

Renewable Thermal Campaign Targeting



Services /Expertise

Spatial Analytics
Location Analytics
Database Design
Executive Dashboard

Markets

Government
Renewable Energy

Project Location

Massachusetts

Date Completed

2015

Project Owner

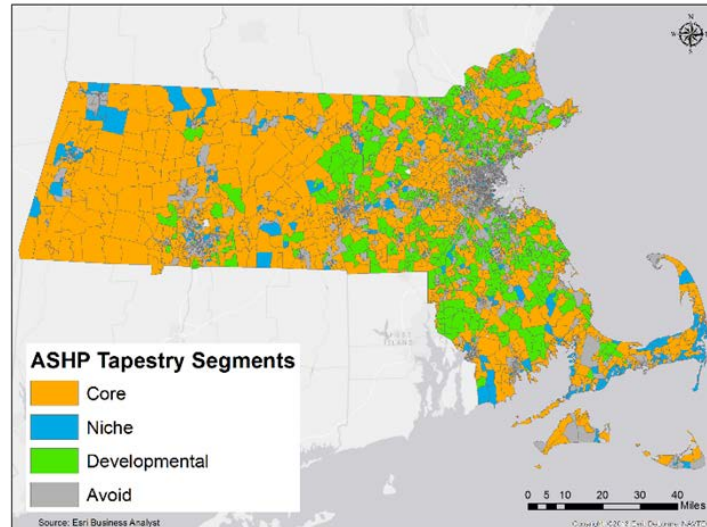
Massachusetts Clean Energy Center

Project Manager

Katie Budreski

Project ID#

15-009



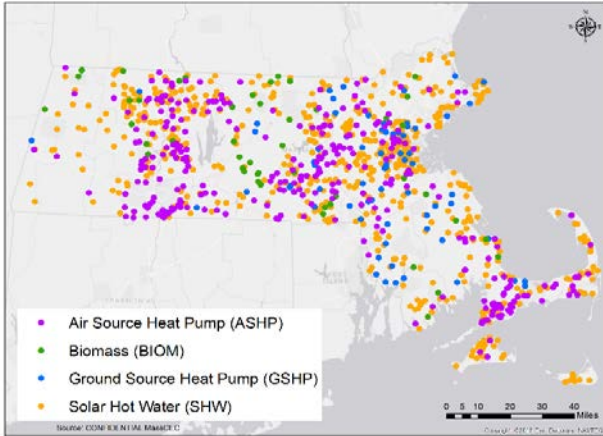
Targeted Air Source Heat Pumps from Tapestry Segment Analysis

MASSCEC wanted to broaden its understanding of target markets for renewable heating and cooling technologies (“renewable thermal”) through the use of GIS data and spatial analysis in order to inform development, deployment, and evaluation of data-driven strategies to grow the Massachusetts renewable thermal (“RT”) sector. Roughly one half of Massachusetts residents currently heat their homes with fuel oil, kerosene, or electricity leading to higher-than-average energy costs and increased exposure to price volatility for a significant portion of the Commonwealth. Additionally, the widespread use of fuel oil and kerosene for home heating is a significant source of greenhouse gas emissions.

Stone assisted MassCEC with identifying and analyzing target markets for the Campaign. Specifically, we worked with MassCEC in conducting a number of analyses to help them target these markets and developed recommendations for an executive dashboard to track progress. Our first analyses included looking High Value Proposition and Existing Customer Profile candidate areas. We used available demographic factors and household fuel type information to identify High Value Proposition areas. We then use Esri’s Business Analyst Community Analysis Reporting functions to provide a community vision.

Stone compiled RT installations, household income and fuel usage data at the block group and census tract to conduct the preference locations based on the target markets identified by the CARTS Report. Data sources include the 2013 Census Bureau Data from the American Community Survey database. Communities served by natural gas was obtained from MassGIS, and the RT installations from MaCEC.

Renewable Thermal Campaign Targeting



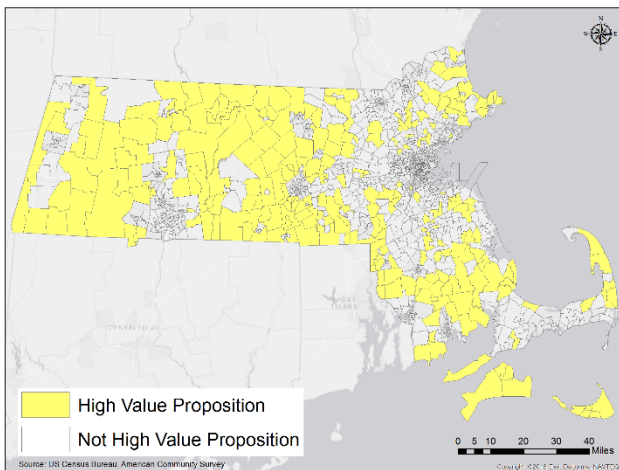
Installed Renewable Thermal Systems

Stone identified and analyzed target markets for the Campaign. Specifically, we conducted a series of analyses to help them target these markets. Our first analyses included looking High Value Proposition and Existing Customer Profile candidate areas. We used available demographic factors and household fuel type information to identify High Value Proposition areas. To determine High Potential markets, Stone conducted a number of analyses using the income and household characteristics and installed system using databases described above. The results were then mapped.

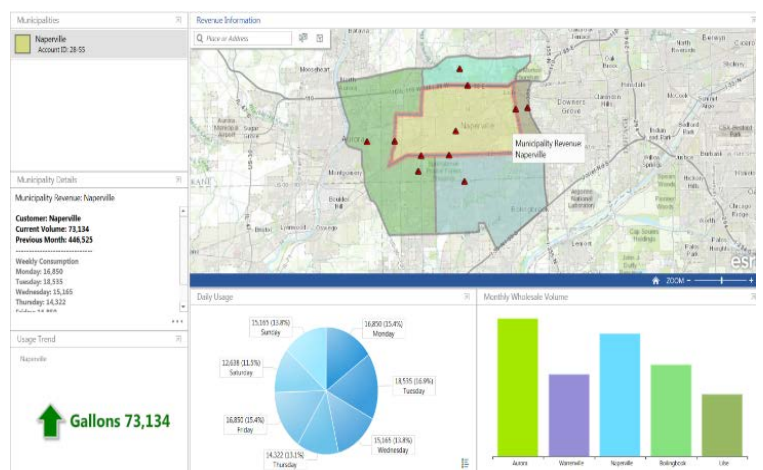
We then completed a comprehensive locational market analysis for each RT technology by census tract using Esri's Business Analyst Community Analysis Reporting. This locational analysis suite of tools

uses Esri's Tapestry Segmentation and consumer market data to best identify census tracts that meet the best locations for promoting RT solutions. These tools first establish a market potential baseline estimates based on analysis of existing deployed technologies; then mapping locations of target markets and customers; and lastly developing data-driven marketing strategies based on high-value customers; locations, associated demographic/consumer data.

The last component of the project was to provide recommendations for how to track implementation progress using Executive Dashboard solutions. Stone provided three distinct recommendations for meeting client needs.



High Proposition Area Analysis Results



Example Executive Dashboard