DRAFT PRIORITY CLIMATE ACTION PLAN

Twin Cities Metropolitan Statistical Area

METROPOLITAN COUNCIL

February 2024

The Council's mission is to foster efficient and economic growth for a prosperous metropolitan region

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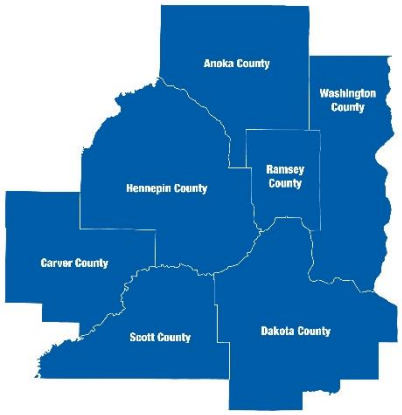

The Metropolitan Council is the regional planning organization for the seven-county Twin Cities area. The Council operates the regional bus and rail system, collects and treats wastewater, coordinates regional water resources, plans and helps fund regional parks, and administers federal funds that provide housing opportunities for low- and moderate-income individuals and families. The 17-member Council board is appointed by and serves at the pleasure of the governor.

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Key Definitions and Acronyms Used in this Document

Priority Climate Action Plan (PCAP): a narrative report that includes a focused list of near-term, high-priority, and implementation-ready measures to reduce GHG pollution and an analysis of GHG emissions reductions.

Comprehensive Climate Action Plan (CCAP): a narrative report that provides an overview of the grantees' significant GHG sources/sinks and sectors, establishes near-term and long-term GHG emission reduction goals, and provides strategies and identifies measures that address the highest priority sectors to help the grantees meet those goals.

Low Income / Disadvantaged Communities (LIDACs): communities with residents that have low incomes, limited access to resources, and disproportionate exposure to environmental or climate burdens. Although the Inflation Reduction Act does not formally define LIDACs, EPA strongly recommends grantees use the Climate and Economic Justice Screening Tool and the Environmental Justice Screening and Mapping Tool to identify LIDACs in their communities. These tools identify LIDACs by assessing indicators for categories of burden: air quality, climate change, energy, environmental hazards, health, housing, legacy pollution, transportation, water and wastewater, and workforce development.

MSA: metropolitan statistical areas as defined by the U.S. Census 2020 MSA population. A list of eligible MSAs can be found in Appendix 15.2 of in EPA's CPRG: Formula Grants for Planning, Program Guidance for States, Municipalities, and Air Control Agencies.

State: all 50 U.S. states and the District of Columbia and Puerto Rico. All other Tribes or U.S. territories (the Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands) should follow CRPG guidance for Tribes and Territories.

Introduction

The Twin Cities Metropolitan Priority Climate Action Plan is led by the Metropolitan Council in collaboration with the Minnesota Pollution Control Agency, the Minnesota Department of Health, and the State of Wisconsin. This plan has been created under the Climate Pollution Reduction Grant program, authorized under the Inflation Reduction Act. It builds on the Metropolitan Council's existing climate change mitigation work including the greenhouse gas inventory and strategy planning tool, the Council's Climate Action Work Plan, and ongoing natural systems and climate engagement and policy work as part of the 2050 regional planning process.

This document is a partial draft of the Metropolitan Council's PCAP with a focus on highlighting draft GHG reduction measures for input.

Climate Pollution Reduction Grant (CPRG) Overview

The Climate Pollution Reduction Grant program provides $5 billion in grants to states, local governments, tribes, and territories to develop and implement ambitious plans for reducing greenhouse gas emissions and other harmful air pollution. Authorized under Section 60114 of the Inflation Reduction Act, this two-phase program provides $250 million for noncompetitive planning grants (of which $1 million was awarded to the Metropolitan Council) and approximately $4.6 billion for competitive implementation grants.

The CPRG program is part of the Biden Administration's Justice40 initiative, which sets a goal that 40 percent of the benefits of certain federal investments flow to disadvantaged communities that are "marginalized, underserved, and overburdened" by pollution.

The two phases of the grant include two deliverables: the Priority Climate Action Plan (PCAP) due March 1, 2024, and a Comprehensive Climate Action Plan (CCAP) due in 2025 along with ongoing status reports through 2027.

This document, a shortened version of the draft PCAP, provides a focused list of near-term, high-priority, implementation-ready measures to reduce climate pollution from GHG emissions. The full PCAP components include:

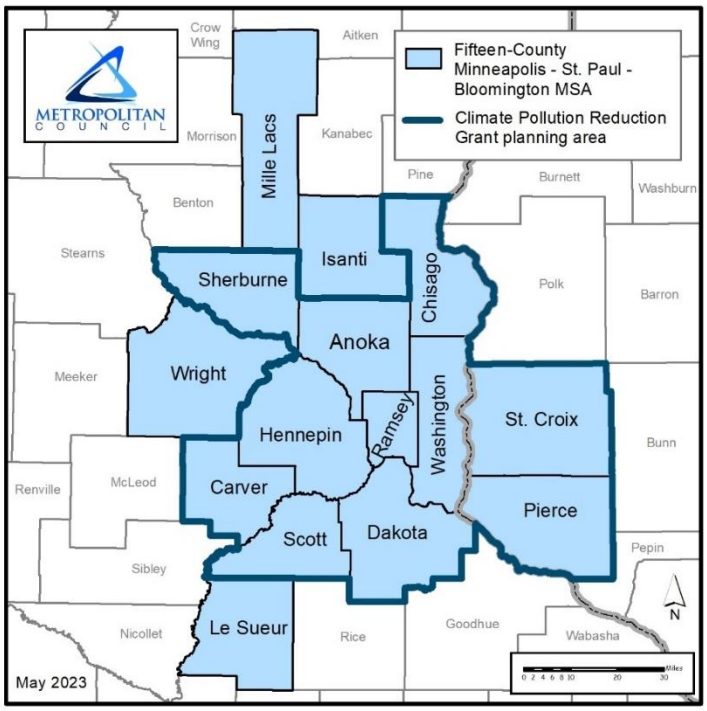
- A greenhouse gas inventory
- Quantified GHG reduction measures
- Low-income and disadvantaged communities benefits analysis
- A review of authority to implement

The EPA has launched two CPRG implementation grant competitions. Eligible entities, whether they received planning grants in phase 1 or not, can apply to implement measures outlined in their Priority Climate Action Plans (PCAPs). Individual grants will range between $2 million and $500 million. Additional information on the PCAP elements can be found in EPA's CPRG: Formula Grants for Planning, Program Guidance for States, Municipalities, and Air Control Agencies.

The Comprehensive Climate Action Plan (CCAP) is due July 2025 and consists of several key components, such as a comprehensive GHG inventory, projections for GHG emissions, clearly defined GHG reduction targets, specified measures for GHG reduction, and a thorough benefits analysis covering the entire geographic scope and population addressed by the plan.

Geographic scope of the PCAP

This PCAP applies to 11 Counties in the Twin Cities Metropolitan Statistical Area, including Anoka, Carver, Chisago, Dakota, Hennepin, Ramsey, Scott, Sherburne, and Washington County in Minnesota along with Pierce and Saint Croix County in Wisconsin.



State and MSA Context

As the regional planning agency for the 7-county metropolitan area (inclusive of 181 cities and townships in the counties of Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington), the Council is responsible for guiding the growth and development of the region, including planning for three regional systems: the regional wastewater system, the metropolitan transportation system, and the regional parks and open space system. The planning process for the statutorily required 2050 metropolitan development guide is underway, with a scheduled Council adoption date by the end of 2024.

As part of the planning process, the Council has endorsed a draft vision to guide its work. The draft vision includes the statement: “We lead on addressing climate change: Our region leads on the critical issue of climate change. We envision a future where we have eliminated or mitigated greenhouse gas emissions and have adapted to ensure that our communities and systems are resilient.”

In the 2023 session, the Minnesota state legislature passed a bill requiring the regional development guide[1] to plan for and consider climate adaptation and mitigation, including mitigation goals and strategies that meet or exceed the greenhouse gas emissions reduction goals established by the state to reduce emissions by 50% in 2030 (compared to a 2005 baseline) and to become net zero by 2050[2].

[1] Minn. Stat. § 473.145
[2] Minn. Stat. § 216H.02, subd. 1

The legislation also requires local governments in the 7-county metro to also consider the same greenhouse gas emissions reductions efforts and climate adaptation as a part of their local comprehensive plans.[3] By state law, local comprehensive plans are required to be completed and submitted to the Council for review by the year 2028.

The Council has organized an internal Climate and Natural Systems team of staff from across its divisions (community development, transit, transportation, environmental services) to develop supporting analyses and information and support policy development for the regional planning process, in addition to conducting engagement with stakeholders in the region. The Council will coordinate stakeholder engagement between its planning process and the grant activities, given the strong alignment between them.

Approach to Developing the PCAP

This PCAP is built upon the foundation established in the Metropolitan Council's previous climate change mitigation work including the existing Twin Cities Greenhouse Gas Inventory and Greenhouse Gas Strategy Planning Tool. The greenhouse gas inventory summarizes the major sources of emissions by city and township in the seven-county Twin Cities region. The GHG Strategy Planning Tool quantifies how a range of specific strategies may reduce future GHG emissions relative to baseline at the city- and township-level. This tool was developed in collaboration with academic partners in the Sustainable Healthy Cities Network alongside Metropolitan Council staff, with engagement and input from local governments and other regional stakeholders.

The prioritized measures included in the strategy planning tool provide the basis for the measures selected in the PCAP. These measures were further refined by drawing from the State of Minnesota's PCAP engagement and measures, input from the Metropolitan Council's Regional Climate and Natural Systems policy team, analyzing findings from the Metropolitan Council's regional development guide engagement, as well as a public input process including a webinar and online portal to gain feedback on the prioritized GHG reduction measures.

Draft GHG Reduction Measures

The Council has organized GHG reduction measures into the following sectors:

- Building Energy
- Transportation
- Land Use
- Waste

Building Energy Sector

Retrofit existing residential homes

Retrofitting can considerably reduce the energy consumption of single- and multifamily homes. Examples include enhancing insulation, installing energy-efficient windows, upgrading HVAC systems, and incorporating smart technologies.

Estimate of quantifiable GHG emissions: To be determined

LIDAC benefits and challenges: Reduced utility costs for low-income families. Implementation measures should consider how to overcome prohibitive upfront costs associated with retrofitting

[3] Minn. Stat. §473.859, subd. 2

that are a barrier for low-income households. Implementation should also incentivize landlords to retrofit as cost-savings benefit renters at landlord's expense.

Retrofit existing commercial buildings

Retrofitting can considerably reduce the energy consumption of commercial buildings. Examples include enhancing insulation, upgrading heating and cooling systems, and replacing outdated lighting systems with energy-efficient alternatives.

Estimate of quantifiable GHG emissions: To be determined

LIDAC benefits and challenges: Reduced utility costs can benefit small and BIPOC businesses, but this requires prioritization of these businesses. Property owners may require incentivization where business owners lease space and pay utilities.

Energy efficient new homes

Cities can adopt policies or programs encouraging new single-family homes to achieve energy efficiency similar to LEED Gold or other green building standards.

Estimate of quantifiable GHG emissions: To be determined

LIDAC benefits and challenges: Affordable housing developers may currently lack the ability to build energy efficient *and* affordable housing, creating market incompatibilities in the immediate future.

Clean electricity

Decarbonizing the grid substantially reduces greenhouse gas emissions associated with electricity generation. Xcel Energy plans to achieve net-zero emissions by 2050 and the state of Minnesota has committed to a goal of net zero emissions by the same year.

Estimate of quantifiable GHG emissions: To be determined

LIDAC benefits and challenges: Decarbonized grids reduce pollution generation that has historically been concentrated in LIDACs. It also reduces energy cost burdens on LIDACs.

Increase multifamily housing stock

Compared to single-family homes, multifamily housing consumes less land and may alleviate traffic congestion, decreasing greenhouse gas emissions.

Estimate of quantifiable GHG emissions: To be determined

LIDAC benefits and challenges: Increased housing stock can reduce rent/mortgage costs. However, infill and redevelopment can displace LIDACs, especially when multifamily housing is not specifically developed as affordable housing.

Transportation Sector

Increase battery electric vehicle (BEV) market share

Vehicle electrification can help decarbonize the transportation sector. Local governments can incentivize the transition to BEVs by supporting electric vehicle infrastructure like charging stations, offering sales incentives, and offering reduced electricity prices for BEV owners. Incentives should improve equitable access to electric vehicle charging infrastructure by installing charging stations at multifamily housing sites, providing public chargers, and assisting

low- and moderate-income households to charge vehicles at home. Focus on charging infrastructure that would benefit LIDACs.

Estimate of quantifiable GHG emissions: To be determined

LIDAC benefits and challenges: EV uptake decreases per mileage cost of driving and benefits public health by limiting pollutants. LIDACs experience barriers to EV uptake due to high upfront costs and low access to charging options (e.g. street parking)

Accelerate transition to low- and no-carbon fuels in vehicles and equipment
Electrify light-duty public fleet vehicles and equipment, such as sedans, light-duty trucks, maintenance vehicles, and outdoor recreation-related vehicles. Replace vehicles with lower-carbon alternatives where possible, such as e-cargo bikes with or without trailers. Install supporting charging infrastructure. Provide planning, contracting, financial, and technical assistance to facilitate this transition.

Transition fossil-fueled medium-duty, heavy-duty, and nonroad vehicles and engines to low- and no-carbon-fueled alternatives. Vehicles and equipment include, but are not limited to, transit and school buses, heavy-duty and medium-duty trucks, terminal tractors, construction equipment, agricultural equipment, short haul locomotives, ground and maritime freight equipment, landscaping and maintenance equipment, and diesel generators. Low- and no-carbon fuels include electricity and advanced biofuels.

Estimate of quantifiable GHG emissions: To be determined

LIDAC benefits and challenges: Focus efforts on vehicles and equipment used in LIDACs, especially where criteria and hazardous air pollutants are high.

Increase public transportation options
Replacing single-occupancy vehicle travel with transit trips reduces overall vehicle miles traveled (VMT), decreasing air pollution.

Estimate of quantifiable GHG emissions: To be determined

Based on observed trends from Metro Transit and service elasticities from the literature, we assume that a 1% increase in public transit service has a long-term impact of 0.9% increase in transit ridership (Litman 2019). This increase in transit ridership is a shifted from personal vehicle travel with no net change in trips.

LIDAC benefits and challenges: Increased access to public transit reduces cost of travel and benefits those unable to drive for physical or financial reasons

Promote telework
Teleworking can reduce vehicle miles traveled (VMT) from daily commuting.

Estimate of quantifiable GHG emissions: To be determined

We estimate a 2.75% decrease in personal vehicle miles traveled for every 10% increase in percent of people teleworking (Kim, Choo, and Mokhtarian 2015).

LIDAC benefits and challenges: Telework jobs offer flexibility regarding childcare, healthcare, etc., but these jobs may be less accessible in LIDACs and require reliable internet access and workspace in the home.

Encourage reduction of reduced vehicle miles traveled (VMT)

Many options exist to encourage voluntary reduction of VMT. These include:

- Increase parking fees. Increased parking charges can drive down passenger VMT by disincentivizing single-occupancy vehicle trips.
- Encouraging carpooling. Increasing the average number of people in cars can help reduce vehicle miles traveled and encourage more efficient trip planning. This can be done through programs that support ridesharing and carpooling, such as Dynamic Ride Sharing.
- Enhance the availability and adoption of clean travel options such as bicycling, walking, transit. Examples include:
    - Deploying community-designed quick-build projects such as curb extensions to reduce street crossing distance or paths physically separated from vehicle traffic.
    - Facilitate adoption of e-bikes and e-cargo bikes through purchase incentives, bike-share programs, e-bike infrastructure (such as solar-powered shelters and separated paths) and charging networks. Increase adoption in LIDACs through navigator programs and strategic placement of bikeshare sites, such as at multifamily residences.
    - Facilitate equitable access to transit and electric vehicle car-share programs

Estimate of quantifiable GHG emissions: To be determined

LIDAC benefits and challenges: LIDACs have higher percentage of zero-car and transit-dependent households, leading to a high transportation cost burden that causes financial insecurity, housing instability, and stress. Improving walkability and access to alternative transit options (e-bikes, car-sharing) can reduce these burdens while simultaneously pollutants.

Land Use Sector

Increase population density

Implementing smart growth principles and transit-oriented development can lead to more compact, walkable, and transit-friendly communities, reducing the need for personal vehicle use and associated greenhouse gas emissions.

Estimate of quantifiable GHG emissions: To be determined

LIDAC benefits and challenges: Increased density reduces reliance on personal vehicles and increases access to household needs (e.g. groceries). Development needs to be designed with LIDACs in mind, particularly to avoid displacement.

Increase employment density

Increasing employment density, similarly to increasing population density, decreases travel distances and encourages transit, cycling, and walking, reducing greenhouse gas emissions from personal vehicle use.

Estimate of quantifiable GHG emissions: To be determined

A 10% increase in employment density is correlated with a 7% decrease in passenger vehicle miles traveled. Employment density is calculated as the amount of jobs per developed area (Stevens 2016).

LIDAC benefits and challenges: Increased accessibility to work and improved air quality near LIDACs.

Conservation and carbon stock sector

Invest in climate smart agriculture

Climate-smart agriculture practices improve soil health, increase nutrient-use efficiency, reduce nitrous oxide emissions, and reduce nitrogen runoff and methane production from livestock and manure management. Examples include cover crops, conservation tillage, forest farming, prescribed grazing, silvopasture, perennial crops, and winter annual crops. These measures can be supported through market development, specialized equipment needs, and other infrastructure adoption of climate-smart practices.

Estimate of quantifiable GHG emissions: To be determined

Soil organic carbon content can increase from 1% up to 1.54% under conservation tillage (Zomer et al. 2017). No-till agriculture can reduce tractor fuel consumption by 3.2 gallons/acre (Elizabeth Creech 2017).

LIDAC benefits and challenges: Prioritizing historically underserved farmers supports economic development and mental health. Introduction of climate-smart farming best practices builds resilience and offers economic benefits to rural communities. Potentially high starting costs to climate smart agriculture needs to be considered for low-income rural areas.

Invest in localized and urban agricultural practices

Build local food systems by providing resources and workforce development for urban and community gardens, rooftop gardens, year-round indoor greenhouses, food waste composting, food makers, and farmers markets; expanding the Local Food Purchase Assistance Program; and providing financial and technical assistance to local food producers.

Estimate of quantifiable GHG emissions: To be determined

LIDAC benefits and challenges: Increased local investment in food production can improve affordability, availability, access, quality, stability, cultural acceptability, and healthfulness of the food environments in LIDACs. Community based agriculture has co-benefits of engaged and cohesive communities, reduced ethnocentrism, multicultural integration, increased civic engagement, self-determination, strengthened cultural identity, improved mental health, decreased stress, increased physical activity, healthy nutrition knowledge, improved community safety, and increased access to greenspace.

Invest in urban tree planting and maintenance

Trees act as natural carbon sinks by absorbing carbon dioxide (CO2) from the atmosphere and storing it in their biomass (trunks, branches, leaves, and roots). Increased tree planting can also provide additional benefits, such as reducing urban heat island effects, improving air quality, promoting biodiversity, and enhancing aesthetic appeal.

Estimate of quantifiable GHG emissions: To be determined

A mature urban forest can hold up to 115 tonnes of carbon per hectare, and a tree that grows for one year can sequester carbon annually at a rate of 1.27 tonnes of carbon per hectare per year (Milnar and Ramaswami 2020). Land cover by city/township was generated from Planet RapidEye 5m imagery ("RapidEye Imagery" 2019) in combination with the 2016 National Land Cover Database (Dewitz and U.S. Geological Survey 2019).

LIDAC benefits and challenges: Due to racial residential segregation through explicit codification in laws and institutional practices, and historic disinvestment in segregated areas, LIDACs in the metro have lower access to greenspace, and less tree coverage. Urban trees can reduce urban heat island effect, increase natural cooling, improve air quality and aesthetics, increase property value, and improve mental health. LIDAC communities in the MSA have decreased tree cover relative to non-LIDACs. Green gentrification can be a challenge to LIDAC communities; GHG reduction projects that engage LIDACs in the planning and implementation can facilitate self-determination and career building opportunities

Natural land restoration and protection

Grasslands, forests, and wetlands are effective natural carbon sequestration and storage options and offer a multitude of co-benefits. The co-benefits include protecting biodiversity, water quality improvement, flood mitigation, public recreation and aesthetics. Restoration can happen on a variety of lands, ranging from large scale abandoned agricultural areas to small scale areas like converting urban lawns to pollinator habitats.

Estimate of quantifiable GHG emissions: To be determined

LIDAC benefits and challenges: Due to racial residential segregation through explicit codification in laws and institutional practices, and historic disinvestment in segregated areas, LIDACs in the metro have lower access to greenspace. Increasing access to greenspace in LIDACs can have wide ranging benefits including reducing stress, improving mental health, reducing asthma rates, reducing extreme heat exposure, and improving social cohesion. Green gentrification can be a challenge to LIDAC communities; GHG reduction projects that engage LIDACs in the planning and implementation can facilitate self-determination and career building opportunities.

GHG reduction projects that partner with Tribal Nations and restore species, habitats, and areas that are culturally significant to Indigenous traditions can have a wide range of benefits including improved cultural cohesion, improved financial security, and improved mental and physical health through preservation of subsistence harvesting traditions, spiritual relationships, ceremonies, language, and stories.

Waste Sector

Promote waste prevention, reduction, and recycling

Reduce greenhouse gas emissions at multiple points in the life cycle of waste management, including preventing waste, waste management, increasing opportunities for reuse and recycling, fixing landfill methane leaks, and promoting zero waste practices, a circular economy, and climate-smart development. Emphasizing reduction at the front end of waste management (e.g. reduction, reuse, recycling) will have an outsized impact.

Estimate of quantifiable GHG emissions: To be determined

LIDAC benefits and challenges: Siting waste facilities should include all stakeholders, recognizing that LIDACs have received a disproportionate amount of this burden and the pollutants that come with it.

Efficient wastewater management

Effective wastewater management can be used to recover clean water, nutrient and energy, creating positive environmental impact and reducing reliance on fossil fuel energy. For example, recovering wasted thermal energy from wastewater can produce clean, carbon free thermal energy for integration into existing hot water district energy heating systems. Wastewater systems need resilient designs to account for climate change. For example, increased flooding events can lead to inflow and pollutant infiltration in regional wastewater systems.

Estimate of quantifiable GHG emissions: To be determined

LIDAC benefits and challenges: Wastewater facilities should be sited with input from all stakeholders, with a particular focus on avoiding burdening LIDACs that have already borne a disproportionate amount of pollutants in their communities.

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