

## EXECUTIVE SUMMARY

# Decarbonizing Boston & Cambridge with eSteam™

Today, we are amid an energy transformation driven by a mounting global crisis: climate change. Across the world, we are experiencing more extreme and more frequent weather events due to accelerating levels of atmospheric greenhouse gases. As a result, US cities and states have already felt the devastating and costly impacts of flooding, hurricanes, wildfires, etc., other weather-related crises. Mitigating carbon in the production and distribution of energy is now just as critically important as our society's ever-growing need for energy itself. It's clear that we need resilient, reliable and agile energy solutions...now.

One of the most valuable assets in achieving the Commonwealth's aggressive decarbonization targets in Boston and Cambridge is the district energy system owned by Vicinity Energy. Because district energy systems are agile, flexible and agnostic to fuel source, they are essential tools in the toolbox to decarbonize urban buildings rapidly. As clean energy technology evolves and more renewable sources become available, Vicinity quickly adapts to emerging trends to eliminate carbon from its operations.

Through 26-miles of underground pipes, Vicinity provides steam to over 260 buildings and 65+ million square feet of the existing commercial and institutional building stock in Boston and Cambridge; this represents 20 percent of the Commonwealth's goal to electrify 300 to 400 million square feet of commercial space by the end of this decade. The

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steam we deliver is used for heating, cooling and sterilization—essential services to mission-critical customers, including all of the major hospitals downtown and biotech and life sciences companies—in predominantly Environmental Justice Communities. Vicinity can decarbonize its central facilities with comparatively less investment to costly building retrofits, immediately benefitting every customer connected to its system.

### **Vicinity will reach net zero emissions before 2050. We have a plan.**

The backbone of Vicinity's decarbonization effort is the rapid electrification of its operations. Our two-phased plan, which incorporates clean technologies like electric boilers, industrial-scale heat pumps, and thermal molten salt batteries, will eliminate 400,000 tons or more of carbon annually by 2035, bringing the Commonwealth much closer to its carbon goals.

This whitepaper highlights the benefits of district energy in a decarbonizing world, specifically how electrifying district energy can help urban centers

rapidly and affordably achieve city and state carbon reduction goals. The objectives of this paper are to demonstrate:

- Why district energy is a unique and valuable asset to decarbonize U.S. cities and how it can play an essential role in meeting aggressive city and state carbon reduction targets.
- Vicinity's multi-pronged electrification strategy and execution plan, including the investments we're currently making in Boston and Cambridge and how this strategy will be applied to Vicinity's district systems nationwide.
- Examples from other European and Canadian cities are leading the way in district energy electrification and driving carbon reductions.
- Why public-private partnership is so critical to achieving expeditious and successful outcomes.

While Vicinity's district energy electrification strategy is the first in the United States, in European and Canadian cities, leveraging district energy to achieve wide-scale carbon and greenhouse gas emissions reductions has been widely recognized as an essential tool in fighting against climate change. U.S. policymakers can draw from the success of other leading nations and work on accelerating renewable energy projects, enhancing incentive

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programs to speed up investment, and helping to spur adoption by energy consumers. District energy electrification is a proven method to achieve significant carbon emissions reductions in our cities. And with the accelerating impacts of climate change, we must take action now. A clean energy future can be ours as long as we take the proper steps today.

The next energy transition is now. Boston and Cambridge are positioned to lead the way for the nation and, with a robust public-private partnership, this can become a reality. District energy systems, like Vicinity's, are uniquely positioned to take advantage of existing infrastructure in conjunction with critical technological advancements to decarbonize quickly and cost-effectively. Vicinity is committed to preserving the health and prosperity of our communities for generations to come.

## Decarbonizing Boston & Cambridge with eSteam™

Read Vicinity's electrification whitepaper to understand our Clean Energy Future Roadmap and how we can help decarbonize your buildings to meet requirements.

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