



Plan for Municipal Retrofit Projects

Energy retrofit projects can have multiple benefits for municipalities in addition to resiliency preparation and climate change mitigation, including operational cost savings, reduced maintenance, and greater comfort. However, large retrofits in particular require significant oversight in order to identify the most effective projects to prioritize and the resources and timeframe needed to complete them. This strategy outlines how to create and maintain a plan for completing municipal retrofit work, including a list of priority projects, how projects will be funded, and how they will be completed.

Program Implementation Steps

[MassEnergyInsight](#) (MEI) is a Massachusetts-specific energy monitoring tool that is available, free of charge, for all municipalities to use. There are other platforms to monitor building level energy consumption like Energy STAR Portfolio Manager. This guide, however, focuses on using MEI since it is geared towards municipalities in Massachusetts.

1. Organize Data and Information.

- **Organize municipal energy consumption data** – Set up a [MassEnergyInsight](#) (MEI) account, then review MEI account data and address any outliers or numbers that seem inaccurate. Compare MEI data to hard copies of bills, review building and equipment history to account for irregularities, and, if necessary, conduct audits of buildings. Make the necessary changes to MEI and establish an energy consumption baseline for benchmarking purposes. (See [Track Municipal Energy Use with MassEnergyInsight](#) and [Report Monthly Energy Use](#) for more information on baselining.) Questions to consider include:
 - Which departments receive invoices for utility bills?
 - What is the process for vehicle refueling/payment (individual credit cards vs. municipal fueling station)?
 - Are there building occupants or contractors who can help explain outliers?
- **Document municipal retrofit and audit work by building** – Compile a list of past and current retrofit and audit work by building. For each building include location, square

footage, and employees/tenants, as well as information related to last audit or past retrofit work, such as dates, costs, funding sources, estimated energy and cost savings, and project leads.

- **Identify potential upcoming projects** – Identify repairs or replacements that will likely be needed in the next five years, as well as deferred maintenance projects, upcoming capital improvement projects, and any other projects of interest. Questions to consider include:
 - Are any new construction, demolition, or renovation projects anticipated?
 - Will there be any new buildings added to the portfolio or old buildings decommissioned?

2. Review Decision-Making Process.

- **Identify reasons for retrofit work** – Identify both the established and underlying goals that are driving the retrofit work, as well as additional factors influencing the decision-making process. Potential goals could include reducing energy use 20% for the Green Communities program, operational savings, replacing failing or broken equipment, tackling deferred maintenance, avoiding upfront costs, or taking advantage of new funding opportunities. Consider how the municipality analyzes costs and savings: simple payback, return on investment (ROI), long-term cash flow, or net present value (NPV).
- **Identify resources available** – Determine the total municipal budget available for the retrofit, as well as outside sources of funding, such as federal/state grants and utility incentives. Municipal lease financing and Qualified Energy Conservation Bonds (QECBs) are additional sources of funding that can be used in conjunction with municipal budgets. Hiring an Energy Services Company (ESCO) can also be an effective mechanism for financing energy projects. See [Performance Contracting for Municipal Efficiency Projects](#) for more details on funding sources and hiring an ESCO.
- **Identify project priorities** – Assess how the goals, decision-making processes, and resources align and identify project priorities for the upcoming year. Avoid last-minute decision-making by anticipating any likely emergency work for the next year.

3. Design Implementation Process.

- **Establish energy management plan** – Identify a person and a process for maintaining and monitoring MEI and documenting future retrofit/audit work. Establish a cross-departmental energy management team to meet quarterly to discuss projects and identify new project priorities.
- **Create plan for retrofit projects** – Identify what project components are missing and meet with the utility and additional stakeholders to address barriers or challenges for the upcoming year. Questions to consider include:

- Who has the capacity and time to do project management?
 - Who will manage procurement?
 - Is financing secured?
 - Have contractors been chosen?
- **Pursue retrofit work** – Secure any additional project components, make sure that any available funding from current utility incentive programs are taken advantage of, and implement projects.
 - **Benchmark and verify savings** – Evaluate progress and reassess the process for the next next project. Commit to continuous improvement.

References

- “Energy Star Guidelines for Energy Management.” United States Environmental Protection Agency.
http://www.energystar.gov/buildings/sites/default/uploads/tools/Guidelines%20for%20Energy%20Management%206_2013.pdf?aa5b-ac01