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PLANNING AN EMISSIONS REDUCTION PATHWAY FOR COMMUNITY BUILDINGS

REDUCING EMISSIONS FROM COMMUNITY BUILDINGS

Municipalities manage and maintain a large portfolio of buildings. Many of these are community buildings such as recreation centres, arts and culture facilities, libraries, indoor ice rinks, sports arenas, and swimming pools. These buildings are one of the largest sources of municipal greenhouse gas (GHG) emissions. Municipalities committed to climate action need to significantly reduce and, eventually, eliminate these emissions. This means implementing GHG reduction measures, which include tasks like improving the energy efficiency of building envelopes, replacing fossil fuel-based equipment with electric options and transitioning to renewable energy systems. To meet municipalities' budget requirements,

GHG reduction projects must be strategic and cost-effective.

A detailed, costed, and integrated GHG reduction pathway for community buildings is key to ensuring that the right GHG reduction projects are implemented at the right time with the best possible financial and environmental outcomes. Such a pathway provides details on GHG reduction projects, required investments and expected life-cycle operational savings. It also indicates when and how projects align with existing asset maintenance and renewal plans. By creating a GHG reduction pathway for community buildings, municipalities can make substantial progress towards net-zero carbon communities.

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BENEFITS OF A GHG REDUCTION PATHWAY FOR COMMUNITY BUILDINGS

A comprehensive GHG reduction pathway for community buildings can support many municipal priorities, including:

- **Long-term planning:** GHG reduction pathways provide a long-term vision and framework, outlining budgets, specific projects and expected energy and emission savings. They ensure that efforts are not isolated or ad hoc but rather part of a cohesive, well-thought-out approach.
- **Climate accountability:** Detailed and time-bound plans with quantified emission reduction opportunities demonstrate accountability to municipal climate commitments.
- **Financial efficiency:** Portfolio-level planning ensures that municipalities optimize investments, minimize incremental costs, and achieve long-term savings.
- **Interdepartmental collaboration:** GHG reduction pathways require many departments to coordinate their efforts, leading to improved collaboration. Participating departments might include climate, energy, finance, and asset and building management.
- **Strategic asset management:** When GHG reduction pathways are aligned with existing asset management schedules, municipalities can integrate GHG reduction measures into regular maintenance, renovation, and life-cycle replacements. This approach minimizes disruption and maximizes efficiency gains.

HOW TO PREPARE FOR A GHG REDUCTION PATHWAY

To prepare for a GHG reduction pathway, municipalities should follow these five steps.

- 1. Create a list of buildings.** Compile a list of community buildings you will include in the GHG reduction pathway. Prioritize those with the highest estimated emissions and energy costs, as well as those that are approaching their end of life.
- 2. Determine data sources.** Consider how and where you might gather building data that can support a robust data-driven financial analysis and accurate estimates of energy consumption, costs and savings, as well as GHG emissions and emission reductions. If you do not have recent energy and emissions data for these buildings, consider applying for the [community building monitoring and assessment grant](#) from GMF.
- 3. Consider the team.** Identify who might join an interdepartmental, community-building GHG reduction pathway team. Aim to include municipal departments responsible for climate, energy, finance, and asset and building management as well as external partners such as engineers, architects, energy modellers, building scientists or cost consultants.
- 4. Conduct a feasibility study.** Consider applying for a [GHG reduction pathway feasibility study grant from GMF](#). This grant provides funding, guidance, and a detailed process to identify a sequence of measures that can reduce GHG emissions from community buildings. Read the [GHG Reduction Pathway Feasibility Study Guidance Document](#), which outlines the benefits, process and outcomes of such a study.

5. Begin implementation. Once a GHG reduction pathway has been approved by key decision-makers, consider implementing capital projects with support from GMF's **capital project funding**. This funding helps municipalities implement longer-term, multi-measure retrofit capital projects that contribute to a GHG reduction pathway.

EXAMPLES OF MUNICIPAL GHG REDUCTION PATHWAYS

Town of Tisdale, SK: The Town of Tisdale completed a **GHG reduction pathway feasibility study** to help integrate energy efficiency and GHG emissions reductions into long-term planning for managing the town's multi-purpose facility (the RECplex). It presents the following results:

- Reduces emissions by 80%.
- Invests \$1.33M to reduce GHGs across all municipal assets and operations.
- Returns \$1.78M in life-cycle savings.
- Returns \$1.34 for every \$1 invested.

City of North Battleford, SK: The City of North Battleford completed a **renewable energy feasibility study** for five municipal facilities. The study details the technical and financial feasibility of various options for generating renewable energy. It presents the following results:

- Reduces electricity emissions by 19% and natural gas emissions by 23%.
- Invests \$1.875M to reduce GHGs across five municipal facilities.
- Returns \$3.06M in life-cycle savings.
- Returns \$1.63 for every \$1 invested.

Pictou County, NS: The Pictou County Wellness Centre Building Authority Inc. completed a comprehensive **GHG reduction pathway feasibility study** for its 10-year-old recreational complex. It presents the following results:

- Reduces emissions by 34%.
- Invests \$2.87M.
- Returns \$5.35M in energy savings over 15 years.
- Returns \$1.86 for every \$1 invested.