

Community Development Committee

Meeting date: June 20, 2016

Subject: Federal Grant Application for Metro Climate Stats

District(s), Member(s): ALL

Policy/Legal Reference: Minn. Stat. § 473.867, subd. 1;

Staff Prepared/Presented: LisaBeth Barajas, Local Planning Assistance Manager (651-602-1895)

Division/Department: Community Development / Regional Planning

Proposed Action

Information item only.

Background

The U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy has made a Funding Opportunity available through their Cities-LEAP program. This Opportunity is intended to support the development and piloting of data-driven decision frameworks that improve the ability of local governments to integrate, analyze, and understand varied datasets in order to pursue opportunities to improve greenhouse gas emissions reductions across a variety of sectors.

Council staff submitted a Concept Paper for a \$500,000 grant from this funding opportunity for Metro Climate Stats, a proposed regional greenhouse gas (GHG) emissions reduction inventory and planning tool. This project will provide the following:

- Community-specific GHG emissions inventories that can be aggregated to the regional scale. The inventory will be developed by aggregating data held at the Council (ex. wastewater generation, water consumption) as well as data sourced from others, such as energy consumption and waste generation.
- A scenario planning tool to support informed policy decisions and local actions that reduce greenhouse gas emissions. This tool will also be applicable at the regional level, to better inform the Council's regional policy development and allow the Council to target its technical assistance and resources to implementation actions and/or communities where the assistance would have the greatest impact on regional greenhouse gas emissions.

We had planned to work on regional climate data gathering and distribution as part of carrying out the direction in *Thrive*, when this funding opportunity came to our attention. The full concept paper is attached to this document.

At the Committee meeting, Council staff will provide a more in depth overview of the project, as well as outline next steps in the application process.

Rationale and Alignment with *Thrive MSP 2040*

Metro Climate Stats carries out the direction in *Thrive MSP 2040*, described both in the Sustainability outcome, as well as within the Building in Resilience land use policy. The Sustainability outcome states that the Council will “[d]evelop, collect, and disseminate information about climate change, including energy and climate data and the next generation of the Regional Indicators data (p. 63).

In the Building in Resilience land use policy, Thrive states that greenhouse gas emissions are primarily attributable to the built environment, and that as a Council role, the Council will also provide technical assistance and toolkit resources to communities in integrating climate change mitigation and adaptation strategies as part of local comprehensive plans (p. 134).

Metro Climate Stats builds on that direction and incorporates scenario planning level tools for regional use in order to further the Council's capabilities in regional policy making and to make further progress toward the emissions reductions goals set in Minnesota's Next Generation Energy Act. This project is also included in the 2016 work plan for the Council's Climate Change and Environmental Sustainability Team (CCEST).

METRO CLIMATE STATS

U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy (EERE)

FOA: Cities Leading Through Energy Analysis and Planning (Cities-LEAP)

Prime Recipient: Metropolitan Council

Total Proposed Budget: \$1,000,000

Total Proposed Award: \$500,000

Total Proposed Cost Share: \$500,000

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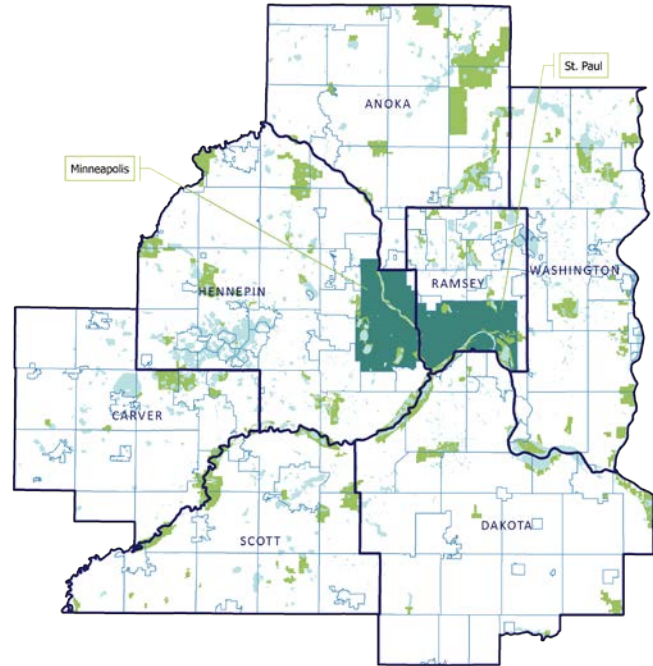
Project Description

Overview

This project will assemble, distribute, and interpret energy, water, travel, and solid waste data to improve the ongoing planning framework and pursue statutory greenhouse gas emission reduction goals in 188 cities, townships, and counties in the Twin Cities Metropolitan Region.

Background

In 2007, Minnesota's Next Generation Energy Act set statewide goals to reduce greenhouse gas (GHG) emissions 15% by 2015, 30% by 2025, and 80% by 2050, all below 2005 levels. A large part of achieving those goals will fall on the Region, which contains nearly 55% of the Minnesota's population and 75% of its projected growth by 2040. Also, the Region has 60% of Minnesota's employment and 74% of its projected employment growth by 2040.



The Metropolitan Council has a statutory responsibility to guide the orderly and economical development of the Region. It serves as the regional planning agency and the metropolitan planning organization, in addition to operating the regional wastewater system and the regional transit service. The Council has been improving and tracking its progress toward meeting the greenhouse gas emissions goals in its own operations, and despite an increasing population, the Council's operations have met the 2015 goal, and are working toward continued improvements to meet the Act's goal for 2025.

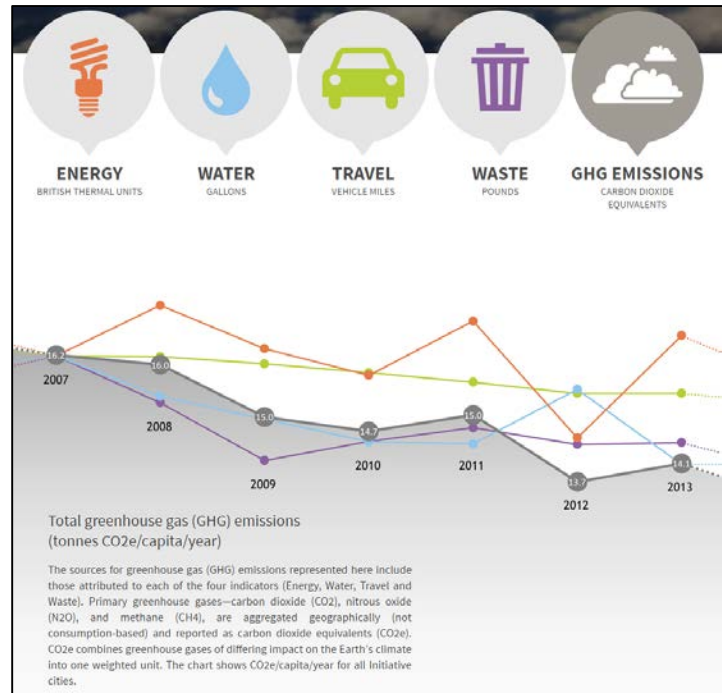
The Region as whole, however, has missed the 2015 milestone and will miss the 2025 goal. Under its regional planning authority, as shown in *Thrive MSP 2040*, the Council recognizes that the built environment, including its transportation and development patterns, are a primary contributor to regional greenhouse gas emissions. In *Thrive MSP 2040*, the Council directs municipalities in the Region to incorporate climate adaptation and mitigation considerations into their local comprehensive plans, pursue more compact development patterns with higher densities, and create more interconnected, multi-modal transportation networks. Every community in the Region is required to update their 2040 comprehensive plan and submit it to the Council by the end of 2018 for authorization.

At the same time, more than 20 cities in the Region have voluntarily begun to track their greenhouse gas emissions, with some incorporating greenhouse gas emissions reduction strategies into their local plans and beginning to implement those strategies. This recent effort, called the Regional Indicators Initiative and led by Urban Land Institute-Minnesota and the Regional Council of Mayors, has been tracking emissions related to transportation, waste generation, energy consumption, and water use for these 20 cities. The project described below

proposes to extend the data, lessons, and tools created with these cities, making them available for all 188 cities, townships, and counties in the Region.

Concept

The Metropolitan Council will lead the development of a regional emissions reduction inventory and planning tool. This tool will provide emissions-specific data and planning scenario tools for each community in the Region, to support informed policy decisions and local actions that reduce greenhouse gas emissions. The tool will provide community- and region-level inventories and a scenario planning tool to better inform the Council's regional policy development and allow the Council to target its technical assistance and resources to implementation actions and/or communities where the assistance would have the greatest impact on regional greenhouse gas emissions.



The regional climate action dataset project has the following objectives:

- To provide community-specific data related to greenhouse gas emissions for each of the 188 communities in the Council's jurisdiction.
- To serve as both a planning and implementation support tool for local units of government.
- To assess the region's progress toward reducing greenhouse gas emissions by:
 - Aggregating local community data at the regional scale
 - Framing emissions from the Council's operations as a part of the regional total for:
 - Wastewater operations, a major energy use in the Region
 - Transit operations, both on the energy user consumption side and on the travel behavior side

The Council will use consistent and widely-adopted protocol in measuring and reporting climate-related data across the Council's planning and operations functions.

Concept Implementation

The Project will be developed in two phases over two years with Phase I commencing immediately and Phase II following thereafter and running parallel in development.

Phase I will include compiling and cleaning community-level data related to emissions: transportation (including transit use), water use, solid waste generation, and energy use. As the metropolitan planning organization and regional planning agency, the Council already collects transportation and water use data for the Region. In addition, the Council will begin conducting

the regional Travel Behavior Inventory every 2 to 3 years, rather than once every 10 years. The Inventory surveys travel patterns throughout the region and distinguishes among the variety of different modes that people use for all of their trips. This mode-specific information can be used to assess the success of local and regional implementation of multi-modal strategies and infrastructure.

Waste generation data is tracked and collected by each county in the region, under the oversight of the Minnesota Pollution Control Agency (MPCA), which is responsible for the metropolitan solid waste plan. The Council will partner with the MPCA and the seven counties to collect and report this data annually.

Community energy data is not currently collected by the Council or any other government agency in Minnesota, but rather is collected and maintained by each of the individual utilities. The Council will collaborate in current regional discussions and projects on the approach of collecting community-specific energy data from at least 10 electrical utility providers, as well as several natural gas and other energy utilities that serve the metro. The University of Minnesota has undertaken a concurrent project exploring the creation of a statewide energy data repository working with partners across the state and with state agencies. The Council's work will connect with the University's work to ensure consistency in approaches, maximize the outcomes of our efforts, and avoid duplicating efforts.

Phase I will also include the development of a web interface and planning tool to distribute the community-specific and regional totals data. The online interface will be easily navigable and ensure that each component of the emissions scenario is separable from the community and regional totals. Communities will be able to compare their progress to similar communities in the region, whether by population size or by Community Designation, a planning designation *Thrive MSP 2040* uses to group like communities and provide planning direction. The web tool will also allow residents and policy makers track regional progress toward meeting the State's greenhouse gas emissions reduction goals; communities to compare their progress to the regional progress; communities to visualize their impact on the regional progress; and enable the tracking of trends over time at each scale.

Phase II will build on the annually updated platform described in Phase I and incorporate a scenario planning tool. This scenario planning tool will provide projections of emissions over the planning horizon based on the Council's forecasted population, household, and employment for each community under a Business as Usual scenario.

The scenario planning will also show the impact on each community's greenhouse gas emissions by applying different policy, program, and planning approaches that are specific to and consistent with Minnesota statutes, policies, and context. The impact will be shown through the current planning horizon of the year 2040.

The Council will develop scenario tools for transportation and water, fully exploring the regional strategies for reducing transportation and water-related emissions through policies that are at the disposal of local units of government. In its role planning for the regional water supply, the

Council will connect its water supply planning and conservation tools to water-related emissions reduction tools.

The Council will coordinate with active projects in the region to incorporate approaches, tools, and advice as appropriate. A wide range of GHG and energy-related work is being pursued, including NSF-funded work on worldwide innovation in energy grids, road networks, green spaces, and food and water systems (Dr. Anu Ramaswami, University of Minnesota); technical assistance for city policy development (GreenStep Cities, Minnesota Pollution Control Agency); a state-wide energy data repository discussed above (Tom Fisher, University of Minnesota); development of a wedge diagram tool for energy and GHG reduction planning and associated technical resources (Department of Commerce, State Energy Program Competitive Award); and business cluster activity in water efficiency technology.

The Council will partner with the MPCA on waste-related emissions reduction strategies and the analysis needed to appropriately account for waste reduction, impacts of residential and commercial recycling programs, and impacts of curbside and commercial/institutional organics composting programs.

Project Impacts

While over 20 communities in the Region participate in the existing Regional Indicators Initiative, only a handful of those participants have used the data as part of their local comprehensive plan or climate action plan. This project will expand upon the inventory baseline of the Initiative with the planning scenario tools. The inventory coupled with the planning scenario tool will allow each community to test how adoption and implementation of specific local policies and actions can impact local greenhouse gas emissions. This project will result in an increase in the number of cities, counties, or townships incorporating the baseline inventory and adopting climate reduction policies as part of their local comprehensive plans. In addition, this scenario planning tools will expand upon the number of communities that prioritize their implementation strategies to reduce their greenhouse gas emissions. The Council will track this work through its review of local comprehensive plans.

The regional inventory of greenhouse gas emissions, as well as the application of the scenario planning tools at the regional scale, will inform the Council's next regional plan, beginning development in 2020, with more specific regional policies aimed to reduce the region's greenhouse gas emissions. In addition, the Council will use this tool to inform its strategies in its operations as well as to focus its technical assistance on reduction strategies with the greatest impact, which may vary by community size or type.

This funding will broaden and accelerate the work that the Council has already planned to undertake, as well as allow this project to bolster a set of scenario planning tools beyond the energy-specific work underway by the Department of Commerce discussed above. In addition, the funding will support coordinated action among the several independent efforts currently underway in the Region.

Project Risks

Acquisition of energy data from utility providers across the region is the primary risk inherent in this project. There are several factors to this risk: availability, granularity, and variability. As one of the largest utility customers in the state, the Council has an ongoing working relationship with its main utility provider, Xcel Energy, on efficiency and access projects. But access to data, by community, across the region will require an exploration of both technical hurdles and organizational willingness to share.

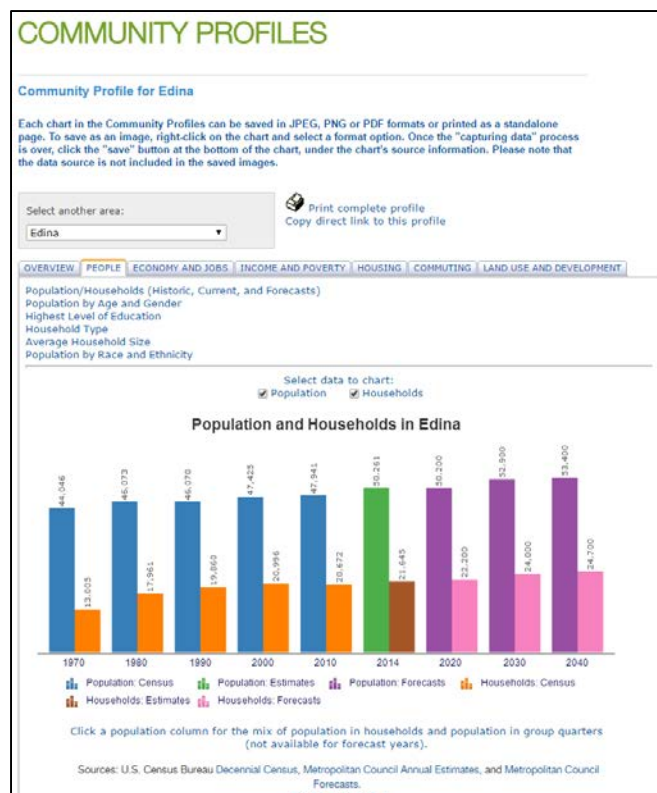
The business benefits of sharing data, in the form of reducing need for increased generation capacity seem clear, but discussion will need to occur. Sorting the data by city carries technical challenges as well; assessing the reliability of data provided will also need to be undertaken. Finally, Xcel Energy is the largest provider in the region, but hardly the only one. Work to ensure compatibility of information from different providers will be needed. The Council will manage this risk through developing a streamlined approach to reporting data in cooperation with our partners, through developing a framework for how data should be reported, and by working with partners to seek the simplest pathway for community-level reporting that facilitate continued data collection in future years.

Addendum

Qualifications

Data Collection and Management. Minnesota statutes direct the Council to perform a regional research function, leading it to collect, distribute, and analyze a variety of development related data. The Council has been providing regional research for over 40 years, and developing protocols for maintaining and updating consistent datasets. This experience is illustrated through the Council's Data+Maps section of its website, and most applicably through its [Community Profiles page](#). Through this web portal, community-specific data related to demographics, households, employment, land use, and forecasts can be accessed and compared to the region. The Council is in the process of hiring a full-time staff member that will be responsible for coordinating the work of this project, as well as lead its ongoing maintenance and data and tool updates in the future.

The Council also has a large information services team that provides technical support to manage large databases of information. This team provides support for the Community Profiles page, as well as a number of other datasets the Council uses to perform its research function.



Greenhouse Gas Emissions. The Council is a founding member of the Climate Registry, established in 2007, and has reported emissions related data for its operations. As such, the Council is versed in the differing methods of reporting greenhouse gas emissions and is equipped to address the difference among the protocols, with the intent to use the ICLEI protocol for this Project.

Technical Assistance. The Council has a team of seven professional staff that coordinates the provision of technical assistance to all communities in the region, drawing on the technical expertise of engineers and planners across all of the Council's technical expertise. This assistance is delivered through multiple avenues, including online resources, in-person workshops and seminars, online tutorials and self-guided learning, and one-on-one personal assistance as requested. Once the tool is developed and available, this team will provide workshops and trainings to introduce the tool, develop resources for local staff and policymakers to guide their use of the tool, and provide in-person assistance to those who request it.

Project Contractors

The Council will undertake a competitive bidding process for three scopes of work as a part of this project:

1. Energy Data Collection and Protocol Development
2. Scenario Planning Tool Development
3. Web interface

Energy Data Collection and Protocol Development. The contractor selected to perform this work will have a thorough understanding of the types of energy consumption data collected by energy utilities from their customers, in addition to the challenges in coordinating reporting and timeliness of reporting among the variety of utilities. The contractor will have broad experience in managing and organizing large, complex datasets from multiple sources, as well as developing consistent protocols and standards for reporting and cleaning data if needed. The contractor will develop a standardized format for reporting energy consumption data at the community-level that allows for streamlined reporting from the utilities' perspective, as well as annual updating for this Project. The contractor will also have experience working with energy consumption data and understand how to translate that data to greenhouse gas emission equivalents.

Scenario Planning Tool Development. The contractor selected to perform this work will have significant experience in data analysis for GHG reductions. The contractor will understand the statutes, context, and policies applicable in Minnesota and develop a suite of scenario planning tools that reflect these parameters. The contractor will understand that communities in the Region have a broad range of resources and staff capacities to adopt and implement policies, and the tools developed will reflect that variety. The contractor will have a broad range of experience in developing similar tools and performing similar analysis, with experience developing analysis for technology-based approaches, planning-related approaches, and other policy approaches that can lead to GHG reductions.

Web Interface. The contractor selected to perform this work will have demonstrated experience in developing web interfaces that clearly visualize complex data in a legible and compelling manner. The contractor will be capable of integrating geographic and database information to

illustrate baseline GHG inventories by community, allowing for easily comparing communities across types and geographies in the interface. The contractor will also have demonstrated ability to develop easily navigable formats that allow users to find the data they seek and allow for dynamic application required by the scenario planning tool. The contractor will also have significant experience in developing interfaces that effectively communicate a story – in this case to support telling the regional greenhouse gas emissions story, as well as integrating how each community fits into that story.