#17: CLIMATE

CORE METRIC FOR REGIONAL INDICATOR COMMUNITIES

Bold, green font indicates metrics that must improve to be recognized at Step 5

METRICS

17.1   **Greenhouse gas (GHG) emissions from travel**
17.2   **GHG emissions from waste**
17.3   **GHG emissions from (non-transportation) energy**
17.4   Total community-wide GHG emissions
17.5   Total city/tribal operations GHG emissions

METRIC DEFINITION

- **GHG emissions are for all private/public emissions ("community-wide")** within the city or reservation (or other jurisdiction) limits and are calculated and denoted in metric tons of CO_2-equivalent gases (Tonnes CO_2e) using nationally accepted greenhouse gas accounting standards. (Metrics 17.1-17.5)

- **Greenhouse gas emissions from travel** include vehicle travel within community boundaries. The Regional Indicators metric was determined by gathering vehicle miles traveled data compiled annually by the Minnesota Department of Transportation. Greenhouse gas emissions are calculated based on an estimated mix of vehicle types. (Metric 17.1)

- **Counties consistently collect solid waste data** and so the Regional Indicators Initiative assumes city waste management data is comparable to countywide data on a per-capita basis. Greenhouse gas emissions from waste – typically a very small portion of a total community GHG number - are calculated for different management methods. (Metric 17.2)

- **GHG emissions from energy** include non-transportation-related emissions associated with electricity, natural gas, fuel oil, coal, biomass, and district energy used within city or reservation boundaries, as collected from energy utilities. GHG emissions from energy used to clean and distribute water and waste water are accounted for under this metric. (Metric 17.3)

- **Total community-wide** greenhouse gas emissions include the sum of all sources of emissions. (Metric 17.4)

- **The total city/tribal government operations GHG number** will be calculated by GreenStep for participants that input data under the blue CO_2e GreenStep metrics. See the CO₂e Guidance Document. (Metric 17.5)

DATA SOURCES

- **Use data for the latest calendar year available** from either the RII, the TC GHG Inventofy, or your own inventory (Metrics 17.1-17.4)
- **Regional Indicators Initiative:** https://www.regionalindicatorsmn.com/ (Metrics 17.1-17.4)
- **Twin Cities Greenhouse Gas Inventory:** https://metrocouncil.org/tcghginventory.aspx (Metrics 17.1-17.4)

Notes about community-wide GHG emissions (17.1-17.4):
- Feel free to leave these metrics blank and GSC staff can assist!
- Regional Indicators Initiative is not currently being updated. If any data is available, report the most recent and leave a note in the justification box.
- For cities located in the 7-county metro area, you can use data from the Met Council tool. As of now, the only and most recent data is from 2018 (but work is also underway!)

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- **Cities or tribes that have completed their own** greenhouse gas emissions inventory are encouraged to submit their metrics and include an explanation in the justification box. Examples include any community that has used:
    - ClearPath form ICLEI, using the software platform at http://icleiusa.org/clearpath/
    - EPA's calculator at https://www.epa.gov/statelocalenergy/local-greenhouse-gas-inventory-tool
    - A consultant
- **The last tab in the Worksheet will calculate a city/tribal government operations GHG number** for participants that input A-M data under:
    - Metric # 1: electric and natural gas consumption by city/tribal government buildings, electric consumption by streetlights and signals
    - Metric # 3: gallons of diesel and gasoline and e85 consumed by city/tribal government fleets/leased vehicles
    - Metric # 10: electricity and natural gas used to treat and distribute drinking water
    - Metric # 11: electricity and natural gas used to treat wastewater
    - Metric # 13: tons of city/tribal government operations waste landfilled and incinerated
    - Metric # 14: annual production at city/tribal government-owned renewable energy generation sites
    - See the CO_2e Guidance Document. (Metric 17.5)

METRIC RATIONALE

Greenhouse gas inventories offer a valuable way to view and compare over time the effectiveness of multiple energy and sustainability best practice actions. Greenhouse gas emissions (and energy) data gauge changes in the use of electricity, natural gas, liquid fuels, solid fuels (wood and coal), and (to a small extent) solid waste management methods.

The enormity of changes needed to prevent extreme climate change demand tracking community-wide GHG emissions with a handful of numbers understandable by local and tribal leaders. These numbers should be presented periodically to a city or tribal council for decisions on continuing actions to cut GHG emissions at the local/tribal level, where approximately one-third of U.S. emissions are controllable.

GHG inventories support planning for sustainability by defining a baseline, tracking a trajectory, and measuring outcomes of actions taken by a community that are aimed at meeting local energy and climate goals. They can also track progress toward meeting the State's goals regarding energy efficiency and greenhouse gas reduction.

The calculation of an annual city/tribal government operations GHG number is as fundamental to the environmental management and health of the government as its annual budget is to its financial management and health. Like an annual community-wide GHG calculation, the data-gathering and calculation process for a city/tribal government operations GHG metric brings disparate city or tribal staff together and has value in interdepartmental data sharing and discussion. Data elements that a community must use for a city/tribal government operations calculation are now collected under other GreenStep metrics: Buildings, Transportation, Drinking Water, Waste Water, Solid Waste, and Renewable Energy. A separate data visualization tab in the worksheet will grab data reported under these data elements and do the calculations to report one city/tribal government operations GHG number.

STEP 5 METRICS

Individual communities are best equipped to set realistic goals for metric improvement, and any improvement of this metric is good. That said, the Minnesota's Climate Action Framework (2022) set targets to reduce emissions 50 percent by 2030 (from 2005 levels) and achieve net-zero emissions by 2050. The Climate Action Framework targets follow the international goals set by the Intergovernmental Panel on Climate Change (IPCC).

LEED FOR CITIES & COMMUNITIES

https://www.usgbc.org/leed/rating-systems/leed-for-cities-communities

EN Prerequisite: Energy and Greenhouse Gas Emissions Performance

- Measure the annual energy consumption and Greenhouse Gas (GHG) emissions for the city. The inventory* should cover Scope 1 and Scope 2 emissions for one whole calendar year within the last five years. LEED points are based on Energy and GHG performance on Arc scored by Greenhouse Gas emissions per capita (tons CO2e per capita). Obtain a minimum Energy and GHG Performance Score of 40 on Arc.

EN Credit: Net-zero Carbon and Climate Action

- Option 1. City-wide Carbon Neutrality Accountability
  - Demonstrate incremental progress towards achieving net-zero city-wide greenhouse gas emissions by 2050, in line with global efforts to limit warming to 1.5°Celsius.
- Option 2. Climate Action Plan
  - Adopt a climate action plan based on science-based targets and designed to accelerate reduction of GHG emissions throughout the city. Plan must meet the following requirements:
    - Emissions profile (including scope 1, and 2. Include Scope 3, if available), focus areas, sector wise climate goals, and interim targets.
    - Adaptation and mitigation strategies, and possible finance mechanisms for execution.
    - Monitoring, evaluation, and reporting framework.
    - Describe stakeholder engagement activities, and integration of principles of equity & inclusivity in the plan development process.
- Option 3. Reduction in Carbon Intensity
  - Demonstrate reduction from a baseline year no more than five years prior to the most recent reporting year in the Carbon Intensity of the city.
    Carbon Intensity = Total GHG of the city / Total GDP
  - Calculate the total GHG emissions emitted by the city per unit economic output measured in Gross Domestic Product (GDP) produced by the city. Total GHG emissions for the performance year must be as per EN Prerequisite Energy and Greenhouse Gas Emissions Performance.

NEED HELP? CONTACT

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