Grand Marais Climate Action Plan
ONE-SHEET PROJECT SUMMARY

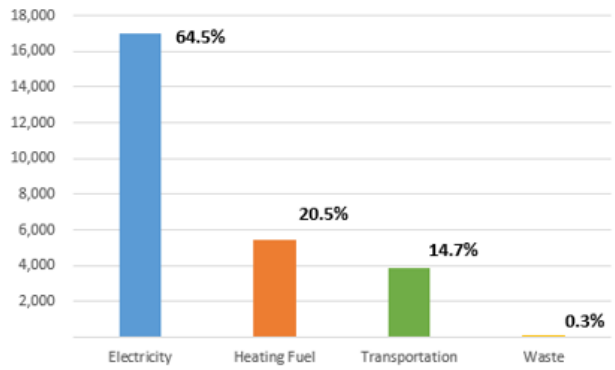
In 2016, a local youth organization identified that the City of Grand Marais lacked attention and action against the threats of climate change. In response, the Grand Marais City Council passed the *Climate Inheritance Resolution* in 2017 and began developing a Climate Action Plan that "significantly reduces Grand Marais' greenhouse gas emissions to levels that would protect our community's children and grandchildren from the risk of climate change." A coordinator was hired in 2018 to develop the plan along with a steering committee of community members, business owners, city officials, and local youth. An outline of the plan is summarized below.

❖ GREENHOUSE GAS INVENTORY

What is the carbon footprint of Grand Marais?

- 2016 city-wide greenhouse gas emissions: 26,339 tonnes of CO_2
- Energy use by sector:
  - 55% Commercial
  - 45% Residential
- Emission sources: (Figure 1)
  - *Electricity* produced from coal-fired power plants
  - *Heating Fuels* for buildings and certain appliances
  - *Transportation* for travel only within city limits
  - *Waste* deposited in landfills.

Figure 1: Current Carbon Emissions for Grand Marais (tonnes)



❖ GOALS

What is the expected outcome of the Grand Marais Climate Action Plan?

- The primary goal is a carbon neutral city by 2040
- A major focus on sustainability:
  - Economically viable
  - Equitable
  - Environmentally effective
- Interim checkpoint goals for 2030 are shown in Table 1
  - Checkpoints aim for emissions to be 45% below 2010 levels
  - Targets are consistent with the 2018 report from the IPCC

Table 1: Grand Marais Carbon Emissions Goals for 2030 (tonnes)

Goals	Current Emissions	2030 Target
Expand Renewable Energy Generation	16,990	8,238
Improve Existing Building Energy Efficiency Design Zero Net Energy New Buildings	5,414	2,922
Vehicle Emission Reduction	3,878	2,044
Waste Reduction	56	30
Total	26,339	13,234

❖ STRATEGIES AND TACTICS MATRIX

What is the strategic pathway for achieving a carbon neutral city by 2040?

		Energy Efficiency Increase EE of Building Stock	*Electrification* Reduce Reliance on Fossil Fuels	*Decarbonization* 100% Renewable Electricity
Policy	**Lead by Example** City Operations	➢ Retrofit city owned buildings to be Zero Net Energy ➢ Replace streetlights with smart LED technology ➢ Energy benchmarking and disclosure for public buildings ➢ Develop a city-wide compost collection facility ➢ Expand city wide recycling program ➢ City-wide zero waste plan	➢ Electrify water and space heating ➢ Expand Electric Vehicle infrastructure ➢ Replace all city-owned vehicles with Electric Vehicles	➢ Municipal solar installations ➢ Biodiesel pilot project ➢ Lease land to a 3rd party solar/wind developer ➢ Partner with SMMPA to develop a large-scale solar PV array at a local site ➢ Plant trees, conserve greenspace within city limits
	Incentivize Start-Up Funding for Carbon Reduction Projects	➢ Commercial/Residential audit and weatherization team. ➢ Funding for LED replacement.	➢ PUC funded loan programs for heating appliance replacement ➢ Electric Vehicle incentives	➢ Revolving loan program to provide the upfront costs of solar installation (Solar Advisory Committee)
	Require Laws and Ordinances	➢ Require energy benchmarking and disclosure for commercial buildings ➢ Explore energy codes for new and existing buildings ➢ Implement a lighting system upgrade laws ➢ Heating appliance efficiency codes	➢ Heating appliance replacement codes	➢ Solar access and building readiness laws ➢ Municipal energy to be 100% from renewable sources
Public Involvement	**Educate** Resources and Guidance	➢ Education and outreach about commercial/residential efficiency programs ➢ Climate Action Plan Portal	➢ Heating appliance resources ➢ Public information seminars on the costs and benefits of Electric Vehicle in Grand Marais ➢ Climate Action Plan Portal	➢ Solar Advisory Committee ➢ Climate Action Plan Portal ➢ Solar education and outreach programs
	Encourage Remove Barriers to Carbon Reduction Projects	➢ Implement commercial and residential audit and weatherization program ➢ Promote energy benchmarking and disclosure for residential buildings ➢ Aid group purchasing program of commonly used items	➢ Aid in the logistics of heating appliance replacement	➢ Solar Advisory Committee
	Reward Benefits for Efficiency and Renewable Energy Improvements	➢ Structure utility rates to value imminent uptake of energy efficiency	➢ Structure utility rates to value high efficiency electric heating appliances	➢ Structure utility rates to value solar power and other renewable energy payoffs ➢ Electric Vehicle-Photovoltaic charging premiums

To view the full Grand Marais Climate Action Plan please visit www.ci.grand-marais.mn.us/cap