



CLIMATE ACTION WORK PLAN

Our vision for the Metropolitan Council is that we reduce our contributions to greenhouse gas emissions in the region and make our services and facilities resilient to the impacts of climate change.



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The Met 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 Met 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 Met Council board is appointed by and serves at the pleasure of the governor.

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Letter from the Regional Administrator

Our vision for the Metropolitan Council is that we reduce our contributions to greenhouse gas emissions in the region and make our services and facilities resilient to the impacts of climate change.

Minnesota's climate is changing – the evidence is all around us. Extreme heat, increasingly intense rainfalls and the resulting flooding, and prolonged drought affect the services the Met Council provides. These trends impact the services we deliver; the infrastructure we plan for, build, and maintain; and the water resources we monitor and help protect.

Stewardship has always been a foundation of the Met Council's work. We have a responsibility to wisely manage our investments, build and maintain critical infrastructure, and help preserve the natural resources of the region. We must be able to adjust to changing conditions as they occur.

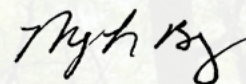
Climate change will continue to bring more extreme weather, and cause regional, national, and global shifts in our environment and economies. These challenges require us to plan and improve our operations to ensure that we can continue to reliably and consistently deliver our services.

We have a strong track record in climate change planning and emissions mitigation. We invest in renewable energy and continuously pursue energy efficiency in our wastewater treatment processes, helping to keep our rates to customers significantly lower than our peers nationally. We were early adopters of hybrid bus technology and are working towards the goals of our Zero-Emissions Bus Plan. With each passing year we make our buildings more energy efficient.

This Climate Action Work Plan builds on our ongoing work. It unifies the efforts across Met Council divisions, seeks to embed climate considerations in all our work, and commits our organization to new initiatives. The proposed five-year time frame of this plan and our commitment to transparency and reporting creates more accountability than setting big goals for a distant year.

This plan also gives us an opportunity to focus on environmental justice in our climate-related work. We employed a new environmental justice assessment tool that recognizes past and present environmental harm, examines strategies to reduce the risk of unintended consequences, and strives for equitable outcomes as we implement the plan.

We take great pride in the work we do. Addressing climate change is another evolution in our work, and one we take on with commitment and resolve to ensure we can continue to deliver essential planning and services for a prosperous region.



Mary Bogie
Met Council Regional Administrator
December 2022

Metropolitan Council's role in addressing climate change

Like other places around the globe, Minnesota's climate is changing. Everyone here will be affected, but elderly people, households with low incomes, and communities that have faced historical oppression and marginalization will be impacted most. We have a responsibility to do what we can to soften those impacts, reduce our contribution to climate change, and help the region become more resilient to the changes yet to come.

The Metropolitan Council is the regional policy-making body, planning agency, and provider of essential services in the seven-county Twin Cities metro region. We were established to foster efficient and economic growth for a prosperous region. Climate change presents us with challenges in carrying out that mission.

As conditions continue to change, our organization must innovate and adjust. We commit to the continued delivery and improvement of vital services and operations to our region despite such change. Given our planning responsibilities, and as one of the state's largest energy users and owners of the largest public vehicle fleet, we have significant opportunities to reduce emissions and improve resiliency across the region.

“Climate change threatens the very things that make Minnesota a great place to live – from our wonderful lakes to farmable land and clean air.”

– Minnesota Governor Tim Walz

“We can only combat climate change if we do it together.”

– Minnesota Lieutenant Governor Peggy Flanagan



This Climate Action Work Plan will unify our efforts across the Met Council over the next five years to reduce our climate impacts and prepare for a changing climate. It defines strategies and actions that will strengthen our ability to plan and deliver services to the region. This operational and functional services plan is being adopted now, so it can inform our next regional policy guide.

This plan does not include regional climate goals or policies. It is focused on our operations and how we do our work in the face of climate change. It calls for reducing our emissions (mitigation) and adapting our facilities and services to be resilient in the face of climate change (adaptation). This plan directs changes to our operations, infrastructure maintenance and planning, research priorities and methods, service delivery, and stakeholder engagement.

In this plan, we make five overarching commitments. We will:

- Incorporate environmental justice principles as we plan, implement, and evaluate our climate action work.
- Accelerate emissions reductions from our operations to achieve carbon neutrality.
- Accelerate regional emissions reductions through existing and new partnerships.
- Reduce risks and impacts of climate change hazards to our facilities and services.
- Support and collaborate with partners to advance regional climate adaptation efforts.

Our efforts will make a difference. It will take all of us at the Met Council to build a better future.

Our Climate Action Work Plan builds on work we have already done to reduce our emissions, build resiliency, and help communities become more resilient to climate change.

Visit

[Climate Action - Metropolitan Council \(metro council.org\).](https://metro council.org)



The need for climate action at all levels



Climate change is a global emergency that needs action at all levels of government and in every sector of our economy. In August 2021, the Intergovernmental Panel on Climate Change (IPCC) report issued a stark warning, stating that urgent reduction in greenhouse gas emissions is needed to ward off the most dramatic consequences of a warming climate.

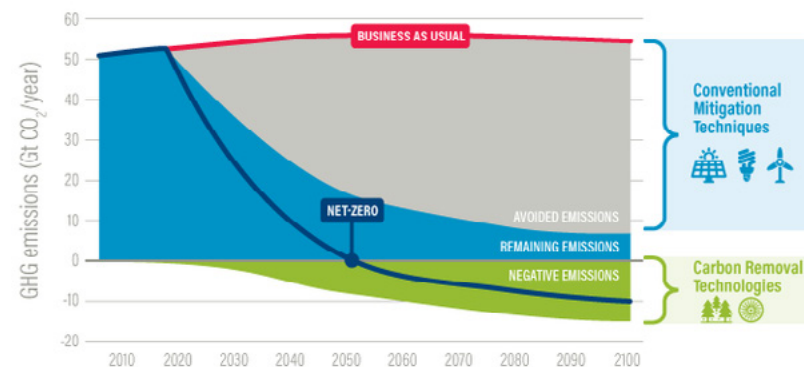
Scientists are in consensus that global efforts to reduce greenhouse gas emissions must occur within this current decade to limit global temperatures to 1.5° Celsius warming above pre-industrial times, which would limit the likelihood of exceeding the tipping points that cause irreversible and compounding impacts across natural systems (IPCC, 2021). UN Secretary-General, António Guterres, called this a “code red for humanity,” the most crisis-oriented language used by the IPCC to date (UNRIC, 2021).

This ambitious 1.5° Celsius target is reflected in the work of the National Climate Taskforce, which adopted the following goals:

- Reduce U.S. emissions by at least 50% by 2030 compared to 2005 levels
- Attain 100% carbon-free electricity in the U.S. by 2035
- Achieve net-zero emissions by 2050 (The White House, 2021)

Recent federal action, including passage of the Bipartisan Infrastructure Act and the Inflation Reduction Act, puts the U.S. on a path to achieve greenhouse gas reductions of around 40% by 2030 (Jenkins, et al., 2022).

STAYING BELOW 1.5 DEGREES OF GLOBAL WARMING



Source: Adapted from IPCC 2018.

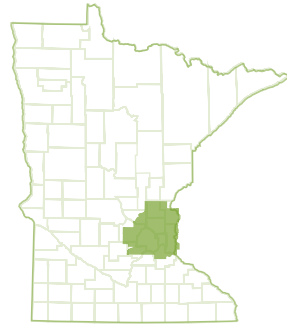
 WORLD RESOURCES INSTITUTE

CLIMATE ACTION IN MINNESOTA

Minnesota has a longstanding commitment to address the climate crisis. In 2007, the state enacted the bipartisan Next Generation Energy Act, which set statutory goals to reduce greenhouse gas emissions by 15% from 2005 levels by 2015, 30% by 2025, and 80% by 2050 (MPCA, 2021). Despite this early action, Minnesota missed its goal in 2015, and currently is not on track to meet future goals. Since 2005, statewide greenhouse gas emissions have declined just 8% (MN Climate Change Subcabinet, 2022).

A NEW PUSH TO ADDRESS CLIMATE CHANGE AT THE STATE LEVEL

While the state may have fallen behind in its goals, work is underway to get Minnesota back on track. In 2019, Governor Walz directed cabinet agencies, including the Met Council, to identify policies to reduce emissions and build resiliency. Agencies worked cooperatively to produce the [Minnesota Climate Action Framework](#). The framework identifies the conversation with Minnesotans on the work we all must do to reduce greenhouse gas emissions and build resilient communities across our state.



The Met Council recognizes the important role we play to help enact the state’s vision. This Climate Action Work Plan aims to align with the state’s framework and commitments. We are positioned to help reach state goals both by reducing our own operations-related greenhouse gas emissions (as addressed in this plan) and by providing services that drive community-wide reductions, such as transit.

LOCAL AND CORPORATE COMMITMENTS

In Minnesota and elsewhere, private sector companies, local governments, and nongovernmental organizations are setting emissions targets that are aligned with the goals of the Paris Agreement. Together, all these efforts are critical to accelerate reductions in greenhouse gas emissions and prevent the worst outcomes of climate change.

THE VISION FOR OUR STATE



Carbon-neutral

Minnesota substantially reduces GHG emissions and any remaining GHGs released are balanced by an equal amount being removed.



Resilient

Minnesota communities, businesses, and natural environment can prepare, respond to, and recover from the impacts of climate change.



Equitable

Acknowledge and address disproportionate impacts of climate change and their roots in past and present systems; ensure fair distribution of the costs and benefits of action, including to future generations; and ensure meaningful participation in planning.





Our commitments to climate action ✓




FOCUS ON EQUITY IN OUR CLIMATE WORK

All residents in our region are affected by climate change, but we are not all impacted in the same way. Those who are already vulnerable due to a range of historical, social, and economic factors have less ability to prepare for, deal with, or recover from climate change impacts (Our Minnesota Climate, 2020). Some residents have greater access to decision-making processes around climate change solutions. These, and other forms of inequity, can make our region less prosperous and less resilient for all.

To that end, the Met Council is committed to incorporating environmental justice principles as we initiate, implement, and evaluate our climate action work. We developed and used qualitative and quantitative environmental justice tools to assess this plan.

Through an environmental justice lens, climate action can help reduce the impacts of historic and current practices. By working toward racial and economic equity, it builds resilience.

Environmental justice aims to improve environmental outcomes for Black and Indigenous households, communities of color, and people with low incomes who have been disproportionately harmed by environmental racism, pollution, and climate change impacts. Environmental justice seeks to address these issues through equitable and intentional engagement, thoughtful policy creation, and public service delivery that is focused on improving environmental conditions and enhancing climate resilience.

 COMMITMENT 1	We will incorporate environmental justice principles as we plan, implement, and evaluate our climate action work.	
	Strategy	Why it is important
	Leverage and improve our data and analysis tools as we center environmental justice in our internal and external climate work.	Climate change will have the greatest effect on our most vulnerable residents. We should focus our efforts on building resilience for and with our most vulnerable residents.




REDUCE OPERATIONAL EMISSIONS

The primary greenhouse gas emitted through human activities is carbon dioxide. Nationwide, achieving a 50% reduction in carbon dioxide emissions by 2030 from 2005 levels and cutting them to net-zero by 2050 (The White House, 2021) will require a transformation of how and where society uses energy, including:

- Significantly reducing the use of fossil fuels to produce electricity
- Moving from fossil fuels to noncarbonized energy sources for transportation and building heating systems
- Dramatically improving energy efficiency
- Expanding use of alternative fuels such as hydrogen and biomass
- Increasing energy conservation

To that end, the Met Council will accelerate efforts to reduce greenhouse gas emissions from our own operations with the goal of achieving carbon neutrality.

We will achieve this by strengthening and expanding our efforts to identify and pursue energy efficiency and electrification opportunities; finding ways to increase our purchase and generation of renewable energy; maximizing energy and resource recovery from our operations; transitioning our fleet to electric and alternative fuel vehicles; and better understanding and publicly reporting on our greenhouse gas emissions.

 We will accelerate emissions reductions from our operations to achieve carbon neutrality.	
Strategy	Why it is important
Adopt a holistic approach to energy management.	Implementing opportunities to reduce energy consumption and decarbonize energy use requires a structured, disciplined approach to measure, manage, and improve energy performance.
Make buildings and processes more energy efficient.	Maximizing efficiency is crucial to counteracting increased costs and energy use due to expanding services with regional growth.
Purchase and generate renewable energy when cost-effective.	Some aspects of our services cannot be fully decarbonized, requiring the purchase of renewable energy to offset emissions to reach carbon neutrality. This approach also decreases energy costs.
Transition Council fleets to electric and alternative fuel vehicles.	Switching to electric and alternative fuels will reduce our reliance on fossil fuel consumption, improve regional air quality, and reduce greenhouse gas emissions.
Maximize energy and resource recovery opportunities.	Continuing our efforts to recover clean water, nutrients, and energy from wastewater for beneficial use can help reduce both our own and the region's reliance on fossil fuel energy sources and demonstrate sustainability.
Account and report greenhouse gas emissions.	Quantifying and reporting greenhouse gas emissions demonstrates environmental leadership, helps identify reduction opportunities, tracks progress, and helps keep us accountable to our commitment to achieve carbon neutrality.
Investigate opportunities to mitigate greenhouse gas emissions with the highest global warming potential.	Targeting the reduction of greenhouse gas emissions with the highest global warming potential will have the largest relative impact of reduction of overall emissions.

COMMITMENT 2



CULTIVATE PARTNERSHIPS TO ACCELERATE EMISSIONS REDUCTIONS ACROSS THE REGION


The Council can undertake some of the emissions reduction work alone, but we can achieve far greater emissions reductions by partnering with others. For instance, shifting transportation modes to mass transit and nonmotorized travel will require collaboration across agencies and advocacy groups.

To that end, the Council is committed to cultivating new and existing partnerships to accelerate regional emissions reductions.

We will achieve this by:

- Promoting low-carbon forms of transportation
- Maximizing energy and resource recovery opportunities in our operations
- Accounting and reporting regional and operational greenhouse gas emissions
- Convening and partnering with regional stakeholders to expand climate engagement and collaboration



COMMITMENT 3	 We will accelerate regional emissions reductions through existing and new partnerships.	
	Strategy	Why it is important
	Promote reduction of transportation-related emissions.	Encouraging reduction in vehicle miles traveled (VMT) electrification, and public transit use reduces the region’s reliance on fossil fuel consumption, improves air quality, and reduces greenhouse gas emissions.
	Convene and partner with regional stakeholders to expand engagement and collaboration related to greenhouse gas emissions.	Convening with strategic partners expands knowledge of best practices and opportunities to collaborate.
	Track and report greenhouse gas emissions.	Quantifying and reporting greenhouse gas emissions demonstrates environmental leadership, helps identify reduction opportunities, and helps hold stakeholders accountable to their emission reduction commitments.
Maximize energy and resource recovery opportunities.	Continuing our efforts to recover clean water, nutrients, and energy from wastewater for beneficial use can help reduce reliance on fossil fuel energy sources and demonstrate sustainability.	





REDUCE CLIMATE RISKS AND BUILD OPERATIONAL RESILIENCY


The impacts of climate change are already affecting communities around the globe. In Minnesota, we are particularly at risk for extreme rainfall, warmer winters, and extreme heat (MN Department of Natural Resources, 2018). Although the threats of each of these climate patterns are significant, we have solutions to lessen the impact.

Communities in the U.S. are learning how to adapt. Municipalities are improving community infrastructure, buildings, and landscapes to be resilient to increased rainfall and flooding. Cities where residents previously did not need air conditioning are creating cooling centers for vulnerable residents to visit who have limited options. And communities are preparing for some of the ecological impacts of winters that do not reach typical cold temperatures that flora and fauna have evolved to live in.

This plan lays out a roadmap for the Met Council to adapt its operations and infrastructure to the impacts of climate change. We can strengthen our ability to anticipate risks like flooding, rainfall, extreme heat, and increased freeze-thaw cycles, ensuring that essential services continue to serve the region.

To that end, the Met Council is committed to identifying the risks and impact of climate change to our facilities and services. We will achieve this by:

- Incorporating adaptation measures into facility and services planning, design, construction, operations, and maintenance
- Expanding staffing and training related to climate work
- Identifying opportunities to install and maintain sustainable landscapes on Met Council property

 COMMITMENT 4	We will reduce risks and impacts of climate change hazards to our facilities and services.	
	Strategy	Why it is important
	Incorporate adaptation measures into facility and services planning, design, construction, operations, and maintenance.	Our infrastructure is not immune to impacts from climate hazards. We need to anticipate climate change impacts in our designs and operations to maintain our ability to provide critical services.
	Identify opportunities to install and maintain sustainable landscapes on Met Council property.	Sustainable, low-maintenance, climate-resilient landscapes are better able to respond to climate change impacts. They also can conserve Met Council resources and enhance biodiversity.





ADVANCE REGIONAL CLIMATE ADAPTATION


For almost a decade now, the Met Council has provided technical assistance to communities to help them adapt to a changing climate. We will continue to collaborate with local communities to provide needs-based climate action tools to enhance community planning efforts, which builds resilience.

To that end, the Met Council is committed to supporting and collaborating with partners to advance regional climate adaptation efforts.

We will achieve this by:

- Developing and expanding regional funding mechanisms for local climate adaptation efforts

- Convening and partnering with regional stakeholders to expand climate engagement and collaboration
- Promoting climate connections in regional planning, local plan reviews, and grant programs
- Monitoring and assessing water resources to identify climate threats
- Providing and expanding technical assistance, tools, and data for regional and Met Council-specific decision-making

 We will support and collaborate with partners to advance regional climate adaptation efforts.	
Strategy	Why it is important
Convene and partner with regional stakeholders to expand climate engagement and collaboration.	Convening with strategic partners expands knowledge of adaptation practices and opportunities for climate-related collaboration.
Provide and expand technical assistance, tools, and data for regional and Met Council-specific decision-making.	Expanding our climate-related technical assistance resources, tools, and data will allow municipalities and the Met Council to improve our abilities to respond to climate change.
Develop new and expand existing regional funding mechanisms for local climate adaptation efforts.	Partnerships allow for better access to competitive funding, pooling of resources, and expertise to build resilience for the Met Council and local jurisdictions.
Promote climate connections in regional planning, local plan reviews, and grant programs.	Documenting and tracking climate connections across programs and functions can help reduce duplication and ensure alignment in our efforts.
Monitor and assess water resources to identify climate threats.	Ensuring that water quality assessments consider climate change allows us to anticipate issues and establish adaptation measures to reduce potential impacts.

COMMITMENT 5

Cross-cutting strategies that support all commitments – capacity building is essential

Some of our strategies apply to more than one of the commitments. A key example is the strategy to expand staffing and training related to climate work. The commitments in this work plan will require more resources, expertise, and dedicated staff time than we currently have. A key part of implementation will be allocating existing resources and capturing new funding to realize the commitments in the plan.



Met Council greenhouse gas emissions

The Met Council started tracking operational emissions in 2008. Since then, we have made notable progress in reducing overall emissions despite substantial growth in the scale of our operations. Overall, we have reduced our emissions by 13% between our 2005 baseline and 2019, which is equivalent to the annual energy use from about 5,756 homes (EPA, 2022).

The leading source of emissions is the Met Council's purchase of electricity to power our operational facilities, such as wastewater treatment plants, bus garages, light rail operations, and administrative offices. We have reduced these emissions by 38% between our 2005 baseline and 2019. These reductions are a result of improvements in the energy efficiency of our operations, the addition of a steam turbine generator to produce electricity at the Metropolitan Wastewater Treatment Plant, and the expansion of renewable energy production by our utility partners.



Met Council services at a glance



Wastewater collection and treatment
2.7 million residents served

250 million gallons of wastewater treated daily

637 miles of regional sanitary sewers

9 wastewater treatment facilities

900 industries monitored

201 lake, stream, and river sites monitored



Transportation*
78 million fixed-route annual trips

30 million fixed-route annual miles

122 bus, **2** light rail, **1** commuter rail routes

2.3 million on-demand annual trips (Metro Mobility and Transit Link)

24 million on-demand annual miles



Housing
7,200 households given rent assistance

153 housing units owned

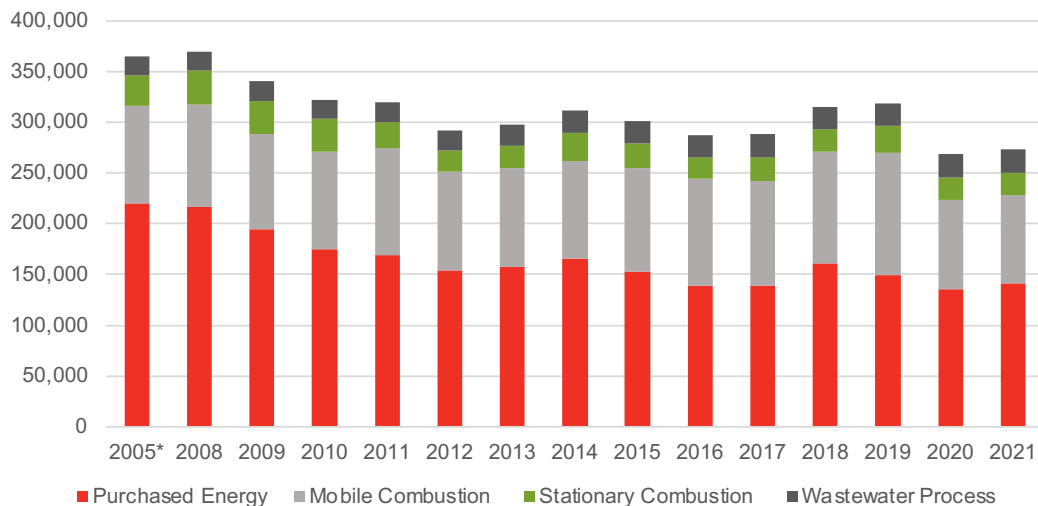
*Numbers represent 2019 pre-pandemic service, which is what our service level and emissions targets are built on.



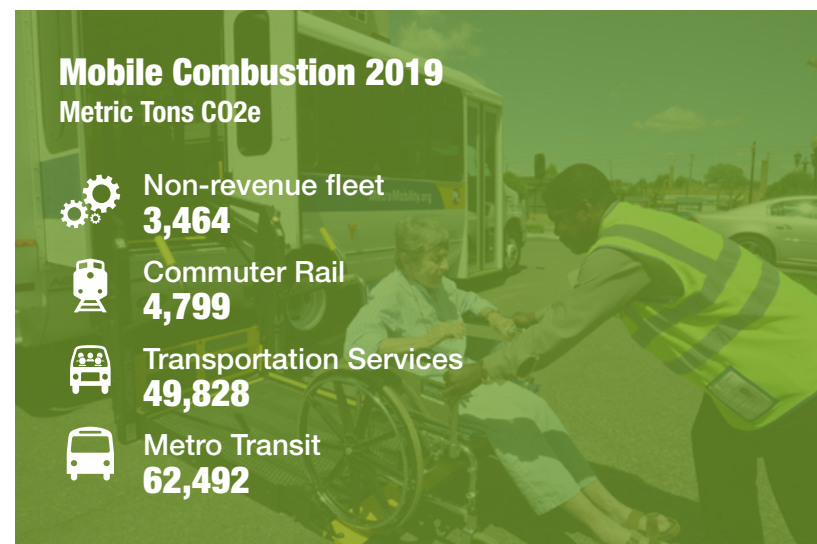
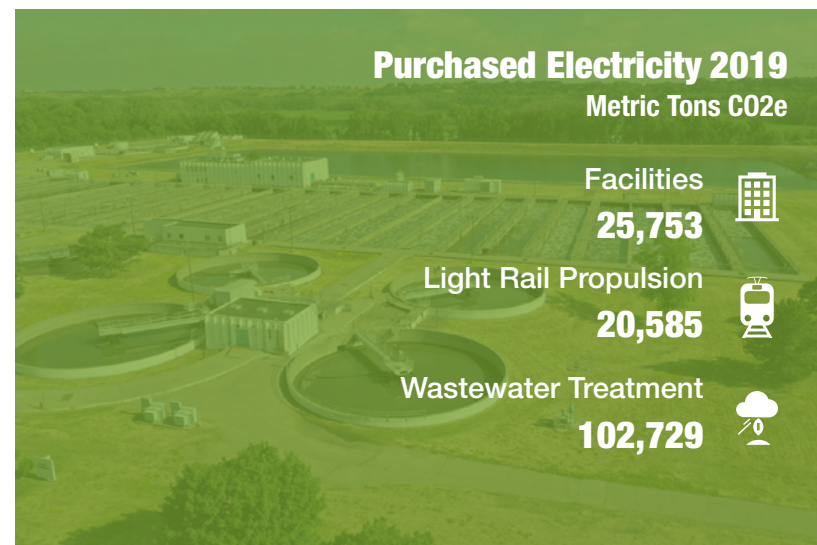
The next largest source of emissions is the combustion of fossil fuels to power the Met Council’s various vehicle fleets, including Metro Transit and Metro Mobility buses. Other sources of mobile combustion emissions come from the operation of nonrevenue vehicles such as maintenance vehicles and other fleet equipment. Mobile combustion emissions rose by 21% between our 2005 baseline and 2019, largely due to an expansion of service.

The third largest source of Met Council emissions is from the combustion of fuels to heat our buildings and facilities and to incinerate wastewater biosolids. Stationary combustion emissions fell by 11% between our 2005 baseline and 2019. The gains in this category largely stem from improvements to building heating and ventilation systems.

Greenhouse gas emissions by source



While the Met Council’s total emissions represent only a fraction of the total emissions in the state, we represent the largest emitter of greenhouse gases across state agencies (MN Department of Administration, 2020). Met Council’s emissions account for roughly half of Minnesota state agency emissions.



The Met Council will play an outsized role in helping meet state agency greenhouse gas emission reduction goals. We need to lead by example and accelerate our emission reduction efforts, demonstrate our commitment to environmental leadership, and help drive innovation throughout the state.







Climate change impacts our region and operations



Evidence of climate change clearly exists within our region today, and we expect climate impacts to increase and intensify. Vulnerable populations, natural systems, and some types of infrastructure are most likely to be affected.

Temperatures are rising and precipitation patterns are changing. Each of the top 10 combined warmest and wettest years on record

in Minnesota occurred between 1998 and 2020. The Met Council’s Regional Climate Vulnerability Assessment (Metropolitan Council, 2018, p. 2) identifies the region’s top climate hazards as warming winters, extreme rainfall, heat waves, drought, and intense storms. These risks are expected to amplify both direct and indirect consequences to people, infrastructure, and ecosystems.

Hazard	Trend	Direct Impact	Indirect Impacts
Heavy rain events 	<ul style="list-style-type: none"> • More frequent and extreme precipitation events 	<ul style="list-style-type: none"> • Water-borne and mosquito-borne illnesses, drownings • Erosion and stormwater and pollution runoff • Public infrastructure and private property damage • Localized flooding • Declining water quality • Receding flood waters create higher risk for mold growth and low air quality 	<ul style="list-style-type: none"> • Transportation disruption • Economic loss • Public and mental health impacts • Change in long-term water supply availability
Extreme heat 	<ul style="list-style-type: none"> • More frequent and extreme heat events • Winters warming faster than summers 	<ul style="list-style-type: none"> • Heat stress, dehydration, cardiovascular health • Increased water pumping • Well interference and mitigation costs • Infrastructure damage • Wildfire danger 	<ul style="list-style-type: none"> • Increased water pumping • More energy usage • Transportation disruption • Economic loss • Mental health impacts • Lowered groundwater recharge and change in long-term water supply availability
Disrupted growing seasons 	<ul style="list-style-type: none"> • Shifted and changing growing seasons due to extreme heat and precipitation changes 	<ul style="list-style-type: none"> • Harmful blue-green algae blooms • Spread of pathogens and parasites • Decrease in the abundance of cold-water fish and aquatic life • Spread of aquatic invasive species 	<ul style="list-style-type: none"> • Difficulties in landscape maintenance • Species/ecosystem collapse • Economic loss • Decreased food security and access
Freeze-thaw cycles 	<ul style="list-style-type: none"> • Increased number of freeze-thaw cycles • More frequent and severe ice events 	<ul style="list-style-type: none"> • Hazardous driving conditions • Infrastructure damage • Detrimental impact on plant and animal life due to chloride toxicity 	<ul style="list-style-type: none"> • Increased chloride use impacts water quality • Transportation disruption • Mental health impacts



RISE IN TEMPERATURES

Our winters are warming faster than our summers. In the last 50 years, average daily winter low temperatures have risen more than 15 times faster than average daily summer high temperatures. The winter average daily low temperatures have risen from -2° F to 2° F (MN Department of Natural Resources, 2018).

As winter temperatures rise, so will the number of freeze-thaw cycles. More frequent and severe ice events will follow, causing hazardous driving conditions, more falls, and degraded infrastructure (especially roadways and sidewalks). Increased salting to mitigate ice will increase operational costs, material degeneration, soil degradation, and the amount of chloride entering waterbodies (Hennepin County, 2021, pp. 12-13).



More freeze/thaw = more chloride

Warming temperatures here in Minnesota have the potential for create more freeze/thaw cycles through the winter and early spring. These cycles can be hard on streets and highways, creating more potholes.

Another implication of more melting and freezing is a potential increase in the use of salt on roads and sidewalks to keep them easily passable. But this salt eventually runs off into area lakes, rivers, and streams, creating a pollutant that is in the environment permanently. A recent Met Council study shows that chloride levels increased between 1999 and 2019 in nearly all 18 streams that were studied in the seven-county metro area, some at alarming levels.

Statewide, 41% of all chloride in lakes, streams, and rivers comes from de-icing salt. Stabilizing chloride levels will be critical to maintain water quality and ecosystem health for our highly valued waters.

MORE HIGH FREQUENCY AND INTENSE RAINS EVENTS

Rain events that drop heavy precipitation in a short period are becoming more common in our region. Long-term observations have shown a dramatic increase in major one- to three-inch rainstorms in Minnesota and are projected to keep increasing (MN Department of Natural Resources, 2018).

Significant disruptions in transportation and wastewater services are expected to occur during times of flooding from intense rainfall. More rainstorms lead to more erosion and rainwater runoff. Excess rainwater can pick up a wide range of pollutants that enter stormwater systems and water bodies, increasing cost burdens and eroding trust in government service providers. Transportation operations may become more dangerous as visibility, traction, and maneuverability decline during intense rainfall. Flooding in low-lying areas may mean that transit operators must detour, disrupting scheduled service and reliability.

Aging and under-designed sewer and stormwater systems can be further stressed during extreme rainstorms. These vulnerabilities will become more worrisome as extreme precipitation events increase in frequency and severity, leading to issues with inflow and infiltration into the regional wastewater system.



Flooding leads to sewer relocation

In response to persistent flooding, the Met Council's Environmental Services division is planning to relocate a large sewer interceptor that runs from I-694 to the east of Grass Lake north to Gramsie Road in Shoreview.

Where the pipe was once 30 feet from the shore of Grass Lake and accessible via several maintenance structures, some of those are now under 1 to 5 feet of water during significant periods of the year. Without being able to access the pipe, debris can accumulate and cause wastewater backups. Construction of the new pipe is expected to begin in 2023.





MORE EXTREME HEAT AND DROUGHT EVENTS

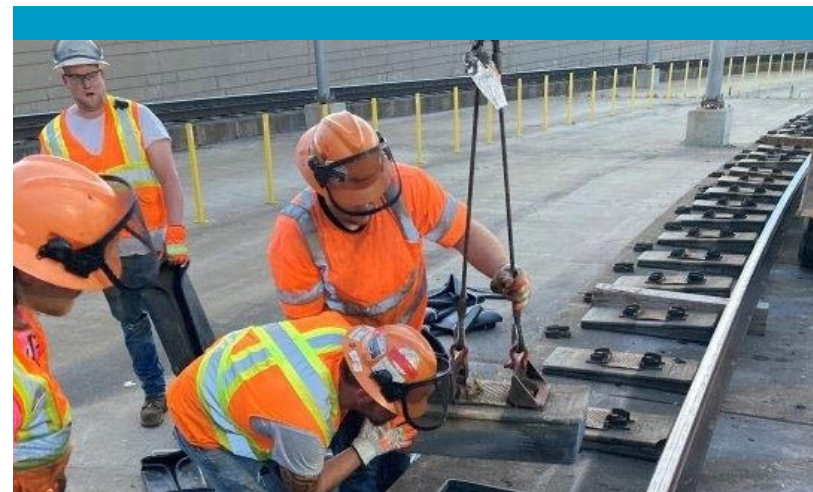
Minnesota will see more extreme heat days and drought events. The number of days with a heat index of over 100° F in Minneapolis could increase to 20 by the middle of the century, and over 40 by the end of the century. Periods of extreme heat are particularly concerning for the Twin Cities region, which typically sees more heat events per year than the rest of the state. Temperatures can differ by over 10° F across neighborhoods within Minneapolis, for example. These temperature disparities align with formerly redlined and disinvested areas (Borunda, 2020). People living in these areas can experience increased illness and even death during extreme heat events.

Extreme heat can make it uncomfortable or unsafe for transit riders, operators, and maintenance workers to be outside. Over time, extreme heat can lead to more rapid degradation of roadways, vehicles, rail, and additional transit infrastructure, increasing maintenance time and costs.

Like our transportation system, impacts to services and utility operations will occur within our wastewater and water systems. Water demand rises during periods of extreme heat and drought, stressing water resources. Groundwater levels decline, stream and river levels can drop, and shorelines increasingly become vulnerable to erosion.

Warm periods lead to increased evaporation, declines in oxygen levels, and concentration of in-stream/in-lake pollutants. Algal blooms and fish kills become more prevalent as the waters become less inhabitable. Warming water will greatly influence fish populations, with stresses and reductions in popular, cold-sensitive gamefish like walleye, cisco, and trout. The disruption will provide additional avenues for invasive species to have a larger impact on the aquatic ecosystems.

Increased pumping occurs to supply water to the drinking water supply system, requiring more energy use and more treatment, increasing costs, and lowering efficiency. Water supply treatment and distribution systems are built to cope with these stresses; however, climate-driven heat events can impose extreme shocks that test those systems.



Heat lifts rail track

Extreme heat can disrupt transit reliability. High temperatures cause rail tracks to bend and may require trains to operate at lower speeds to avoid derailment.

In June of 2022, as temperatures hit a record 101°F in the Twin Cities, the heat caused portions of the track for the METRO Blue Line to expand. In one area near the Terminal 2 station, the track expanded to such a degree that it began to lift off the ground. Metro Transit crews arrived on the scene and were able to reset the track over several hours. In the meantime, trains ran on a single line.

This instance shows the significant effects of extreme heat on transit – not only did heat disrupt physical infrastructure, causing a potential for service disruption, but it also meant that staff needed to be working outdoors in high temperatures.





DISRUPTED GROWING SEASONS

Climate change is expected to negatively impact species' growing conditions, threatening biodiversity and the integrity of ecosystems. Warmer and wetter conditions can increase the spread of pathogens and parasites, such as the West Nile Virus from mosquitos and Lyme disease from ticks, a threat to people visiting regional parks. The region's natural flora and fauna have evolved to live within the area's specific weather patterns. Increased temperatures weaken many species and alters behavior patterns, making them vulnerable to disease and damage.

Invasive species populations are expected to rise, leading to massive tree loss, decreased water quality, loss of wildlife and habitat, and an increase in emissions from loss of ecosystem carbon sequestration. Public green space maintenance will become more difficult and expensive as we replace dying trees and fight invasive species. Harmful blue-green algae blooms flourish under warmer summer temperatures and heat events, impacting our wastewater treatment plant operations (Minnesota Department of Health, 2015, p. 90).



Reforestation for resilience

Regional park lovers who visited the Met Council's Future Forest Art Shanty in January and February 2020 wrote a short love letter to their favorite regional park. For every five visitors who wrote a letter, the Mississippi Park Connection donated another tree to be planted at Crosby Farm Regional Park in Saint Paul.

At Crosby, Mississippi Park Connection joined with partners to test tree species that are adapted to future climates. In 2020, more than 200 volunteers helped install 24 test plots and plant more than 1,000 test trees. The plots were strategically placed in gaps in the tree canopy created by removal of trees killed by emerald ash borer. This two-decade project is part of a national network of research designed to provide land managers with information they can use to care for forests in a warming climate.



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Climate risk and environmental justice



Historic policies and systemic behaviors have contributed to wide disparities in income, health, wealth, and education among various demographic groups. These disparities increase the impacts of climate change on overburdened communities, especially on communities with low incomes; Black, Indigenous, and communities of color; and the disability community.

By understanding the impacts of historic policies, we can create equitable climate solutions that lessen the impacts of past harms.

Historically disinvested communities, such as formerly redlined communities, continue to face the effects of decades-old policies today. Many of these effects, such as poor air quality, localized heat islands, and chronic health issues, are amplified by climate change. Impacts such as contaminated soils and impure water further magnify the challenges of preparing for and responding to a changing climate.

These environmental challenges also exacerbate the impacts on the elderly, the young, and those with chronic and acute health conditions, particularly when such communities hold intersecting identities as part of low-income and/or Black, Indigenous, or communities of color. In addition, systemic disinvestment has prevented generational wealth-building, leaving many communities with fewer financial resources to respond to the climate impacts of today.

The Climate Action Work Plan seeks to abate such impacts of injustice by incorporating equity and environmental justice into the plan. Our climate actions can help mitigate the impacts of past practices and work toward racial and economic equity, which builds resilience.

A focus on equity and environmental justice also seeks to ensure the conscious distribution of the costs and benefits associated with the actions within this plan. The Climate Action Work Plan discusses the need to create opportunities for meaningful participation that recognize past and current environmental harms for many residents.



ENVIRONMENTAL JUSTICE ASSESSMENT

An internal environmental justice task force developed a draft Environmental Justice Assessment with input from environmental justice practitioners. The assessment used quantitative and qualitative methods to identify strengths and gaps in the Climate Action Work Plan's approach to environmental justice. The assessment evaluated how the plan addresses the following key environmental justice themes:

Health

- Does the plan improve health (physical and mental) outcomes for historically and presently overburdened communities, which include low-income communities and Black, Indigenous, and communities of color?
- Does the plan uphold the fundamental human right to clean, healthy and adequate air, water, land, transportation, and housing?

Affordability and economic stability

- Does the plan lower and stabilize costs related to basic living needs (transportation, housing, utilities, etc.) for low-income communities and Black, Indigenous, and communities of color?
- Does the plan ensure economic justice so that low-income, Black, Indigenous, and communities of color are prioritized in the benefits of the plan and are protected from any potential negative consequences?

Community values, engagement, and cultural preservation

- Does the plan elevate the voices of low-income communities and Black, Indigenous, and communities of color by strengthening resources and respecting the skills and abilities that a community needs to survive, adapt, and thrive?
- Does the plan deliberately and respectfully honor cultural relevance and history to maintain cultural heritage from the past and present for the benefit of all generations? (Paying particular attention to self-told narratives from Black, Indigenous and Communities of Color).





Accountability

- Does the plan ensure that governments are accountable for their actions and listen and learn from low-income, Black, Indigenous, and communities of color?

Climate adaptation

- Does the plan include strategies that enhance the ability of low-income communities and Black, Indigenous, and communities of color to adapt to the impacts of climate change?
- This theme also considers the cumulative impacts on communities that are affected by multiple ongoing climate and health-related issues.

Land stewardship and Indigenous relations

- Does the plan include strategies that ensure holistic land stewardship, acknowledging the inherent value of the natural world as well as the land's role in nourishing the human community?
- Does the plan recognize the critical relationship between Indigenous peoples and the natural world, as well as the sovereign status of tribal nations?

Access to community resources

- Does the plan consider access to: jobs, housing, transportation, funding, education, healthy foods, and a clean environment for low-income communities and Black, Indigenous communities of color, and people of various abilities/disabilities?
- Does the plan remove barriers through infrastructure, policy, and investments?
- After conducting the assessment, the internal task force recommended changes to improve the Climate Action Work Plan, and the plan team incorporated the recommendations. This plan reflects the changes recommended by the task force. In addition, the Environmental Justice Task Force recommended subsequent environmental justice work to be done after the Met Council approves the Climate Action Work Plan.

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ENVIRONMENTAL JUSTICE WORK IN THE NEXT FEW YEARS

The Met Council commits to reflecting on what we learned in the development and implementation of the draft assessment and its implications for subsequent environmental justice work.

We further commit to developing an Environmental Justice Framework in partnership with communities with low incomes and communities of color, particularly Black and Indigenous residents, across our region over the next few years. Our goal is to integrate environmental justice more deeply and meaningfully into all the Met Council's work. Prioritizing environmental justice will lead to a region that is more prosperous and more resilient for all.

The Met Council participated in the development of the State's Climate Action Framework concurrent with the development of our Climate Action Work Plan. We follow the state's lead described in the Minnesota Climate Action Framework, which notes, "Climate change directly impacts tribal nations and communities, their members, and their lifeways. As the State of Minnesota works toward solutions to limit the impacts of climate change, these solutions must include the knowledge and voices of tribal nations." We will continue to pursue this work across our five divisions, both within and beyond the scope of the Climate Action Work Plan.



Evaluation of the Climate Action Work Plan

Climate team members will use the following milestones to evaluate the Climate Action Work Plan and track implementation progress. Because the work plan is a new effort for the Met Council, an evaluation will allow staff to reflect on lessons learned from the process and make recommendations for areas of strength and areas of improvement. The work plan has a three- to five-year time frame and will need to be renewed on a regular basis. An evaluation process will help the team understand how to best proceed when renewing the work plan. In addition, an evaluation and reporting timeline provides accountability, both internally among leadership and staff, and externally to Met Council stakeholders and partners.



2023 quarterly reporting timeline



Quarter 2:

Status report on action implementation. Identify gaps in ability to implement short-term (year 1) actions.



Quarter 3:

Review medium-term (years 1-3) actions. Prepare to implement or identify any barriers to implementation.



Quarter 4:

Develop work plans for medium-term actions as needed. Present annual Climate Action Work Plan status report to the Met Council, including implementation status of short-term (year 1) actions, the gaps and sticking points, priorities changed, and anything missed.



PERFORMANCE MANAGEMENT AND METRICS

The success of the Met Council's Climate Action Work Plan relies on a clear plan for monitoring and evaluating progress. To support this process, some actions are clear in their completion – plan written, study completed – while others contribute to larger organization-wide goals to reduce emissions, increase resilience, and address inequities. As such, the identified evaluation metrics are both quantitative and qualitative and provide a complete picture of progress towards the Met Council's climate commitments.

The Met Council commits to annual reporting of progress against these metrics to recognize achievements and clarify where additional resources or capacity are needed to advance actions. These monitoring and evaluation metrics will be further refined during the implementation phase of the climate plan.

Performance Metrics

Commitment #1

Incorporate environmental justice principles as we plan, implement, and evaluate our climate action work.

- Identify and describe activities undertaken to engage environmental justice communities in the implementation of the Climate Action Work Plan. Provide detail on the number, type, and level of engagements, and what resulted from the engagements.

Commitment #2

Accelerate emissions reductions from our operations to achieve carbon neutrality.

- Total annual direct and indirect greenhouse gas emissions and the percent change from Met Council operations compared to a 2005 baseline.
- Percentage of total energy consumption for Met Council operations supplied by renewables and biosolids energy recovery, excluding liquid transportation fuels.
- Total annual greenhouse gas emissions for revenue and nonrevenue fleet vehicles.

Commitment #3

Accelerate regional emissions reductions through existing and new partnerships.

- Identify and describe activities undertaken that support regional emission reductions. Where possible, quantify the greenhouse gas emissions reductions associated with those activities.
- Total annual greenhouse gas emissions from regional transportation. Report on trends over time.

Commitment #4

Reduce risks and impacts of climate change hazards to our facilities and services.

- Identify and describe activities undertaken to assess and address climate vulnerabilities at Met Council facilities. Provide context on the number of facilities evaluated, the types of risks identified, and the adaptation strategies pursued to minimize those risks.

Commitment #5

Support and collaborate with partners to advance regional climate adaptation efforts.

- Identify and describe activities undertaken to support regional climate adaptation efforts. Provide context on the types of activities and how they directly or indirectly support climate resilience outcomes.

Cross-cutting

- Identify and describe activities undertaken to provide training and professional opportunities for staff to enrich their skills and expertise related to supporting the Met Council's climate action commitments. Provide context on the number and type of staff participating in these opportunities.





Plan structure: Commitments, strategies, and actions

The Climate Action Work Plan includes high-level commitments that Met Council members and staff established in 2022. This plan is an objective-based framework. This approach will ensure a focus on outcomes and that the work will be cross-divisional and interdisciplinary. The strategies support the commitments of the plan, and the defined actions support each strategy.

Use the following guide to read the plan’s implementation matrix, pp. 38-46.

Definitions



Commitments: Directional statements that describe the desired end states for climate action in our operations and planning services.

- **Mitigation:** Strategies focus on minimizing contributions to climate change through efficiency measures and reducing greenhouse gas emissions.
- **Adaptation:** Strategies focus on how to change policies and practices to adjust to ongoing and future impacts of climate change.



Strategies: Overarching tactics to achieve commitments. The strategies are often cross-divisional in nature.



Actions: Specific actions and projects with defined timelines, outcomes, and divisional responsibilities.



ENVIRONMENTAL JUSTICE FLAG

Actions have been flagged if their implementation could have spatial/locational implications, for example, could have impacts on a particular neighborhood or community. This helps us identify actions that should go through a future environmental justice assessment.

DIVISION LEAD

The division(s) with primary responsibility for leading the action.

TYPE OF WORK

Some actions in the Climate Action Work Plan are new efforts for the Met Council, while others are continuations of existing efforts. This column flags each action’s status as new or existing work.

New work:	A new initiative or project
Enhance:	Expansion of existing initiative or project
Status quo:	Continuation of existing work at same level

START DATE

When the action will be initiated.

END DATE

The goal of when the action will be completed and/or implemented.

ENABLING ACTIONS

Each action in the plan matrix includes assessments of whether the action enables subsequent actions to be taken; these are called enabling actions.





PRIORITY

1. Straightforward (high impact, low difficulty): Actions that are easier to accomplish and have a high impact. Should be a high priority for implementation.
2. Major projects (high impact, high difficulty): Actions that are difficult to accomplish and have a high impact. Worth doing but may take more time to implement and should be prioritized carefully.
3. Fill-ins (low impact, low difficulty): Actions that are easy to accomplish but have low impact. Low priority but could be worthwhile.

PLANNED STRATEGIES AND ACTIONS

COMMITMENT 1. Incorporate environmental justice principles as we plan, implement, and evaluate our climate action work.

STRATEGY 1. Leverage and improve our data and analysis tools as we center environmental justice in our internal and external climate work.

	ENV JUSTICE	LEAD	TYPE OF WORK	START DATE	END DATE	ENABLING	PRIORITY
A1. For actions in the Climate Action Work Plan flagged with spatial/location impacts, establish processes for reviewing environmental justice impacts in action implementation. Processes can build off the Met Council's existing tools (for example, the place-based equity and equity datasets). This will also be part of, and supported by, the development of an environmental justice framework.		ALL	Enhance	2023	Ongoing	Yes	2
A2. Consult with tribal partners, both state and federally recognized and non-recognized, to ensure technical climate resources include and respect Indigenous knowledge and practices.		RA	Enhance	2023	Ongoing		1
A3. Include overburdened populations and environmental justice concerns when creating and using tools (data, maps, etc.) that assess regionwide and project-specific climate risks and impacts.		ALL	Enhance	2023	Ongoing		1
A4. Lead all partnerships for Met Council climate work with meaningful involvement and power-sharing with marginalized/overburdened stakeholders and community organizations who have historically not been included in engagement. This includes but may not be limited to low-income communities; Black, Indigenous, and people of color communities; and people with disabilities.		CD	New work	2023	Ongoing		2

COMMITMENT 2. Accelerate emissions reductions from our operations to achieve carbon neutrality.

STRATEGY 1. Adopt a holistic approach to energy management.

	ENV JUSTICE	LEAD	TYPE OF WORK	START DATE	END DATE	ENABLING	PRIORITY
A1. Designate a division-level energy manager — or similar — charged with planning and leading implementation of continual improvements in the measurement, management, and efficiency of energy use and other energy management initiatives.		ES + MT	Enhance	2023	2023	Yes	1
A2. Establish division- and facility-level energy performance targets and regularly report on progress. Performance targets should be informed by energy benchmarking data as well as the identification of energy savings potential.		ES + MT	Enhance	2023	Ongoing		1
A3. Establish a cross-divisional workgroup on energy management to encourage peer-to-peer learning focused on identifying and implementing energy efficiency and renewable energy opportunities.		ES + MT	New work	2023	Ongoing		3
A4. Implement practices that reduce transportation-related emissions from employees and from visitors to Met Council buildings.		RA	Enhance	2023	Ongoing		3

PLANNED STRATEGIES AND ACTIONS

STRATEGY 2. Make buildings and processes more energy efficient.

	ENV JUSTICE	LEAD	TYPE OF WORK	START DATE	END DATE	ENABLING	PRIORITY
A1. Develop division-specific inventories of energy-efficiency opportunities and implementation priorities. Integrate identification, evaluation, and documentation of such opportunities with other facility planning and asset management business processes.		CD + ES + MT	Enhance	2023	Ongoing		2
A2. Evaluate energy-efficiency strategies for MTS Contracted Services leased facilities, in conjunction with facility owner and utility service provider.		MTS	New work	2024	Ongoing		2
A3. Accelerate the process of retrofitting lighting systems to LEDs with a goal of 95% retrofit completion in 5 years.		ES + MT	Enhance	2023	2027		2
A4. Identify mechanisms to overcome funding barriers in energy-efficiency financing.		CD + ES	New work	2023	2024		2



STRATEGY 3. Move towards electric energy and alternative fuel sources.

A1. Develop division-specific inventories of building system electrification opportunities and implementation priorities. Integrate identification, evaluation, and documentation of such opportunities with other facility planning and asset management business processes.		ES + MT	Enhance	2023	2024	Yes	1
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STRATEGY 4. Purchase and generate renewable energy when cost-effective.


A1. Evaluate the opportunities and constraints of various approaches to achieve 100% renewable energy purchases - both thermal and electric such as virtual power purchase agreements, utility-offered green power tariffs, etc.		ES + MT	Enhance	2023	2024	Yes	1
A2. Develop an on-site renewable energy deployment plan that consists of the following: * Inventory of Met Council-owned properties suitable for potential solar photovoltaic development * Design and evaluation criteria for inclusion of onsite solar in major projects		ES + MT	New work	2024	2026		2

STRATEGY 5. Transition Met Council fleets to electric and alternative fuel vehicles.

	ENV JUSTICE	LEAD	TYPE OF WORK	START DATE	END DATE	ENABLING	PRIORITY
A1. Continue to implement and follow the Metro Transit Zero Emission Bus Transition Plan.		MT	Status quo	Ongoing	Ongoing	Yes	1
A2. Develop a Zero Emission Vehicle Transition Plan for Metro Mobility, Transit Link, Contracted Fixed Route, and Metro Vanpool services, including evaluation of electric vehicle charging and alternative fuel sources at private and regional provider garage facilities.		MTS	New work	2022	Ongoing		1
A3. Develop an electrification and fuel economy improvement transition plan for nonrevenue fleet vehicles and off-road equipment that prioritizes opportunities with the greatest potential for greenhouse gas reductions.		ES + MT	Enhance	2025	2026		2

PLANNED STRATEGIES AND ACTIONS

STRATEGY 6. Maximize energy and resource recovery opportunities.

	ENV JUSTICE	LEAD	TYPE OF WORK	START DATE	END DATE	ENABLING	PRIORITY
<p>A1. Continue pursuit of energy and resource recovery from biosolids management. Anticipated projects in the next 5 years include</p> <ul style="list-style-type: none"> * Installation of biogas-fueled combined heat and power system at Empire Wastewater Treatment Plant * Completed design for new steam turbine generator to enhance energy recovery from biosolids incineration at Metropolitan Wastewater Treatment Plant * Improvements to biogas energy recovery at Blue Lake Wastewater Treatment Plant 		ES	Status quo	Ongoing	Ongoing		2
<p>A2. Conduct a feasibility study to document opportunities and constraints of extracting and using the embodied thermal energy in wastewater influent and effluent as a heat source for HVAC heat pump applications.</p>		ES	New work	2025	2027		2
<p>A3. Document opportunities and constraints of expanded biogas production and utilization at Blue Lake and Empire wastewater treatment plants through additional high-strength waste receiving, food waste co-digestion, and other biogas production optimization measures. Develop biogas optimization goals.</p>		ES	Enhance	2025	2027		2

STRATEGY 7. Account and report greenhouse gas emissions.

	ENV JUSTICE	LEAD	TYPE OF WORK	START DATE	END DATE	ENABLING	PRIORITY
<p>A1. Publish an annual inventory of greenhouse gas emissions related to the Met Council's operations that reflects current best practices in greenhouse gas accounting and include direct (for example, fossil fuel combustion, process emissions, etc.) and indirect (emissions from energy purchases, solids waste management, embodied emissions in the supply chain, etc.).</p>		ES + MT	Enhance	2024	Ongoing		1
<p>A2. Develop tools and processes to ensure capital projects maximize lifecycle greenhouse gas emissions reduction opportunities and acknowledge the social cost of greenhouse gas emissions.</p>		ES + MT	New work	2025	Ongoing		2



STRATEGY 8. Investigate opportunities to mitigate greenhouse gas emissions with the highest global warming potential.

	ENV JUSTICE	LEAD	TYPE OF WORK	START DATE	END DATE	ENABLING	PRIORITY
<p>A1. Develop a refrigerant management plan to:</p> <ul style="list-style-type: none"> * Establish good record keeping * Ensure safer handling and storage of refrigerants * Improve leak detection and repair * Identify opportunities to switch to refrigerants with lower global warming potential 		ES + MT	Enhance	Ongoing	Ongoing		2
<p>A2. Develop and implement a research and monitoring strategy to better quantify wastewater process emissions to inform the evaluation of emissions reduction potential from these sources.</p>		ES	New work	2024	Ongoing		2



PLANNED STRATEGIES AND ACTIONS

COMMITMENT 3. Accelerate regional emissions reductions through existing and new partnerships.

STRATEGY 1. Promote reduction of transportation-related emissions.

	ENV JUSTICE	LEAD	TYPE OF WORK	START DATE	END DATE	ENABLING	PRIORITY
A1. Develop prioritization criteria and supporting datasets for where and what type of public charging is needed to advance electric vehicle ownership within the region.		MTS	New work	2023	2024		1
A2. Consider the adoption of a regional Vehicle Miles Traveled (VMT) reduction target and the development of supporting policies and actions when completing the 2050 Transportation Policy Plan to support the state’s adopted target and strategies.		MTS	New work	2023	2024		2
A3. Provide technical assistance for the electrification of city, county, and other agency fleets through strategic partnerships.		CD	New work	2024	2026		2
A4. Continue to fund and promote incentives and programs to increase ridership and limit VMTs for single-occupancy vehicles.		MT	Enhance	Ongoing	Ongoing		2
A5. Seek out opportunities and strategies to enhance multimodal connections through facility and service improvements, including first mile/last mile, etc. Measure progress by benchmarking against peer agencies.		MT	Enhance	Ongoing	Ongoing		2

STRATEGY 2. Convene and partner with regional stakeholders to expand engagement and collaboration related to greenhouse gas emissions.

	ENV JUSTICE	LEAD	TYPE OF WORK	START DATE	END DATE	ENABLING	PRIORITY
A1. Expand strategic partnerships and leverage Met Council authorities to increase energy efficiency, expand renewable energy deployment, and reduce out-of-pocket utility bills for residents in the region’s affordable housing.		CD	Enhance	2023	2024		2
A2. Share information and encourage regional partners to pursue state and federal funding opportunities that reduce greenhouse gas emissions and improve resiliency.		ALL	New work	2023	2025		1

STRATEGY 3. Track and report greenhouse gas emissions.

	ENV JUSTICE	LEAD	TYPE OF WORK	START DATE	END DATE	ENABLING	PRIORITY
A1. Maintain a regional community-scale greenhouse gas inventory and business-as-usual forecasts to support regional and local planning. Collect and synthesize regional climate mitigation and adaptation data in an easily accessible platform for public consumption.		CD	Enhance	2023	2024		1






PLANNED STRATEGIES AND ACTIONS

STRATEGY 4. Maximize energy and resource recovery opportunities.

	ENV JUSTICE	LEAD	TYPE OF WORK	START DATE	END DATE	ENABLING	PRIORITY
A1. Conduct a feasibility study to document opportunities and constraints of using embodied thermal energy in wastewater influent and effluent for use in community-level district energy systems.		ES	New work	2026	2027		2
A2. Document opportunities and constraints of expanded biogas production and use at Blue Lake and Empire wastewater treatment plants through additional high-strength waste receiving, food waste co-digestion, and other biogas production optimization measures. Develop biogas optimization goals.		ES	Enhance	2026	2027		2


COMMITMENT 4. Reduce risks and impacts of climate change hazards to our facilities and services.

STRATEGY 1. Incorporate adaptation measures into facility and services planning, design, operations, and maintenance.

	ENV JUSTICE	LEAD	TYPE OF WORK	START DATE	END DATE	ENABLING	PRIORITY
A1. Develop a climate vulnerability screening tool to identify and prioritize Met Council-owned facilities and properties for in-depth climate preparedness reviews. A climate preparedness review should look at the adequacy of existing adaptation measures and emergency plans to respond to major climate events and make recommendations for improved adaptation and resilience.		ES + MT	Enhance	2023	Ongoing	Yes	2
A2. Implement climate adaptation and resilience guidelines to inform project and facility planning — from property acquisition through final design. Guidelines should use of forward-looking climate change data to identify and assess climate risks and inform the selection and prioritization of strategies to minimize potential climate vulnerabilities.		CD	Enhance	2023	2024		2
A3. Review existing emergency preparedness planning scenarios and make recommendations to ensure those scenarios adequately incorporate anticipated climate change impacts on Met Council services and operations.		RA	Enhance	2024	Ongoing		2
A4. Develop climate mitigation and adaptation strategies to address current and future climate impacts on regional systems within the 2050 Policy Plans (Housing, Water Resources, Transportation, Parks).		CD	New work	2023	2025		2
A5. Evaluate the need and opportunity to enhance redundancy and resiliency of facility electric service and where necessary implement improvements. Enhancements may include secondary power feeds, backup generators, or energy storage.		MT	Enhance	Ongoing	Ongoing		3
A6. Evaluate the impacts of climate change on inflow and infiltration to the regional wastewater collection system and develop recommendations to respond accordingly.		ES	New work	2025	2027		2
A7. Participate in state-led efforts to update floodplain management rules for critical facilities.		ES	Status quo	TBD	TBD		3
A8. Evaluate the effects of climate change on process odors and their impacts on communities adjacent to wastewater infrastructure.		ES	New work	2025	2027		2





PLANNED STRATEGIES AND ACTIONS

STRATEGY 2. Identify opportunities to install and maintain sustainable landscapes on Met Council property.

	ENV JUSTICE	LEAD	TYPE OF WORK	START DATE	END DATE	ENABLING	PRIORITY
<p>A1. Incorporate climate-resilient landscape management practices where consistent with facility operation and maintenance requirements, such as:</p> <ul style="list-style-type: none"> * Raingardens, bioswales, and infiltration basins * Pervious surfaces * Drought-tolerant trees, shrubs, and turf grasses * Pollinator, native, and climate-adapted plantings * Invasive and noxious vegetation management * Chloride mitigation * Smart irrigation controllers when irrigation is installed 		ES	Status quo	Ongoing	Ongoing		2
<p>A2. Conduct existing condition assessment of Met Council-owned properties to identify priority locations for protection, enhancement, and restoration of climate-resilient landscapes.</p>		ES	Status quo	Ongoing	Ongoing	Yes	1
<p>A3. Convene a cross-division workgroup on sustainable landscape practices to share lessons learned and expand green infrastructure and natural stormwater management at Met Council facilities.</p>		MT	Enhance	2023	Ongoing		1






COMMITMENT 5. Support and collaborate with partners to advance regional climate adaptation efforts.

STRATEGY 1. Convene and partner with regional stakeholders to expand climate engagement and collaboration.


	ENV JUSTICE	LEAD	TYPE OF WORK	START DATE	END DATE	ENABLING	PRIORITY
<p>A1. Convene and participate in conversations with partner organizations and residents to share challenges and best practices, identify gaps and collaboration opportunities, and develop a shared regional vision of climate resiliency.</p>		CD + ES	New work	2024	Ongoing	Yes	1
<p>A2. Facilitate a conversation with regional partners around the climate vulnerability of regional transportation systems including highways, transit, bicycle, and pedestrian systems, and what role the Met Council could play.</p>		MTS	Enhance	2024	2025		2
<p>A3. Building on work during the Transportation Policy Plan development, partner with cities, counties, MnDOT, MPCA, and others in the development of specific regional transportation climate actions.</p>		MTS	New work	2025	Ongoing		1
<p>A4. Enhance the technical capacity of climate change research partnerships with academic institutions in the Twin Cities region, to ensure technical assistance and tools incorporate current knowledge and research-informed practices.</p>		CD + ES	Enhance	2023	2024	Yes	1

PLANNED STRATEGIES AND ACTIONS

STRATEGY 2. Provide and expand technical assistance, tools, and data for regional and Met Council decision-making.





	ENV JUSTICE	LEAD	TYPE OF WORK	START DATE	END DATE	ENABLING	PRIORITY
A1. Document and share climate change mitigation and adaptation strategies and guidance for counties, cities, and townships to adopt into local policy, planning, or programs. Resources include environmental justice guidance and materials.		CD	Enhance	2024	2027		2
A2. Develop qualitative research to support effective climate-related technical assistance through partnerships with new organizations. Emphasize storytelling and knowledge sharing with local governments. Use qualitative methods to develop insight into barriers and opportunities of climate action in our region.		CD	New work	2024	Ongoing		1
A4. Evolve the Met Council's localized flood mapping tool to incorporate the latest data to accurately assess risk to areas of localized, riverine, and groundwater flooding at a regional scale. Inform and train partners on its use.		CD + ES	Enhance	2024	2026	Yes	2
A5. Use Met Council climate research, data, and tools to inform decision-making within Met Council programs, like grantmaking, in order to advance environmental justice outcomes.		CD	New work	2023	2026	Yes	2
A6. Quantify and map the value of ecosystem services to inform planning processes. Provide a decision-making framework linking climate, water, and land use to ecosystem services across the region.		CD + ES	Enhance	2024	2026	Yes	2
A7. Fly a metro-specific LIDAR flight every 5 years with the support and funding of watershed agencies, metro cities, and other regional stakeholders.		ES	New work	2023	Ongoing		2

STRATEGY 3. Develop and expand regional funding mechanisms for local climate infrastructure.

	ENV JUSTICE	LEAD	TYPE OF WORK	START DATE	END DATE	ENABLING	PRIORITY
A1. Identify and establish local funding mechanisms, in collaboration with partner organizations, to support equitable investment in climate adaptation and infrastructure resiliency projects that mitigate flooding, reduce urban heat, improve water quality, prioritize environmental justice concerns, and preserve and enhance ecosystem services within the greater metropolitan region.		CD + ES	New work	2024	2026	Yes	2
A2. Convene regional partners to identify opportunities to collaborate in the pursuit of state and federal funding opportunities that advance regional climate adaptation efforts.		CD	New work	2024	Ongoing	Yes	1

PLANNED STRATEGIES AND ACTIONS

STRATEGY 4. Promote climate connections in regional planning, local plan reviews, and grant programs.

	ENV JUSTICE	LEAD	TYPE OF WORK	START DATE	END DATE	ENABLING	PRIORITY
A1. Develop a checklist of climate considerations and best practices to address when conducting agency reviews of county groundwater plans, watershed management plans, local surface water plans, water supply plans, local sewer management plans, comprehensive plans and amendments, and environmental reviews.		ES	New work	2023	2024	Yes	1
A2. Develop and integrate climate measures in evaluation criteria and project selection for Met Council-administered grant and incentive programs.		ES + MTS	Enhance	2023	Ongoing		2
A3. Develop greenhouse gas measures for the regional solicitation project selection process and the four-year Transportation Improvement Program so that evaluations can better consider climate mitigation.		MTS	New work	2023	2024	Yes	1
A4. Evaluate how climate-related drivers impact the potential for watershed pollution trading of nitrogen and phosphorus. Highlight in-watershed best management practice opportunities and investments instead of costly wastewater treatment process investments.		ES	New work	2025	Ongoing		2
A5. Develop and provide options to Met Council and the Transportation Advisory Board for inclusion of greenhouse gas emissions reductions in the Regional Solicitation transportation project funding process.		MTS	New work	2023	2024		1
A6. Provide technical assistance to regional partners to establish green infrastructure and other nature-based adaptation measures through peer exchanges, content creation, and local and national case studies to increase the number of installations throughout the metro region.		ES	New work	2025	Ongoing	Yes	2
A7. Evaluate and report the greenhouse gas emissions impacts of the Transportation Improvement program.		MTS	New work	2024	2027		2
A8. Evaluate and encourage water reuse where feasible to sustain aquifers through the development of model ordinances, building code requirements, and facilitating collaboration among regional partners to influence code development.		ES	Status quo	Ongoing	Ongoing		2
A9. Lead travel demand management policy development and funding of programs in our region, including implementing recommendations of the Regional Travel Demand Management Study.		MTS	New work	2023	Ongoing		1
A10. Work with MnDOT and other transportation partners to create a framework and process to allocate regional federal funds in the Carbon Reduction Program.		MTS	New work	2023	2024		1

PLANNED STRATEGIES AND ACTIONS

STRATEGY 5. Monitor and assess water resources to identify climate threats.

	ENV JUSTICE	LEAD	TYPE OF WORK	START DATE	END DATE	ENABLING	PRIORITY
A1. Expand the water resource monitoring network to include all regional priority waters and connected groundwaters to better track the impacts of climate change. Parameters to monitor should include water temperature, chloride, nutrients, suspended sediments, flow, water elevation, etc.		ES	Enhance	2023	Ongoing		2
A2. Incorporate climate projections and impact analysis to enhance water resource assessments and modeling.		ES	Enhance	2024	Ongoing	Yes	2
A3. Conduct climate vulnerability assessments of regional drinking water supplies for local water suppliers.		ES	New work	2024	Ongoing	Yes	2

COMMITMENT 6. Cross-cutting

STRATEGY 1. Expand staffing and training dedicated to climate work.

	ENV JUSTICE	LEAD	TYPE OF WORK	START DATE	END DATE	ENABLING	PRIORITY
A1. Create an interdivisional Climate Action Work Plan implementation team with corresponding division-level climate work groups. The interdivisional team will include operational and planning staff; leadership support; and responsibilities for evaluation and reporting on the implementation of strategies.		ALL	New work	2023	2024	Yes	1
A2. Identify internal workforce development needs, both at individual contributor and managerial levels, and provide the training and professional development opportunities for staff to enrich their skills and expertise related to supporting the Met Council's climate action commitments.		ALL	New work	2023	2024	Yes	1
A3. Evaluate the Met Council's external reporting and disclosure of climate mitigation and adaptation efforts to streamline reporting, assign responsibility to appropriate Met Council staff, and avoid duplication.		ALL	Enhance	2023	2024		1



Glossary of terms



Adaptation strategies focus on how to change policies and practices to adjust to ongoing and future impacts of climate change.

Environmental justice aims to improve environmental outcomes for Black and Indigenous households, communities of color, and people with low incomes who have been disproportionately harmed by environmental racism, pollution, and climate change impacts. Environmental justice seeks to address these issues through equitable and intentional engagement, thoughtful policy creation, and public service delivery that is focused on improving environmental conditions and enhancing climate resilience.

Environmental justice communities refers to communities who are overburdened by environmental justice concerns, including low-income communities and Black, Indigenous, and people of color communities.

Environmental racism “refers to any policy, practice, or directive that differentially affects or disadvantages (whether intended or unintended) individuals, groups or communities based on color. It also includes exclusionary and restrictive practices that limit participation by people of color in decisions-making boards, commissions, and regulatory bodies” (Bullard, 1993, p. 23). Environmental justice is in part a direct response to environmental racism.

Equity connects all residents to opportunity and creates viable housing, transportation, and recreation options for people of all races, ethnicities, incomes, and abilities so that all communities share the opportunities and challenges of growth and change. For our region to reach its full economic potential, all our residents must be able to access opportunity. Our region is stronger when all people live in communities that provide them access to opportunities for success, prosperity, and quality of life (Metropolitan Council, 2014, p. 38).

Mitigation strategies focus on minimizing contributions to climate change through efficiency measures and reducing greenhouse gas emissions.

Racial equity is the process of eliminating racial disparities and improving outcomes for everyone. It is the intentional and continual practice of changing policies, practices, systems, and structures by prioritizing measurable change in the lives of people of color.

Regional partners refers to the Met Council’s partners and stakeholders. This includes local governments, state agencies, federally recognized tribes and non-federally recognized indigenous communities, watershed organizations, community members, and nonprofit organizations.

Resilience is an outcome of good mitigation and adaptation strategies. Resilience recognizes the difficulty of predicting impacts of climate change and emphasizes increasing our flexibility to survive and thrive regardless of how climate change develops. Resilience also includes the need for behavioral and organizational change to quickly pivot or reassess our priorities as conditions change.

Sustainability means protecting our regional vitality for generations to come by preserving our capacity to maintain and support our region’s well-being and productivity over the long term. The region’s investments in prosperity, equity, and livability will fall short over the long term if the region exhausts its resources without investing in the future (Metropolitan Council, 2014, p. 58).

References



Borunda, A. (2020). Racist housing policies have created some oppressively hot neighborhoods. National Geographic. Retrieved from <https://www.nationalgeographic.com/science/article/racist-housing-policies-created-some-oppressively-hot-neighborhoods>

Bullard, Robert D. (1993). The Threat of Environmental Racism. Natural Resources & Environment, vol. 7, no. 3, pp. 23-26. Retrieved from <http://www.jstor.org/stable/40923229>

EPA. (2022, April 18). Greenhouse Gas Equivalencies Calculator. Retrieved from <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator#results>

Hennepin County. (2021). Hennepin County Climate Vulnerability Assessment. Retrieved from <https://www.hennepin.us/climate-action/-/media/climate-action/hennepin-county-climate-vulnerability-assessment.pdf>

IPCC. (2021). Summary for Policymakers. In: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I. Cambridge, United Kingdom and New York, NY, USA: Cambridge University Press. doi:10.1017/9781009157896.001

Jenkins, J., Mayfield, E. N., Farbes, J., Jones, R., Patankar, N., Xu, Q., and Schivley, G. (2022). Preliminary Report: The Climate and Energy Impacts of the Inflation Reduction Act of 2022. Princeton, NJ: REPEAT Project. Retrieved from https://repeatproject.org/docs/REPEAT_IRA_Preliminary_Report_2022-08-04.pdf

Metropolitan Council. (2014). Thrive MSP 2040. Retrieved from [https://metro council.org/Planning/Publications-And-Resources/Thrive-MSP-2040-Plan-\(1\)/ThriveMSP2040.aspx](https://metro council.org/Planning/Publications-And-Resources/Thrive-MSP-2040-Plan-(1)/ThriveMSP2040.aspx)

Metropolitan Council. (2018). Regional Climate Vulnerability Assessment - Introduction. Retrieved from <https://metro council.org/Communities/Planning/Local-Planning-Assistance/CVA/Files/CVA-Introduction.aspx>

Minnesota Department of Health. (2015). Minnesota Climate & Health Profile Report. St. Paul, MN. Retrieved from <https://www.health.state.mn.us/communities/environment/climate/docs/mnprofile2015.pdf>

MN Climate Change Subcabinet. (2022). Minnesota's Climate Action Framework (DRAFT). Retrieved from https://climate.state.mn.us/sites/climate-action/files/2022-01/Climate%20Action%20Framework%20Draft_2.pdf

MN Department of Administration. (2020). Metropolitan Council. Retrieved from Current Performance Data: <https://sustainability.mn.gov/Home/AgencyInfo/METC>

MN Department of Public Safety. (2019). Minnesota State Hazard Mitigation Plan. Retrieved from <https://dps.mn.gov/divisions/hsem/hazard-mitigation/Documents/2019-mn-hmp-only.pdf>

MN Department of Natural Resources. (2018, December 29). Climate Trends. Retrieved from https://www.dnr.state.mn.us/climate/climate_change_info/climate-trends.html

MPCA. (2021). Greenhouse gas emissions inventory. <https://www.pca.state.mn.us/sites/default/files/Iraq-1sy21.pdf>.

Our Minnesota Climate. (2020, August 9). Disproportionate heat risks for communities of color. Retrieved from <https://climate.state.mn.us/disproportionate-heat-risks>

The White House. (2021). President Biden's Actions to Tackle the Climate Crisis. Retrieved from National Climate Task Force: <https://www.whitehouse.gov/climate/>

UNRIC. (2021, September 8). Guterres: The IPCC Report is a code red for humanity. Retrieved from <https://unric.org/en/guterres-the-ipcc-report-is-a-code-red-for-humanity/>





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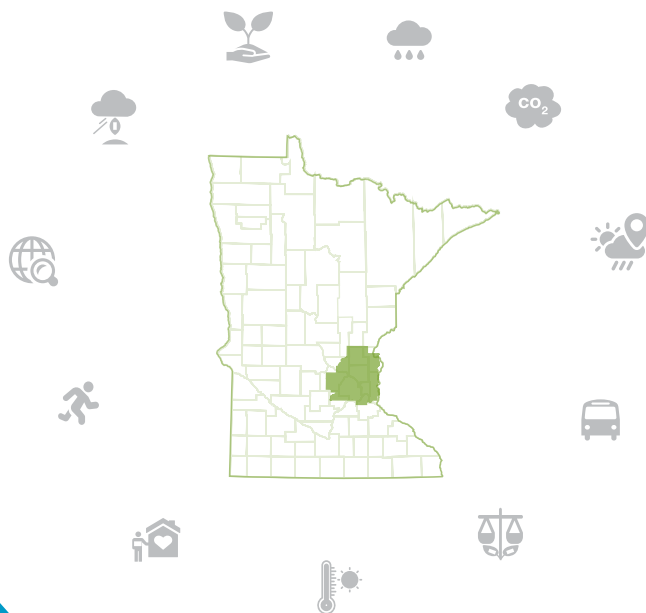
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