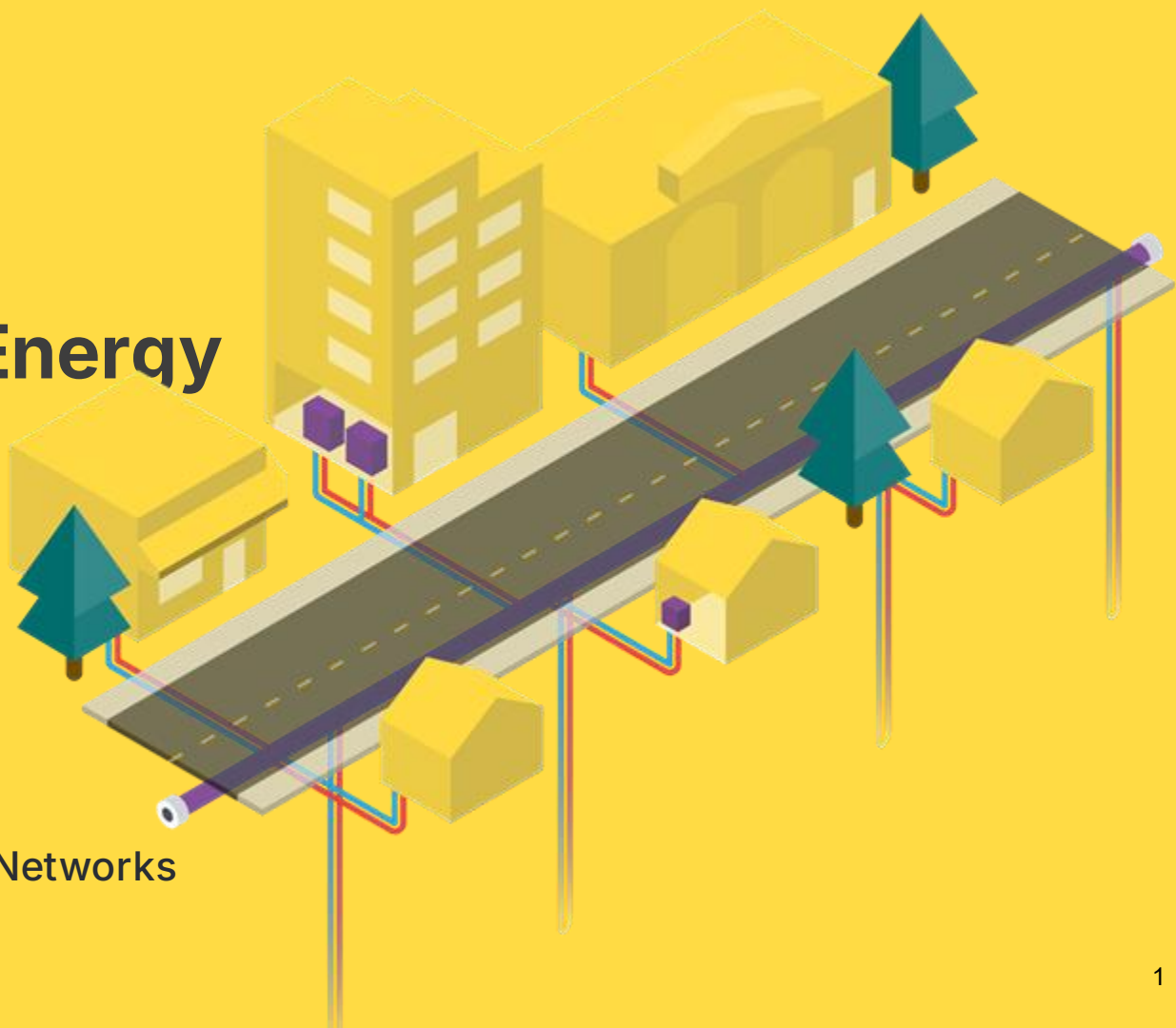




BUILDING
DECARBONIZATION
COALITION

(Geo) Thermal Energy Networks

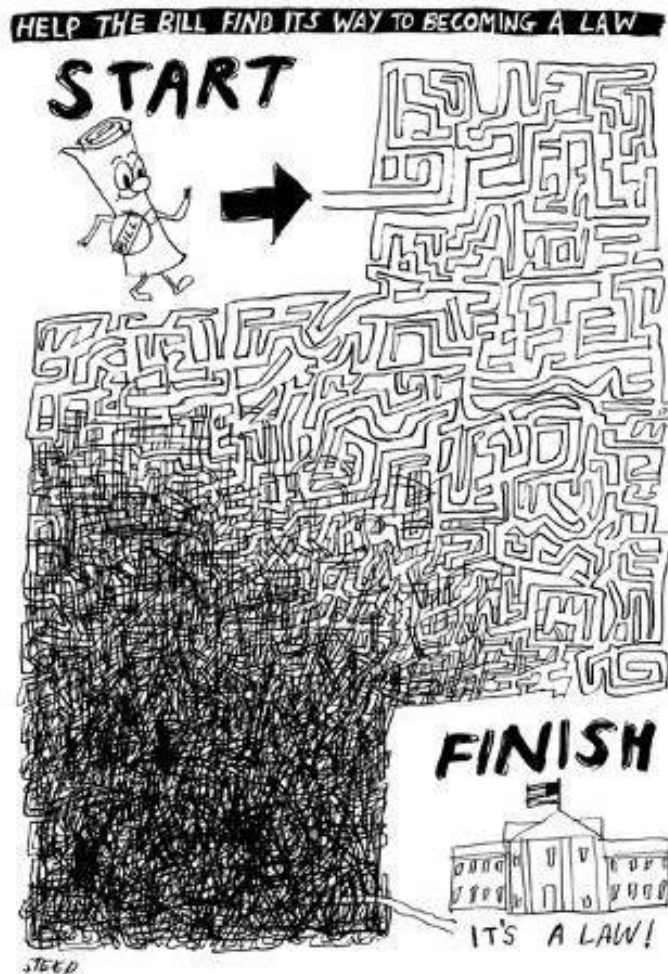
U.S. Policy Landscape



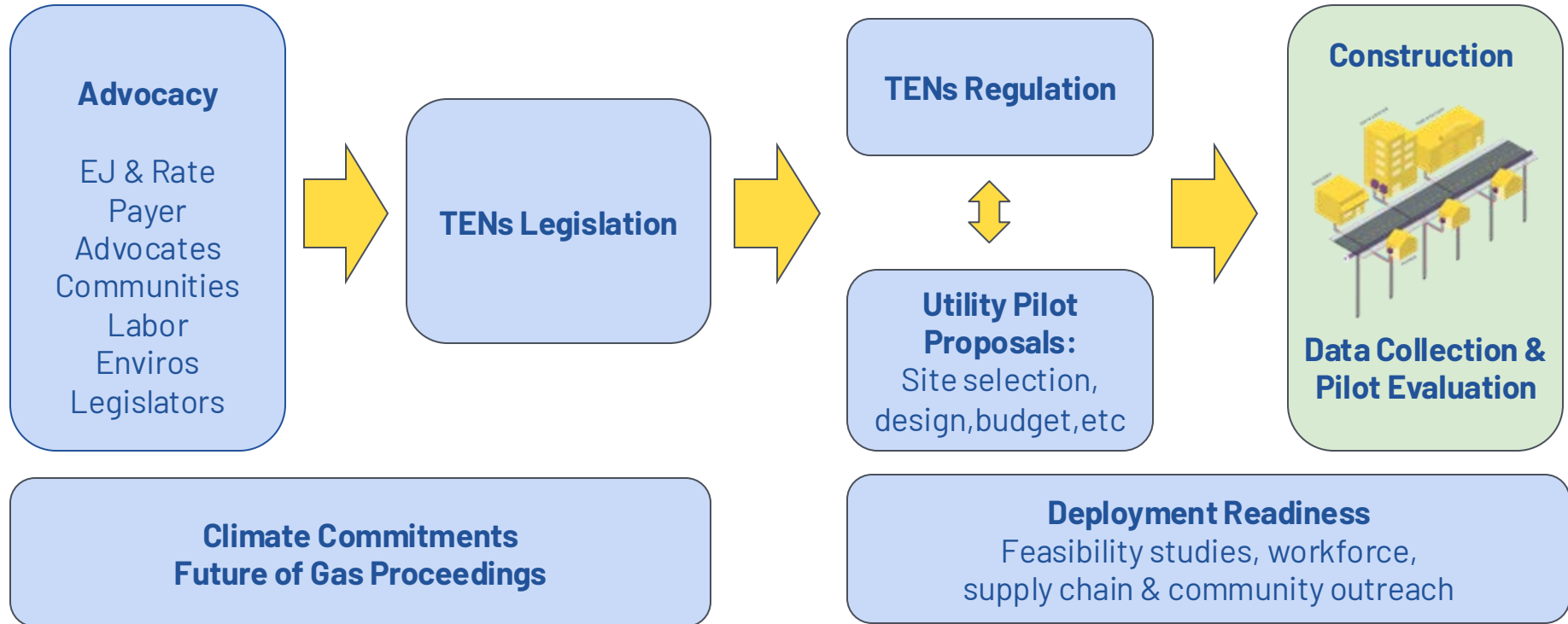
Ania Camargo Cortes
Associate Director, Thermal Networks

January 30th, 2025

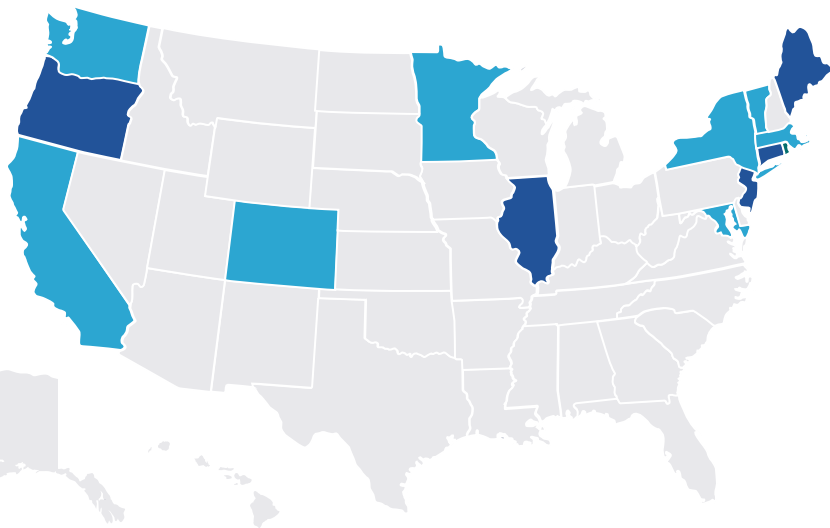
How a Bill Becomes Law



Utility (Geo)Thermal Energy Network General Journey



Thermal Energy Network Legislation



■ Passed Legislation

■ Considering Legislation

MA - An Act Driving Clean Energy (2021, 2022, 2024)

MN - Natural Gas Innovation Act (2021 + 2 bills w/TENs in 2024)

NY - Utility Thermal Network & Jobs Act (2022)

CO - Thermal Energy Act (2023, 2024)

WA - Promoting the Establishment of Thermal Energy Networks (2024)

MD - WARMTH Act (2024)

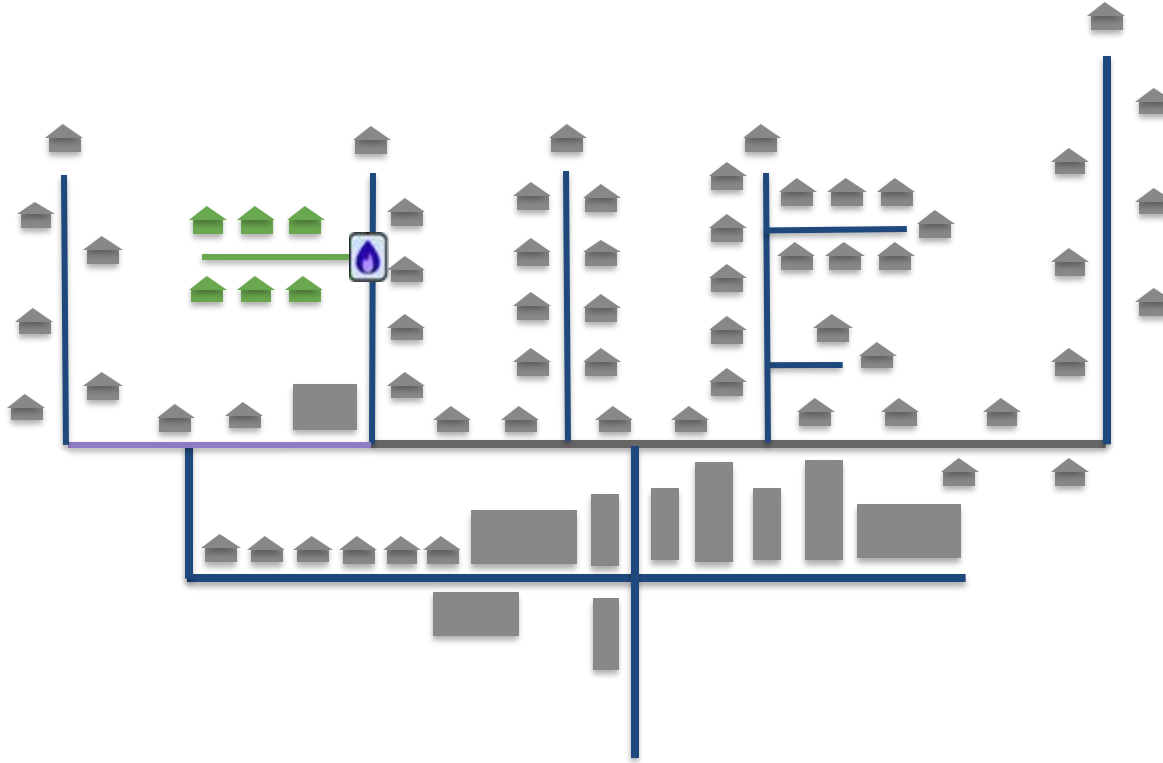
VT - Act relating to Thermal Energy Networks (2024)

CA - Gas corporations: ceasing service: priority neighborhood decarbonization zones (2024)

U.S. Thermal Energy Network Legislation Detail

Provisions	MA	MN	NY	CO	WA	MD	VT	CA
Can utilities sell thermal energy?	Comission can allow	Allowed for pilots	Allowed for pilots	Allowed for pilots	Allowed for pilots	Allowed for pilots	Allows utilities & other entities to obtain Commission authorization	Allows up to 30 neighborhood scale electrification pilots
Pilots / Demonstration Projects	Allowed	15% budget minimum for utilities > 800k customers	Mandated for 7 largest utilities (1 to 5)	Mandated for large utilities > 500,000 customers	Allowed for gas utilities	1-2 mandated for gas utilities > 75,000 customers	Allowed	Allowed
Rate Structure and Cost Recovery	Utility Commission to sort out	Utility Commission to sort out	Utility Commission to sort out	Utility Commission to sort out	Allows cost recovery for pilots through rates	Allows cost recovery for pilots through rates	Utility Commission to sort out	Allows cost recovery for pilots through rates
Who can own the thermal energy network?	Assumes gas utility	Assumes gas utility	Gas and electric can own and operate	Part of proceeding to evaluate ownership models	Gas and electric utilities can own and operate	Gas, electric, water utilities can own	Utilities and other entities can own and be regulated by Commission	Assumes gas utility
Filing Timing	File within 24 months		File 1-5 within 3 month: File 1 within 15 months		File intention within 12 months	File 1-2 proposals within 15 months	Commission report by 12/1/2025	Filed prior to 2030
Labor Provisions		Required in PUC workgroup	For utility pilots	For state agencies and universities	Consideration for Commission	For utility pilots		For utility pilots
EJ & Consumer Protection Provisions	✓	✓	✓	✓	✓	✓		✓
Alignment with climate mandates	✓	✓	✓	✓	✓	✓		✓
Data Reporting	✓		✓	✓	✓	✓		✓
Plans for gas pipes	✓			✓	✓	✓		✓
Additional Funds				✓	✓	✓		
Amends the Obligation to Serve					✓			✓

Policy Phases: **Demonstration**



- Allow or mandate pilots
- Definitions
- Ownership
- Labor standards
- Environmental justice
- Consumer protections
- Environmental protections
- Cost recovery / financing
- Pilot data collection and reporting

Policy Phases: **Demonstration** **Development**



- Interim rate design
- Amended obligation to serve
- Joint gas/electric planning/prioritization
 - Gas pipe transition
 - Capacity constraints
 - New development

Policy Phases:

Demonstration

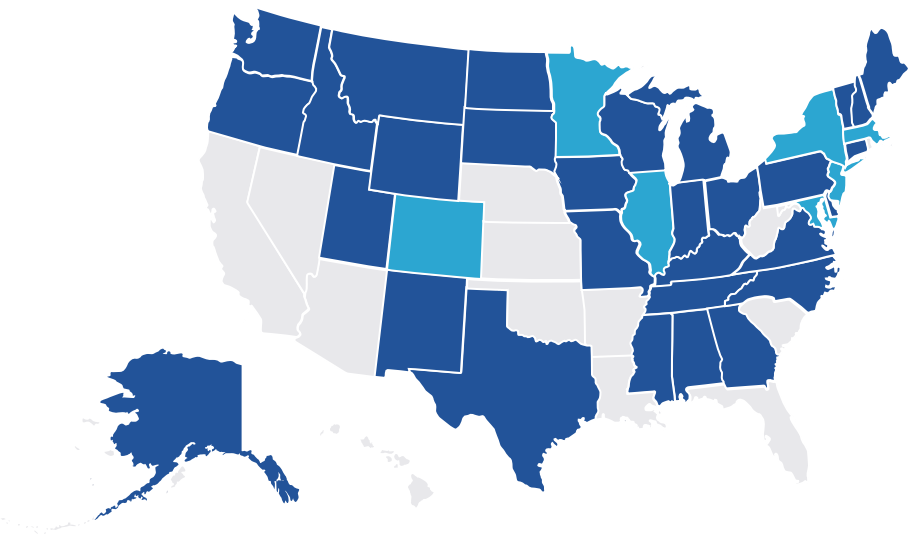
Development

Deployment



- Thermal market
- Integrated utilities
- Waste heat recovery
- Tactical transition plans for cities/regions
- Final rate design
 - Joint rate base?
 - Allowable cost recovery
 - Avoided cost integration

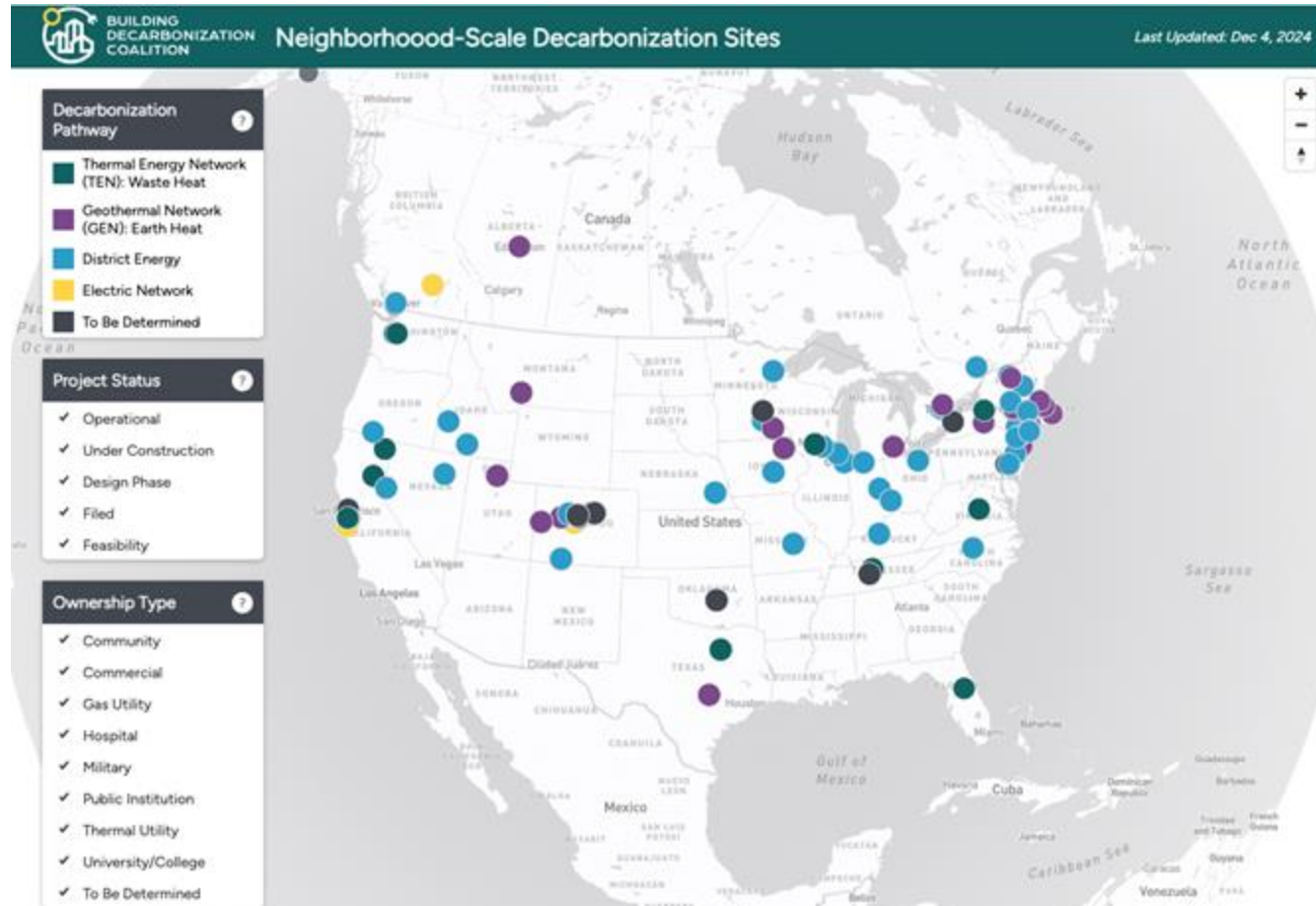
Utility Interest



 Gas Utility Pilots  Utility NetGeo Collaborative



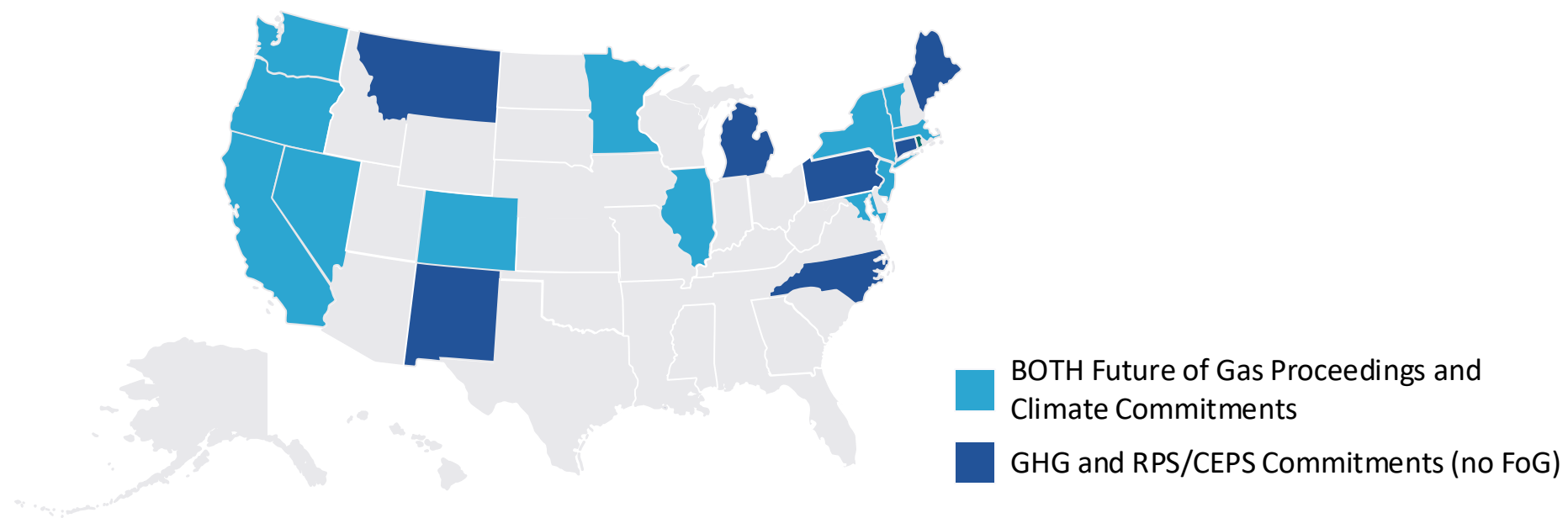
Neighborhood-Scale Building Decarbonization Sites



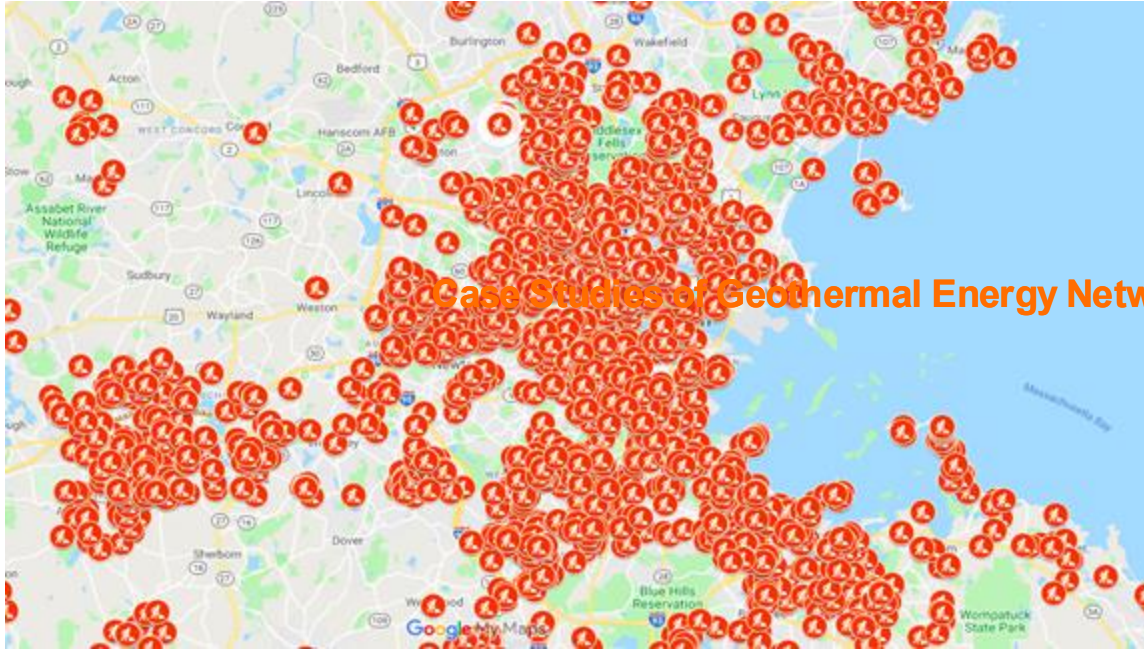
Questions?



Future of Gas Proceedings & Climate Commitments



Costly gas distribution pipe replacement programs



NY > \$28 billion to replace by 2043

MA > \$34 billion to replace by 2039

Philadelphia > \$8 billion to replace by 2055

IL > \$80 billion

National Estimate > \$740 billion by 2040

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RES.ENV 007 Geothermal Energy Networks (GENs): Transforming our Thermal Energy System
IAP 2025

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