



Sustainable Building Policy

Sustainability Coordinator



- Professionally

- Bachelors in Economics and Environmental Studies
- Dual Masters degree in Public Affairs & Public Health from UW-Madison

- Experience in local government sustainability, climate data and applied policy research

Excited to be here in Northfield!



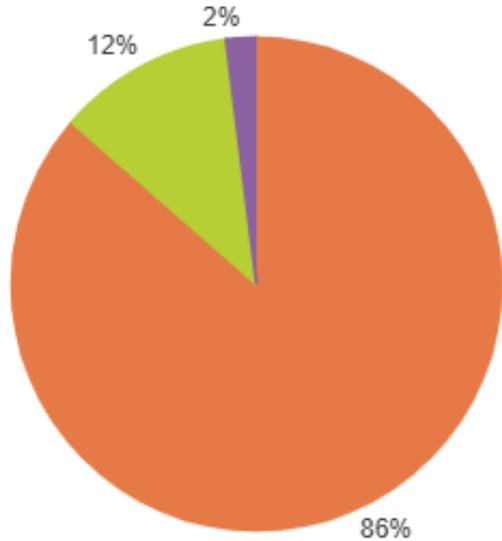
Climate Action Plan



The plan has two main components:

- Decreasing our greenhouse gas emissions through mitigation strategies.
 - 100% carbon-free community by 2040
- Becoming more resilient to prepare for a changing climate

Greenhouse Gas Emission



- In 2020, 86% of the Northfield's greenhouse gas footprint is from the energy used in buildings

Prioritize building strategies

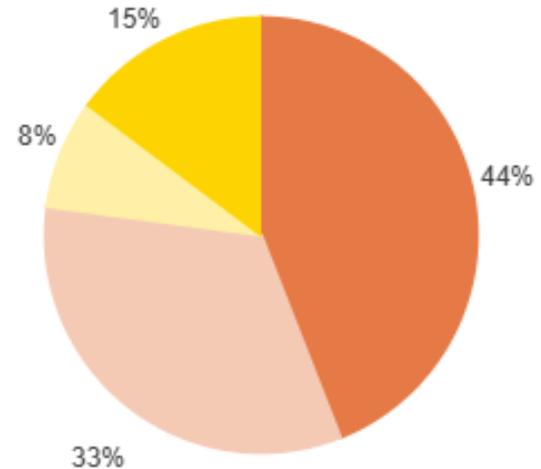


Greenhouse Gas Emission



- In 2020, 77% of the community's greenhouse emissions came from commercial businesses

Focus on commercial building emission reduction strategies



City Priorities



1. Energy Use & Carbon Emissions: *Highest impact on Climate Action Plan*

- High-performance building envelopes and systems
- Electrification ready and reduction of on-site fossil fuel use

2. Resilience, Durability, and Climate Adaptation: Protecting long-term public investment

- Using durable materials appropriate for Minnesota's climate
- Designing sites and systems to account for heavier rainfall and hotter summers (e.g., stormwater capacity, overflow routing, cooling loads, and shading)

Sustainable Building Policy



- **Purpose:** Support Northfield's Climate Action Plan and goal of becoming carbon-free by 2040
- **Application:** Development projects receiving financial assistance
 - Such as tax increment finance, grants, loans or land write downs

Sustainable Building Policy



Key takeaway:

Sustainable Building Policy is currently not achievable for current development projects due to external constraints on renewable energy interconnections and policy requirements that depend on on-site renewables.

Sustainable Building Policy



Sustainable Building Rating System means any of the following:

- a) LEED – minimum of Silver
- b) State of Minnesota B3 Guidelines; Certified Compliant
- c) Green Communities; Certified
- d) Parksmart – minimum of Silver;
- e) Equivalent substitute standards may be utilized at the discretion of the Coordinator.

Sustainable Building Policy



Northfield Green Requirements (NGR)

- a) Calculate greenhouse gas emissions
- b) Energy efficiency standard
- c) Renewable energy standard

The NGR cannot be altered without Council approval.

SBP: Policy Tension #1



Northfield Green Requirements: Renewable energy

- i. Conduct economic and technical evaluation of providing 2% of building energy load with on-site renewables
 - ii. Install if cost-effective using a payback of 15 years following the Sustainable Buildings 2030 methodology
- **Xcel Interconnection timelines: 3 – 5 year queue for interconnection**
 - Makes solar and microgrids infeasible within the next couple of years.
 - **Limited Alternatives without Grid Interconnection**
 - Potential on site renewable options: Geothermal systems
 - Technical complexity and timeline constraints limit feasibility

SBP: Policy Tension #2



Northfield Green Requirements: Energy Efficiency Standard

- i. For 1-4 unit residential New Construction and Major Renovation projects: 1. US Department of Energy Zero Energy Ready Homes
- ii. For all other residential and commercial New Construction and Major Renovation projects: Sustainable Buildings 2030

Sustainable Buildings 2030

- i. New Construction is expected to achieve 90% reduction in energy use and carbon emissions relative to 2003
 - i. To meet a 90% reduction, developer would has to install renewable energy or purchase a large amount of renewable offset credits

SBP: Policy Tension #3



Calculate greenhouse gas emissions

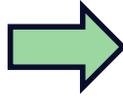
i. Calculated based on predicted energy use, as ascertained through the sustainability rating system modeling, using utility emissions factors and reported to the City in metric tons of CO₂e

- i. Once an emission number is calculated, there currently is not a standard that requires greenhouse gas emission reduction
 - i. Does not advance the goals in the Climate Action Plan

SBP: Policy Summary

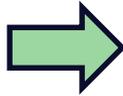


Calculate Greenhouse Gas Emissions



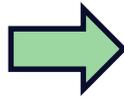
No requirement for greenhouse gas emission reduction or standard

Energy Efficiency Standard



Energy efficiency standards not achievable by current development

Renewable Energy Standard



Renewable energy not feasible within the next 3–5 years

Result: Policy does not effectively support energy, emissions reduction, or climate resilience goals.

Solutions



Short Term

- i. Propose an Amendment to Northfield Green Requirements – staff recommendation to be determined

Long Term

- i. Conduct a full review and update of the Sustainable Building Policy to create a clear, achievable, and locally appropriate framework that still advances Northfield's carbon-free 2040 goals, with final adoption by Council.