



Transitioning OFF GAS to Clean Heat

Presentation on June 6, 2024
by Mothers Out Front, Boston, 350 Mass, and BCAN

Agenda

- **Why Get Off Gas and to What?**
- History of Transition Planning
- Wasting Ratepayer Funds
- Local Experience
- A Comprehensive Strategy Needed
- Policies Needed Now
- What You Can Do



Why off gas? It costs too much!

Harms the climate

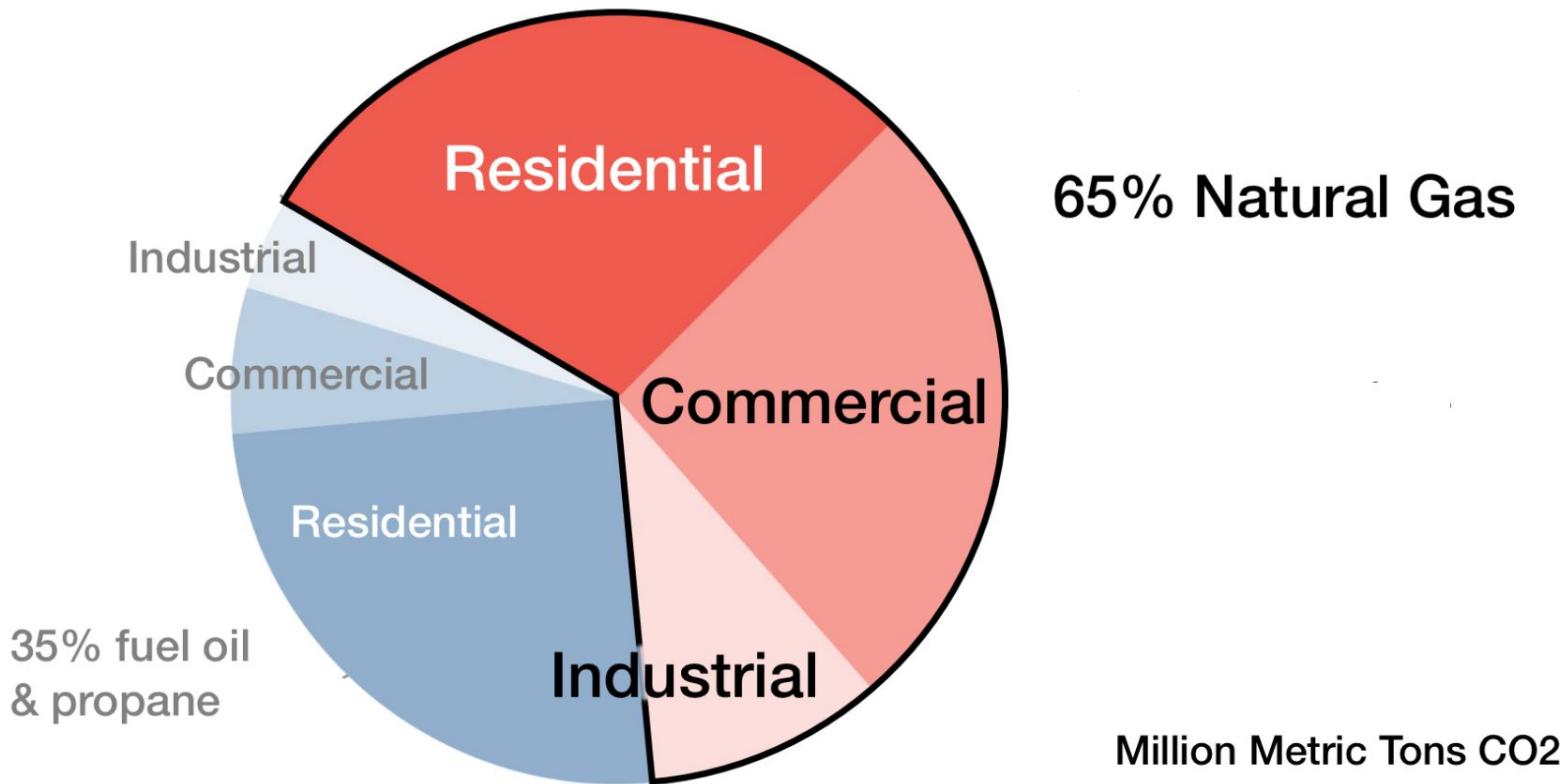
**Harms the health
of people, animals,
and plants**

Explodes

**Costs - billions to
maintain**



Buildings cause 1/3 of our emissions. Most from natural gas.



Why leave gas? It's better for health. 1 in 3 high school children have asthma in Boston



source: asapScience "Should Gas Stoves Be BANNED?"

Burning gas indoors pollutes indoor air—often worse than outdoor air

Gas can cost lives.



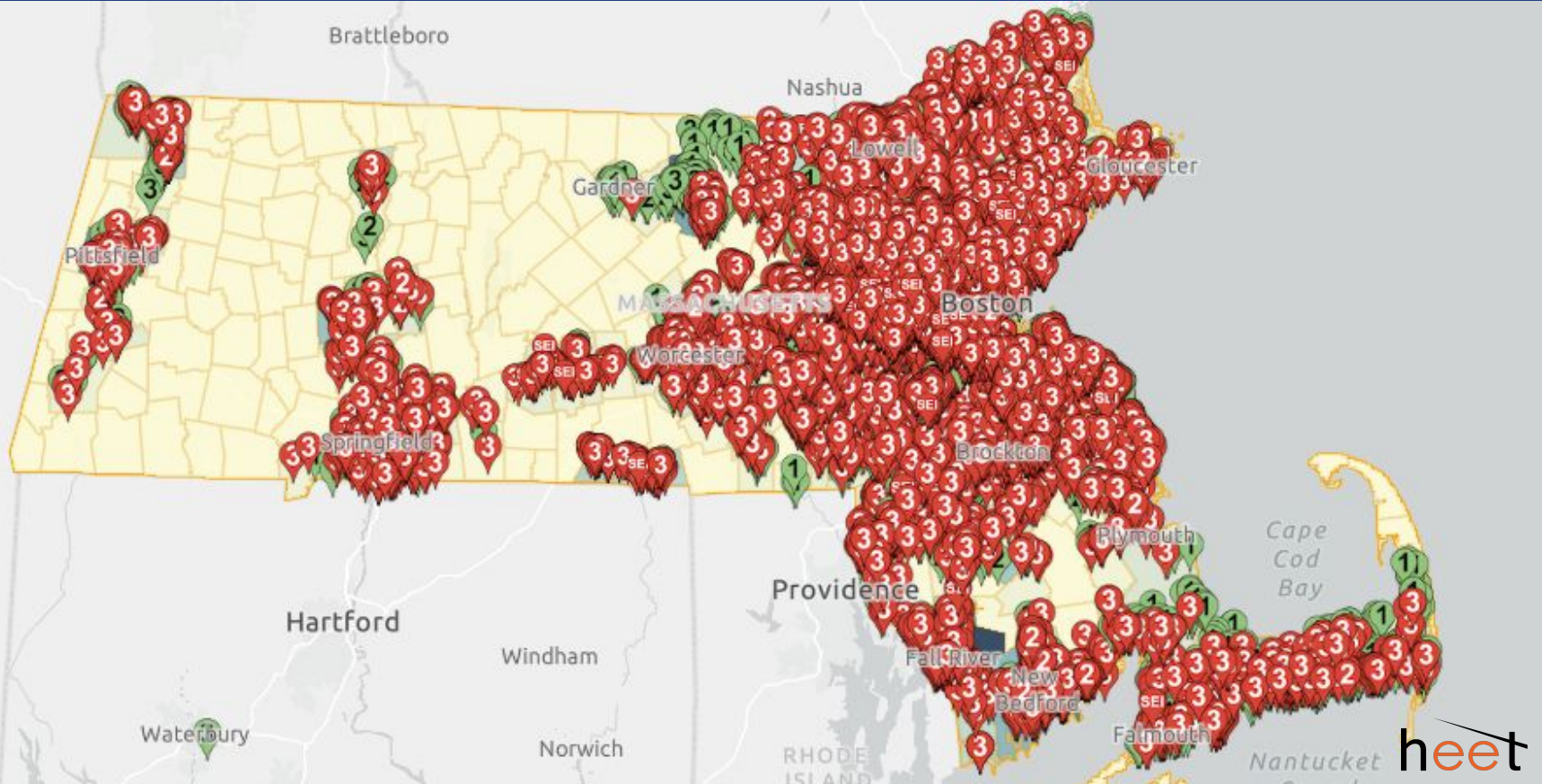
Merrimack Valley

September 13, 2018

Smaller explosions in
JP and West Roxbury

GSEP- Gas Leaks and makes our climate more unstable

In 2020, 26,000 leaks. In 2022, 23,000 leaks.



Gas Utilities Data Project Gas Prices Rise - Exponential cost increases expected

New construction and the future of gas in Massachusetts



“The era of cheap utility gas is coming to a close and will have profound implications for all gas customers.”

**- Michael Walsh, Ph.D
Founding Partner, Groundwork Data
and author of Carbon Free Boston**

Off Gas onto what?



- Air and Ground Source Heat Pumps
- Expand Clean District Energy
- Distributed Energy



The Future of Clean Heat



Air unit supplies cool air in summer and hot air in winter

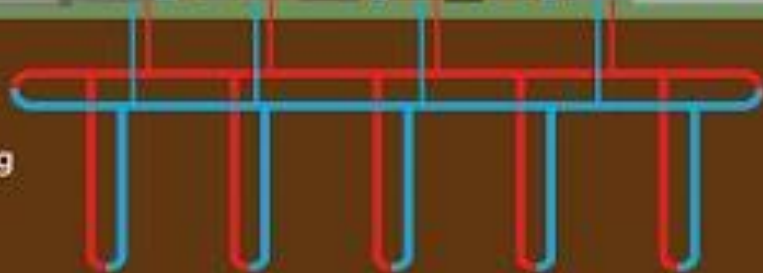
Heat Pump
an energy-efficient alternative to furnaces and air conditioners.

Induction cooktop

Convert to Renewable Electricity



Networked Ground Source Heat Pumps for heating and cooling

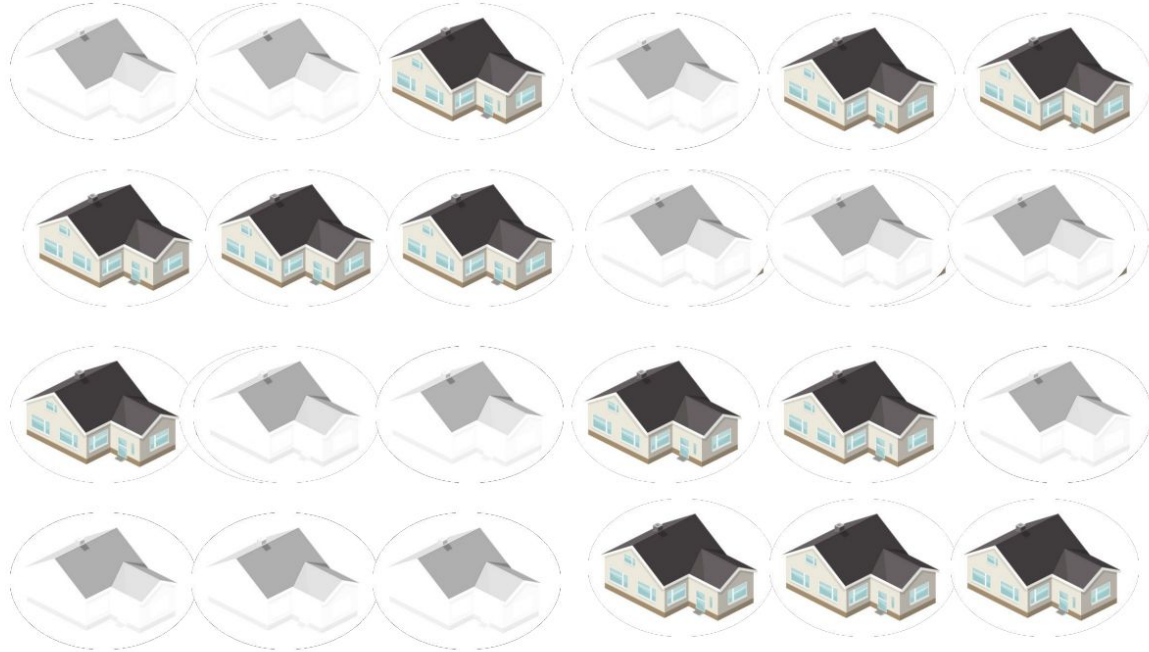


MOTHERS
OUT
FRONT

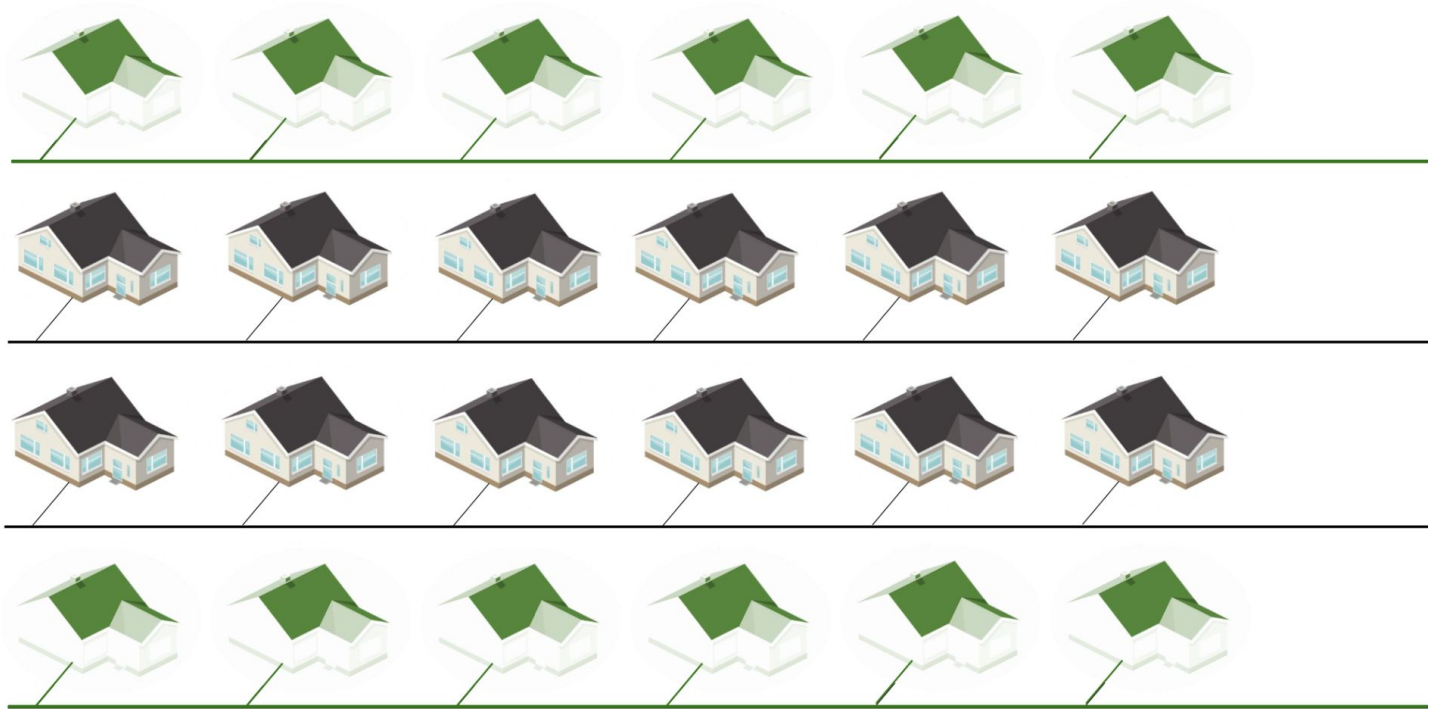
MASSACHUSETTS

Centering Equity? Unplanned Transition Leaves Ratepayers Vulnerable to Expensive Gas Bills

Fleeing Customers, Increasing Gas Bills



Planning for Equity



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Mass Legislative Mandate



**NET ZERO
EMISSIONS
BY 2050**

—
How do we get there?



How did gas companies plan to reach net zero?



The Commonwealth of Massachusetts

DEPARTMENT OF PUBLIC UTILITIES

D.P.U. 20-80

October 29, 2020

Investigation by the Department of Public Utilities on its own Motion into the role of gas local distribution companies as the Commonwealth achieves its target 2050 climate goals.

Hydrogen: Not for Homes!



Climate movement opposed the gas plans

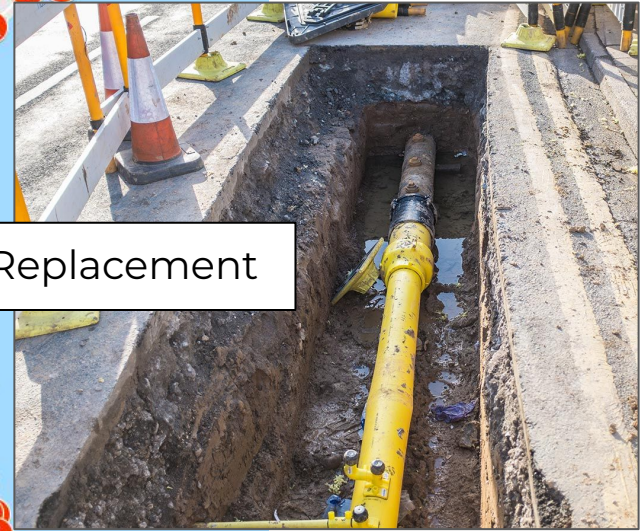
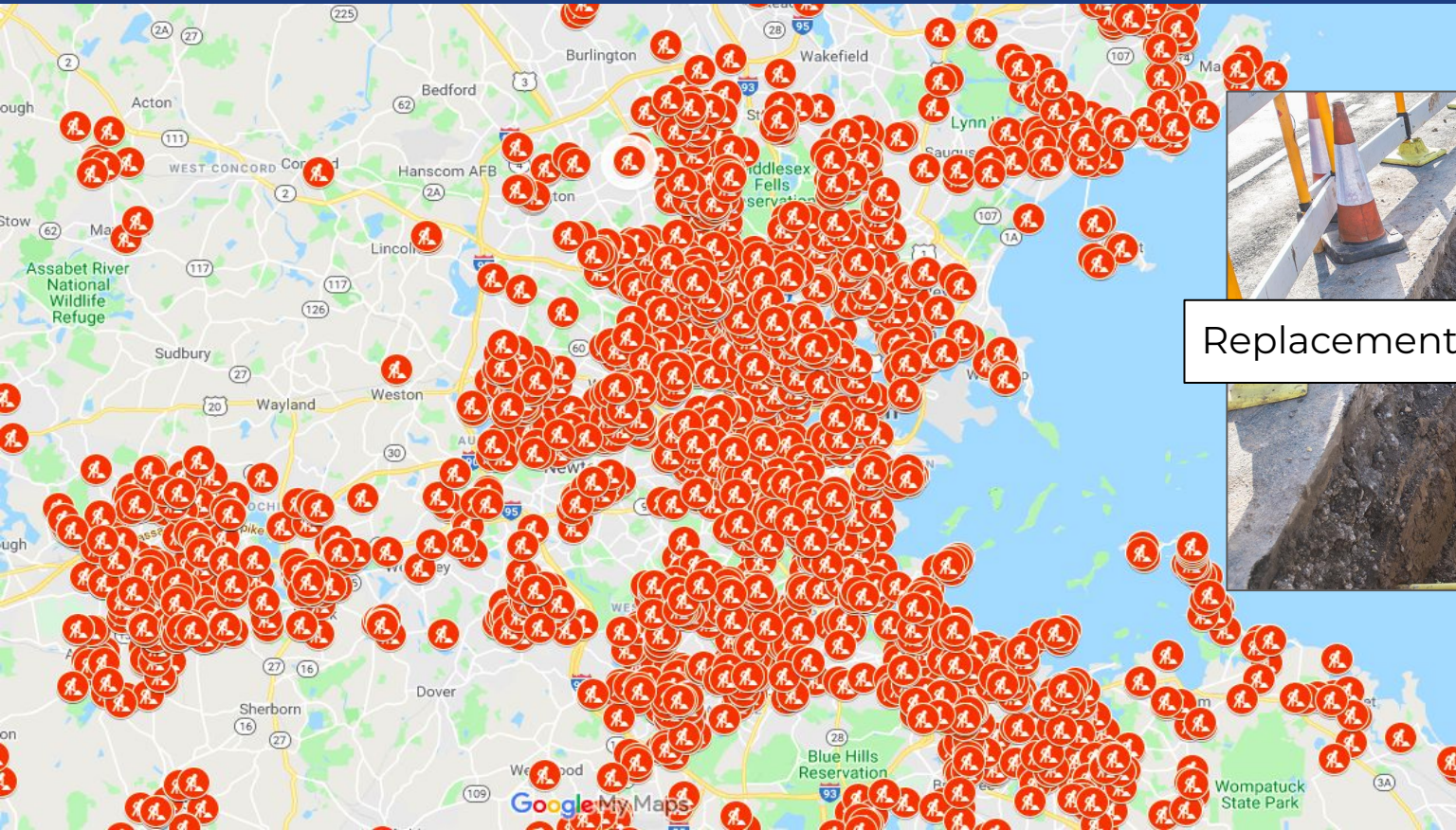


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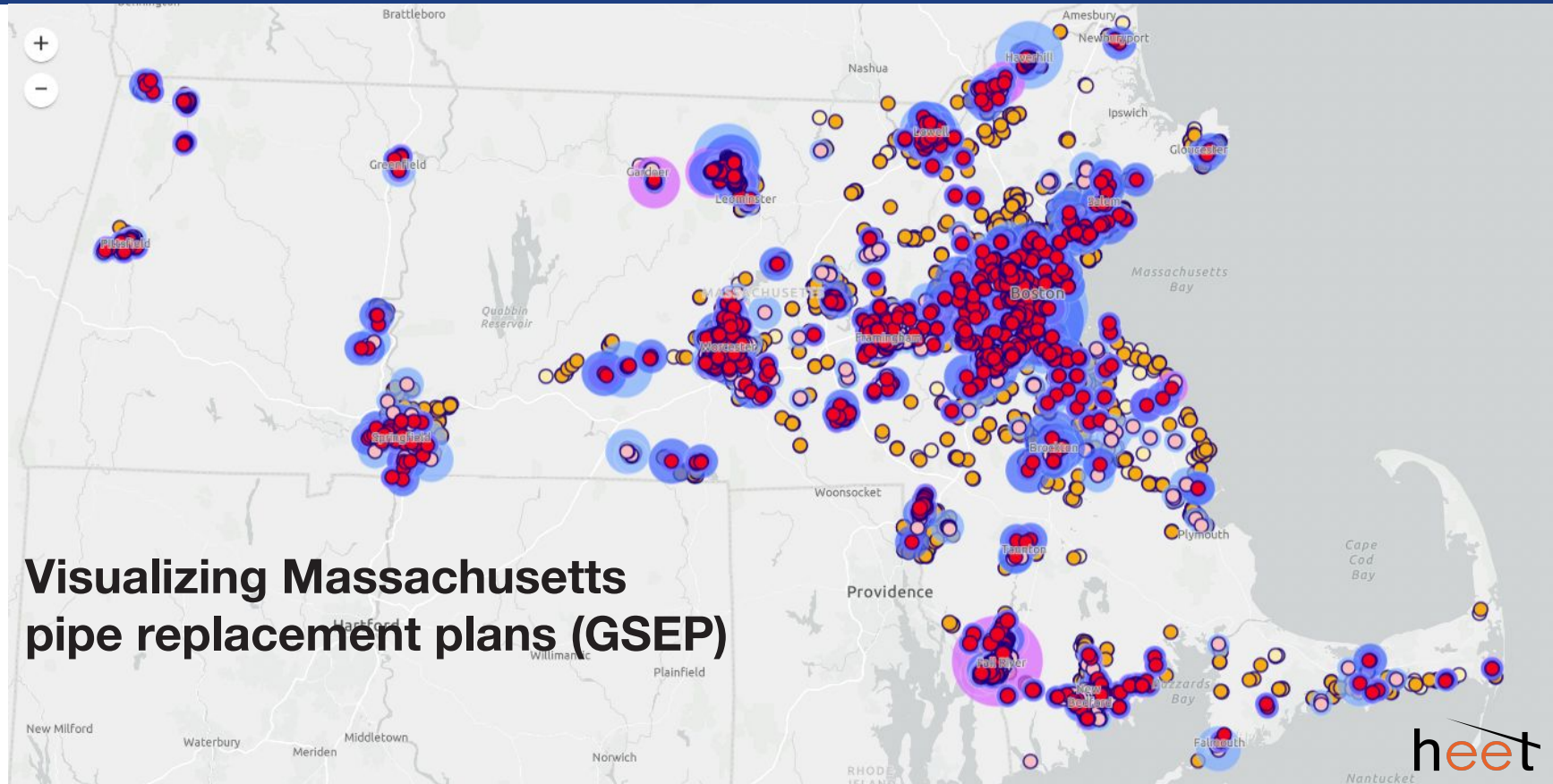


Gas system "enhancement" continues.

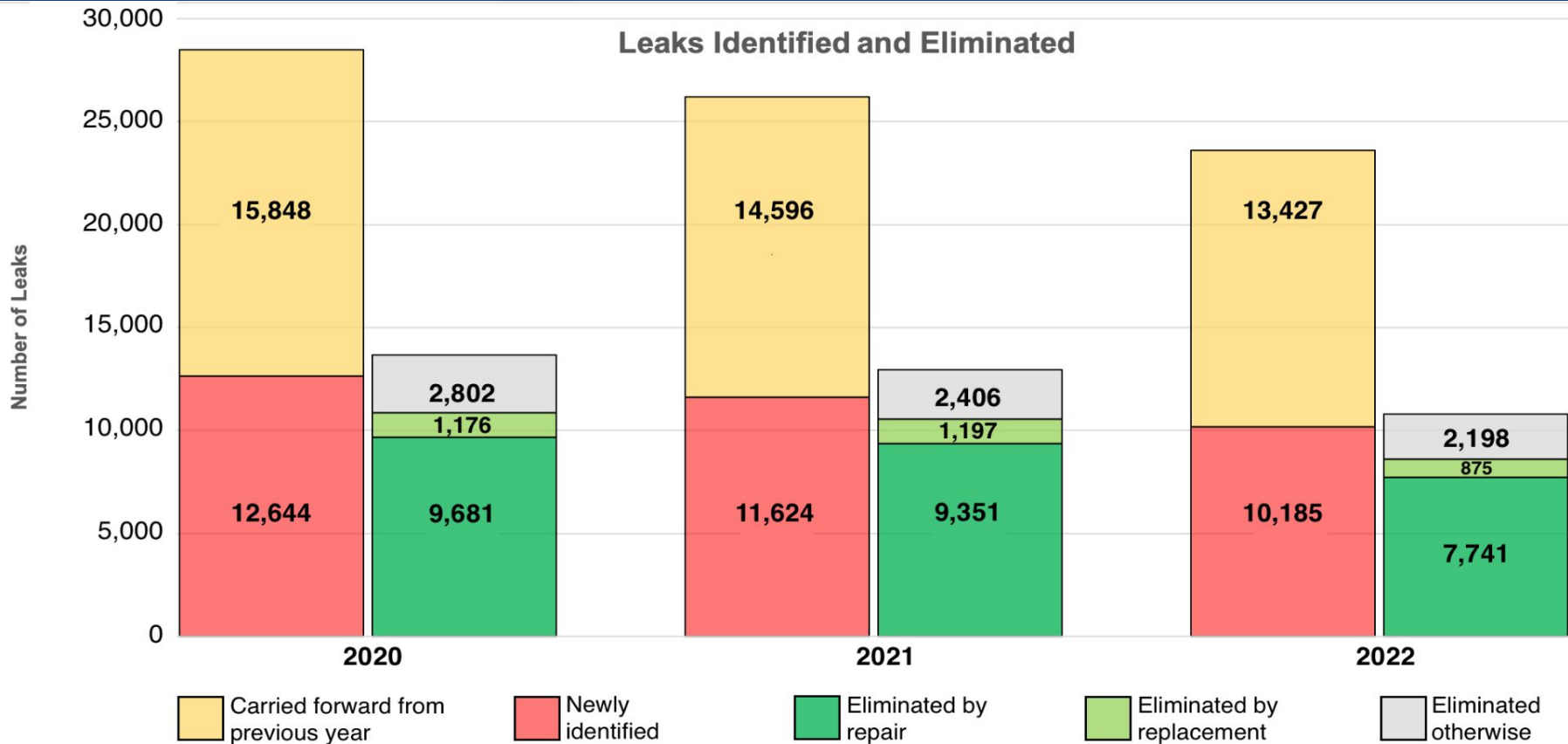


Replacement

On track for nearly \$40 Billion from ratepayers: Will cost more than the Big Dig

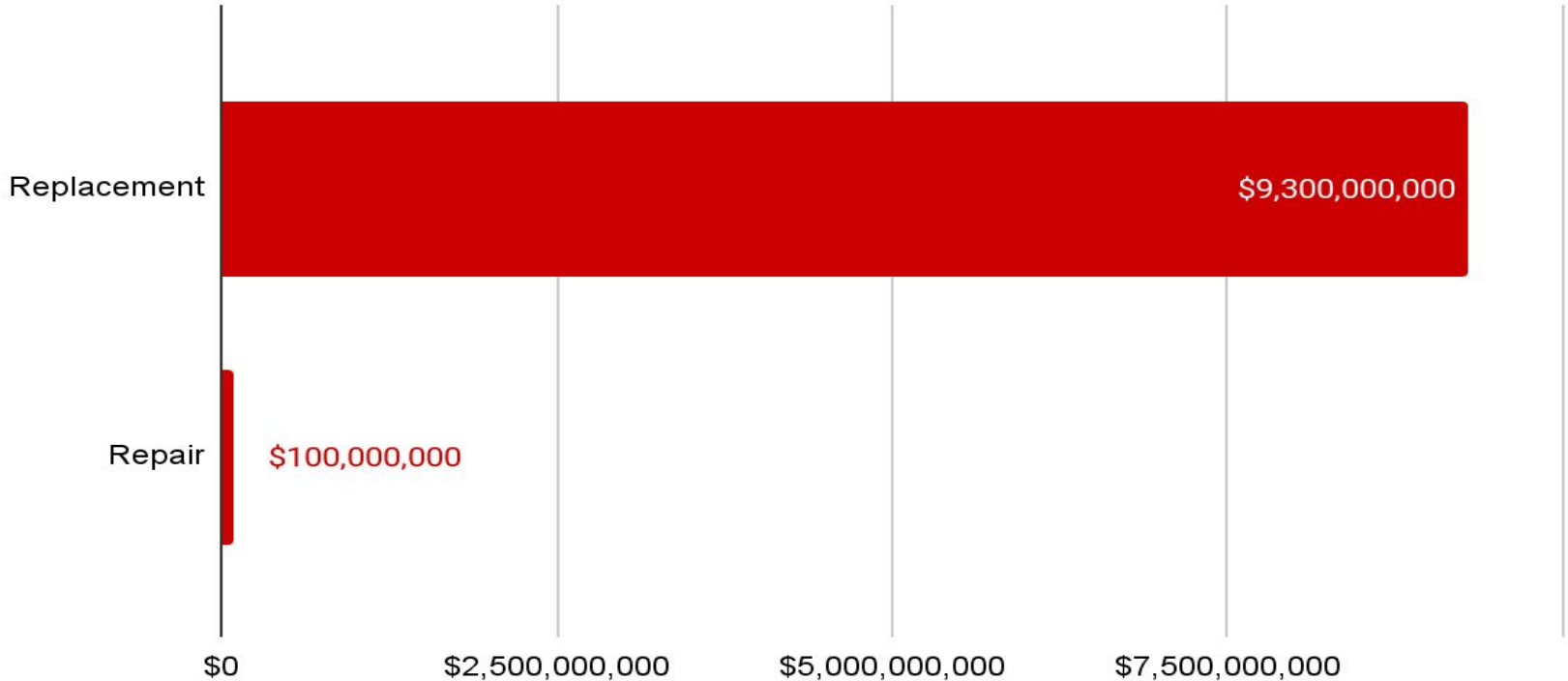


Pipe replacement fixed less than 9% of leaks



Pipe replacement for 20,000 Leaks is Almost 10x more expensive than repair

Cost of Repairing or Replacing Pipe for 20,000 Leaks



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- Ratepayer Funds Being Wasted
- **Boston's Experience**
- Triage and Transition
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Pipe replacements in Boston



Gas Leaks Harm Our Neighborhoods

- Gas leaks kill the trees we need to keep our neighborhoods cool as the temperatures rise in Boston



The Department of Public Utilities does not hold gas companies accountable for letting trees die due to gas leaks.

<https://www.gastransitionallies.org/trees>

Newton Analysis of National Grid Expenditures

24,500,000 GSEP spent in Newton in 2022

- Not effective fixing leaks or lowering methane emissions
- Very little spent on fixing the largest leaks
- \$4.7 million spent on low priority work, not based on safety
- Nearly all fixed leaks from leak *repair* not pipe replacement
- New leaks appeared on replaced pipe

Advanced Leak Repair Works



Advanced technique repair, lining a gas main in New Jersey, 2020.

Triage and Transition

- Repair large leaks.
- Accelerate a managed and just transition off gas.



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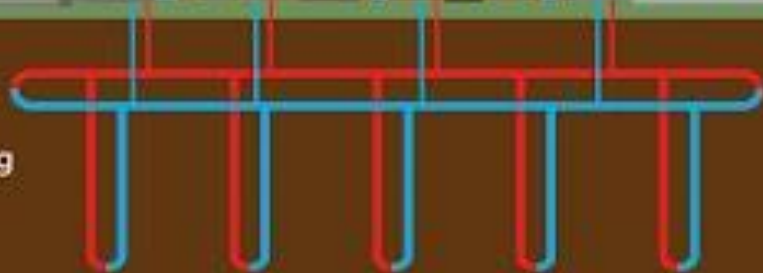
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\$\$\$\$\$ – individuals who can afford to switch

Unplanned: building by building



- **individuals invest, repay loans**
- renters, low-income can't convert

\$\$\$\$\$ – individuals who *can't* afford to switch

Unplanned: same gas pipes and leaks



- **fewer and fewer customers pay bigger and bigger bills**
- \$\$\$\$\$ pipe replacement continues

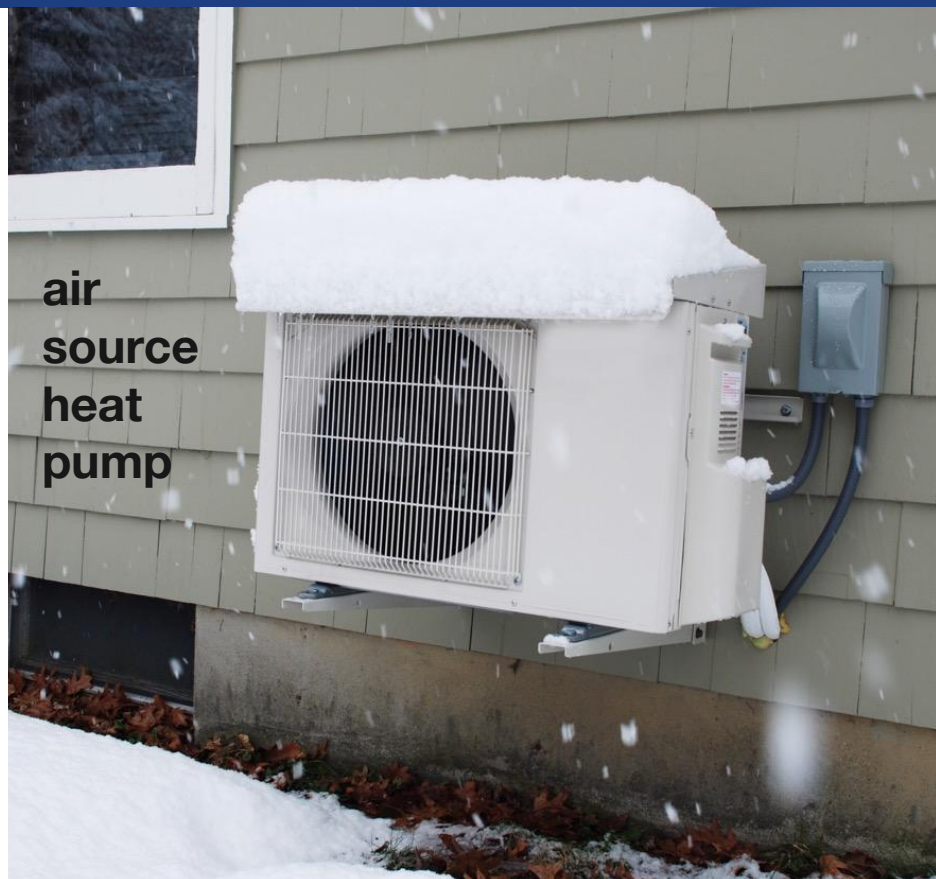
We need a city-scale solution in partnership with utilities.

Strategic: reduced gas infrastructure, same customer base



- neighborhood by neighborhood
- everyone is switched to clean heat
- gas pipes retired
- utility-scale financing
- repaid in monthly utility bills

More efficient than gas = savings over time

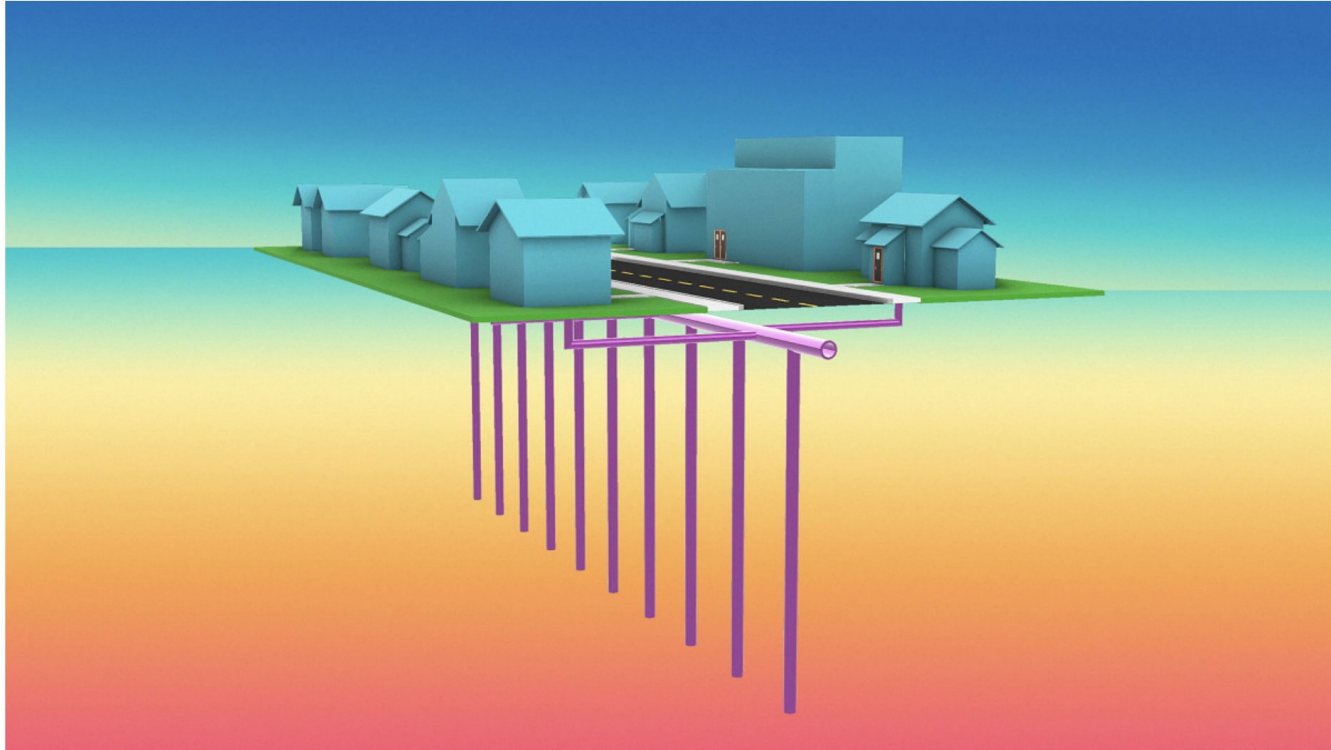


air
source
heat
pump



ground
source
heat
pump

Networked geothermal – most efficient solution



[Rendering: Anara Magavi/HEET]

Energy and Jobs



Networked geothermal: Pilots in Massachusetts



Framingham pilot - went live this week

Boston Climate Successes and Looking Ahead

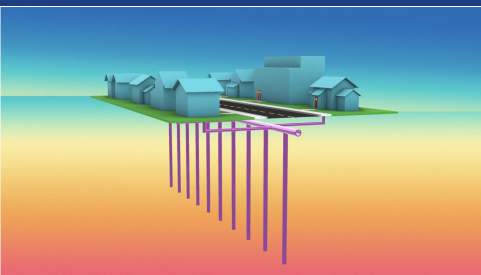
Past Climate Successes

- BERDO 2.0
- Community Choice Electricity

More Action Needed

- City-wide strategic plan for transitioning off the gas system to ensure an equitable transition

Making the Transition Affordable



[Rendering: Anara Magavi/HEET]

- Stop wasting billions on gas pipe replacement
- Invest in utility scale transition - no individual up-front investment
- Install the most energy efficient systems

Benefits

- Safer
- Provides cooling
- Energy bill savings
- Cuts emissions



Gas Heating

**GeoMicroDistrict
Now**

60% less

**GeoMicroDistrict
2050**

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Luckily there's a new sheriff in town.



Key Points of the DPU Order

- The dominant building strategy for MA is electrification
- Heat pumps work in cold weather – no backup needed
- Ratepayers will not pay to develop hydrogen or biogas options
- Utilities must propose neighborhood electrification pilots by 2026

Not a strategic plan. More action needed.



The Future of Clean Heat Bill

- Authorize gas companies to **install non-emitting renewable thermal energy infrastructure using their skilled workforce** and their existing grants of location in the public rights of way.
- Allow gas companies to meet their **obligation to serve** by providing customers with non- combusting renewable thermal energy (no longer limited to selling gas).



The Future of Heat Strategic Plan is Inclusive

S.2105 | H.3203

A plan to transition off gas

- transition gas customers and gas workers
- transition gas infrastructure and utility bills
- transition gas companies' business model

What Can Cities and Towns Do?



Somerville City Council Passed Resolution

- Calls for National Grid and Eversource to work with the City to make a plan to move off of gas
- Calls for advance **leak repair** and installation of heat pumps, over expensive pipe **replacement**

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Take Action Tomorrow: Legislation to Support

- Email your state legislators and tell them to support the Future of Clean Heat bill, Just Transition to Clean Energy (ensures green jobs are good jobs) and Gas Moratorium bill
- Email your City Councilor and ask them for a Boston-specific plan for transition off of gas; one that prioritizes EJ communities and union jobs
- A link to the Action Toolkit will be included in the follow up email tomorrow

Questions?

Type them in the chat

Please stay on to hear about the Action

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