# Retrofit or improving municipal building systems to make them fossil fuel free

ZEAB has identified a series of initiatives that it wants to pursue in 2024. One of those initiatives is to come up with a plan to retrofit existing municipal buildings in line with current best zero emissions practices.

This document is the initiative statement.

## Climate goal (business goal/problem statements)

The Town of Brookline has many buildings, some of which would be suitable for a retrofit to move them towards a zero emissions future.  The Town is already making progress in this area.

We need a plan that outlines how and when Brookline will take on this task.  This plan will incorporate already planned activities and unanticipated activities.  This retrofit plan should inform, and be informed by, the capital improvement plan for the Town.

## Ancillary goals

Some areas of zero emissions retrofits are mature in terms of technology, process or adoption. Some are less so e.g. networked ground source heat pumps. If the town were to adopt some earlier stage approaches that might serve to support a nascent industry that needs the support e.g. the machinery, skillsets and best practices for the installation of networked ground source heat pumps are still in their infancy – if towns adopt these technologies, they can help support that industry.

Visible progress on zero emissions efforts at the municipal level may give confidence to other parties to engage in similar activities e.g. if the town has success in installing networked ground source heat pumps it may encourage developers, other municipalities and utilities to accelerate their plans. It may encourage residents to take on this task themselves.

## Identify working group

* Dan Bennet, Commissioner of Buildings
  + Charlie Simmons, Director of Buildings
    - Project manager
    - Building systems
* Erin Chute, Commissioner of the DPW
  + Sam Downes, Transportation engineer
    - EV charging
* ZEAB member

## Identify stakeholders

* Building department
  + Owner - Charlie Simmons (Director of Buildings)
  + Manages project (Project manager)
* Building commission
  + Holds purse strings during implementation.
* Initial program and budget
  + School committee
    - School’s capital subcommittee.
  + Select board/ Town meeting.

## Review existing models/Investigation.

* Work with Charlie Simmons to understand what is in scope for the current CIP:
  + Put together an email to Charlie to start the process.
* Identify which buildings are a target:
  + Get list of town buildings
  + Identify which town buildings are suitable for retrofit.
  + Identify which town buildings are already in the CIP, identify any gaps between CIP and ZEAB expectations and goals.
* Identify which systems are a target, and where the biggest improvements can be made.
* Come up with a metric for sizing buildings e.g. a school != a salt shed

## Scope

* New buildings are out of scope.
* Existing buildings are in scope.
  + Over 50% retrofits are effectively out of scope because they must comply already with the DOER pilot program.
  + We are really focused on < 50% retrofit and/or system replacement projects.
* Systems
  + Identify target systems for upgrade.
  + Score the target systems.
* What does it mean to retrofit a municipal building?
  + Heating/cooling systems
  + Passive heating/cooling systems
  + Insulation
  + Windows
  + Heating policies e.g. times and temperatures
  + EV charging
  + Solar panels on parking lots
  + Green roof
  + Solar roof

## Implementation model

TBD

## Critical success factors

TBD

## Timeline

* 3/1/2024: Kick off initiative.
* 4/1/2024: Establish working group.
* 4/15/2024: Present preliminary as-is findings.
* 6/1/2024: Present preliminary recommendations.
* 6/15/2024: Review and revise.

## Success criteria

A plan that lays out what is already being done, where we plan to focus, what needs to change.

A communication plan to the town that expresses what is being done, and why.