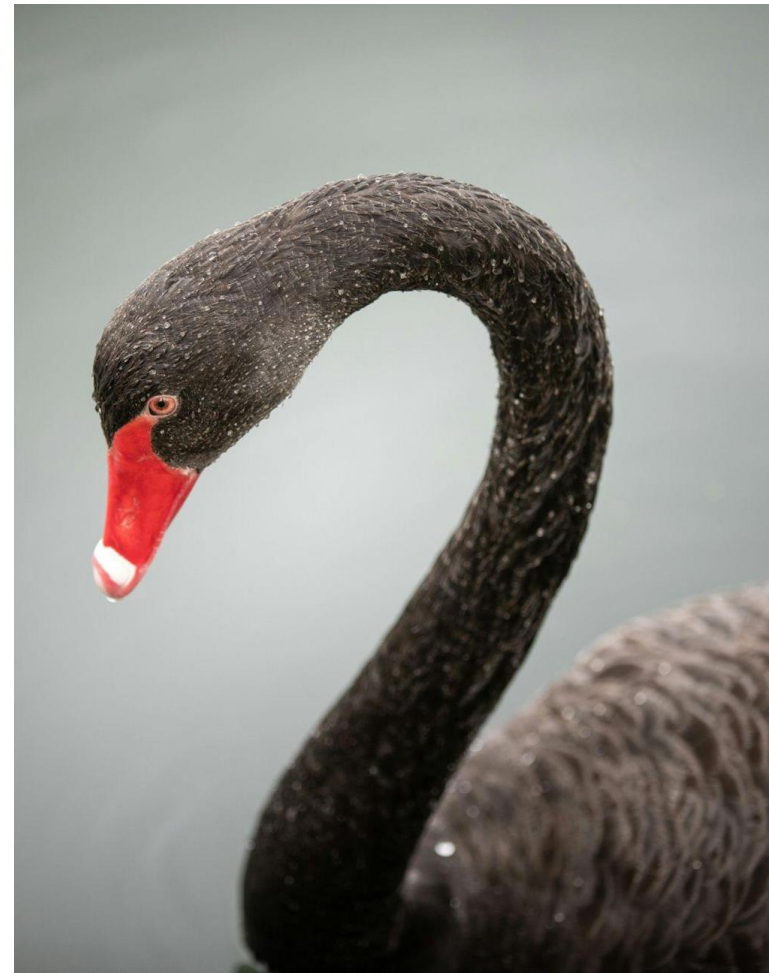


heet

- Thermal transition institute
- Networked geothermal
- Gas leaks

heet**labs**

- Climate-solutions innovator
- Big problems with no effective actors

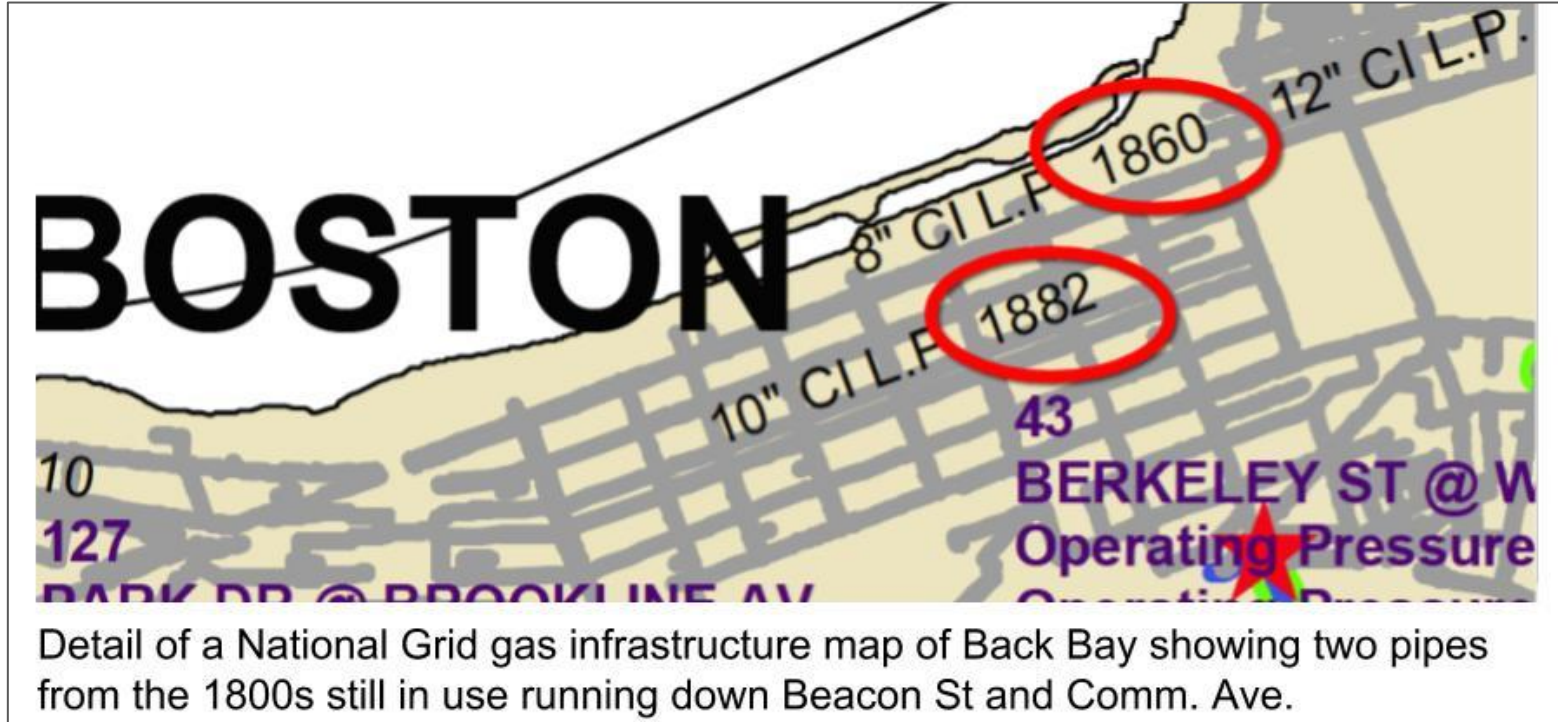




heet

A New Utility is Born

Aging Natural Gas System

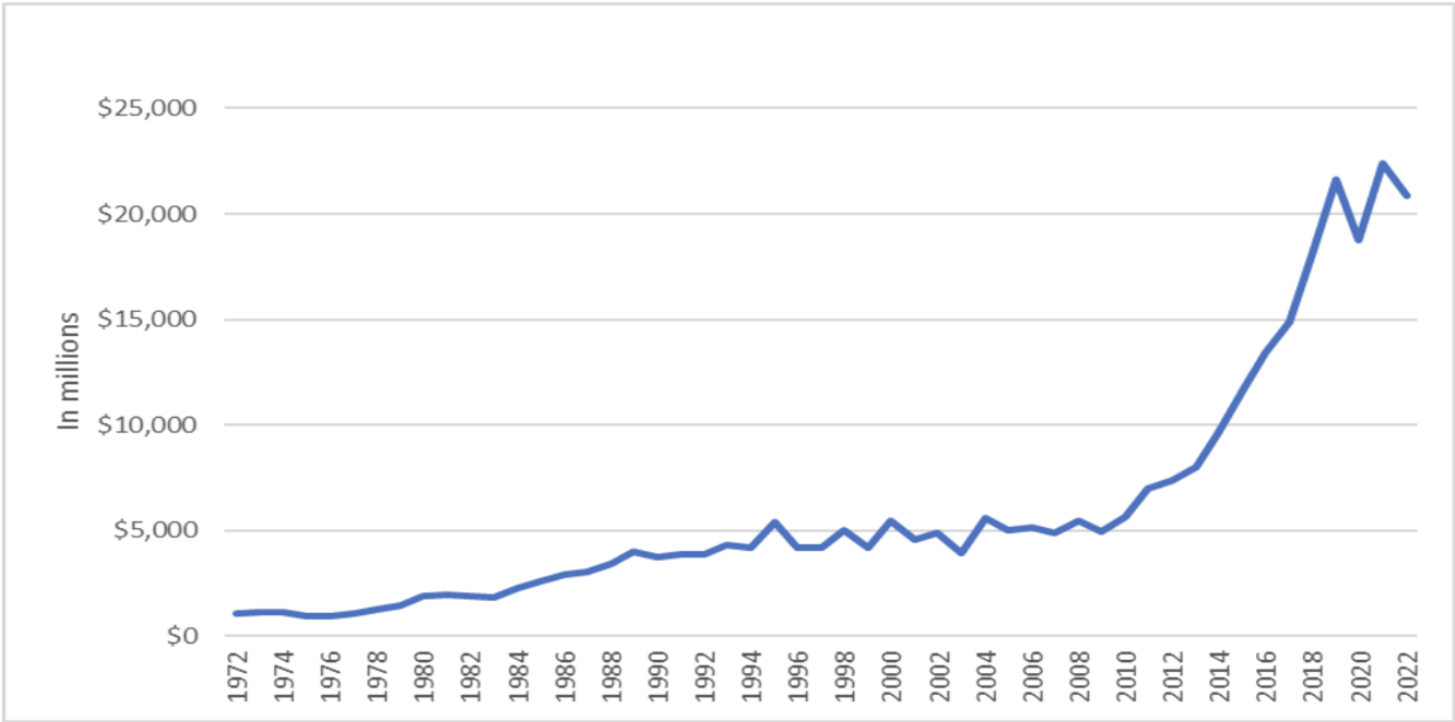




Two Summers Ago..

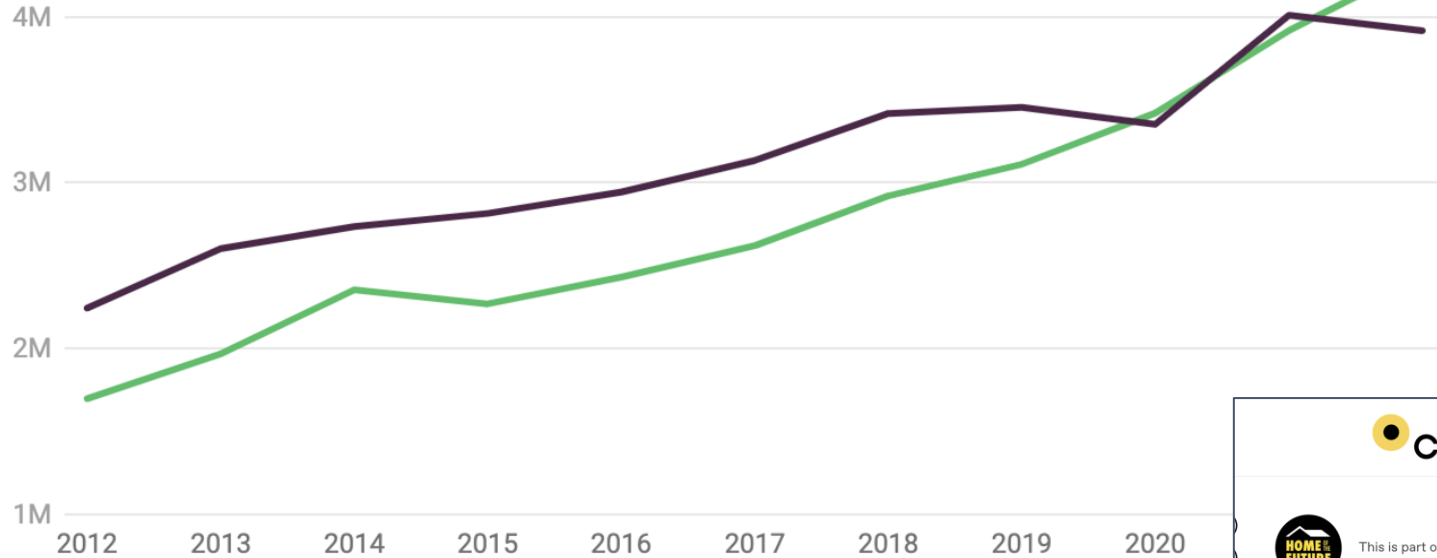


US Aging Gas Pipe Replacement



Heat pump sales in U.S. surged past gas furnaces in 2022

Heat pump sales Gas furnace sales



2022 figures include sales data for Jan–Nov and projected sales for Dec.

Chart: Canary Media • Source: [Air-Conditioning, Heating, and Refrigeration Institute](#) • [Embed](#) • [Download image](#)

 CANARY MEDIA

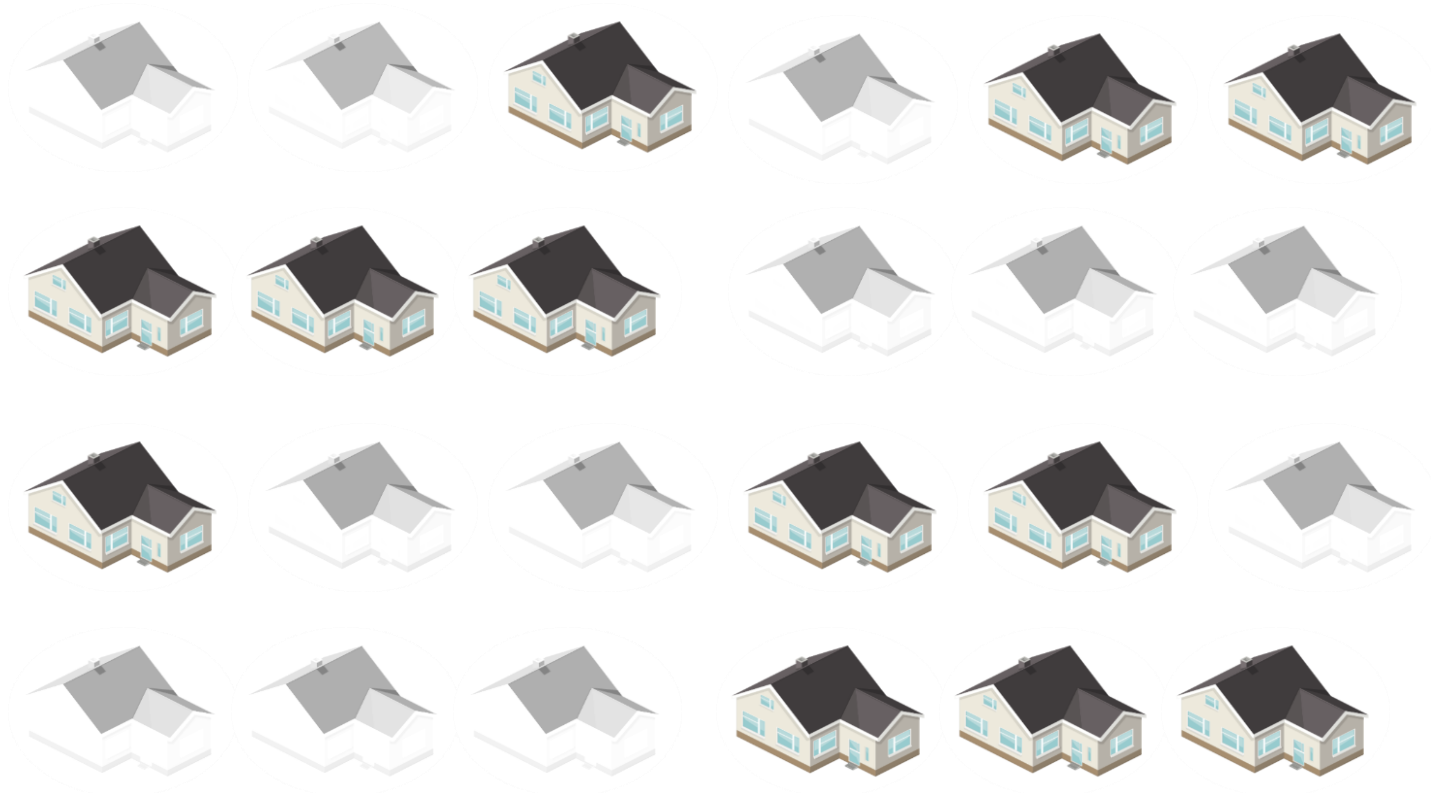


This is part of our special series "Home of the Future." [Read more.](#)

Chart: Americans bought more heat pumps than gas furnaces last year

Even before Inflation Reduction Act incentives kicked in, Americans bought more heat pumps than ever before last year — well over 4 million.

Fleeing Customers, Increasing Gas Bills

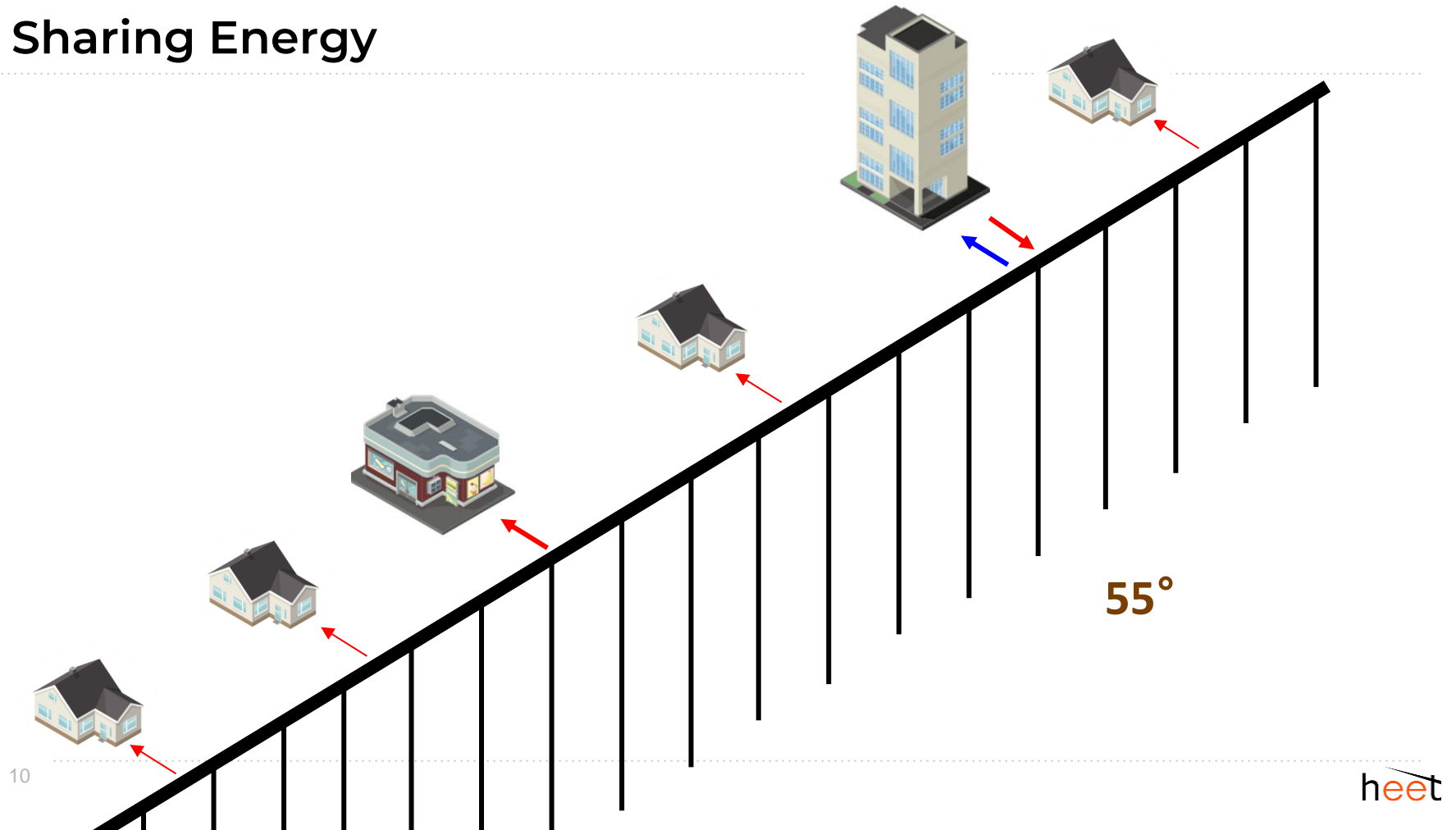


Networked Geothermal

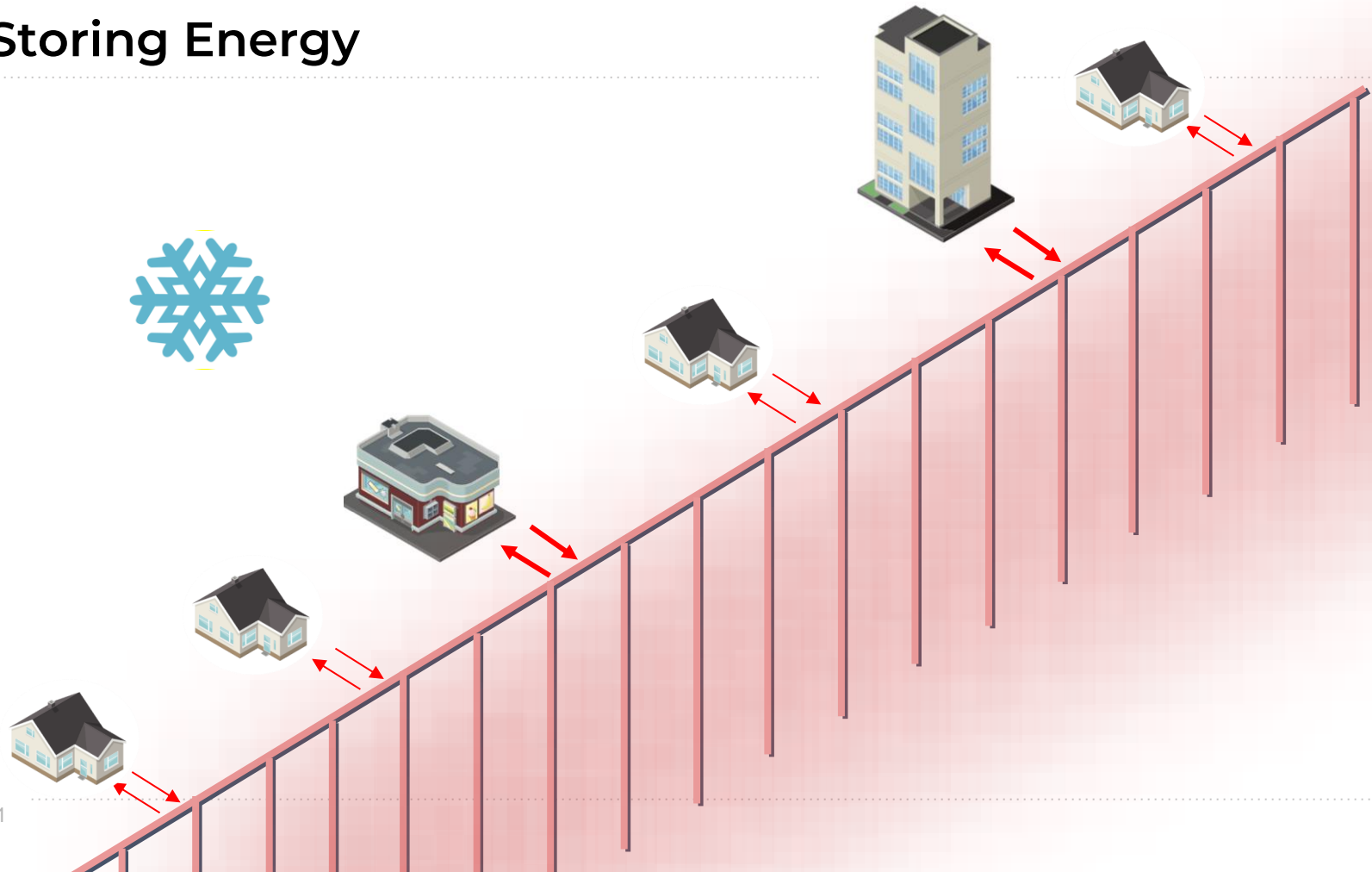


- Infrastructure in the street
- “Shallow” boreholes
- Ambient temperature
- Single pipe
- Active thermal management

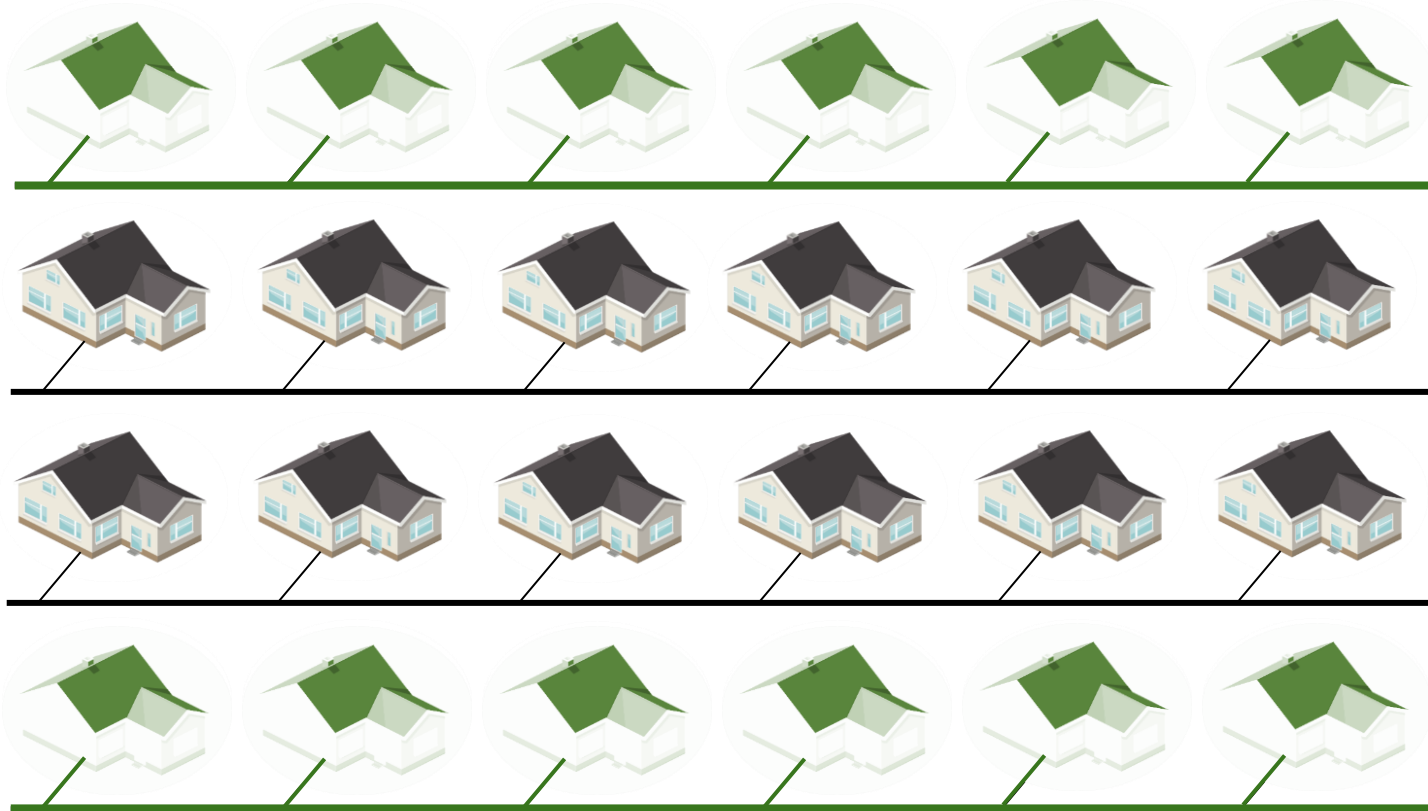
Sharing Energy



Storing Energy



Merged Gas/Geo Rate Rase, Customer Bill Stays Low



Outcomes

Merrimack Valley Gas Disaster 2018

➤ Safer

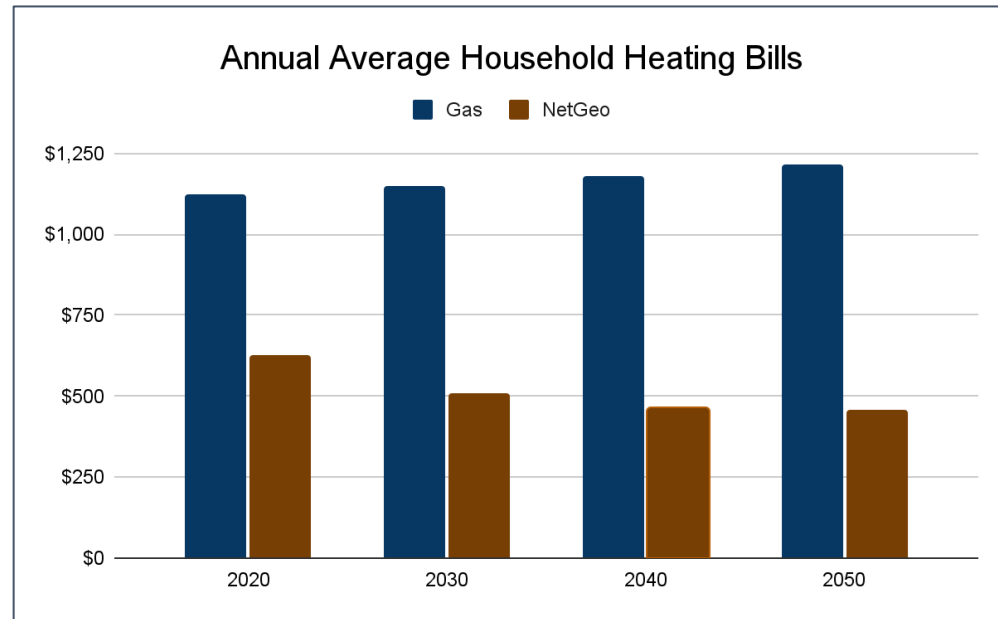


Outcomes

- Safer
- Affordable
 - Heating

MA Energy Bill Projection (gas vs. networked geothermal)

(Applied Economics Clinic Brief)

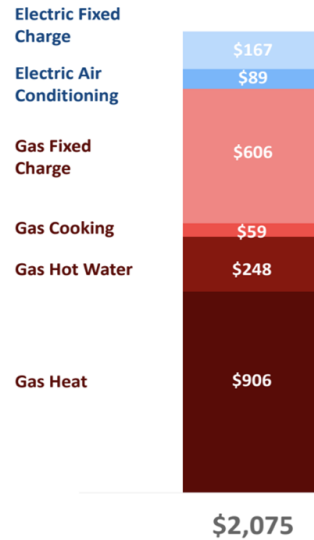


Outcomes

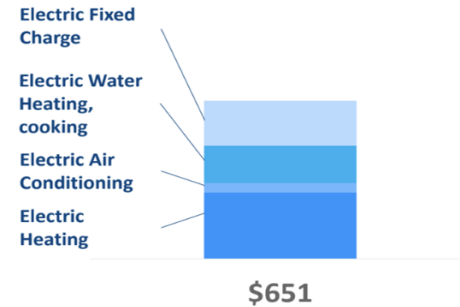
- Safer
- Affordable
 - Heating

Chicago Energy Bill Projection (gas vs. networked geothermal)

Annual Energy Bill (Gas)



Annual Energy Bill (Geo)

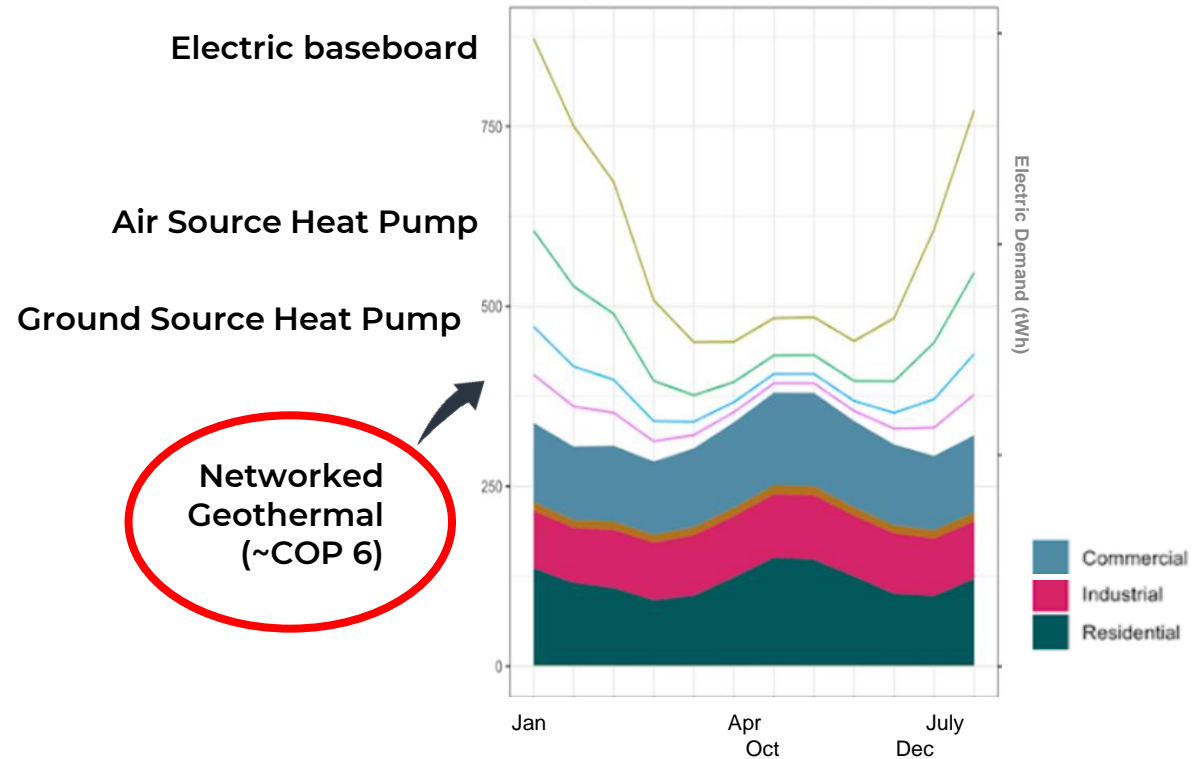


Outcomes

- Safer
- Affordable
 - Heating
 - Electricity

Future US Seasonal Electric Peaks

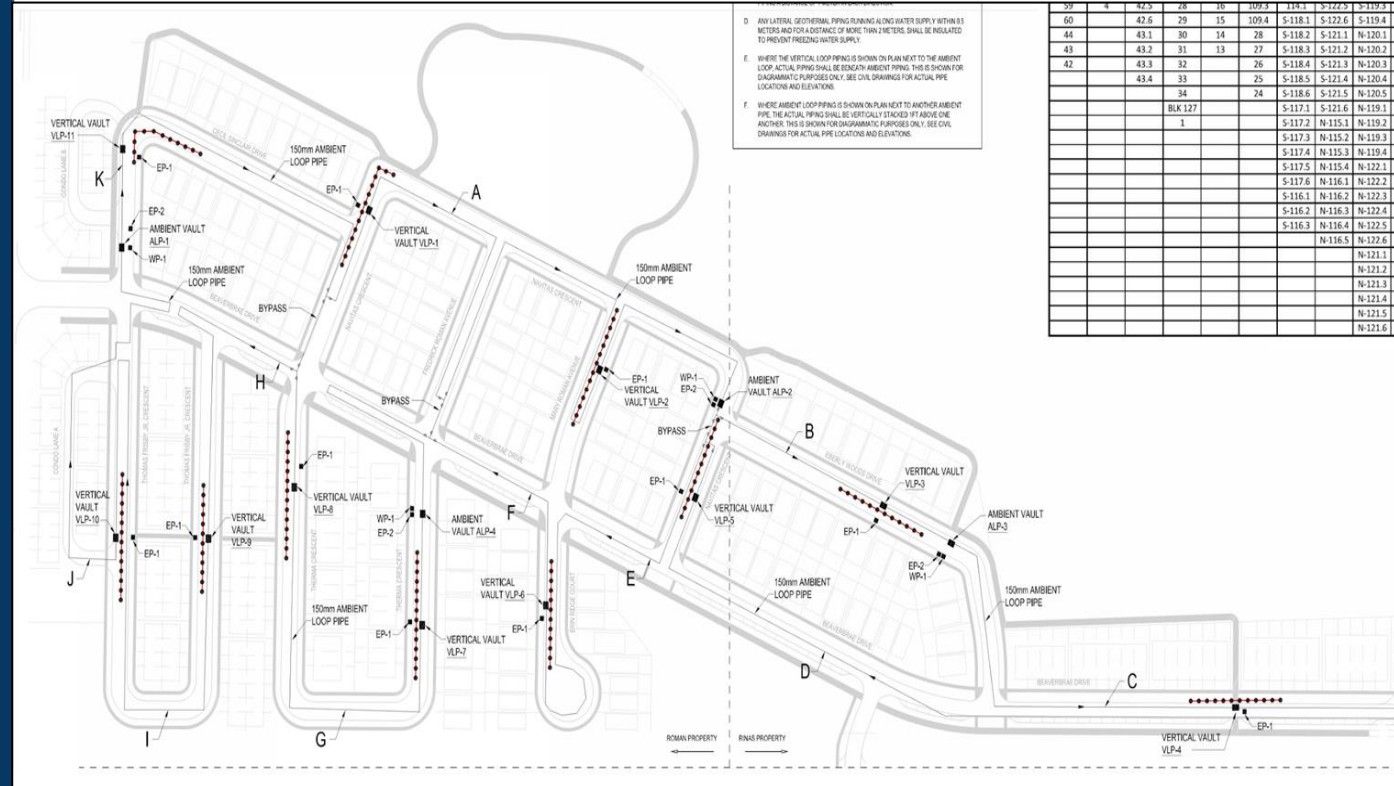
(as we electrify)



Outcomes

- Safer
- Affordable
 - Heating
 - Electricity
- Reliable

Mattamy Homes, Toronto



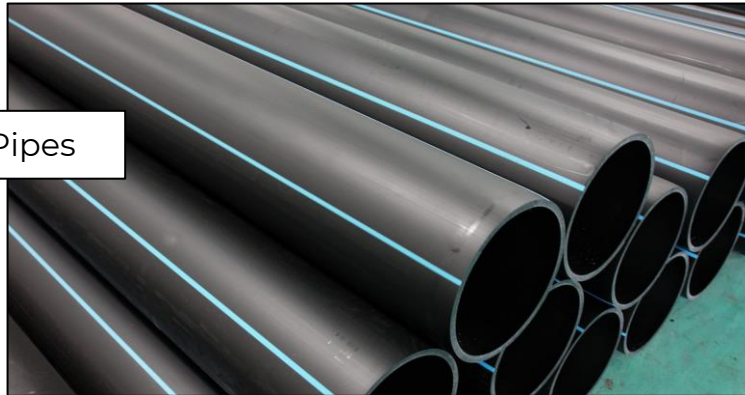
Outcomes

- Safer
- Affordable
 - Heating
 - Electricity
- Reliable
- Workforce can transition

Gas Pipes



Water Pipes



Outcomes

- Safer
- Affordable
 - Heating
 - Electricity
- Reliable
- Workforce can transition
- Lower emissions

Gas Heating

**NetGeo
Now**

60% less

**NetGeo
2050**

MA Gas Utility Installs

Eversource - Framingham

- 140 units, including residential & commercial buildings
- Turned on by spring

National Grid - Lowell & Dorchester

- @ 160 units total

Full de-stratification



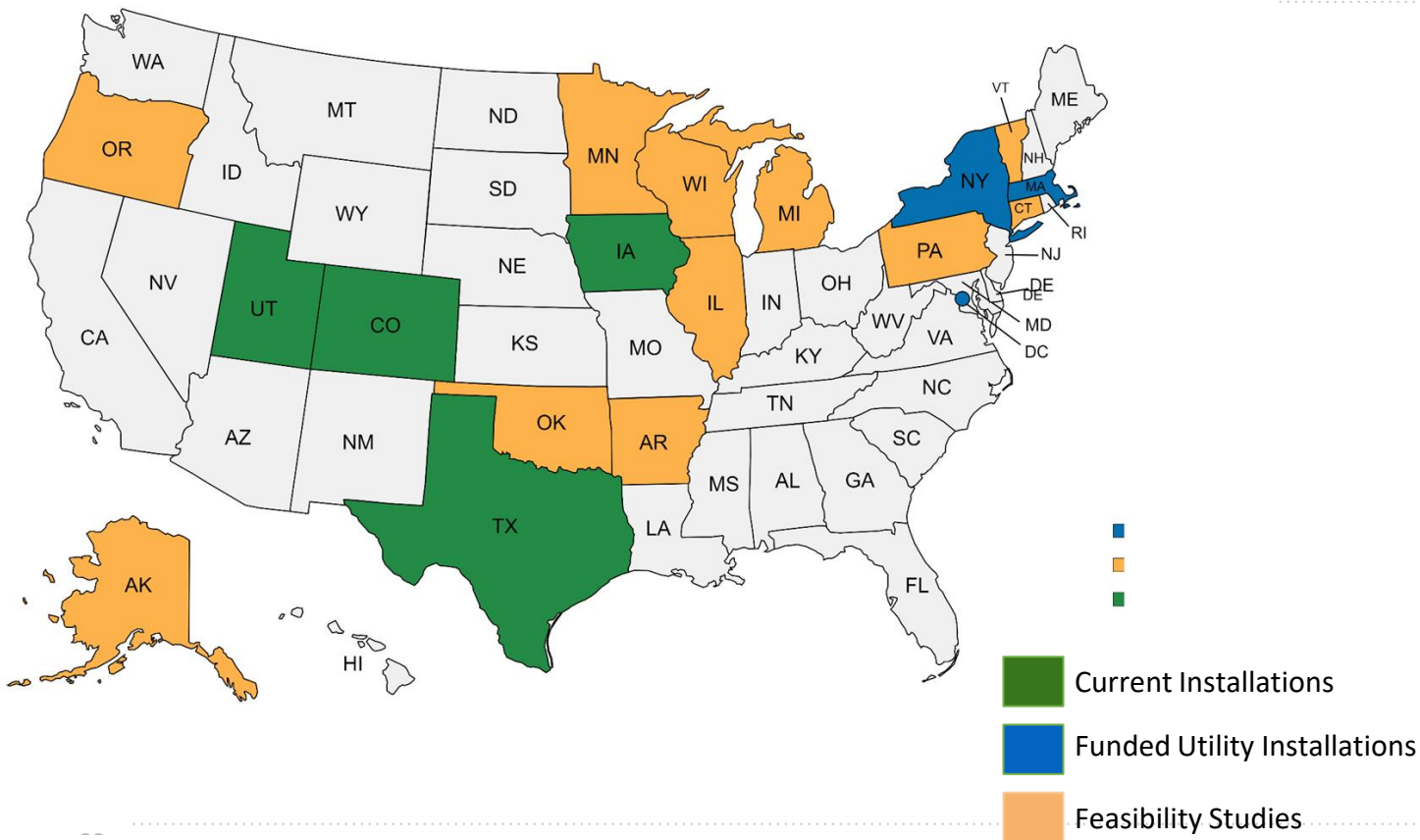
HEET Research Team

- Open database of normalized data
- Best practices
- Verification of results
- Optimization tool
- Environmental impacts

Learn how & where to scale.



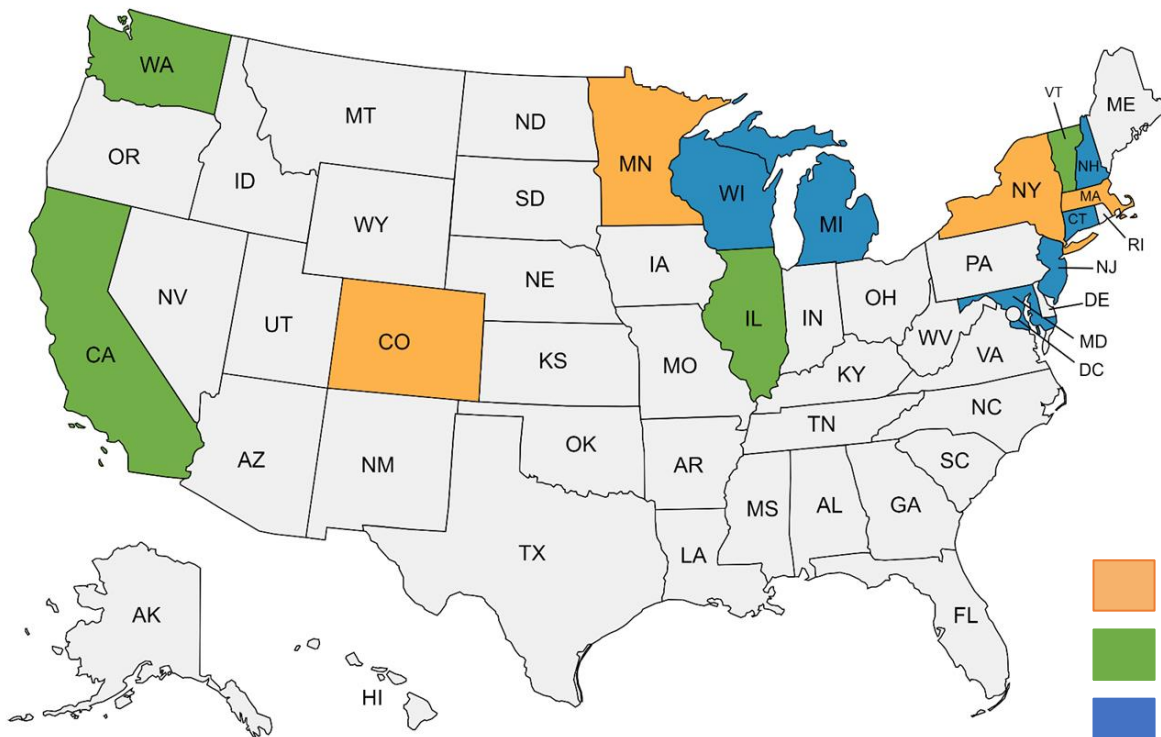
Sites/Feasibility Studies



- >35 NY
- Framingham & Lowell, MA
- Washington, DC
- Philadelphia, PA
- Ann Arbor, MI
- Milwaukee, WI
- Marquette U., WI
- Chicago, IL
- Duluth, MN
- Wallingford, CT
- Carbondale, CO
- Middlebury, VT
- Seward, AR
- Shawnee, OK
- Nome, AK

As of Sept. 11, 2023

Legislation



- **NY** - Utility Thermal Network & Jobs Act
- **MN** - Natural Gas Innovation Act
- **CO** - Thermal Energy Act
- **MA** - An Act Driving Clean Energy
- **VT**
- **WA**
- **MD**

- Passed Legislation
- Filed Legislation
- Considering Legislation

Future Renewable Sites



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