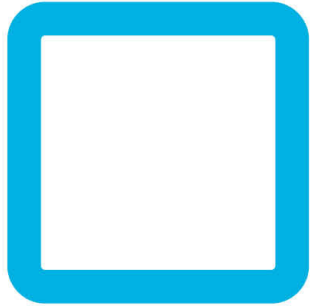


Connect with us.
Count on us.
Thrive alongside us.



Decarbonizing District Energy

City of Cambridge

Planning Board Annual Utility Report

June 27, 2023

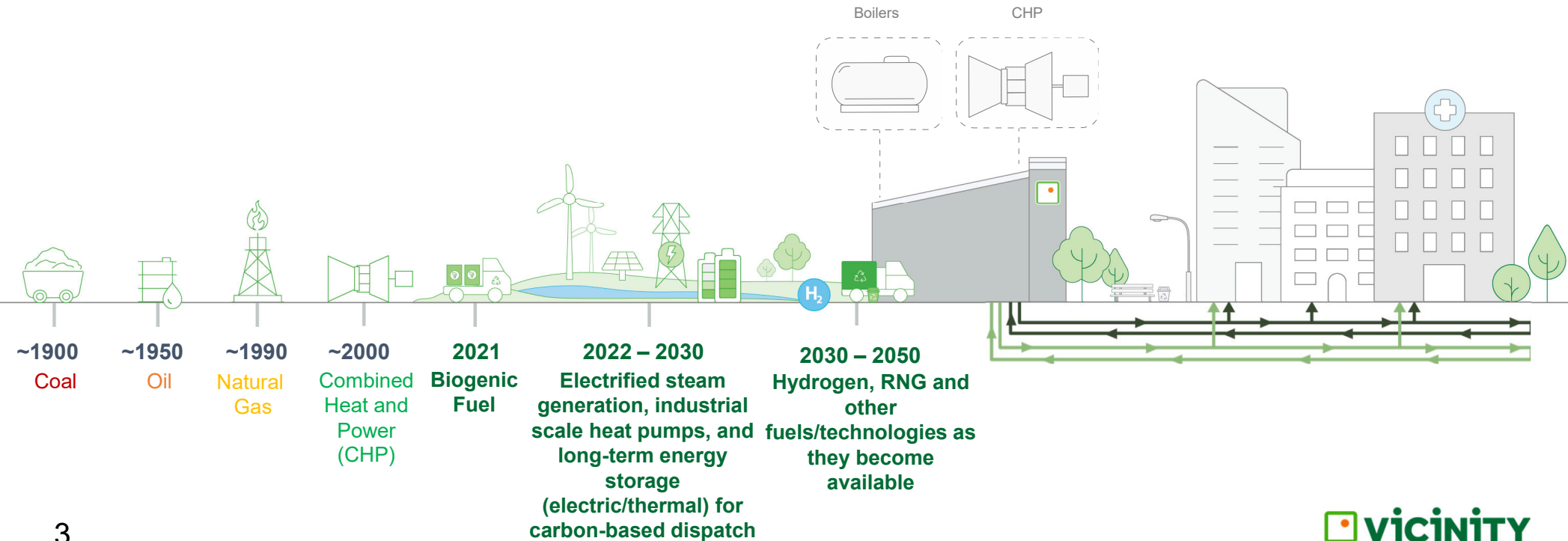


Vicinity Agenda

1. Update of the Vicinity Decarbonization Plan
2. Infrastructure Planning
3. Growth Projections
4. Emissions Profile

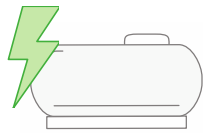
Leveraging Existing Infrastructure, New Technologies and Renewable Energy Sources to Decarbonize the Building-energy Sector

District Energy has a 100-year history of greening and Vicinity will deploy innovative technologies to achieve **net zero carbon emissions by 2050... Cutting our emissions in half by 2035**



Vicinity's Transition to eSteam™

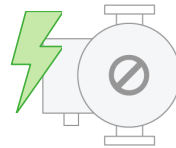
Plan is underway and includes electric boilers, industrial-scale heat pumps and thermal storage



Electric Boilers

42 MW
Online 2024

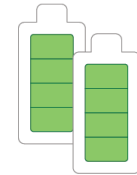
- Demolition Started
- Equipment Purchased.
- Installation at Kendall Station
- Interconnect process underway (84 MW of import)
- Ready to deliver mid 2024



Heat Pumps

10++ MW
Online 2026/2027

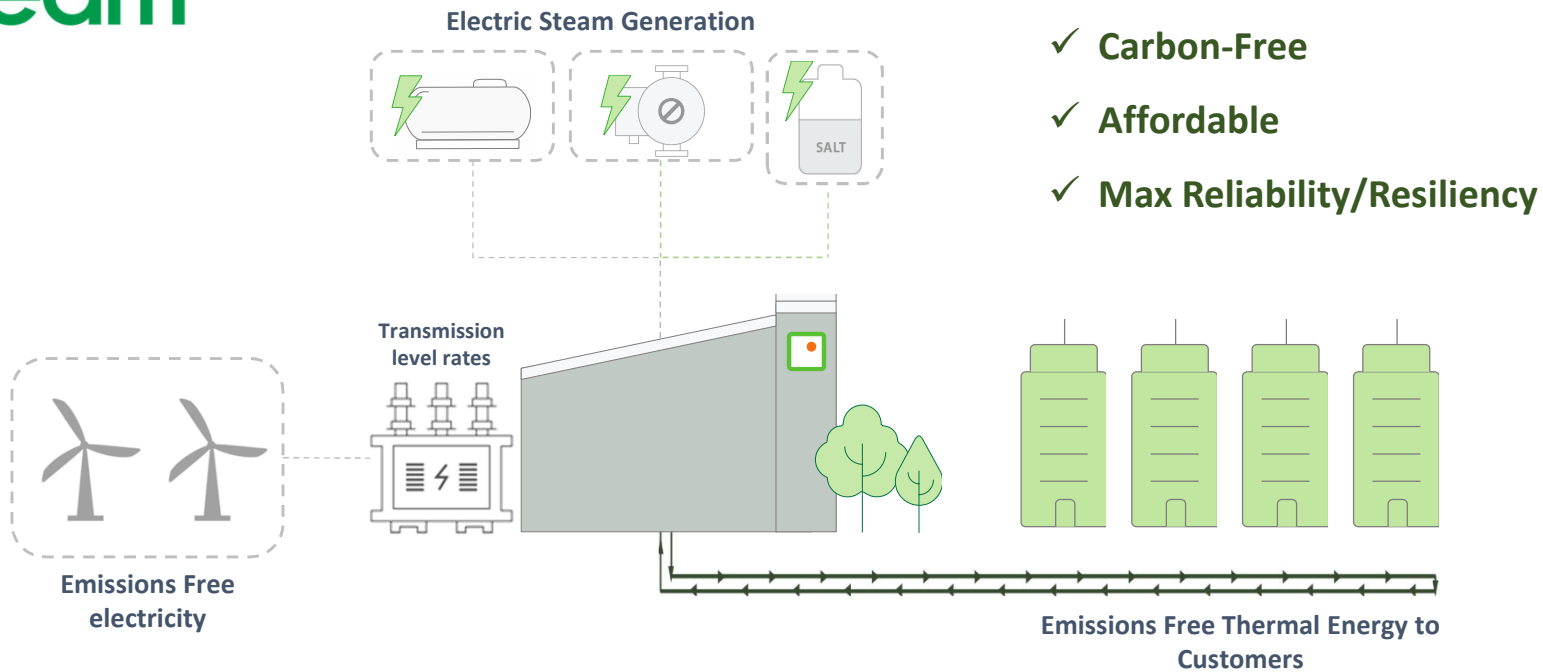
- Joint development with MAN
- Bid design underway
- Use heat “lifted” from the Charles River to make steam and preheat the water
- Dramatically reduces our carbon footprint in the near term



Thermal Storage

1 GWh
Online 2026-2028

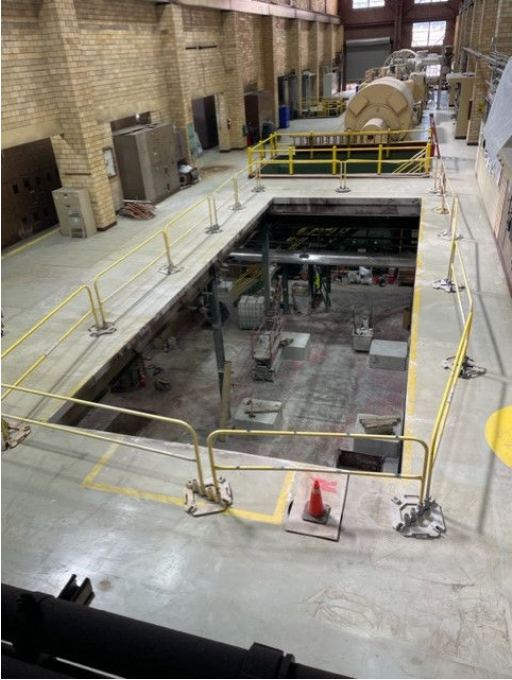
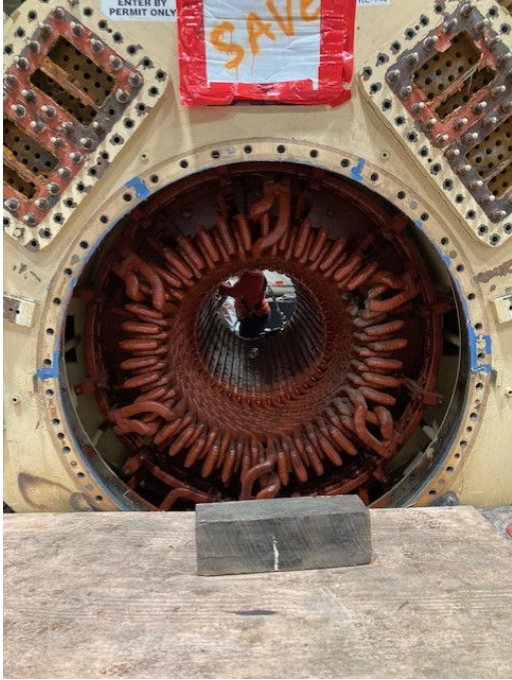
- Technology selection underway
- Time of use alignment with offshore wind generation peak
- Still being sized. Pushing to higher temperatures to obtain 1GWh



What is eSteam™?

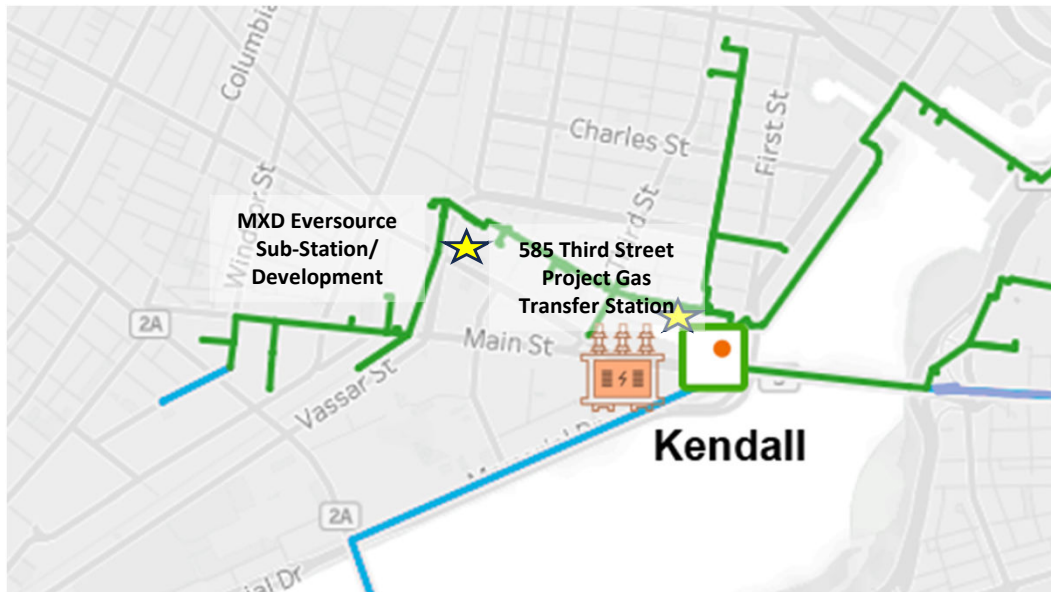
First 100% renewable, carbon-free thermal energy product in the United States, offering maximum flexibility and superior environmental benefits.

Progress to Carbon Free



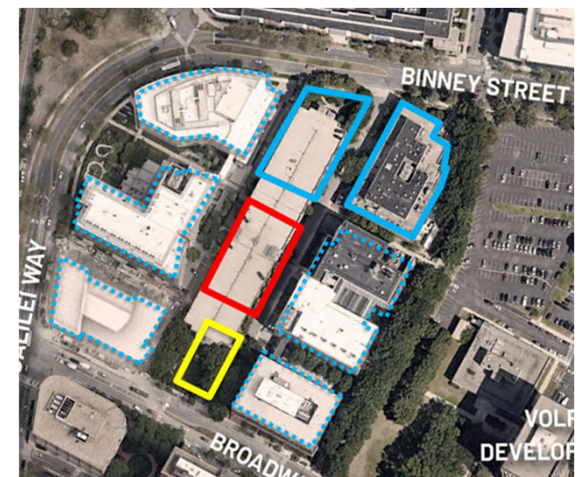
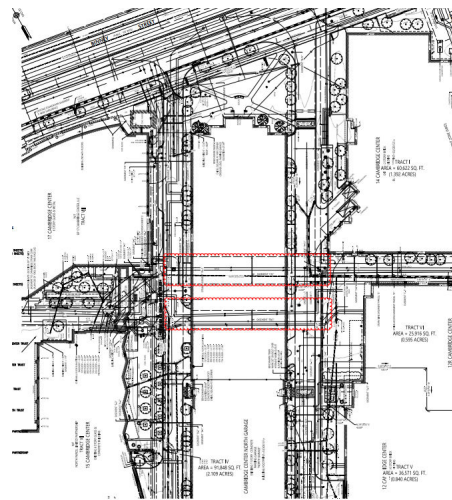
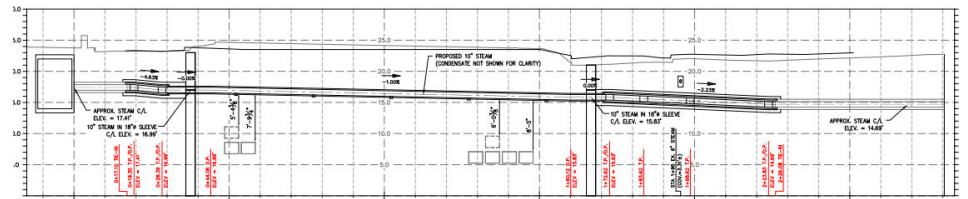
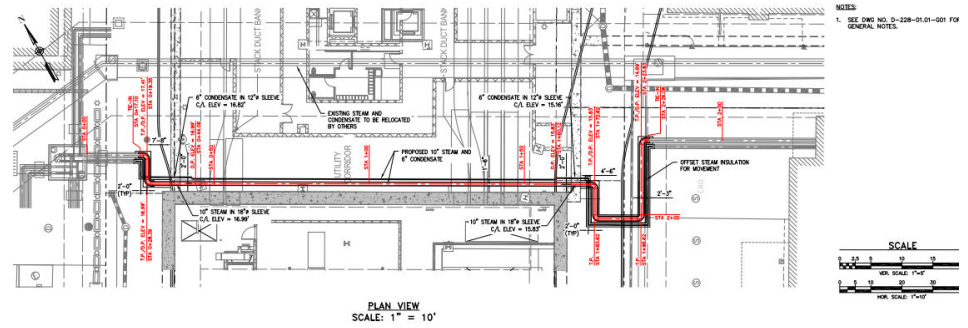
Standard System Maintenance

- ❖ Weekly meetings with Cambridge DPW
- ❖ Schedule manhole inspection
- ❖ Mechanical Maintenance



MXD / Substation Development Utility Relocation: In progress

Installation of a new steam main and condensate return line across the MXD development site along with the rebuilding of two Vicinity manholes.



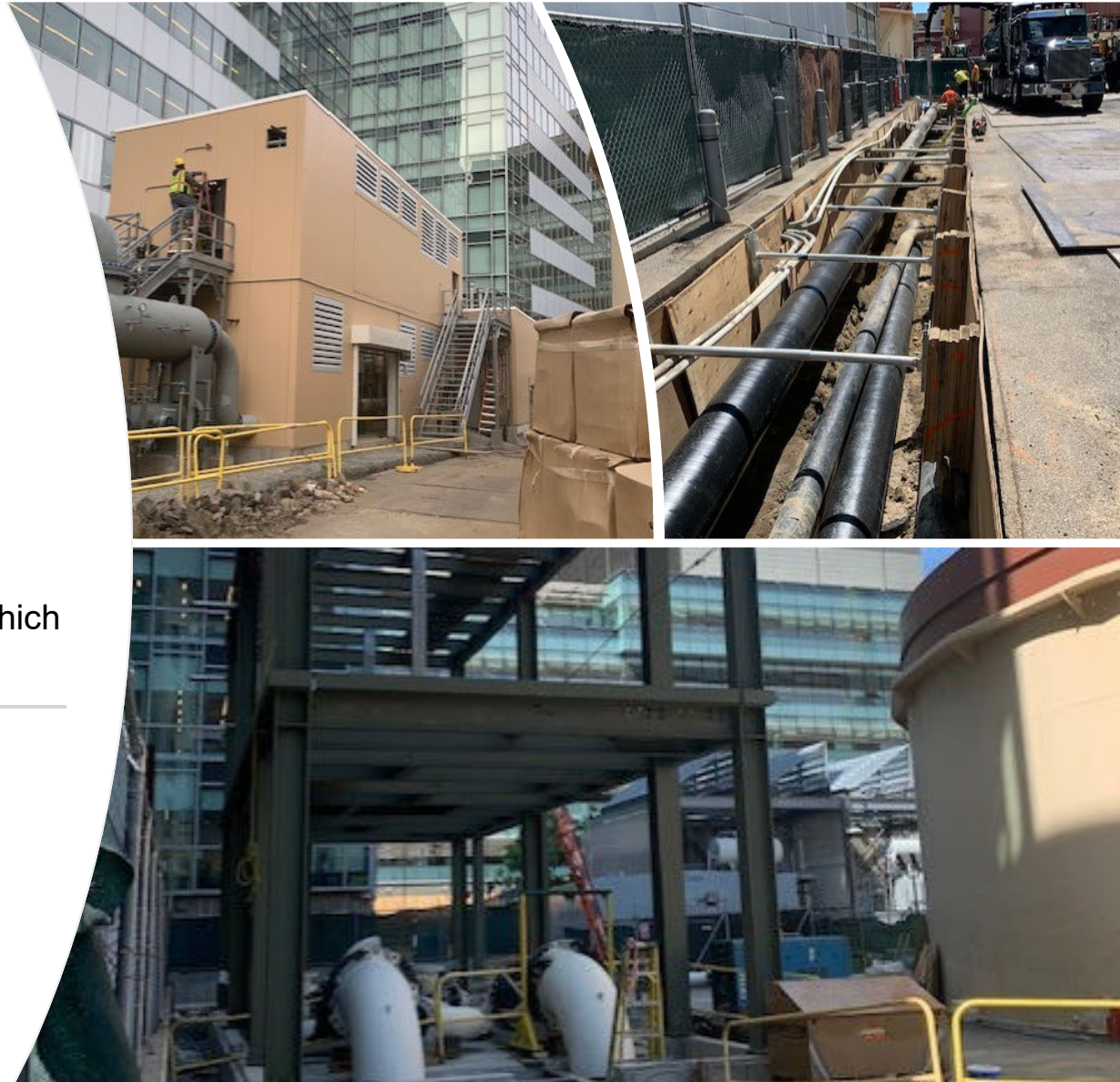
585 Third Street Gas Transfer Station Relocation





585 Third Street Gas Transfer Station Relocation: Completed

Installation of a new steam main from Kendall Street to Third Street and a manhole rebuild which is located on Kendall St.



THANK YOU!