



70 100

- ----

and that the Real Property is

1 100

BACKGROUND



Data Source: Minnesota Pollution Control Agency





Minnesota GreenStep Cities



METRICS



ENERGY (IN BTUS): electricity, natural gas, and district energy consumed citywide (subdivided into residential and commercial/industrial)



WATER (IN GALLONS): potable water consumed citywide (subdivided into residential and commercial/industrial)



 \mathbb{T}

TRAVEL (IN VEHICLE MILES TRAVELED): on-road distance traveled within city limits



COMMON METRICS



GREENHOUSE GAS EMISSIONS (IN TONNES CO₂E): citywide greenhouse gas emissions associated with each of the four indicators

\$

COST (IN DOLLARS): cost estimates associated with each of the four indicators

DEMOGRAPHICS

All data is reported both as a total as well as in units/capita. Residential data is reported in units/household, and Commercial/Industrial data is reported in units/job

AREA City Area (sf)

WEATHER Heating Degree Days Cooling Degree Days Precipitation (in)

GREENHOUSE GAS EMISSIONS

2016 – AVERAGE



Non-travel energy is the largest contributor to community-wide emissions.

 \frown

Ш

Focus efforts there.

T

REGIONAL INDICATORS INITIATIVE OVERVIEW



GREENHOUSE GAS EMISSIONS

AVERAGE



Emissions from local government operations are a very small percentage of a community's total.

Think bigger.

GREENHOUSE GAS EMISSIONS

AVERAGE



Greenhouse gas emissions have decreased by 19% since 2007. This equates to a 25% reduction per capita.

Build on this momentum.

GREENHOUSE GAS EMISSIONS 13 CITIES



The electric sector decreased by 40% while natural gas and travel emissions remained relatively constant.

Keep pushing electricity while finding solutions for natural gas and travel.

ELECTRICITY 13 CITIES



The decrease in electricity emissions is due to a combination of reduced electricity use and grid decarbonization.

•

City actions make a difference.

2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017



https://www.regionalindicatorsmn.com/energy-chart

Ш

• •



https://www.regionalindicatorsmn.com/wedge/city/2/



2040 COMPREHENSIVE PLANS TRENDS

- 117 include solar requirements
- 26 achieved SolSmart designation
- 55 are GreenStep Cities
- 36 include a resilience chapter
- **31** want to complete an energy plan
- 32 want to complete a climate action plan

City	Climate Goals	Renewable Electricity Goals
Grand Marais	Climate Action Plan (2019): Carbon neutral by 2040	Achieve energy resilience 100% renewable for city operations
Minneapolis	Climate Action Plan (2013): 80% reduction in emissions from 2005 by 2050	100% renewable electricity by 2030 community-wide 100% renewable electricity for city ops by 2022
Northfield	Climate Action Plan (2019): Carbon free by 2040	10% in-boundary renewable electricity (20 MW) Carbon-free electricity by 2030
Rochester	Energy Action Plan (2017): Support state goal to reduce GHG emissions 80% by 2050	Mayoral proclamation: 100% renewable electricity by 2031
St. Louis Park	Climate Action Plan (2018): Carbon neutral by 2040	 100% renewable electricity by 2030 10% in-boundary (37 MW) City ops currently at 100% renewable
Saint Paul	Climate Action and Resilience Plan (2019 draft): Reduce emissions 50% by 2030, carbon neutral by 2050	10% in-boundary renewable electricity (200 MW)



MITIGATION + RESILIENCE

- Building weatherization reduces vulnerability during extreme weather
- Distributed renewable generation increases potential for grid redundancy
- Electrification of transportation, heating, and cooking impacts resilience





QUESTIONS?

Rick Carter, LHB Inc. <u>Rick.Carter@LHBcorp.com</u>

