

## GOAL 3: RESILIENT COMMUNITIES

### Initiative 3.1: Climate-smart communities

*Build the capacity of Minnesota communities to protect against and withstand the effects of climate change*

Sub-initiative	State action steps	LEAD	ENACT	ENCOURAGE
3.1.1 Provide needed technical assistance, tools, and data	Provide training to expand local capacity to assess vulnerabilities, and to plan for and implement adaptation strategies that increase public and critical facilities' resilience, reduce private property damage, and limit public health impacts from climate change.	✓		
	Develop resilient metrics to align with Goal 3 initiatives that identify baselines, set clear objectives, and evaluate capacity, scalability, and cost-effectiveness.	✓		
	Create an interactive, comprehensive website that improves visibility of and access to climate information and identifies strategies to help communities expand resilience capacity.	✓		
	Integrate ongoing adaptation strategies into county hazard mitigation plans using Minnesota's state hazard mitigation plan as a guide. Encourage all communities have a preparedness plan for extreme weather events, including contingencies for multiple events such as a heat wave after flooding.		✓	✓
	Implement the use of high-resolution, dynamically downscaled climate projections for planning and design efforts across Minnesota.			✓
	Accelerate updates to FEMA maps statewide using LiDAR and improved forecasting tools to identify locations subject to repeated localized flooding.			✓
	Advance and promote use of Blue Spot mapping tools and update the Infrastructure Stress Transparency Tool that provides interactive maps of Minnesota's civil infrastructure.	✓		✓
	Map areas where people at greatest risk to climate impacts live and address environmental justice areas of concern across the state. Add climate-related data overlays (e.g., urban heat island effect, drought) as needed.	✓		
3.1.2 Deliver necessary funding	Expand funding and staff resources for the assessment, data monitoring and analysis, planning, design and implementation of adaptation and resiliency projects.		✓	
	Prioritize the use of state bonding funds in support of resilient infrastructure, including water quantity projects, and seek federal funding to address climate vulnerabilities and strengthen resilience.		✓	
	Use existing revolving loan funds and created new public/private resilience financing such as green banks, and other financial tools to provide additional funds.		✓	✓
	Establish a state tree canopy fund.		✓	

Sub-initiative	State action steps	LEAD	ENACT	ENCOURAGE
3.1.3 Share best practices through learning networks	Increase capacity of the GreenStep Cities program to develop and share resilience best practices and adaptation resources with communities, and expand pilot programs that include tribal nations, schools, counties, and townships.	✓	✓	
	Engage with the Minnesota Climate Adaptation Partnership (MCAP) and other partners to provide climate modeling data, technical assistance, and adaptation strategies.	✓		✓
	Hold regular town halls with communities and tribal governments throughout Minnesota to ask what would most help with increasing resilience and more sustainable community consumption.	✓		✓
	Provide community education resources on local climate impacts and actions to describe climate-related hazards and extreme weather events, and prioritize those groups most-at-risk from climate change.	✓		✓
	Increase capacity to develop and implement programs, best practices, and resources with communities to encourage more sustainable consumption and behaviors and sustainable materials and products.	✓	✓	

### Initiative 3.2: Healthy community green spaces and water resources

*Expand and protect tree canopies; parks and other green spaces; and lakes, rivers, and wetlands that provide multiple community resilience benefits*

Sub-initiative	State action steps	LEAD	ENACT	ENCOURAGE
3.2.1 Expand tree planting and preservation	Preserve existing mature trees by encouraging heritage tree preservation and establishing tree maintenance – and assist communities in developing tree ordinances and policies to protect urban tree canopy especially within commercial and residential building projects.			✓
	Manage emerald ash borer and other emerging plant pests and diseases in communities through treatment, removal/replacement, proper disposal and financial assistance.	✓	✓	
	Assess urban canopy cover and other urban tree baseline data across the state for 2010 and 2020 and thereafter in ten-year intervals to help communities track and measure tree canopy goals.	✓		
	Educate communities on available tree inventory data tools including Tree Equity Score, Metropolitan Council “Growing Shade” tool, and the University of Minnesota’s Land Cover and Urban Tree Canopy tools.	✓		
	Increase funding for urban tree care and forestry, and dedicate resources for education, job training and community-led planning and decision-making.	✓	✓	✓
	Grow and support climate-adaptive shade trees in urban areas, prioritizing disproportionately impacted communities, to decrease energy use in homes and buildings, mitigate heat islands and replace pest infected or diseased trees.			✓
3.2.2 Plant beneficial vegetation on urban land	Expand pollinator, prairie, and climate-adapted plantings to increase biodiversity and ecosystem resiliency on public and private lands.		✓	✓
	Support parks, community gardens, and green spaces in communities at greater risk from climate impacts.			✓
	Promote incorporation of prairie vegetation as part of ground-mounted solar development to support pollinators.	✓		✓
	Increase the resilience of ecosystems and native species to provide habitat and water quality benefits, promote the right to exist and inherent value of wildlife and plants, and support tribal authority to hunt and gather.	✓		✓
3.2.3 Protect and improve water quality and quantity	Implement the 2020 State Water Plan. Updated every five years, the current plan’s focus is how to best prepare for the impact of climate change on Minnesota’s water resources.	✓		

Sub-initiative	State action steps	LEAD	ENACT	ENCOURAGE
3.2.3 Protect and improve water quality and quantity	Prioritize the strategies identified to achieve the Water Plan’s five primary goals: (1) Ensure drinking water is safe and sufficient; (2) Manage landscapes to protect and improve water quality; (3) Manage landscapes to hold water and reduce runoff; (4) Manage built environments and infrastructure for greater water resiliency; (5) Promote resiliency in quality of life.	✓		✓

### Initiative 3.3: Resilient buildings, infrastructure, and business

Help the built environment and local economies become more resilient to climate change

Sub-initiative	State action steps	LEAD	ENACT	ENCOURAGE
3.3.1 Plan for climate adaptation in residential and commercial development	Research ways to increase resiliency of buildings to extreme precipitation, flooding, extended heat waves, urban heat island effects, grid failure from extreme weather, and other climate change impacts – especially in multi-family housing upgrades and for under-resourced communities. Enable the use of the Guaranteed Energy Savings Program for community resilience to multiple climate perils including design and audit assistance.	✓		✓
	Adopt resiliency provisions in codes, permits, and policies for new construction, rehabilitation and adaptive reuse, and create resilient design standards that also maximize material reuse when possible.	✓	✓	
	Incorporate climate resiliency into engineering best practices; and partner with engineering and architecture professional associations to provide education and training opportunities.	✓		✓
	Encourage new construction and rehabilitation of housing to plan for resiliency/adaptation (e.g., waterproofing basements, raising mechanicals and coordinating with energy improvements, installing mold resistant and passive cooling building features), prioritizing rehabilitation first before new construction, and ensuring new developments build outside of higher risk flood areas that retain the natural benefits those areas often provide.			✓
3.3.2 Fund resilient infrastructure and critical facilities	Assess vulnerabilities of critical facilities and use climate projections to identify ways to ensure continuity of operations.	✓		✓
	Modify infrastructure and update state floodplain management rules for critical facilities, mitigate risk in areas beyond current FEMA-mapped floodplain areas, and encourage no-net-loss of floodplain storage in response to projected climate conditions. Create resilient design standards for building and updating critical facilities and infrastructure.	✓	✓	✓
	Design transportation infrastructure for long-term resiliency, including expanding use of culverts and crossings designed to allow better natural flow distribution, capacity for increased volume where appropriate, and aquatic organism passage.	✓		✓
3.3.3 Expand green infrastructure and stormwater management	Provide funding and technical assistance to establish green infrastructure and other nature-based adaptation in urban areas to control flooding, reduce urban heat, improve water quality, and restore lost habitat.	✓		✓
	Expand the use of green stormwater infrastructure practices in developments within stormwater regulatory programs.	✓		✓

Sub-initiative	State action steps	LEAD	ENACT	ENCOURAGE
3.3.3 Expand green infrastructure and stormwater management	Promote water storage and water management to hold or distribute water during and after large rain events in urban landscapes, including restoring wetlands to support water storage in flood-prone areas, to protect buildings and infrastructure and support watershed health. Support reuse of water to increase resilience.			✓
3.3.4 Reduce the urban heat island effects	Provide funding and technical assistance to help communities reduce their urban heat islands, prioritizing disproportionately impacted communities.	✓		✓
	Encourage the development of resilience hubs which provide and coordinate culturally sensitive, multilingual services to better meet the needs of diverse groups of community members in response to extreme heat and other climate-driven impacts.			✓
3.3.5 Support adaptation for local businesses	Offer planning, funding, and technical support to help businesses such as tourism, sports and recreation, and construction and remodeling adapt to climate change impacts.		✓	✓
	Develop adaptation job training and certification programs and prioritize employment opportunities to frontline communities seeking to build resilience.	✓		✓
	Support resilience through local and regional economic development and community energy transition. Encourage flood preparedness and business disruption assistance for small businesses disproportionately impacted by climate change.	✓		✓