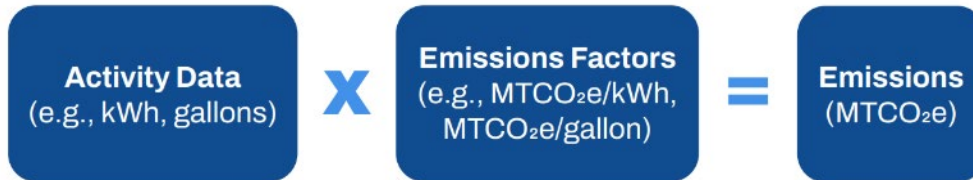


## Technical Appendix

The GHG Emission reductions are based on the calculations provided by the Greater Boston MSA PCAP. Using the assumption that the calculations are correct in the initial plan, we have then rationalized those impacts by either the scale of our population in comparison to the MSA as a whole or the number of communities.

The Greater Boston PCAP used the following analysis to create their inventory:



Due to a lack of existing information on GHG for the subregion of the RPA and the time restraints, it was in the best interest to assume that the Greater Boston PCAP creates an average that could be reflective of the RPA. To adjust the scale of the measures the outcomes reflect either a percentage of the population when considering impacts on household averages or a percentage of the number of towns within the RPA compared to the PCAP total when considering the number of municipalities that will need to work on municipally owned buildings. OCPC holds 10% of the number of communities in the PCAP and 8% of the total population.

The Greater Boston PCAP estimates GHG Emissions Reductions between 39,933 to 59,900 MTCO<sub>2</sub>e/year. The estimated emissions reductions are based on a municipal building energy reduction of 10% to 15%. OCPC holds 17 of the 167 communities in the PCAP, approximately 10% of communities. By increasing financial assistance to Net Zero Buildings, we can anticipate a minimum reduction of **3,993 to 5,990 MTCO<sub>2</sub>e per year**.

The Greater Boston PCAP estimates a GHG emissions reduction of 270,875 to 320,125 MTCO<sub>2</sub>e per year from increased technical assistance alone. The estimated emissions reductions are based on a 10-30% increase in energy savings based on Mass Save incentive data. From a population stance, OCPC holds roughly 8% of the population in the Greater Boston PCAP, meaning they have the potential to create reductions in the region of approximately **21,670 to 25,610 MTCO<sub>2</sub>e per year**.

Looking past the initial work that will happen within the Net Zero Action Plan to household initiatives within those towns and outside in the greater region through educational materials put together through the initiatives of the internship and work towards expansive outreach in years three through five we anticipate an additional serious of emission reduction. The Mass Saves Program last year funded \$1.3 million into residential education for electric incentives and millions of dollars in incentives for homeowners. In 2023, they estimated an adjusted gross lifetime electric savings of 300,895 MWh and a Lifetime avoided 223,060 CO<sub>2</sub>eMT from residential electricity alone. By locally investing an additional **\$100,000 a year into public education on incentive products we can anticipate seeing a 7% reduction, roughly 17,158, CO<sub>2</sub>eMT**, through resulting implementations.

Green Communities in Massachusetts overall, have reduced their energy use by 11% or 1.1 million MMBtus since town baselines. The reductions total enough energy to power and heat more than 8,400 Massachusetts homes or 13.7 million dollars as of the 2017 progress report. This work has prevented 87,500 MTCO<sub>2</sub>e in total emissions across 210 communities. The average timeframe of this initiative was 6 years. By 2031 our initial 5 pilot communities can see reductions of 20-30% in energy usage in municipal buildings. At 11% reduction a community would reduce 416.7 MTCO<sub>2</sub>e emissions and at 20% would equate to 757.6 MTCO<sub>2</sub>e emission reduction. After 2030 we would anticipate a **minimum of 5 communities at 20% totaling an annual prevention of 3,788 MTCO<sub>2</sub>e emission reduction in addition to prior measures.**