#17: CLIMATE

CORE METRIC FOR REGIONAL INDICATOR CITIES

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 citywide GHG emissions
17.5 Total city operations GHG emissions

METRIC DEFINITION

- **GHG emissions are for all private/public emissions ("city-wide")** within the legal city 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 city 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 city 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 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 citywide** greenhouse gas emissions include the sum of all sources of emissions. (Metric 17.4)
- **The total city operations GHG number** will be calculated by GreenStep for cities that input data under the blue CO_2e GreenStep metrics. See the CO_2e Guidance Document. (Metric 17.5)

DATA SOURCES

- **Use data for the latest calendar year available** from either the RII 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)
- **Cities 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 cities that have 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

Notes about city-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!)

  - A consultant
- **The last tab in the Worksheet will calculate a city operations GHG number** for cities that input data under:
  - Metric # 1: electric and natural gas consumption by city buildings, electric consumption by streetlights and signals
  - Metric # 3: gallons of diesel and gasoline and e85 consumed by city 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 operations waste landfilled and incinerated
  - Metric # 14: annual production at city-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 city-wide GHG emissions with a handful of numbers understandable by city leaders. These numbers should be presented periodically to a city council for decisions on continuing actions to cut GHG emissions at the city 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 city that are aimed at meeting city energy and climate goals. They can also track progress toward meeting the State's goals regarding energy efficiency and greenhouse gas reduction, as defined by the Next Generation Energy Act of 2007.

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

STEP 5 METRICS

Individual cities are best equipped to set realistic goals for metric improvement, and any improvement of this metric is good. That said, the State of Minnesota, as part of the Next Generation Energy Act, set targets for greenhouse gas emission reductions of 30% by 2025 and 80% by 2050, below 2005 levels (M.S. § 216H.02)

NEED HELP? CONTACT

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