

WORKPLAN

1. OVERALL PROJECT SUMMARY AND APPROACH

a. Description of GHG Reduction Measures

Minnesota Climate-Smart Food Systems (MCSFS) is a transformative initiative to decarbonize the state's food system, advance economic opportunity, and support the health and wellbeing of all Minnesotans and future generations. Five state agencies will unite with Tribal Nations and communities statewide to develop a clean circular economy from food production to food waste, achieving significant GHGe reductions and benefiting low-income and disadvantaged communities (LIDACs). By empowering growers, makers, processors, partners, and local communities as change agents, Minnesota will fortify its role as an influential national leader in the food and agricultural sectors, showcasing the power of innovation and catalyzing a transition toward a sustainable, equitable, and climate-resilient food system.

In 2022, Minnesota's Climate Action Framework set a vision for a carbon neutral, equitable, and resilient future. Demonstrating a growing collective commitment to climate action, the state passed groundbreaking legislation in 2023 to reduce GHG emissions by 50% by 2030 from 2005 levels, achieve carbon neutrality by 2050, and generate 100% clean electricity by 2040 and rolled out several popular, successful decarbonizing investments. These efforts laid a solid foundation, yet more action is urgently needed to leverage time-critical matching funds and momentum to achieve the state's ambitious goals.

The state's food system represents an unparalleled opportunity to reduce climate pollution and advance environmental justice, as evidenced by extensive engagement and GHG analysis. This systems approach prompts a shift from a linear 'take-make-use-dispose' economy toward a circular economy, which fosters innovation in the conservation and efficient use of resources while minimizing waste, pollution, and use of fossil fuels. This proposal targets key emission reduction opportunities across multiple sectors of Minnesota's economy, including the two largest sectors (transportation and agriculture), as well as a sector that has seen increased emissions since 2005 (industrial). Food production in Minnesota is responsible for most nitrous oxide and methane emissions; nitrous oxide emissions from crop agriculture are on the rise, and food waste is responsible for an estimated 58% of methane emitted by landfills.

Meanwhile LIDACs throughout the state struggle with food deserts and hunger, and climate change increasingly threatens farming, local economies, food security, and Tribal food sovereignty. The strategies in this proposal effectively link climate pollution reduction to climate justice to promote fair distribution of the costs and benefits of action and ensure meaningful participation in planning.

Community and LIDAC input set a clear direction for this proposal: we must act now to reduce climate pollution while strengthening resiliency, advancing economic opportunity, centering Tribal and local knowledge, and supporting health in communities disproportionately impacted by climate change. MCSFS will strengthen and expand existing relationships with LIDACs while exchanging information on health equity and environmental justice. The proposal dedicates resources to meaningful LIDAC participation, LIDAC grantmaking, and tracking the distribution of funding and benefits in LIDACs.

MCSFS will fill critical investment gaps, build on past successes, and accelerate momentum toward a healthier, more equitable, climate-smart food system through the following set of integrated measures:

- 1) **Peatland restoration:** protect and restore 10,000 acres of degraded peatlands, originally drained for agriculture, to convert them from carbon sources to sinks through collaboration across Tribal, state, local government, and private lands. This supports culturally significant food sources and provides a scalable, cost-effective model to apply across peatlands in other states and countries.
- 2) **Climate-friendly agricultural practices:** implement 834,500 acres of on-farm practices for immediate and long-term GHGe reductions and carbon sequestration by accelerating producer participation in the nationally recognized Minnesota Agricultural Water Quality Certification and Soil Health Financial Assistance programs, providing an exponential increase in environmental

benefits as acceptance of climate-friendly practices spreads and norms shift.

- 3) **Industrial innovation:** implement circular economy principles and innovative technologies at food and organic waste processing sites toward achieving carbon-neutrality and zero waste through energy efficiency, fuel-switching, and strategic integration and stacking of advanced technologies.
- 4) **Low and ultra-low GWP refrigerants:** accelerate the transition to climate-friendly refrigerants in small businesses, supermarkets, schools, hospitals, food banks, and corner stores, making it possible for smaller entities to deploy the lowest GWP technologies. This will catalyze lower market costs, enabling others to invest in essential equipment.
- 5) **Vehicle and equipment replacement:** transition gasoline and diesel vehicles and equipment used in food systems, such as terminal tractors, freight transport trucks, and agricultural equipment, to electric and advanced clean fuels, with a strategic focus on lowering air pollution in LIDACs and serving as a model for other states to follow on the road to decarbonization.
- 6) **Prevention of wasted food and organics management:** scale up successful programs to prevent food from going to waste and divert food waste and other organic material away from disposal, keeping valuable nutrients in circulation to feed people and livestock, create valuable soil amendments, and avoid significant methane emissions.
- 7) **Food sovereignty and vibrant local food economies:** improve food security, strengthen food sovereignty, and unlock LIDAC economic prosperity by investing in Tribal- and local community-driven climate pollution reduction strategies informed by coordination and collaboration with Tribal Nations and engagement with LIDACs through regional food networks statewide.

The Minnesota Climate-Smart Food Systems proposal directly addresses all CPRG goals:

- 1) Significant GHG emission reductions: MCSFS implements ambitious measures targeting multiple GHGe sources to achieve significant and durable cumulative reductions of 3,506,692 metric tons (MT) of carbon dioxide equivalent (CO₂e) from 2025-2030 and 18,802,207 MT CO₂e from 2025-2050. Measures increase carbon in soil, reduce emissions from fertilizers, avoid and reduce methane emissions from waste, and reduce GHGs from industrial buildings and processes, vehicles, refrigerants, and more.
- 2) Community benefits, especially in LIDACs: MCSFS will target health, environmental, cultural, and economic benefits to LIDACs. Measures will improve air and water quality, improve food security, increase resiliency to flooding and drought, reduce exposure to environmental harms, strengthen Tribal food sovereignty, mitigate wildfire risk, improve economic opportunity, and protect culturally important fisheries, wildlife, and plant species. MCSFS invests in Tribal- and community-driven grants to ensure projects advance LIDAC priorities and maximize benefits.
- 3) Complementing other funding sources: MCSFS maximizes GHGe reductions and cobenefits by complementing other funding sources and filling funding gaps. The legislature invested in matching funds for federal grant dollars, state environmental funds, Volkswagen (VW) Settlement funds, one-time state legislative investments in a peatland inventory and restoration, and ongoing legislative funds for the prevention of food waste and organics recycling. Additionally, Governor Walz has included \$5 million in CPRG Leveraging Funds in his 2024 supplement budget request.
- 4) Innovative, replicable, scalable: MCSFS will fund innovative circular economy solutions across sectors that reduce waste, generate fuel, and save energy and will help launch nascent industries in Minnesota including anaerobic digestion and biochar production. Minnesota will scale up existing successful programs that deliver climate benefits in agriculture, natural and working lands, waste, and transportation that are replicable for use in other jurisdictions.

Minnesota created this proposal through a highly collaborative process, which is reflected by participation of multiple state agencies, Tribal governments, and partners and letters of commitment. The roles of these state agencies, Tribal Nations, and partners are described in detail for each measure that follows.

GHG REDUCTION MEASURES

Peatland restoration. [PCAP alignment 2.1: 2.1.1] Minnesota will build on its capacity and accelerate future restoration by investing \$20 million to protect and restore 10,000 acres of degraded peatlands originally drained for agriculture, converting them from carbon sources to carbon sinks. Minnesota selected this measure because peatlands are the single largest source of GHGe in the state's Agriculture, Forestry, and Land Use sector. Restoring peatlands not only sequesters carbon, but also addresses legacy agricultural drainage in LIDACs, increases resiliency to drought and wildfires, and supports culturally significant food sources downstream for Ojibwe and Dakota Tribes, including wild rice.

Major features, tasks, and milestones. The Department of Natural Resources (DNR) and Board of Water and Soil Resources (BWSR) will collaborate with Tribal Nations, local government units, and private landowners to protect and restore peatlands across a patchwork of land ownership. The agencies will use a state-funded peatland inventory to prioritize restoration areas, contract with experienced experts to conduct the work, and monitor results. DNR will restore peatlands on state-administered lands. Additionally, DNR regularly coordinates and consults with Tribal Nations and will distribute \$4 million to Tribes for restoration on Tribal lands and ceded territories. BWSR will build on its existing grant and easement funds, including new state funds for peatlands-focused easements, to expand its restoration efforts in collaboration with local governments, nongovernmental organizations (NGOs), and state and federal agencies. While existing grant and easement programs are effective in protecting scattered wetlands, restoring large peatlands has increased benefits of scale, which current funding is not able to support. CPRG funding is uniquely positioned to meet this need. In year 1, agencies will conduct outreach and communication with Tribes and other collaborators, plan restoration methods, and identify suitable sites. Beginning in year 2, agencies will conduct monitoring and administer contracts for restoration. In year 4 and ongoing, agencies will monitor results, including sampling of air emissions, water quality and quantity, and native and introduced vegetation.

Why this measure will be successful. BWSR and DNR will build on existing successful programs and partnerships to administer this work. BWSR will disburse CPRG funds through its grant and easement programs to local partners such as soil and water conservation districts (SWCDs) and watershed districts, who have the capacity to manage specific projects. BWSR is already working closely with state, federal, and NGO partners to track and share knowledge of peatland spatial extent, conditions, GHGe, water quality impacts, and restoration needs and methods, providing a solid foundation on which to build the program. DNR has a network of partnerships and internal expertise to apply appropriate science and best practices to the design, implementation, and monitoring of restoration projects on public lands. DNR will build on its strong relationships with Tribal Nations by working collaboratively to fund peatland restoration work on Tribal Nation lands and ceded territories, share lessons learned, and monitor findings.

Climate-friendly agricultural practices. [PCAP alignment 2.2: 2.2.1-3, 6] The Minnesota Department of Agriculture (MDA) will use \$20 million to administer a multifaceted approach to reducing food system emissions through implementation of on-farm practices. This measure was selected because it addresses funding gaps and obstacles to the adoption of GHGe-reduction practices and amplifies successful, innovative programs that MDA can quickly and economically scale for near-term and lasting GHGe reductions. On-farm practices funded through this measure include i) on-farm nutrient management practices, continuous living cover (CLC) crops, and land transition; ii) specialized soil health equipment; and iii) market development for perennial crops. These programs award additional points to applicants from historically underserved communities as defined by the MDA and USDA-NRCS, which significantly overlap with LIDACs. MDA staff will target outreach to LIDACs by leveraging regional staff and partner groups.

Major features, tasks, and milestones.

1) *Incentive payments for climate-friendly on-farm practices.* MDA will expand the Minnesota Agricultural Water Quality Certification Program (MAWQCP) to implement over 200,000 acres of new

climate mitigation actions to agricultural lands statewide, including nitrification/urease inhibitors, control release fertilizers, CLC and diversified crop rotations, and agricultural land transition from row crops to perennials. Formed as a national demonstration project through a partnership between Minnesota, USDA, and EPA, MAWQCP is an innovative, voluntary program that treats risks to water quality. Through \$9.9 million in CPRG funding, it will expand to also target GHGe reductions. Participants provide 25% match and are eligible for practice implementation payments for up to 3 years; practice longevity will be assured through a 10-year contract. Implementation will begin in 2025 with noncompetitive reimbursement grants through a rolling application through September 2029 or until funding is expended. Eight Area Certification Specialists will engage LIDACs, working with partners including SWCDs, to recruit new producers.

2) *Soil health equipment grants.* MDA will expand the highly successful Soil Health Financial Assistance (SHFA) program, administered by MAWQCP staff, to implement over 600,000 acres of new GHGe-reducing soil health practices with \$8.75 million in CPRG funds. Reduced till, no-till, and cover crops significantly reduce GHGe and sequester carbon, but require expensive specialized equipment, limiting adoption of these practices. Established in 2022, this unique-in-the-nation program enables individual producers, producer groups, and local government units to purchase new and used soil health equipment such as no-till drills, air seeders, and high boys and parts to retrofit existing equipment. Grantees provide up to 50% cost-share, with awards from \$500-\$50,000, and are required to report on soil health practices. The 2022 grant cycle resulted in over 35,000 acres of implementation; yet demand was over 13 times the available funding, leaving hundreds of thousands of acres unfunded. To implement, MDA will add CPRG funding to the annual 2025-2028 Request for Proposal (RFP) rounds, which are awarded each December.

3) *Market development for CLC crops.* MDA will expand its existing CLC Market Development Grant to address growing demand. Transitioning from annual row crops to perennial grains such as Kernza, winter annual oilseeds, and woody perennials such as hazelnuts, can significantly reduce GHGe through reduced inputs and changed on-farm management practices. These crops will provide new revenue streams for producers and emerging businesses in rural Minnesota and improve soil health and water quality. The food and agricultural industry, including General Mills and PepsiCo, are working to expand their use of CLC crop products. However, supply is limited; investments are needed throughout the system to better connect farmers and the food industry to meet demand. Launched in 2023, this grant funds enterprise development, supply chains, and markets for CLC crops and cropping systems in the early stage of commercial development. The \$500,000 in additional funding from CPRG will allow this program to extend beyond the 2024 round, with two more rounds in 2025 and 2026. Applications open in the fall with awards announced by January 1. Implementation occurs in next growing season. with biannual progress reports for the duration of the awarded project.

Why this measure will be successful. This measure builds on trusted, well-known, established programs with demand that outstrips funding available year after year. For example, MAWQCP has demonstrated its ability to reach farmers and incentivize adoption of improved environmental practices, including over 1,035,000 acres certified for water quality and over 1,450 producers enrolled, annually reducing 50,000 MT CO₂e. Building on existing relationships between producers and MDA staff ensures new practices are integrated into operations as long-term solutions. Survey data show over 70% of producers have voluntarily implemented additional conservation practices since their MAWQCP certification, demonstrating a trend of amplified environmental benefits.

Industrial innovation and decarbonization. [PCAP alignment 2.3: 2.3.4-5, 4.1: 4.1.1-8, 11; 4.2: 4.2.1, 5] MPCA will dedicate \$59.9 million to decarbonize food and organic waste processing sites through an industrial food, waste, and energy grant program and direct subaward. This measure is a priority because it will propel Minnesota to the forefront of food and agricultural industry decarbonization, reducing pollution, waste, impacts to LIDACs, and energy costs. The industrial sector accounts for 14.6 percent of net GHGe in the state, but decarbonization can be cost-prohibitive. To date, decarbonizing the industrial sector has seen significantly less policy and budget focus than other sectors, so it is ripe for action. CPRG

incentives are needed to reduce upfront costs, encourage facilities to make the leap to innovative technologies, and show proof of concept. Also, the state is seeing massive amounts of ash wood waste from emerald ash borer infestations. Minnesota must use the wood for biochar or carbon storage strategies to avoid prescribed burning of wood piles or decomposition and release of methane. This program offers opportunities to prevent emissions from wood waste and other organics that are methane sources, such as food scraps, manure, and high-nutrient wastewater.

Major features, tasks, and milestones.

1) *Grant program.* The \$47.2 million industrial food, waste, and energy grant program will implement circular economy principles at food and organic waste processing sites using technologies alone or in a value loop toward achieving carbon-neutrality and zero waste. Technologies include electric boilers, industrial heat pumps, combined heat and power, improved process efficiency, biochar production and application, energy storage, electrification, renewable energy, use and production of advanced clean fuels, and anaerobic digestion of food scraps, wastewater, and manure. Advanced industrial technologies such as heat recovery systems and electrification provide massive gains in efficiency and harness the value of Minnesota's increasingly decarbonized electricity grid.

MPCA will offer technical assistance and planning grants in 2025 to identify opportunities for decarbonization and integration of circular economy strategies into industrial sites. Implementation grants will follow, with the first round in 2025 for "shovel-ready" projects, and another in 2026 to include recipients of technical assistance and planning grants. Project implementation will occur from 2026 to 2029. MPCA will competitively award grants in an RFP process designed to select projects with a high likelihood of success, cost-effective GHGe reductions, and LIDAC benefits. To ensure LIDAC benefits, MPCA will require that LIDACs are meaningfully engaged in planning, implementation, and evaluation.

2) *Advanced industrial energy and decarbonization facility.* MPCA will facilitate access to new, sustainable organics management services for Ramsey and Washington counties, directing food scraps, yard waste, and organic-rich materials to a new facility that will showcase the effectiveness of advanced industrial energy and decarbonization technologies, particularly anaerobic digestion and biochar production. Through a public-private partnership, Ramsey-Washington Recycling and Energy (R&E) and Dem-Con HZI Bioenergy (DCHZI), along with operational Tribal Nation partner Shakopee Mdewakanton Sioux Community, are pursuing the design, construction, and operation of this new facility to annually process 75,000 tons of organics and produce 168,000 MMBtu of renewable natural gas and 10,000 tons of biochar. Over 30 years, the facility will reduce GHGe by over 900,000 MT CO₂e, divert organic waste from landfills and incineration, and serve as a model for sustainable waste management practices.

This advanced technology enables the counties to increase the materials being recycled and recover resources, but it will likely result in higher initial tipping fees than other management methods to cover the cost of the facility. Through a direct subaward to R&E, CPRG funds will offset \$10 million in tipping fees for 250,000 tons of organics over five years, helping make diversion of organic materials affordable for county residents, providing a stable source of feedstock that supports the facility's economic viability, and making the anaerobic digestion and biochar option cost-competitive with other forms of disposal. The service area includes 14% of the state's population and 40 LIDAC census tracts. MPCA will initiate payments when R&E begins sending organic materials to the facility (expected December 2026) through April 2029.

Why this measure will be successful. Demand for industrial efficiency and decarbonization projects is high, as evidenced by the large number of such projects submitted during the MPCA's request for information in the development of this proposal. Implementation of these projects will often not only save energy costs but may also generate energy, reduce the expense of waste storage and disposal, and produce biochar. CPRG funds will complement other funding to make these projects economically feasible. MPCA will draw on its expertise and demonstrated history of successfully managing impactful grant projects, including those related to solid waste, air quality, and stormwater resilience, to administer this program.

Low and ultra-low GWP refrigerants. [PCAP alignment 4.1: 4.1.3] MPCA will accelerate the transition to away from high-GWP refrigerants and normalize the use of low and ultra-low GWP systems by offering nearly \$10 million in grants for refrigeration system replacement to small businesses, nonprofit organizations, and institutions such as supermarkets, schools, hospitals, food banks, and corner stores. This measure was selected because HFCs are potent GHGs that have readily available climate-friendly alternatives; however, costs can be prohibitive for small organizations. Organizations also need support in taking a leap to a new technology. Steep costs and uncertainties often result in small businesses repairing or retrofitting equipment and continuing the use of high-GWP refrigerants rather than replacement.

Major features, tasks, and milestones. This opportunity builds on an existing small business refrigerants grant program and will prioritize LIDACs to support energy cost savings and promote food security and access in food deserts. Grants cover 20-50% of the replacement costs and enable system owners to take high-GWP systems out of service and switch to climate-friendly systems. MPCA will offer two tiers of replacements: installation of larger refrigeration systems with ultra-low GWP systems (<10 GWP), using \$8.5 million for an estimated 17 projects; and replacement of smaller capacity systems with low-GWP systems (<300 GWP), using \$0.9 million for an estimated 45 projects. Implementing ultra-low GWP options will demonstrate these viable technologies and increase adoption among smaller entities. Funds will be awarded on a competitive basis. MPCA has a \$2.43 million revolving loan fund for zero percent interest loans to small businesses for projects with environmental benefits. Grants may be paired with loans to finance projects. In 2025, MPCA will post RFPs, and the initial round of projects will be installed in winter 2025/2026. Subsequent grant rounds and installations will be complete by September 2029.

Why this measure will be successful. MPCA has demonstrated success in its existing refrigerants program. Eight refrigeration projects have been completed at convenience and grocery stores, and MPCA expects to award five to six projects in 2024. MPCA will communicate and collaborate with facilities, industry groups, contractors, and equipment suppliers to understand the market's readiness to adopt GHG-reduction measures, seek input to develop the RFP, and ensure the grant process addresses organizational needs. MPCA has experience engaging and directing benefits to LIDACs through its grant programs.

Vehicle and equipment replacement. [PCAP alignment 1.1: 1.1.3] MPCA and MDA will focus on transforming gasoline and diesel vehicles and equipment used in food systems to electric or other advanced clean fuels. This measure was selected as a priority because transportation is the largest source of GHG emissions in the state and one that contributes to air quality issues in LIDACs.

Major features, tasks, and milestones. This program will electrify approximately 164 vehicles with \$20 million including freight transport vehicles, terminal tractors, transport refrigeration units, agricultural equipment, and other food system-related equipment. With CPRG funds, MPCA will build on its existing diesel vehicle replacement program that disburses funds from the VW Settlement and Diesel Emissions Reduction Act (DERA), which have funded more than 620 projects. The most recent heavy-duty diesel-to-electric RFP was in such high demand that it left approximately \$15 million of unfunded projects. CPRG funds will address demand and cover projects currently out of scope, such as gasoline vehicles. MDA will be a key partner to offer grants to agricultural producers with an interest in electrifying smaller pieces of equipment such as forklifts and skid steers. The agencies will prioritize the replacement of food system vehicles with electric alternatives to reduce air pollution in LIDACs, especially in urban areas. This program would fund 50-75% of the new electric vehicle/equipment including charging infrastructure. MPCA and MDA would begin public engagement in the winter of 2024/2025, release the first RFP in summer/fall of 2025, and fund vehicles in 2025 and 2026. MPCA will offer one to three additional RFP rounds, depending on input and feedback from annual public engagement.

Why this measure will be successful. GHG and co-pollutant reductions from vehicle replacements is assured and quantifiable; the program model has demonstrated prior success and continued interest. Since this proposal includes both gasoline and diesel vehicles, MPCA and MDA anticipate high interest.

Preventing wasted food and organics management. [PCAP alignment 4.3: 4.3.1-4.3.4] MPCA will reduce

GHG emissions by preventing food from going to waste and diverting food waste and other organic material away from landfills and incinerators. Minnesota selected this measure because reducing organic waste disposal is a rapid and effective way to prevent methane generation that also delivers cobenefits to LIDACs including addressing food insecurity and avoiding landfill expansion.

Major features, tasks, and milestones. MPCA has limited funding available to projects that prevent wasted food or divert food waste from landfilling and incineration to composting and food-to-livestock operations. With CPRG funds, MPCA will expand its Prevention of Wasted Food and Food Rescue Grants program (PWF), replicate and expand its one-time Organics Management Grant program, grow its existing revolving loan fund, and develop a grant program for food-to-livestock operations. Existing MPCA grant award criteria are designed to select projects with a high likelihood of success, cost-effective GHGe reductions, meaningful engagement with LIDACs, and cobenefits directed to LIDACs. CPRG-funded grant projects will be competitively awarded based on these criteria.

1) *Prevention of Wasted Food and Food Rescue (PWF) Grants.* MPCA will expand this existing \$500,000 annual grant program by \$12.5 million, funding an anticipated additional 45 projects focused on food waste prevention and food rescue programming and infrastructure. Grant awards will range from \$100,000 to \$6 million and will require a 25% in-kind or cash matching contribution from the grantee. Funded projects include food surplus donation for hunger relief, expansion of food shelf cold storage, cooking curriculum development, and increased organizational kitchen capacity for meal preparation.

2) *Organics Management Grants and Revolving Loan Fund.* MPCA will expand its one-time \$4.5 million grant program by \$16 million to fund the construction of an estimated four new composting facilities or equivalent processing capacity expansions at existing facilities, as well as an estimated 20 accompanying programs for increasing participation in composting, including food scrap collection programs, education and outreach, and market development for food-derived compost. These supportive programs are necessary to ensure the success of compost facilities and the overall organics recycling system. Grant awards will range from \$150,000 to \$4,000,000 with a 25% in-kind or cash match provided by the grantee. MPCA will also expand its existing organics revolving loan program by \$2 million from its current \$500,000 for upgrades and expansions at existing organics processing facilities. Loans will range from \$50,000 to \$500,000 and will fund an estimated 8 loans per 5-year revolving cycle.

3) *Food-to-livestock (FTL) operations.* MPCA will work with the Board of Animal Health to develop four new FTL operations with \$428,000 in grant funding. Eligible activities include purchasing equipment, vehicles, and supplies needed to divert food scraps from institutions (such as schools) to farms for feeding livestock. The maximum award will be \$107,000 and require grantees to cover ~80% of the project cost.

For all grant programs in this measure, no other state or federal funds are expected to contribute to the projects. Project minimum, maximum, and match amounts are subject to change based on public engagement. Eligible applicants include Tribal Nations, local governments, NGOs, businesses, institutions, state agencies, and collaborations. Implementation of all programs will begin in year 1 with hiring, public engagement, engagement with LIDACs, and release of RFPs. MPCA will award grants and loans in years 2 and 3, with all projects executed by the end of year 5.

Why this measure will be successful. MPCA will ensure success by building on existing successful programs. For example, the PWF grant program has funded a total of 16 projects to date; eight of the projects are complete and resulted in 6,686.75 MT CO₂e savings by the end of their average two-year grant period and continue to generate GHGe reductions by sustaining their work.

Food sovereignty and vibrant local food economies. [PCAP alignment 2.3: 2.3.1-2.3.2] MPCA will administer \$15 million for Tribal food sovereignty grants and \$15 million for statewide local food systems grants for projects that reduce GHGe in local and regional food systems. Tribal and local foods grants were selected to build on existing efforts and partnerships and engage with community, especially LIDACs, to surface and implement community-identified projects. Benefits to LIDACs include food sovereignty, food

security, economic opportunity, pollution reduction, and more.

Major features, tasks, and milestones. Tribal food sovereignty and local food system grant funded projects will span the breadth of activities covered by PCAP measures represented in this CPRG proposal. This effort will be supported by the Minnesota Department of Health (MDH), leveraging the local public health Statewide Health Improvement Partnership (LPH SHIP), Tribal SHIP networks, and through coordination with Tribal-owned and -operated projects.

1) *Tribal food sovereignty grants* will support planning and implementation of projects within Tribal communities aimed at GHGe reduction and food sovereignty. There are 11 sovereign Tribal Nations in Minnesota; each respective nation has their own programs and priorities around food systems including food security and food sovereignty. This grant will honor each individual Tribal Nation's sovereign right to determine what GHGe reduction projects are most beneficial for food sovereignty. The state will engage and work with Tribes through the existing Tribal SHIP program, with MPCA offering grant administration and climate mitigation technical support. Tribal SHIP already collaborates with Tribal Nations to increase healthy food access and knowledge of traditional indigenous food through efforts such as reclaiming food sovereignty, cultural traditions, and native food systems; building local food economies; increasing local agricultural and food production; and gathering medicinal plants and wild foods. This grant will build on these established relationships to identify, fund, and implement projects that reduce GHG emissions and support Tribal food sovereignty. Tribal-state coordination will determine the grant program design and allocation amounts. In response to key input during Tribal coordination, Tribal awards will be non-competitive. All parties will ensure projects reduce GHG emissions and adheres to EPA policies.

2) *Local food systems grants.* MDH and MPCA will disburse grants to support community-driven strategies for decarbonization of local food systems across the state. Reducing GHG emissions at the local and regional food systems level requires planning, coordination at multiple scales, technical assistance, community engagement and education, and access to funding. This funding is needed because existing efforts to improve local food systems are not coordinated and do not cover the entire state. With CPRG funds, MDH will convene and facilitate six Regional Food Networks (RFNs) that cover the entire state to build capacity and support community partners in their applications for local food systems grants that achieve significant GHG emissions reductions. RFNs build off existing community engagement and food systems work, with an emphasis on engaging members of LIDACs, who will be compensated for their time. MDH will leverage LPH SHIP Coordinators to serve as Regional Food Coordinators (RFCs) to convene RFNs. This approach leverages their expertise and relationships with food systems partners while embedding a focus on reducing GHGs within local food systems work and building knowledge to inform future work.

MDH will collaborate with Region Five Development Commission, which is the lead cooperator for the North Central USDA Regional Food Business Center (RFBC) that serves Minnesota, North Dakota, and South Dakota. MDH will also partner with the University of Minnesota Extension's Regional Sustainable Development Partnership (RSDP), which conducts food systems work including supporting rural groceries, supply chains, and deep winter greenhouses. These partners bring academic and federal resources to bear on a regional approach. They will help provide education and technical assistance on GHGe reductions to RFNs and communicate funding opportunities. RSDP operates in five regions, each with its own citizen-led board, but does not cover the Twin Cities metropolitan area. RSDP's community leadership approach with their citizen-led boards is an effective means to authentically incorporate the voices of residents into identifying and implementing solutions and will strengthen the Regional Food Networks. MDH will map 5 of its 6 RFNs to RSDP regions and create a sixth region to cover the Twin Cities metropolitan area.

For the Twin Cities metro area, MDH is in the beginning stages of developing a relationship with the Metro Food Justice Network (MFJN), a collaboration of individuals and organizations in the Twin Cities metropolitan area partnering to advance racial equity by transforming our food system. By centering communities that are most affected by systemic racism in the food system through collective power and

shared resources, MFJN would be a strong partner to advance the work of the metro Regional Food Network. Each RFN will meet monthly to identify the most impactful projects to reduce GHGs within local and regional food systems. CPRG will fund a competitive RFP for GHG assessments of food systems for each RFN. These assessments will inform RFN planning and prioritization of projects. RFNs will engage with community, inform the local food systems grant RFP development, and promote the funding opportunity in collaboration with MDH. MPCA staff will work closely with MDH to administer the grant funds and provide technical assistance on GHGe quantification and strategies.

In year 1, MDH will initiate coordination with Tribes, organize RFNs, and establish contracts for assessments. Assessments and planning/prioritization will occur in years 1-2. MPCA will establish a grant program in year 1 and award grants in years 2-3. Implementation and evaluation will occur in years 2-5.

Why this measure will be successful. This level of regional coordination ensures success because it leverages existing Tribal and local knowledge on food systems and fills in gaps to cover the entire state, adding the lens of GHGe reduction and LIDAC benefits. RFNs will share ideas across regions, allowing projects to be replicated and scaled for a larger statewide impact. Current food systems efforts supported by SHIP demonstrate that it will serve as an effective foundation for identification and implementation of GHG emission reduction activities within Tribal, local, and regional food systems.

RISKS AND RISK MITIGATION

The following tables include potential risks to successful implementation of all proposed GHG reduction measures (Table 1. **Risks and mitigation strategies relevant to all measures** and certain measures (Table 2. **Risks and mitigation strategies specific to certain measures**). All risks could potentially result in delayed GHG emission reductions, which could reduce benefits in the 2025-2030 or 2025-2050 timeframes, although it is likely the same emission reductions would still ultimately be achieved, just on a longer timeline.

Table 1. Risks and mitigation strategies relevant to all measures

Risk	Mitigation strategy
Some grant recipients unable to complete projects	Design RFP scoring process to prioritize projects that can demonstrate adequate personnel experience, project readiness, resources to complete the project, and community support. Redistribute unused funds into a future or additional round of funding.
Insufficient interest in grant opportunities	Leverage existing programs that have shown demand outstripping funding availability. Engagement to understand industry needs, incorporating input into grant structure, outreach to ensure eligible entities know about funding opportunities.
Supply chain reduces product availability	Target funding to technologies that have known availability. Begin distributing funds as soon as possible to leave time to redistribute funds to different technologies if needed.
Insufficient trained labor	Encourage contractors to connect with DEED's Minnesota Job Skills Partnership program for workforce training and retraining support.
Delays related to hiring staff	Develop position descriptions and initiate human resources process early on. Agencies have recently increased human resources capacity to increase hiring through-put.
Delays related to community engagement	Leverage existing partnerships in existing programs while focusing on expanding engagement with LIDACs. Early and frequent engagement will likely reduce future delays. Quality community engagement takes time. If needed to support meaningful engagement, timelines may be pushed out.

Table 2. Risks and mitigation strategies specific to certain measures

Measure and risk	Mitigation strategy
Industrial innovation: The advanced industrial energy and decarbonization facility is unable to secure sufficient additional funding, experiences delays such that it can't	The CPRG direct subaward shall be withdrawn and returned to the industrial innovation and decarbonization funding pool if R&E does not deliver

Measure and risk	Mitigation strategy
capture tax incentives available through the Inflation Reduction Act, or has construction or operational delays	source separated organics and organic-rich material to an anaerobic digestion facility by June 30, 2027.
Prevention of waste food and organics management: Siting, permitting, and construction delays for new compost sites	MPCA will hire a permit engineer dedicated to CPRG-funded compost sites to enable efficient permitting.
Food sovereignty and local food economies: RFNs will lack adequate knowledge of GHG reduction strategies	Conduct food systems GHG assessments and offer education and technical assistance from MDH/MPCA.

b. Demonstration of Funding Need

Minnesota has made critical investments to build a strong foundation of existing climate and food systems programs; however, the funding levels for these programs are insufficient for the scale of the challenge and demand. CPRG funds would enable decarbonization earlier, faster, and more broadly by expanding and complementing these existing efforts. CPRG would also fill key gaps, such as launching industrial innovation, ag equipment electrification, and Tribal and local food systems decarbonization programs.

The CPRG funds in this application may leverage existing state funding and financing opportunities established in Minnesota's 2023 biennial appropriations, including Minnesota's State Competitiveness Fund (operated by the Minnesota Department of Commerce) and financing through the newly created Minnesota Climate Innovation Authority (MnCIFA). These funding and financing opportunities may provide additional capital for projects funded by Minnesota's CPRG grant if the projects meet the priorities and requirements for the state funding and financing programs.

Governor Walz included \$5 million in CPRG Leveraging Funds as part of his 2024 supplement budget request. If successfully included in a 2024 supplemental budget, these funds would complement CPRG funds to help build capacity of community-based organizations and local governments to apply for CPRG grants from Minnesota state agencies, augment federal funds in certain CPRG pools to ensure that Justice40 and LIDAC goals are attained, and supplement funding in CPRG pools to expand the benefits received by Minnesotans from CPRG funding. MPCA will know by mid-May 2024 whether these state leveraging funds will be available in state fiscal year 2025 through state fiscal year 2027.

Funding sources, status, and unmet need by measure are as follows:

Peatland restoration. DNR received \$1.5M for peatland inventory and restoration, and BWSR received \$9M in one-time state funds for peatland easements in 2023. Minnesota has over one million acres of degraded (fully or partially drained, farmed or pastured) peatlands and can only protect and restore approximately 1,700 acres with existing funding. CPRG funds would accelerate progress and enable greater collaboration across land ownership, including in LIDACs, to restore larger contiguous areas.

Climate-friendly agricultural practices. MDA secured \$3.5M annually for MAWQCP for FY24-25; \$2.37M for soil health equipment grants for FY25 and \$0.64M annually in FY26 and beyond; \$0.25M for CLC market development grants for FY25; and \$0.35M for an AGRI Sustainable Development Demonstration Grant for FY25. All of the RFPs have been oversubscribed and current funding is insufficient for demand. CPRG proposal funds build on state efforts and fund practices not included in the MAWQCP and not funded by federal sources. In addition, CPRG funds will complement the Climate Smart Commodity projects in the state and increase participation and near-term GHGe reductions by filling programmatic gaps, targeting funding to LIDACs, swiftly disbursing funds, and decreasing barriers to access.

Industrial innovation. The industrial sector is interested in decarbonization, consumers are demanding it, and technologies exist to support the transition. However, technologies are new, and pioneering change can be difficult – whether it is understanding which technology is right for a facility, how it might impact operational costs, or figuring out how to stack funding opportunities. The state and federal government have made important initial investments, but CPRG funding is needed to help facilities surmount these

obstacles. Minnesota invested \$1M in one-time funding for wood waste management grants that may be used for biochar production and use. Grantees installing new combined heat and power units or anaerobic digestion equipment can access IRA Clean Energy Investment Tax Credits, and financing through the state's new green bank, MnCIFA. However, Minnesota needs significant additional investment, and the MPCA needs additional internal expertise to respond to the high level of interest for industrial decarbonization for food-, energy-, and waste-processing sites built with circular economy principles. CPRG funds are needed to bridge development ideas to larger sources of federal funds and cover small- to mid-sized projects that fall through the funding gap.

Low and ultra-low GWP refrigerants. MPCA offered \$0.47M in climate-friendly refrigerants grants from FY21-24 and currently has revolving loans (\$2.43M) for waste and pollution prevention technologies. MPCA will continue to seek state funding for these grants, but funding at these levels is insufficient to fund ultra-low GWP refrigerant replacements and to meet demand for switching to lower-GWP refrigerants. As with many new technologies, being one of the first to adopt advanced technologies is challenging, and funding is needed to reduce adoption hurdles. In addition, ultra-low GWP systems are cost-prohibitive to install for most organizations. Offering grant funding allows the demonstration of the technology, training of contractors, normalization of their use, and ultimately decreased costs.

Vehicle and equipment replacement. MPCA administers grants funded by the VW Settlement (\$47M from 2018-27) and from DERA (\$4.6M from 2011-2024). These do not fund replacement of gasoline equipment, and no current funding exists for agricultural equipment electrification. No other funding sources for electrification of food system vehicles are currently known or expected.

Prevention of wasted food and organics management. The state annually funds the PWF grant program (\$0.5M) and a waste reduction grant (\$1M). One-time state funding provided \$3.5M to the PWF grants, organics management grants (\$4.5M), and an organics revolving loan fund (\$0.5M). Current funding is insufficient to meet demand for food waste prevention, compost facilities and programs, and food-to-livestock programs, especially as the state and metro region adopt aggressive goals to divert organic material from landfills and waste-to-energy sites. CPRG would accelerate progress through existing state programs and expand the revolving loan fund to ensure organic waste capacity is sustained into the future.

Food sovereignty and vibrant local food economies. The state invests \$17.5M annually in MDH SHIP. Other funding includes MDA Regional Food Systems Infrastructure grant (\$9.6M, FY24-27), MDA Local Food Purchase Assistance grant (\$2.125M, FY23-25), and Dept. of Human Services American Indian Food Sovereignty Funding (\$1.5M, FY24-25). Current local food systems efforts do not focus on reducing GHGs, don't cover the entire state, lack regional coordination and capacity, and face barriers in accessing funding and technical assistance. CPRG funds will complement existing efforts and fill these gaps.

c. Transformative Impact

MCSFS takes a transformative, holistic approach to reducing GHGe and increasing sequestration across the food system. The proposal also targets opportunities where strategic investments can reduce barriers, model the way, and set a course for emissions reductions beyond those achieved directly through CPRG.

Programs proposed for industrial innovation, low and ultra-low GWP refrigerants, and vehicle and equipment – especially agricultural equipment electrification – support and encourage early adopters who take the leap to try a new technology. Being "the first" to implement innovative solutions is challenging, which is why these programs aim to demonstrate a path forward for these innovative and complex projects to come together, supporting early actors help identify and break down barriers to adoption, demonstrate the technology, and help chart a course for adoption beyond the investments made by CPRG.

Proposals such as climate-friendly agricultural practices, CLC market development, prevention of wasted food, and organics management help transition beneficial technologies and actions from niche activities used only by early adopters to the early majority and beyond. In this way, GHGe reductions and sequestration can accelerate, amplifying the benefits of CPRG investments far beyond the individually

funded projects. Peer-to-peer learning is a powerful tool, especially in agriculture. Farmers are the most effective messengers of facts and advice to achieve behavior change amongst producers. Farmers witnessing these practices will be a powerful contributor to increased practice adoption across Minnesota. These investments help normalize conservation practices and support broader behavior change across agricultural communities.

Grant investments create demand for consultants, technicians, and sales staff knowledgeable in new technologies, and ultimately drive down costs of new technologies. The MCSFS will promote connections between contractors interested in developing skills with programs that support workforce training in new technologies, with a focus on equity and diversity. Introducing contractors to these new technologies and approaches and helping them retrain and enable their workforces to sell, implement, and maintain these technologies promotes more economic opportunities and high-quality jobs. Applying these new skills beyond projects funded through CPRG will reduce GHGe beyond the direct scope of the grant.

All measures are also scalable and replicable across Minnesota and beyond the state's borders. Minnesota's innovative and successful program models are a strong foundation for expansion of activities through CPRG funding and allow for large-scale and small-scale projects to improve accessibility of climate action. Each program includes unique, transformative opportunities:

Peatland restoration is in its infancy as a climate mitigation tool in the United States. This proposal capitalizes on the latest research and current pilot efforts to apply this tool on a much larger scale. Initial research findings indicate that peatland restoration is one of the most cost-effective methods to achieve GHGe reductions, especially on publicly owned or managed lands, and that the greatest success can be achieved through restoration across large contiguous areas. Restoring even a portion of the extensive acres of drained or partially drained peatlands in Minnesota has the potential to transform the carbon cycle, mercury cycle, and hydrology, resulting in benefits to climate, human health, and health of wild rice and other traditional foodways.

Climate-friendly agricultural practices promote accelerated adoption of strategies that provide immediate and long-term GHG emission reductions and sequestration on agricultural lands. MDA's Emerging Farmers Office will help ensure that those who are new to farming as well as those individuals who have been farming for generations but were outside the scope of traditional agricultural support programs (due to race, ethnicity, gender, and other factors) will benefit from this work. Incentive payments for additional practices through the MAWQCP will draw more producers to the program, demonstrating the benefits and normalizing climate-friendly practices across more farms. For instance, nitrification inhibitors and control release fertilizers are not funded by the MAWQCP, and MDA estimates that less than half of producers in the state use them. Incentivizing these practices has the potential to reduce emissions from fertilizer on hundreds of thousands of acres in the state, allowing producers to reduce fertilizer application and save on costs, leading to long-term adoption. Similarly, removing low-yielding acres from production provides economic and environmental benefits that support long-term adoption, with significant GHGe reductions. However, current programs have numerous rules and stipulations and don't always provide competitive payments as compared to land rent prices. This project will take a flexible, adaptive approach to agricultural land transition with competitive per-acre payments to maximize producer participation and greatly amplify participation.

Soil health practices have benefits beyond climate: they can reduce the need for fertilizer, lower weed and insect pressure, conserve soil moisture, reduce erosion, and more. Additionally, many soil health equipment grant recipients use their new equipment to start custom businesses and rent to neighbors, so with additional CPRG funding, MDA expects exponential growth in these practices. Prioritization points will be awarded to applicants who belong to historically underserved communities, which can provide additional economic opportunities to emerging farmers.

CLC crops provide numerous environmental benefits but are a nascent industry. Advancing this transition model beyond early adopters, this proposal holistically supports the industry's development from the

planting of these crops through incentive payments and technical assistance, along with supporting market development for downstream products, and unlocking new economic and business opportunities for rural Minnesotans. In previous efforts, the industry has been challenged by limited markets. This proposal adopts a comprehensive systems approach to boost the industry. Minnesota is uniquely positioned for CLC crop development as one of the nation's leaders in agricultural production and home to the Forever Green Initiative, a world-class research institution developing cold-hardy CLC crop varieties.

Industrial innovation. This program will fund technical assistance and planning and implementation grants, enabling the food and organic waste sector to identify opportunities for decarbonization and the execution of projects that reduce energy costs, GHGe, copollutants, and waste. This program not only funds individual projects: it seeks to catalyze the strategic integration and stacking of advanced technologies and toward carbon neutral and zero waste systems. For instance, industrial heat pumps working alongside electric boilers can recover low-temperature waste heat, optimizing energy usage and driving down emissions. Additionally, the integration of anaerobic digesters with biochar production supports waste transformation, yielding biogas that supports the transition away from fossil gas and a carbon-negative soil amendment that promotes crop growth and carbon sequestration. These pioneering investments would help Minnesota lead the charge towards a zero-carbon future.

Low and ultra-low GWP refrigerants. The proposed grants are transformative because they expand access to the most advanced technology with the highest GWP reductions to smaller entities that otherwise could not afford the transition. Expanding access normalizes the technology and supports broad adoption. Additionally, the program will target refrigerant system replacement in LIDACs to reduce energy costs and upgrade equipment for reliable access to fresh foods in food deserts.

Vehicle and equipment replacement. This funding presents an unequalled opportunity to transition our current gas/diesel equipment involved in the food system to clean fuels which will result in large GHGe reductions. There are currently established electric alternatives to many on-road and off-road applications that have been identified but that current funding cannot cover. For this proposal, MPCA will target vehicles that operate in LIDAC areas across the state, and especially in areas with air pollution issues. This will unlock immediate air quality, noise, and GHGe reduction benefits in these communities.

Preventing wasted food and organics management. This project will fund a transformative expansion of current efforts to implement a whole-system approach to keep valuable nutrients in circulation to feed people, livestock, and soil, thus avoiding significant methane emissions while also realizing impactful co-benefits. By funding projects targeting multiple management options on the EPA's Wasted Food Scale, from prevention and donation through food-to-livestock and composting, this project takes a holistic approach, including initial capital investments into infrastructure, facility development, and equipment for food rescue, food-to-livestock, and compost facilities to overcome major cost and logistical barriers to expand these programs. Funding for supportive programming including food scrap collection programs, education efforts, and market development for compost will ensure that these interrelated systems are functional and sustainable into the future.

Food sovereignty and vibrant local food economies. This level of regional coordination, community engagement, and involvement of LIDACs presents a transformative opportunity to not only reduce GHGe, but also increase food security, food sovereignty, and drive economic and workforce development while scaling solutions from local to regional and potentially statewide levels. There is a transformative opportunity to implement an equity- and justice-centered approach within community food systems by actively engaging and fairly compensating LIDAC members throughout the process of identifying issues, developing solutions, and implementing projects that leverage their distinct assets. This approach ensures that the work is not done for the community but co-developed and owned by them. This work will also create more resilient Tribal, local, and regional food systems that can be responsive and adaptive to the increasing impacts and disruptions of climate change on agriculture and food systems. Additionally, this effort will support Tribes in recovering access to healthy traditional foods, medicines, and lifeways.

2. IMPACT OF GHG REDUCTION MEASURES

a, b. Magnitude of GHGe Reductions from 2025 through 2030 and from 2025 through 2050

Table 3. Magnitude of GHG emissions reductions (MT CO₂e)

Measure	2025-2030	2025-2050
Peatland restoration	209,228	2,301,505
Climate-friendly agricultural practices	1,002,980	4,565,152
Industrial innovations	728,511	3,461,060
Low and ultra-low GWP refrigerants	58,399	237,977
Vehicle and equipment replacement	48,441	188,939
Prevention of wasted food and organics management	727,591	4,828,523
Food sovereignty and vibrant local food economies	731,542	3,219,051
TOTAL	3,506,692	18,802,207

Implementation will result in durable GHGe reductions. For example, replacing long-lived industrial equipment and heavy-duty vehicles permanently replaces more polluting options with more efficient options. Proposed GHGe reductions that are most dependent on behavioral shifts, such as conservation agriculture practices and organics management, are thoughtfully designed to induce long-term success.

c. Cost-Effectiveness of GHG Reductions

The estimated cost-effectiveness of the proposal, inclusive of all measures in this application, is **\$57.03 per MT CO₂e reduced from 2025-2030** and **\$10.64 per MT CO₂e from 2025-2050**. Actual cost-effectiveness of proposal implementation will depend on many factors, including technology and labor costs, the speed of decarbonization of the electrical grid, and the GHGe reduction potential of grant projects submitted and selected. Costs associated with each measure are included in section 7.

d. Documentation of GHG Reduction Assumptions

Please see the Technical Appendix and attached workbook.

3. ENVIRONMENTAL RESULTS – OUTPUTS, OUTCOMES, AND PERFORMANCE MEASURES

a. Expected Outputs and Outcomes

Each of the seven measures described above will achieve significant GHGe reductions as well as other meaningful co-beneficial outcomes. **Table 3**, above, reports the GHGe reductions we estimate will result from these projects. **The economic benefit is nearly \$810 million for 2025-2030 and over \$4.3 billion for 2025-2050** for these estimated reductions, using the federal social cost of CO₂ central value (2.0% discount rate) in emissions year 2030. Other key outputs and outcomes for each GHGe reduction measure are summarized in Table 4 below. All the outputs and outcomes will be targeted towards LIDACs and will be tracked and monitored over the lifetimes of the projects, including how many are delivered to LIDACs.

Table 4. Key outputs and outcomes of GHG reduction measures

Key outputs	Beneficial outcomes (in addition to GHGe reductions)
Peatland restoration	
Up to 10,000 acres restored by 2029: <ul style="list-style-type: none"> • 25% crop agriculture • 25% pasture • 50% partially drained 	Water filtration and water quality improvements (Hg, N, P) Flood management Protection of key habitats, increase diversity Protect species of cultural significance to Tribal nations Creation of jobs for restoration, long-term maintenance, and monitoring Contribute to peatland restoration science Improved fisheries health

Key outputs	Beneficial outcomes (in addition to GHGe reductions)
Climate-friendly agricultural practices	
Implementation of on-farm practices on 834,500 acres by 2030: <ul style="list-style-type: none"> • 200,000 acres of nitrification inhibitors, urease inhibitors and controlled release fertilizers • 2,000 acres of transition from row crops to perennials • 6,500 acres planting continuous living cover (CLC) and diversified crop rotations Increased LIDAC participation in soil health equipment and CLC grant programs	Reduced soil and sediments in waterways Reduced phosphorus in waterways Improved soil health Improved water quality Improved drinking water supplies More resilient food system Economic benefits for new and emerging rural small businesses Economic opportunities for emerging farmers Increased resiliency to extreme weather events for ag operations Increased capacity to prepare CLC crops for commercial sales Increased CLC crop post-harvest processing and handling infrastructure
Industrial innovation	
73 food system facilities conduct evaluations and identify opportunities for energy efficiency improvements and GHGe reductions 45 food system facilities adopt advanced industrial energy and decarbonization technologies 5 food system facilities adopt advanced biofuel production Support of 1 anaerobic digestion facility in the Twin Cities metro area	Reductions of criteria air pollutants (CAPs) (particulate matter (PM), carbon monoxide, volatile organic compounds (VOCs)) emissions in LIDACs and health benefits in LIDACs from improved air quality Enhanced energy efficiency and reduced energy consumption and costs Capacity and knowledge sharing within food system industry Reduced air permitting costs Sustainable wood waste management Soil health improvement Creation of jobs for construction and long-term monitoring and maintenance Workforce trained in new, cleaner technologies
Low- and ultra-low GWP refrigerants	
Replacement of 17 larger refrigeration systems with ultra-low GWP systems (less than 10 GWP) Replacement of 45 smaller capacity systems with low-GWP systems (less than 300 GWP)	Energy cost savings Reductions of CAPs (PM _{2.5} and nitrogen oxides (NO _x)) and reactive organic gases emissions Workforce trained in new, cleaner technologies Increased capacity for grocers to operate in food deserts in LIDACs
Vehicles and equipment replacement	
Electrify ~156 food system vehicles including charging infrastructure (e.g., freight transport vehicles, terminal tractors, transport refrigeration units, agricultural equipment)	Reduced CAP emissions in LIDACs and other communities (EPA's COBRA screening model estimates economic value of health benefits between \$67 million and \$150 million): <ul style="list-style-type: none"> • 236 MT PM_{2.5} by 2050 • 1,337 MT NO_x by 2050
Prevention of wasted food and organics management	
45 new projects to prevent wasted food and redistribution of food to food-insecure Minnesotans 4 new composting facilities or equivalent processing capacity	69,836 tons of food rescued and redistributed through 2030, including food redistribution in LIDACs Increased access to food distribution for individuals and households Increase jobs dedicated to preventing wasted food

Key outputs	Beneficial outcomes (in addition to GHGe reductions)
expansions at existing facilities 8 organics material processing loan projects 20 food scrap collection, outreach and education, and market development initiatives for composting 4 new food-to-livestock operations	Economic savings for food purchasers 46,325 tons of food waste composted through 2030 and diverted away from more environmentally harmful disposal methods 812,540 tons of food waste diverted from harmful disposal methods to food-to-livestock systems through 2030 Creation of jobs in construction and composting sectors
Food sovereignty and vibrant local food economies	
100 –115 community-led local GHGe reduction projects in Tribal and local food systems The number of Tribal Nation-led GHGe reduction projects are yet to be determined; if distributed evenly across 11 Tribes and 1 urban tribal award, the award would be \$1,250,000 Increased participation of LIDACs in CPRG-funded projects	Reduced food waste Reduced inputs to food production, such as fuel, water, and fertilizers Reduced waste to landfills and the environmental harms from landfills Air quality improvements from reduced use of fossil fuels Improved water quality and other ecosystem benefits Increased food supply resilience, food security and food sovereignty Economic opportunities for emerging farmers Creation of jobs to create and maintain programs Access to healthy and traditional foods Support of Indigenous practices of sustainable land stewardship Reduced household food expenditures

b. Performance Measures and Plan

MCSFS project leadership team will meet at least monthly throughout the project lifecycle to problem-solve, assist with roll-out of project elements, and ensure project deadlines are being met. Once all GHGe reduction interventions are complete and final data is quantified, the MPCA will compile a comprehensive evaluation report to disclose the impacts of intervention results and highlight the benefits of addressing climate change and environmental justice in a holistic and inclusive manner.

MPCA will evaluate the results of each GHGe reduction metric by establishing emissions baselines before implementing reduction measures. These baselines serve as a reference point against which the effectiveness of interventions can be assessed. GHGe baselines and reductions are quantified via direct measurement or estimation using action-related emission factors derived from peer-reviewed literature. MPCA will compare the achieved reductions to the targets set for each measure. Targets may be based on regulatory requirements, climate action plans, or other relevant benchmarks. All projects will use a variety of project and data management software to monitor progress toward GHGe reduction objectives and outcomes. In addition to tracking and analyzing GHGe by project and measure, MPCA and partner agencies will track the performance measures of co-benefits described below. Projects will use supply or demand side information where applicable to estimate potential economic and environmental impacts from long-term scalability of the projects and measures with the support of DEED. For all performance measures listed below, administering agencies will report on the total number and percentage of projects implemented and in LIDACs and Tribal Nations, as well as the co-benefits in LIDACs and Tribal Nations.

Peatland restoration. Measures: acres of restored peatland in each project implemented; GHG flux; vegetation diversity, mercury, nitrogen, and phosphorus reductions in water downstream of restored peatlands; number of LIDAC partnerships; training opportunities provided; jobs created for each project. Plan: Agencies will measure GHG flux at each site pre- and post- restoration at treated sites and at control sites using methods piloted by The Nature Conservancy. Methods will include use of a portable LiCor GHG analyzer to measure methane and carbon dioxide emissions and sequestration and use sampling collars in transects running perpendicular to ditches and remnant ditches. GHG flux measurements will be sampled

2 to 4 times per month during the growing season (June through November) depending on snow cover and site accessibility and will include soil temperature and photosynthetically active radiation. Agencies will also measure mercury, nitrogen, and phosphorus reductions in water downstream of restored peatlands and collect vegetation inventories within project areas pre- and post-restoration. By tracking acres of restored peatland associated with each project, the above metrics can be tracked on a per-acre basis. In addition, by tracking the number of LIDAC partnerships, training opportunities offered, and jobs created for each project, agencies will also be able to relate each of these measures as levels of effort per restoration intervention and number of acres restored.

Climate-friendly agricultural practices. Measures: acres of nitrification inhibitors, urease inhibitors, and controlled release fertilizers, land transition from row crop to perennials, CLC and diversified crop rotations planted, no-till, reduced till, cover crops, and perennial forage; reductions in sediment, soil erosion, and phosphorus; and number of CLC market development grant projects funded per year. Plan: MDA will track on-farm practice implementation via the MAWQCP incentive payment grant and SHFA grant programs. The water quality benefits – including reductions in soil, sediment, and phosphorus – from these practices will be calculated based on the acres of each practice. The equipment grant and CLC market development grant recipients will report on progress, which MDA will use to track and report program performance measures. MDA will survey producers who receive funding to assess economic opportunities and benefits.

Industrial innovation. Environmental measures: number and type of projects implemented; emissions and co-pollutant reductions; energy efficiency improvement; change in energy use; tons of waste reduced and resource optimization; acres of land-applied biochar per year; tons of organic waste made into biochar per year; and tons of biochar produced per year; tons of organic waste diverted from landfill; tons of biogas produced per year; number of kilowatts generated/number of MMBtus generated. Community measures: number of community groups engaged; grant utilization rate; community health impact through air quality improvements; number of jobs created; number of facilities engaged; technological adoption; and workforce trained. Plan: Grant and subaward recipients will report to the MPCA Program Manager on each of the measures listed above that apply to their project. Grantees will provide baseline values as part of their application, with progress reports mid-way and at the end of the funding cycle.

Low- and ultra-low GWP refrigerants. Measures: Number and type of high-GWP equipment replaced; number and type of low-GWP equipment installed; number of participating small businesses; number of projects in food deserts; and workforce trained via DEED Job Skills Partnership. Plan: Grant applicants will provide information on existing and proposed systems, such as system type, refrigerant used, and charge size. The MPCA will use standardized GWP ratings and leak rates to estimate emission reductions per project. For ultra-low GWP projects, applicants will provide existing and proposed energy use with the new systems. Low-GWP refrigeration grantees will provide qualitative information about energy use after project completion. Applicants will provide census tract data to identify facilities in food deserts, and the MPCA will survey grantees on increased capacity to operate in food deserts. MPCA program managers will establish check-in schedules with grantees to track progress, review final project parameters, and adjust emission reduction estimates and grant agreements if needed. MPCA will survey grantees after new systems are installed to document findings, such as changes in equipment servicing or functionality.

Vehicle and equipment replacement. Measures: number of projects funded; funding spent; projects completed; outreach completed, number of public meetings held; estimated GHG, NO_x, and PM_{2.5} emissions reduced. Plan: Once projects are complete, MPCA will track the corresponding emissions reduced and also track qualitative measures, such as outreach completed and number of public meetings held. Reduction estimates are obtained through using EPA's Diesel Emissions Quantifier (DEQ) tool, using inputs from the old and new piece of equipment to calculate the annual and lifetime emissions reductions. Key inputs that affect emissions, such as engine year, fuel type, engine horsepower, as well as details for the replacement vehicle, are collected at the application phase. The DEQ tool's emission estimates are then used to estimate reductions by subtracting emissions of the replacement vehicle from the current

vehicle. MPCA and MDA will be held accountable for these measures through filing a report on a semi-annual basis, similar to other federal funding programs. This report will provide an overview of progress and confirm that necessary steps are being taken to successfully complete this program.

Prevention of wasted food and organics management. Measures: *Prevention of Wasted Food.* Tons of food waste prevented or rescued; tons of food distributed to all households/individuals, tons of food distributed to households/individuals in LIDAC communities; number of individuals/households served by food rescue programs within and outside of LIDAC communities; total number of jobs created; and of number jobs created for LIDAC community members. *Organics Management.* Tons of food waste collected/composted; tons of compost sold/distributed; number of households/individuals served by collection programs within and outside of LIDAC communities; number of households/individuals served by educational programming programs within and outside of LIDAC communities; number of jobs created; and those created for LIDAC community members. *Food-to-Livestock.* Tons of food waste diverted to livestock feed; number of businesses/institutions served; and number of jobs created. Plan: Award recipients will provide, as a part of their grant or loan agreement, pre-project baseline values for the agreed upon outcomes to be measured during their project's implementation. Qualitative and quantitative updates on the progress of their projects and measurable outcomes will be submitted with each invoice and their final report. MPCA will aggregate tracked outcomes for each program. Programs' successfulness will be evaluated based on effectively meeting anticipated outcomes.

Food sovereignty and vibrant local food economies. Measures: number and types of projects; number of LIDAC residents participating in food networks and project planning; tons of food waste diverted from landfills; number of jobs created; community survey results on co-benefits, including food security and access to traditional food. Plan: Funded implementation projects will engage in process evaluation to establish baseline GHG emission data at the start of a project and collect data at the mid-way point and end of the funding cycle. With support and assistance from MPCA and MDH, grant recipients will be required to report on improved efficiencies and decreases in food waste. Regional Food Coordinators will conduct community surveys and input sessions to gather feedback directly from LIDAC members on how the projects are benefiting them, how the program could be improved, and if there were unintended benefits or disbenefits. Regional Food Coordinators will also work with Tribal Nations to ensure evaluation measures and plans center Tribal sovereignty and align with their individual plans.

c. Authorities, Implementation Timeline, and Milestones

Following EPA reporting requirements for CPRG implementation grants, MPCA will work with the staff teams for each measure to submit semi-annual progress reports and a detailed final report within 120 calendar days of the completion of the period of performance.

Peatland Restoration. DNR has primary responsibility and authority for land management, contract administration, and project success on DNR-administered lands (includes appropriate permitting), as well as authority for fund distribution to Tribal Nations. BWSR has primary responsibility for private, local government, county, and NGO land restoration and easement acquisition. BWSR has statutory authority for fund distribution and technical assistance to local governments and other partners.

Timeline and milestones: **2024 Q4:** Begin outreach and communication to stakeholders. **2025 Q1:** Fill FTEs to facilitate collaboration, identify peatland restoration opportunity areas, and coordinate selected projects. **2025 Q2:** Compile suitable restoration practices; develop cost estimates; map and assess high-level peatland restoration opportunity areas (remote sensing). **2025 Q3:** Develop and apply selection criteria to identify candidate project(s); meet with ditch authorities and counties for early conversations and initiate continuous input; ground-truth selections. **2025 Q3 to 2026 Q1:** Complete field visits to candidate sites to confirm suitability; conduct baseline monitoring (GHG flux, hydrology, water quality and vegetation at restoration and control sites); issue RFPs for engineering and construction, select contractors, and establish agreements. **2026 Q2 to 2028 Q4:** Implement restoration at selected sites;

conduct annual post-restoration monitoring; document methods, preliminary results and early lessons learned (photos, aerial imagery (drones), remote sensing, narrative); **2028 Q4 and ongoing:** Synthesize data, methods, and results; refine compilation of restoration practices and options; develop restoration guidelines in collaboration with local partners; present and share results.

Climate-friendly agricultural lands. MDA has authority to lead this measure through its grant initiatives.

Timeline and milestones: Hiring to support all programs will occur in **2024 Q4**.

MAWQCP implementation of new practices: **2025 Q1:** Reimbursement grant funding for practices available to MAWQCP-certified producers and those seeking certification through a rolling application. Ongoing practice implementation and technical assistance provided by MAWQCP field staff. The grant program will be open and available until funding is expended. **2029 Q3:** Deadline for grant applications and invoices for reimbursement payments. **2029 Q3:** Final grant payments issued.

Soil Health Financial Assistance grant program: **2025 Q1 - 2028 Q4:** Additional funding added to the RFP for the 2025, 2026, 2027, 2028, 2029 RFP rounds. **2025 Q3 - 2028 Q4:** Application opens in August and close in September each year. Awards are made by December each year. To receive the final 10% of the grant award, recipients are required to submit a report after their equipment purchase detailing the practices they implemented.

CLC Market Development grant program: **2025 Q1 - 2026 Q4** Additional funding added to the RFP for the 2025 and 2026 rounds. Applications open in the fall with biannual progress reports for the duration of the awarded project.

Industrial innovation. The MPCA has authority to implement the industrial innovation grant program and directly subaward to R&E, and the subawardee Ramsey/Washington Recycling & Energy has authority to recycle organics.

Timeline and milestones: **2024 Q4:** Write industrial innovation technical assistance and planning and implementation requests for proposals; initiate facility outreach and identification. December 2024: Completion of design and building permitting phase, construction begins for the DCHZI facility. Completion of agreement and subaward to R&E for subsidized tipping fees. **2025 Q1:** Application window for technical assistance and planning grant and implementation grant (phase I) proposals. **2025 Q2:** Review, selection and award of technical assistance and planning grant and implementation grant (phase I) proposals. **2025 Q3:** Technical assistance and planning grant and implementation grant (phase I) activities commence. **2025 Q4:** Technical assistance and planning grant activities complete. December 2025: Construction complete for DCHZI facility. **2026 Q1:** Implementation grant (phase II) application window opens. **2026 Q2:** Review, selection, and award of implementation grant (phase II) proposals. **2026 Q3:** LIDAC and stakeholder outreach and engagement. **2026 Q4:** Implementation grant (phase II) activities commence. DCHZI equipment installed, commissioning completed and project complete. **2027 Q1-Q4:** Subsidy begins when R&E sends organics to DCHZI facility. June 30, 2027: Deadline for R&E to deliver source-separated organics and organic-rich material to an anaerobic digestion facility. DCHZI facility producing natural gas. **2028 Q1 to 2029 Q1:** Ongoing reporting and grants management. **2029 Q3:** All implementation grant (phase I and II) activities complete.

Low and ultra-low GWP refrigerants. MPCA has authority to administer the refrigerant grant program through the Small Business Environmental Assistance program.

Timeline and milestones: **2024 Q4:** Draft ultra-low GWP refrigerant project RFP. **2025:** Market ultra-low GWP grant, evaluate proposals, and make awards. One FTE hired. Draft RFP for low-GWP small commercial projects. **2025 Q3-2026 Q4:** Estimate 2 ultra-low projects completed, conduct site visits for grants over \$50,000 and report benefits. **2026 Q1:** Market low-GWP grant, evaluate proposals, and make awards. **2026 Q2 - 2027 Q2:** Estimate 11 low-GWP projects completed. **2027-2029:** Three funding cycles for ultra-low GWP projects, with 3-4 projects completed each cycle, and three funding cycles for low-GWP projects, with 10-12 projects completed each cycle. As projects are completed and information is available,

educational resources such as case studies and events for contractors and end-users to learn about new technologies will be developed. **2029 Q3:** All projects will be implemented and achieving reductions.

Vehicle and equipment replacement. MPCA and MDA have authority to administer grants for vehicle and equipment replacements.

Timeline and milestones: **2024 Q4:** Public Engagement. **2025 Q1:** Draft RFP(s). **2025 Q2:** Release RFP(s). **2025 Q3-2026:** Implementation of RFP(s), awarding of initial vehicles and equipment replacements. **2025 Q4:** First annual public meeting with updates and request for input. **2026 Q1:** Draft follow-up RFP(s) using new stakeholder input. **2026 Q2/Q3:** Follow-up RFP(s) incorporating stakeholder input. **2026 Q3-2027:** Implementation of second round RFP(s), awarding of more vehicles and equipment replacements. **2026 Q4:** Second annual public meeting with updates and request for input. **2027-2029:** Third or fourth round of RFP(s) if necessary, depending on available funds, and any feedback received to date. Continuation of annual public meetings as needed. Final reporting submitted to EPA 120 days after period of performance.

Prevention of wasted food and organics management. MPCA has authority to administer grants and loans associated for this measure and oversees much of the waste, recycling, and disposal activities in the state.

Timeline and milestones: **2024 Q4:** Current MPCA staff conduct initial public engagement to incorporate interested parties' funding priorities into the programs' RFPs. Post job announcement for the grant programs manager. **2025 Q1:** Hire grant program manager and conduct LIDAC public engagement with to determine the RFP details. Incorporate CPRG funds into the existing organics management revolving loan program and determine project criteria for loan applications. **2025 Q2:** Develop RFPs for all grant programs and prepare RFPs for posting. Open the organics management revolving loan program for applications. **2025 Q3:** Publish round one of the RFPs for all grant programs. **2025 Q4:** Review applications for round one grant RFPs. Post job announcements for the grant projects managers and the compost facility permit engineer. **2026 Q1:** Hire grant projects managers and compost facility permit engineer. Execute round one of awarded grant project contracts and begin implementation. **2026 Q2:** Awarded compost facilities submit permit applications. Post round two RFPs for the PWF and organics management grant programs. **2026 Q3:** Permits are issued or in process for awarded compost facilities. Make RFP round two award decisions. **2026 Q4:** Execute contracts and begin implementation of round two of awarded projects. **2027 Q1:** Food-to-livestock projects are fully operational. Half of the organics management and prevention of wasted food and food rescue awarded projects are fully operational. **2027 Q2:** Construction begins on awarded compost facilities. **2027 Q3:** Grant programs staff monitor all awarded projects. **2027 Q4:** All remaining organics management and prevention of wasted food and food rescue projects are fully operational. **2028:** All awarded projects continue to be monitored. **2029 Q1-Q2:** All awarded compost facilities or expansion projects are fully operational. **2029 Q3:** All projects will be implemented.

Food sovereignty and vibrant local food economies. MDH has the authority to implement this measure through its Thriving Communities unit and American Indian Community Initiatives unit. MPCA has authority to administer grants.

Timeline and milestones: **2024 Q4:** Write RFN Coordination RFPs, review proposals, and select six LPH SHIP grantees. **2025 Q1:** Convene RFN; conduct outreach to ensure there is representation from LIDACs. Initiate planning and conduct input sessions for Tribal Nations. **2025 Q2-Q3:** Review and synthesize local food assessments within each region, conduct regional food assessment focused on GHGe. Determine if additional community engagement is needed to address gaps in existing assessments and conduct engagement if needed. **2025 Q4:** Based on assessments and community engagement, RFNs prioritize strategies that reduce GHGe in the food systems in their region. Compile input from Tribal Nations. **2026 Q1:** Write implementation grant RFPs and initiate public engagement. **2026 Q2:** Receive implementation grant (phase I) proposals. **2026 Q3:** RFNs to review, select, and recommend implementation grant (phase I) proposals. Based on Tribal Nation recommended process for implementation of projects, initiate contracts. **2026 Q4:** Phase 1 Implementation grant activities commence. Release implementation requests for proposals (Phase 2) and initiate public engagement. **2027 Q1:** Receive implementation grant (phase 2)

proposals. **2027 Q2:** RFNs to review, select, and recommend implementation grant (phase 2) proposals. Based on Tribal Nation recommended process for implementation of projects, initiate contracts as needed for phase 2. **2027 Q3:** Phase 2 Implementation grant activities commence. **2029 Q3:** All projects implemented.

4. LOW-INCOME AND DISADVANTAGED COMMUNITIES

a. Community Benefits

Minnesota's food system is deeply tied to the health and wellbeing of Minnesotans. Current GHG-emitting practices from food production to waste management disproportionately expose LIDACs to environmental harms, such as groundwater contamination, air pollution, noise pollution, and accumulation of toxins in human and natural systems. Meanwhile, food insecurity affects LIDACs across the state and is a risk factor for developing or worsening chronic diseases. MCSFS will address these inequities head on. To assess LIDAC benefits, MCSFS will track the distribution of projects and activities in and bordering LIDACs. Regional food coordinators will administer community surveys and input sessions with LIDAC members on project benefits, opportunities for improvement, and any unintended disbenefits. The survey and input sessions will serve to assess and report program impacts on food security, access to healthy, culturally appropriate foods, and overall community health. Below are more details on the benefits and assessment plans of specific measures. Citations are included in the PCAP and are available on request.

Peatland restoration. Across the northern half of Minnesota, peatlands substantially overlap with large areas of LIDACs, Tribal Nations, and the 1854 Ceded Territory. The degradation of peatlands affects LIDACs disproportionately. Climate change disruption poses detrimental threats to Tribal communities' ability to exercise their treaty rights to hunt, fish, and harvest in ceded lands and waters. Peatland restoration will reduce mercury delivery to downstream waters, protect water quality, mitigate downstream flooding, reduce fire risk, decrease fish advisories, protect culturally significant species, and help preserve Tribal communities' lifeways, which are critical for cultural cohesion, financial security, and health. Assessment plan: DNR and BSWR will track acres of restored peatlands in and upstream from LIDACs. Peatlands' role in mercury methylation and transport into downstream water is an emerging research area. DNR and BWSR will collaborate with research partners to identify methods for measuring mercury level changes and coordinate with Tribal Nations to understand benefits to culturally significant species. Jobs created to support the long-term monitoring and maintenance will be filled by local LIDAC members and Tribal community members as much as possible.

Climate-friendly agricultural practices. This measure will benefit many LIDACs located in and near farming communities. It will address the burdens in Tribal Nations of forest cover loss, increased nutrient runoff, and excessive groundwater use of nearby agriculture and reduce nitrate runoff in LIDACs in southeastern Minnesota with unsafe nitrate concentrations in groundwater. This measure will protect food security; build resiliency to extreme weather events, flooding, and drought; improve water quality; improve soil health; and increase economic opportunity and adaptability for emerging farmers transitioning to climate-smart agricultural practices in LIDACs. Assessment plan: MDA will track the percent of acres converted to climate-friendly agricultural practices in and bordering LIDACs, and the percent of emerging farmer participants from historically underserved communities, including Black, Indigenous, and People of Color, immigrants, women, veterans, persons with disabilities, and LGBTQ+.

Industrial Innovation. Industrial areas tend to be sited near LIDACs, exposing them to environmental hazards such as PM_{2.5}, diesel particulate matter, toxic releases to air, and traffic. Industrial decarbonization in and adjacent to LIDACs will improve air quality and reduce exposure to harmful pollutants, supporting multiple health benefits. Biochar production will improve air quality by reducing open burning of wood waste and will create economic opportunities, improve soil and water quality, and reduce environmental pollutants and associated health impacts in LIDACs. The anaerobic digester facility demonstration project will contribute to cleaner air, improved respiratory health, and new employment opportunities in LIDACs.

Providing sustainable organics management services to LIDACs promotes inclusivity in environmental initiatives. The demonstration project is not a manure digester, but engagement evoked concerns about manure digesters: manure spill during transport, odors, and truck traffic increases due to transport. If a manure digester project receives a grant, the grantee would be required to identify LIDAC disbenefits and implement mitigation strategies such as siting a facility near manure and food scrap sources to minimize transport distances and spill risk and replacing uncovered manure lagoons with enclosed facilities to reduce odors. Assessment plan: MPCA will track the distribution of projects, emissions reductions, number of community groups engaged, jobs created, and air quality improvements in LIDACs.

Low and ultra-low GWP refrigerants. Minnesota has fewer grocery stores per capita than most states, ranking in the bottom third of states nationwide, and many LIDACs overlap with food deserts across the state. Funding refrigeration projects will reduce energy costs for small businesses, support grocers' capacity to operate in food deserts in LIDACs, and support employment opportunities in the affected communities. Food shelves were ineligible for previous MPCA refrigeration grant projects. Based on feedback from the most recent grant round, food shelves will be eligible for CPRG refrigeration grant funds, which will support food security and access to healthy foods in LIDACs. Assessment plan: MPCA will track the funding distribution, number and percent of small business grantees, number and percent of food shelf grantees, and energy savings of projects in LIDACs.

Vehicle and equipment replacement. Diesel exhaust is a primary driver of health risks from outdoor air pollution, and LIDACs experience higher rates of death and disease from air pollution. Electrifying diesel and gasoline vehicles associated with food transport in LIDACs will reduce co-pollutants leading to these burdens and reduce noise pollution. Air quality in LIDACs will improve with fewer delivery trucks driving through them, and fewer idling yard spotter trucks nearby. The program will build on the existing vehicle replacement programs' successes in targeting LIDACs, which invested 38% of funds to date in LIDACs, leading to pollutant reductions of 23.7 tons of PM_{2.5}, and 350.6 tons of NO_x in those communities. Assessment plan: MPCA and MDA will track distribution of funds, projects, and co-pollutants reductions, such as NO_x and PM_{2.5}, in LIDACs where projects were implemented, and LIDAC outreach.

Preventing wasted food and organics management. LIDAC benefits will include expanding access to fresh, healthy, culturally appropriate food; reducing hunger; creating jobs in food rescue, construction, compost, and farming sectors; mitigating negative impacts of landfill expansion and waste to energy facilities and incinerators; improving soil health, plant health, and water retention, and reducing use of fossil-based nitrogen fertilizers through compost use; tax savings for communities from diversion of material from disposal and avoidance of solid waste tax; and expanding participation in climate action. Assessment plan: MPCA will track the distribution of projects, funds, tonnage of food rescued and distributed in LIDACs and associated cost savings, and the number of jobs created in LIDACs.

Food sovereignty and vibrant local food economies. LIDACs, including Tribal Nations, are the experts on their needs, priorities, and lived experiences. This measure leverages local knowledge and community support to expand access to healthy, culturally appropriate food; improve food and nutrition security; divert waste going to landfills; facilitate LIDAC participation in climate action; and create economic development opportunities. Decline in Tribal communities' access to traditional foods is linked to declines in overall health, food security, and traditional and cultural knowledge. Advancing Tribal Nations' food sovereignty is critical for supporting overall Tribal communities' health, lifeways, and self-determination. Assessment plan: MPCA and MDH will track distribution of funds and projects implemented in LIDACs. Regional Food Coordinators will work with the food networks to identify additional performance measures that represent community priorities. MPCA and MDH will coordinate with Tribal Nations to identify how the grant programs support food sovereignty and center Tribal sovereignty.

b. Community Engagement

This MCSFS proposal directly responds to community engagement findings. Broad climate-action focused engagement accelerated during the development of Minnesota's Climate Action Framework, which includes input from more than 3,000 Minnesotans and the 11 sovereign Tribal Nations that share Minnesota's geography. PCAP engagement was central to informing the focus of MCSFS. The CPRG team expanded Tribal coordination and contracted with a CPRG Tribal-State Coordinator who, along with the Tribal liaisons from state agencies, met with each individual Tribal Nation's staff and leaders. The CPRG team participated in a government-to-government forum with Tribal leaders to discuss Tribal climate action priorities and explore ways to work together. Key input included a desire for increased intertribal climate communication and noncompetitive grant funding opportunities for Tribal Nations.

LIDAC engagement included meetings with community-based organizations serving LIDACs, and with the MPCA Environmental Justice Advisory Group (EJAG) climate subcommittee and the MDH Health Equity Network Coordinators and Healthy Equity Strategists. The CPRG team reviewed findings from partners' past community engagement efforts. Key feedback indicated climate action should result in tangible, direct benefits and resources for LIDACs, including funding community-driven projects.

Minnesota is committed to continuous meaningful coordination with Tribal Nations and engagement with EJAG, MDH Health Equity staff, organizations serving LIDACs, and LIDAC residents across the state. The CPRG team will provide accessible content, incorporating language translation and interpretation where necessary, and engage LIDACs on projects and programs relevant to their communities to foster collaboration, incorporate community driven priorities, and track program benefits and disbenefits. The Regional Food Coordinators will engage Regional Food Networks across the state, promote MCSFS opportunities in LIDACs, and facilitate LIDAC representation in the food networks to ensure projects advance LIDAC priorities and maximize LIDAC benefits and avoid LIDAC disbenefits. The following section provides further details on the specific methods for each measure.

Peatland restoration. Several Tribal Nations already partner with DNR and BWSR and have expressed support for more peatland restoration. MCSFS will strengthen these partnerships. Tribal Nations will receive 20% of funds for peatland restoration, and their priorities will shape funding distribution. DNR and BWSR will share restoration data and findings with Tribal Nations to advance their peatland efforts. The budget includes outreach programming to support engagement in LIDACs.

Climate-friendly agricultural practices. To ensure benefits are distributed to LIDACs, these grant programs will award additional points to applicants from LIDACs, and target outreach about the grants to producers in LIDACs by leveraging regional staff and partner groups.

Industrial innovation. The grant program will award points for projects that benefit LIDACs and prioritize LIDAC engagement during project design and implementation, with reporting on findings and outcomes. Large-scale construction projects will prioritize detailed LIDAC engagement plans and community benefit agreements. R&E is dedicated to maintaining meaningful LIDAC engagement and emphasizes equity by ensuring accessibility for all residents through distributing educational materials, partnering with community organizations, providing free food scrap bags, and integrating multi-lingual resources.

Low- and ultra-low GWP refrigerants. MPCA will collaborate with stakeholders to co-develop solutions and project benefits and will leverage local expertise to craft effective solutions to ensure projects are tailored to LIDACs' needs and priorities. Food shelves are often located in LIDACs. Based on input, food shelves will be eligible for CPRG refrigeration grant funds. The program will incorporate guidance from MPCA environmental justice staff and organizations serving LIDACs and build on existing partnerships through past food desert initiatives to engage LIDACs for input on application materials and eligibility requirements before posting the grant RFP.

Vehicle and equipment replacement. As with existing programs, MPCA will use LIDAC status, modeled air concentrations of NO_x and PM_{2.5} and MDH data on the prevalence of certain air pollution-related health

outcomes, such as asthma-related hospitalization, in the vehicle replacement location to score proposals. The program will continue to work closely with the EJAG to ensure the process is equitable and achieves the intended LIDAC benefits.

Preventing wasted food and organics management. The RFP process will prioritize projects that directly benefit LIDACs. RFPs will require applicants and grantees to describe and report on the number of people and households in LIDACs directly benefiting from the project, how they engaged LIDACs, and how they will avoid harm to LIDACs, for example from odors or truck traffic.

Food sovereignty and vibrant local food economies. MDH and MPCA developed this measure based on ongoing engagement with local public health through the SHIP program, engagement with regional thought leaders and practitioners working on sustainable food systems, Tribal coordination, and review of Tribal reports and documents demonstrating the deep and multifaceted importance of food sovereignty. This measure recruits and compensates LIDAC residents across the state to participate in RFNs, provide input on LIDAC priorities, and advise on project selection to maximize LIDAC benefits and avoid LIDAC disbenefits. Regional Food Coordinators will develop strategies to better serve LIDAC priorities and ensure equitable funding distribution.

5. JOB QUALITY

Minnesota has long worked to establish itself as a worker-friendly state and ensure high-quality jobs consistent with the Good Job Principles developed by the U.S. Departments of Labor and Commerce. Jobs created with the support of CPRG will adhere to all relevant federal policies, such as Davis-Bacon, as well as Minnesota's existing policies that address wages, benefits, workplace health and safety, labor organizations and collective bargaining agreements, and discrimination including Ban the Box protections. In 2023, Minnesota further strengthened worker benefits and protections by expanding sick day benefits, supporting efforts to organize labor, prohibiting non-compete agreements, and adding protections against wage theft for construction workers. In addition to state and federal policies, projects will follow the state's existing RFP process which includes specific considerations for small businesses owned by targeted or economically disadvantaged groups and veterans. All expectations for high-road practices will be referenced in hiring and contracting materials and reported on as required.

During implementation, program managers will promote DEED's regional Workforce Strategy Consultants as a resource for contractors and businesses interested in retraining workers or enhancing skills in new technologies. DEED will consult on workforce training, apprenticeship opportunities, and recruitment with a focus on equity and diversity. Contractors and businesses will also be encouraged to partner with local colleges to develop training for new and existing staff through DEED's Minnesota Job Skills Partnership, a state-funded program that helps business and accredited educational organizations develop cooperative training projects with preference given to nonprofit institutions serving economically disadvantaged people, minorities, or victims of economic dislocation; and to businesses located in rural areas.

Implementation of the proposed measures will not only generate high-quality jobs during the grant period but also directly and indirectly support high-quality jobs in the future. Details about high-quality job creation as a direct result of specific reduction measures can be found in previous sections. Indirect high-quality job creation will be supported by CPRG, especially through workforce, market, and technological development components of the proposed measures. Measures that promote the use of new cleaner technologies and practices will be supported by various training approaches. These trainings develop the systems, knowledge, and technical capacity needed to meet existing and new demand as more businesses, industries, and public organizations adopt the new technologies and practices supported by CPRG. Having a trained labor force ensures that uptake of cleaner technology is not restricted by employment constraints, promoting greater emissions reductions long term and a greater supply of high-quality jobs.

6. PROGRAMMATIC CAPABILITY AND PAST PERFORMANCE

a, b. Past Performance and Reporting Requirements

The MPCA currently has approximately 42 active grants totaling approximately \$106 million in federal funds ranging from \$51,000 to \$61 million. The grants listed are managed within grant requirements.

EPA Performance Partnership Grant FFY 2022-2026 (AA# BG98568812, AL# 66.605), funding for multiple ongoing environmental program areas, including air quality, water quality, and hazardous waste. Contact: Kristen Faulhaber, (312) 353-4378. Successful management and reporting requirements: MPCA has been successfully administering EPA PPG since 2002. MPCA reports through a comprehensive end-of-the-year progress report called a self-assessment. MPCA is making progress toward grant objectives and has submitted all annual reports on time, most recently on 12/15/2023.

EPA Gulf Hypoxia Program Grant (AA# 4F00E03272, AL# 66.485), scaling up agricultural best management practices through MPCA's nutrient reduction strategy. Contact: Michael Mora, (312) 353-8030. Successful management and reporting requirements: This work plan focuses on eight areas integral to reduce nutrient pollution from both point and nonpoint sources across the state; work in these categories is about halfway complete and data analyses are beginning to generate actionable results for use in local watershed plans, updated permitting strategies, and the statewide Nutrient Reduction Strategy. The first annual report was completed 1/26/24 on time and in accordance with the grant agreement.

EPA Clean Water Act Section 319 funding (AA# C997593522, AL# 66.460), funding for nonpoint source water pollution control projects, focusing on watersheds with water quality impairments caused by polluted runoff from nonpoint sources. Contact: Michael Mora, (312) 353-8030. Successful management and reporting requirements: MPCA provides funds to 6-10 local units of government for implementation activities annually. Data analyses are beginning to generate actionable results for use in local watershed plans, updated permitting strategies, and the statewide Nutrient Reduction Strategy. Grant activities are in-progress and on track according to grant requirements. The first semi-annual report was completed on time 1/25/2024 and the first final report was submitted before the deadline of 3/31/2024.

EPA Climate Pollution Reduction Planning Grant (AA#: 5D00E03463 AL#: 66.046), funding to develop climate mitigation plans. Contact: Helen Mollsen, (312) 886-7901. Work activities for this grant are in progress and on track. Successful management and reporting requirements: Engagement, analysis, and planning activities are on track and the Priority Climate Action Plan met grant expectations and objectives. The deliverable and all quarterly reports have been submitted on time.

c. Staff Expertise

The MPCA is a state agency that works to prevent, limit, and remediate pollution caused by businesses, organizations, and individuals to protect human health and the environment. MPCA collaborates with other state agencies, local governments, businesses, NGOs, and academic institutions. These partnerships increase the agency's capacity to implement effective GHG reduction measures by obtaining and leveraging resources and expertise from diverse stakeholders.

This interagency effort is supported by Minnesota's Climate Change Subcabinet, which is chaired by MPCA's Commissioner. The subcabinet was created by Governor Walz by executive order in 2019 and is made up of executives from 15 state agencies, departments, and boards. Since 2019, the subcabinet has led creation of Minnesota's Climate Action Framework and a climate budget proposal in the 2023 legislative session that contributed to Minnesota's historic climate investments. Subcabinet agencies worked collaboratively on Minnesota's PCAP. The subcabinet meets monthly, and key staff and leadership have standing weekly meetings to foster collaboration on climate action. The strong interagency culture, relationships, and organizational structures will support effective delivery of work proposed for CPRG.

A CPRG project team, led by MPCA, will manage the CPRG grant and regularly engage teams leading each measure. Project team biographies and resumes of key staff are included as attachments.