

# Kickstart Massachusetts

## Tier 1: Pre-feasibility of Geothermal Networks

# Community Engagement Report for City of New Bedford

### About the Community

Please provide a snapshot of the community's demographic profile (age groups, ethnic diversity, household types). Briefly mention historical and cultural aspects, including unique traditions or characteristics that set the community apart. Highlight major developments or shifts in the community’s landscape over time.

*(120 words max)*

New Bedford, known as "The City that Lit the World," has a storied maritime history. Once the global hub of the whaling industry, it earned its nickname through the production of whale oil, which illuminated homes and industries worldwide during the 19th century. Today, New Bedford maintains its ties to the sea as America’s leading fishing port, renowned for its extensive fleet and fresh seafood offerings, which are celebrated at the city's many acclaimed restaurants.

The city is home to a population of just over 100,000 residents, representing a diverse mix of age groups. It has a substantial youth population under 18 and a steadily growing senior community. New Bedford’s vibrant ethnic makeup includes robust Portuguese, Cape Verdean, and Hispanic communities, each contributing to the city’s rich cultural fabric. This diversity is celebrated through annual events like the Feast of the Blessed Sacrament, the largest Portuguese festival in the world, as well as other cultural festivals that showcase the city’s heritage and traditions.

In recent decades, New Bedford has undergone significant changes. While its maritime legacy remains central, the city has embraced revitalization, including waterfront redevelopment and an expanding arts and cultural scene. Additionally, the city is at the forefront of the offshore wind energy industry, positioning itself as a leader in renewable energy while honoring its historical role as a pioneer of innovation.

*Optional:* Please explain any specific EJ-focused considerations of the project, such as prioritizing neighborhoods affected by environmental challenges (e.g., air quality or access to green spaces). Describe how these factors influenced the project's focus.

*(120 words max)*

Brownfields sites, generally located within Environmental Justice communities, provide unique opportunities to provide geothermal energy. These are often multi-acre vacant sites where assessing the feasibility for geothermal potential can be coupled with assessment and remediation. Reuse planning can more easily incorporate geothermal from the beginning, rather than trying to force geothermal as a retrofit project. The city remains very interested in geothermal at the Morse Cutting Tool site for this very reason. The Morse Cutting Tool site was the source of chlorinated volatile organic compounds and petroleum in soil and groundwater and often resulted in impacts to indoor air in residences and ambient air. After years of impact to this environmental justice community, work to support reuse that contributes to sustainable redevelopment with a clean energy source would benefit this disproportionately affected neighborhood.

## Sustainability Programs

Please summarize any preceding and parallel sustainability initiatives in the community, such as renewable energy programs or waste reduction efforts. Mention how these intersect with community identity and align with environmental objectives that could intersect with a geothermal network.

*(120 words max)*

The City's NB Resilient initiative is a plan to strengthen our community by preparing for the impact of climate change by creating a roadmap of actions to implement innovative approaches. The strategy focuses on emission reduction, sustainable energy transitions, and waste management efforts.

New Bedford has advanced sustainability through renewable energy programs which focused on increasing residential solar adoption and resulted in significant savings for participating homeowners. Solar power has been a key part of the city's renewable energy portfolio, with over 16MW in solar installations, New Bedford is recognized as a national leader in solar capacity per capita.

As part of an effort to achieve net zero GHG emissions by 2050, the current construction of the new state-of-the-art Devalles Elementary School will utilize geothermal heating and cooling in conjunction with solar. This will be an excellent opportunity to educate the community and showcase the new system upon completion.

Additional programs include: a partnership with Siemens that improved energy efficiency across the municipal infrastructure including streetlights and building upgrades; the beginning construction on a bus depot to store and charge 14 fully electric school buses; installation of air quality sensors throughout the city to track air quality; and an ongoing tree initiative increasing tree canopy in target neighborhoods for environmental and energy efficiency benefits.

The city has been a central hub for offshore wind development and is recognized as a national leader. By integrating geothermal heating and cooling, the city can further reduce residential reliance on fossil fuels, aligning with its broader goals of energy efficiency and climate resilience.

## Local Motivation for Geothermal Networks

Please share the story of why this project matters to the community, touching on issues like energy costs, climate vulnerability, and access to reliable resources. Connect these to the project's goals, showing how it addresses residents' needs.

*(120 words max)*

This geothermal project is vital for New Bedford, where residents face rising energy costs and climate vulnerability, including the threat of severe storms and coastal flooding. Many areas, particularly those near older infrastructure, face issues like gas leaks and service constraints. By utilizing a currently vacant formerly contaminated lot such as the former Morse Cutting Tool site, the project not only enhances neighborhood sustainability but also reduces reliance on fossil fuels. It provides a reliable and affordable heating and cooling solution, stabilizing energy costs and improving access to energy in underserved areas. The project aligns with New Bedford's goals of climate resilience, environmental sustainability, and creating cleaner, more resilient communities.

## Community Partners

Please describe key community groups (nonprofits, associations) that were instrumental in outreach and trust-building. Describe their role in information sharing and community involvement in the project.

*(120 words max)*

Neighborhoods United, a collective of local neighborhood groups including the Brooklawn Neighborhood Association and Cove Street Neighborhood Association, played an essential role in engaging the community and spreading awareness about the project. These groups facilitated information-sharing with the residents, helping to ensure broad participation and support.

The New Bedford Housing Authority (NBHA) helped establish initial communication for the geothermal network project, opening the door for potential collaboration and trust building with residents in future sustainability initiatives. While their role was limited during this phase, it laid a foundation for significant opportunities moving forward.

HEET was pivotal to the project's success, providing funding, expertise, strategic support and fostering connections with local municipalities. Their leadership strengthened the city's capacity to integrate geothermal technology while fostering awareness and enthusiasm among stakeholders, positioning the project as a model for sustainable energy solutions.

## Community Engagement

Please summarize community engagement strategies implemented and insights gained, noting the level of interest and [co-benefits of geothermal networks](#) that resonated the most with local stakeholders.

*(120 words max)*

Multiple methods of outreach were used. The [NB Resilient Dashboard](#) is located on the city's website and gains the most visibility towards sustainability initiatives. The site is regularly updated with information about geothermal energy and other initiatives and is a typical starting point for different stakeholders including residents, business owners, and contractors. For additional community outreach, we launched an online survey and by collaborating with community-based organizations, we offered informal information sessions at specific neighborhood meetings and libraries. The survey and sessions were advertised through social media, postcard mailers, and flyers. The survey included a short educational geothermal video and specific questions.

Postcards were the most successful outreach method used in gaining responses, and while being aware that voluntary response bias may impact the results, some valuable input was gathered. Of the survey takers, single family homeowners who heat with natural gas were the largest single group of respondents (85%). Responses were overwhelmingly positive towards interest in further education on networked geothermal energy, with most respondents (68%) even indicating interest in being considered for pilot programs. The most frequent factors cited as driving this interest include potential energy cost-savings (27%) and a desire to participate in green energy solutions to promote clean energy solutions and reduce fossil fuel reliance (60%). The few uncertain responses (29%) cited lack of knowledge about the solution and no-interest responses (4%) cited concern about upfront cost and disruption due to construction. Positively, over 60% of respondents requested to stay informed on networked geothermal energy initiatives. From responses, we gained valuable insight into the areas of further education needed which center around logistics for the initial conversion of a home heating system, potential hazards, and expense vs cost-savings.

## Opportunistic Thermal Resources

Please summarize any unique thermal resources (e.g., bodies of water or geothermal sites) identified and provide location or map.

*(120 words max)*

We are in the process of constructing a new Elementary School that will utilize geothermal heating/cooling and incorporate solar. The site demonstrates favorable thermal conditions for a closed-loop geothermal system. The shallow bedrock depth (10–30 feet) and thermal conductivity of  $\sim 1.5 \text{ BTU}/(\text{hr} \cdot \text{ft} \cdot ^\circ\text{F})$  support the use of 500-foot-deep single U-bend wells. The planned well field, located north of the school near the soccer field, avoids utilities and tree roots, making it viable for geothermal installation. These conditions and strategic placement minimize costs and ensure efficient heat exchange, providing a robust model for nearby locations. This will be an excellent opportunity to explain the geothermal process from the beginning to end.

## Opportunities for the Future

Identify new opportunities that emerged from community conversations, like potential partnerships, increased awareness about energy resilience, or needs for educational programs. Mention any new relationships formed with local organizations or potential collaborations for future sustainability projects.

*(120 words max)*

Community conversations have highlighted several new opportunities for energy resilience and sustainability projects within the city. A notable example is the interest from the local private owner of the James Arnold Mansion. Communication has been initiated, building specifics are understood, and the exploration of solar and geothermal options has begun.

The Energy Office has also established a new relationship with the New Bedford Housing Authority (NBHA), fostering potential future partnerships on efficiency projects. A company in the New Bedford Business Park has expressed curiosity about energy initiatives, opening doors for further communication and potential future collaboration. Additionally, because of feedback gained during the community outreach phase, the need for more

educational programs on sustainability has been confirmed. These developments strengthen the city's foundation for advancing energy resilience and sustainability efforts.