be served

Special feature: Use of thermal energy from the Onondaga County wastewater treatment plant. **Extra capacity from thermal resource (WWTP) to connect additional buildings in future**



What Non-UTEN Projects are Being Prioritized by the State?

Large-Scale Thermal*

Provides heating, cooling, and hot water to a single building or multiple buildings using **heat pumps** and **low-carbon thermal resources**:



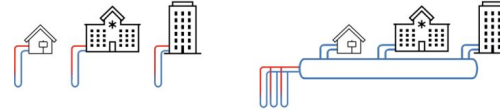
*Based on eligibility for NYSERDA's PON 5614 Large-Scale Thermal program

Min. Conditioned Space

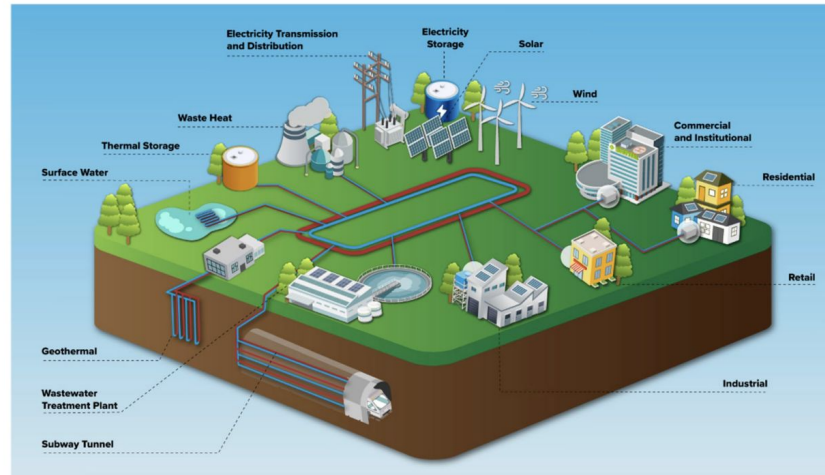
Standalone

Networked

250,000 SF

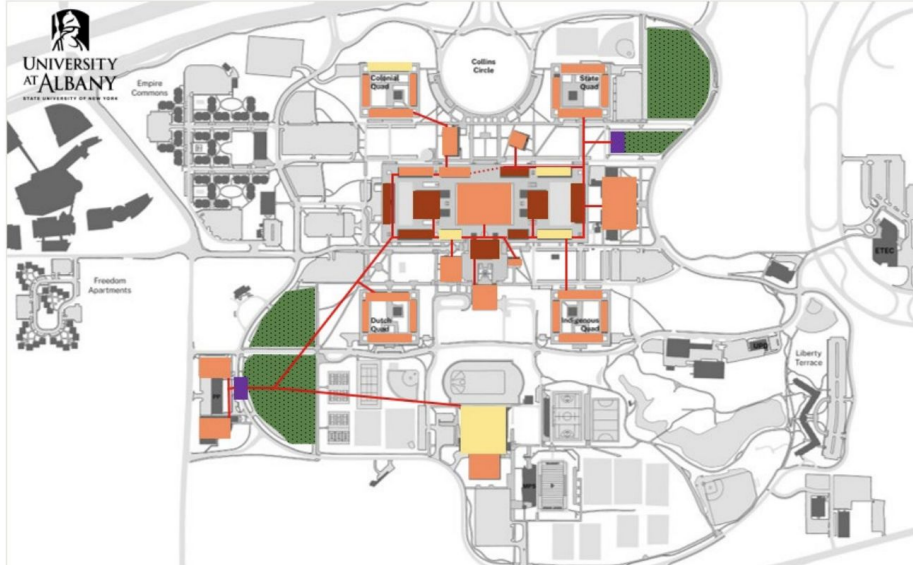


100,000 SF



What Non-UTEN Projects are Being Prioritized by the State?

ROLE OF GEOTHERMAL BOREFIELD



Buildings using LTHW (<160°F): Phase 1, 0-5 years

Buildings using 180°F-200°F: Phase 2, 6-10 years

Buildings using HTHW: Phase 3, 11-20 years

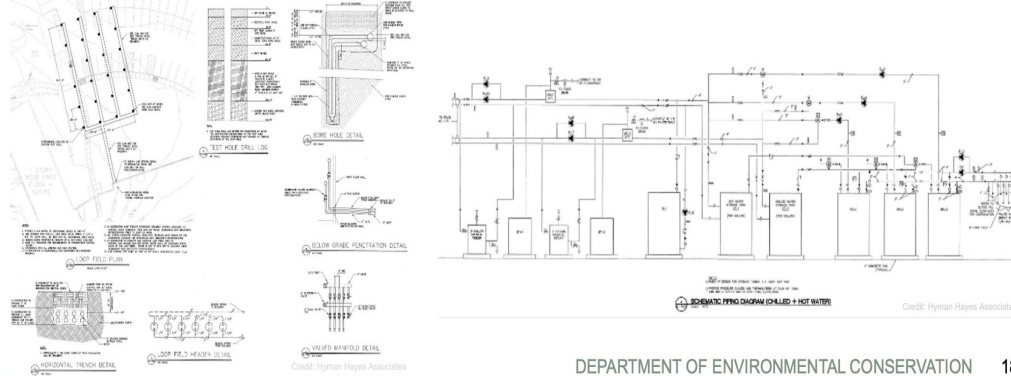
Thermal Energy Network: geothermal well field (dotted green area), LTHW distribution network (red line), Great Dane Heat Recovery Plant (purple boxes)

What Non-UTEN Projects are Being Prioritized by the State?

New Paltz Regional Office Building

New Paltz, NY

- Bore field - 2007 Renovation & Addition
 - Comprised of twenty-four, 417 ft wells
- Capacity: 90 tons (3, 30-ton units)



18

GREEN BUILDINGS

Thermal energy networks: SUNY,
CUNY, municipal, etc.
\$240m

Municipal Projects Being Prioritized by the State

Jamestown Board of Public Utilities

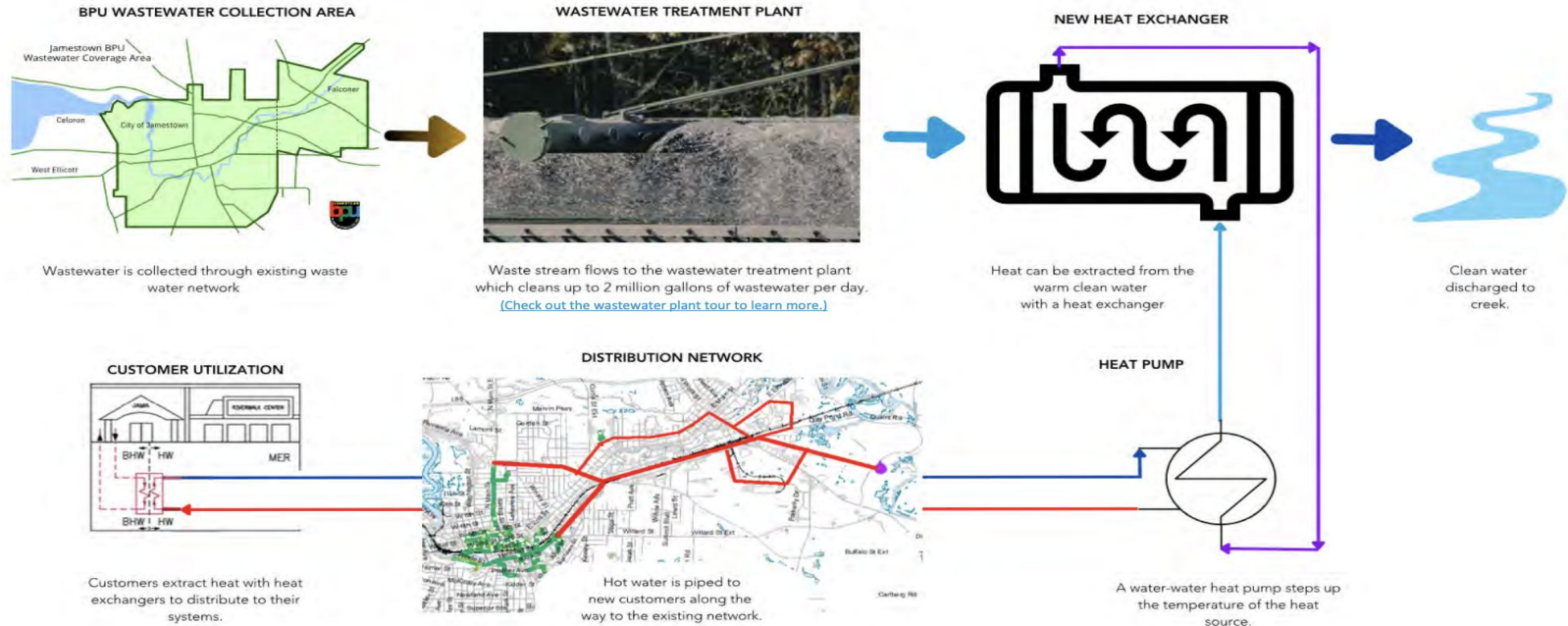
- Jamestown has been generating power since the 1891
- Incorporated in 1923 as a Non-Profit Municipal Entity
- One of 51 electric municipals in NY
 - 3rd largest but small compared to the large private utilities
 - 1 of only 3 with electric generation capability
- 5 Separate Divisions
 - Electric - \$44Mil
 - Water - \$5.6Mil
 - Waste Water - \$5.3Mil
 - Solid Waste - \$2.7Mil
 - District Heat - \$1.3Mil
- 150 Employees



Credit: NYSERDA Charrette, 6.4.24

Municipal Projects Being Prioritized by the State

How will it work?



Credit: NYSERDA Charrette, 6.4.24

How does UTENJA interact with existing state laws regulating municipal utilities?

Municipal Home Rule Law and N.Y. General Municipal Law

- **Nothing in UTENJA limits Home Rule Authority**
 - Municipalities have broad authority under the **Municipal Home Rule Law** to adopt local regulations, including those for energy services and planning
- **Existing Utility Powers (GML Article 14-A)**
 - Municipalities can establish, own, and operate public utilities under **Article 4 of the NY Public Service Law** (currently electricity, gas, and steam)
 - Governed by **GML § 360**, including the power to construct, lease, purchase, own, and operate utility system infrastructure and property

How does UTENJA interact with existing state laws regulating municipal utilities?

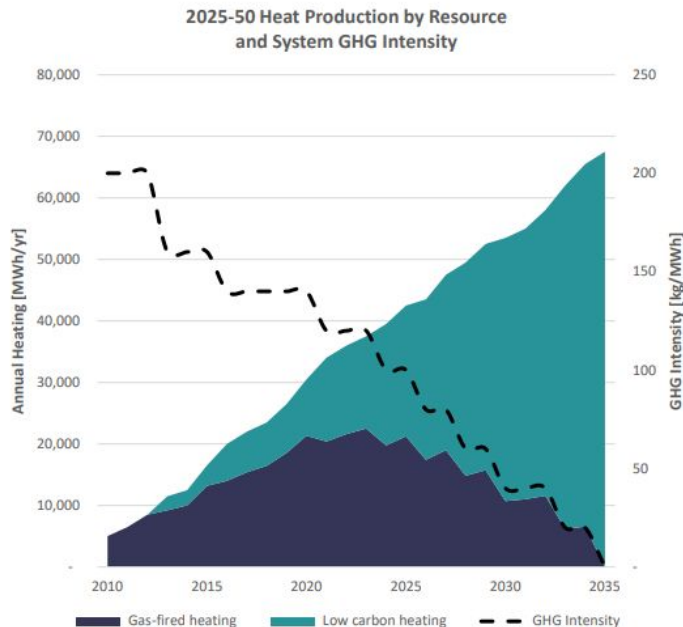
Municipal Home Rule Law and N.Y. General Municipal Law

- **Future Potential for Geothermal Authorization**
 - If authorized, municipalities could operate district thermal energy systems within and beyond their boundaries
 - **GML § 361.2** would allow joint ownership and operation across multiple municipalities
 - MOUs can use a combination of taxes, bonds, and operating revenue to fund projects, and profits can be returned to customers or reinvested
- **Challenges to Address**
 - Current statutes limit joint ownership to municipalities, restricting private sector collaboration, though the Troy project is exploring private-public co-ownership
 - Legislative clarity is needed for full geothermal MOU authorization

Key Takeaways and Trends

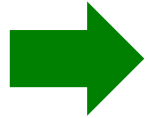
- **Regulatory framework in NYS:** development is underway
 - Laying groundwork for an open market
- **Opportunities for collaboration, diverse involvement** based on existing models
 - TBD: regulatory exemptions for municipally-owned utilities
 - Think about desired degree(s) of responsibility, control, transparency
 - Roles for utility involvement

Questions?



Credit: Reshape Strategies, March 25th 2025 DPS
Technical Conference

Open Discussion



What regulatory changes would municipalities need in order to feel more comfortable about exploring TENs?



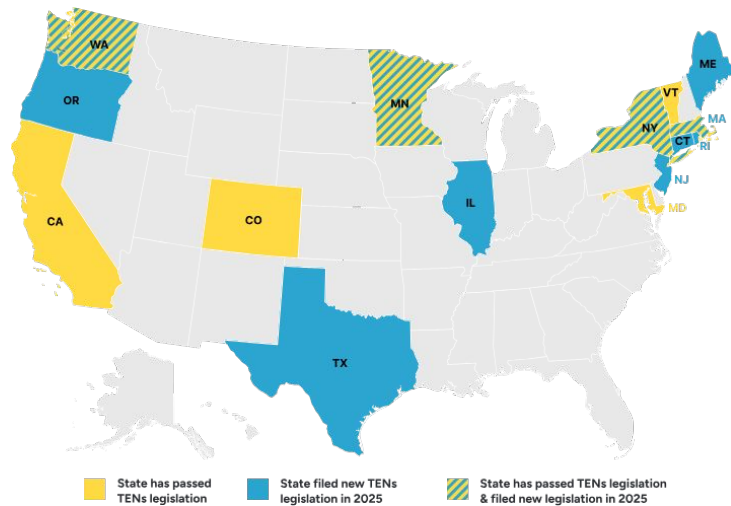
Resources for Further Reading

Building Decarbonization Coalition: Legislative Guidebook

- Step-by-step guide on how to build effective TEN legislation: *state-focused*
- Virtual tool: [linked here](#)
- [TEN Resource Page](#) includes state-by-state comparison of current TEN legislative provisions

Pace Report - Expanding Options for Municipal Thermal Energy Networks (forthcoming)

- *To be shared once available*: outlines ownership opportunities and key considerations, recommendations for implementation in NYS



Credit: Building Decarbonization Coalition

Next Up:

1. Next meeting: Ownership Structures

- Overview of ownership models and case studies / examples

2. 1-on-1 meeting availability

- SW and Pace can reach out to each municipality to coordinate an initial check-in meeting
- Discuss project-specific questions, hear feedback, share what you're looking for more information on

THANK YOU!

Questions?

Contact:

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