Minnesota's Climate Action Framework

Summary of input

Overview of public feedback received on the Climate Action Framework

MINNESOTA

cc-mn4-01e

SUMMARY OF INPUT

More than 3,000 Minnesotans' voices shaped the goals that make up the Minnesota Climate Action Framework. Through a variety of engagement opportunities, Minnesotans were able to offer their feedback on the draft Climate Action Framework. This input was reviewed and considered as state staff and leadership finalized the Framework. Opportunities for participation included:

- Public input via Engagement HQ, an online engagement platform where participants could read the draft Framework materials, pose questions, and fill out surveys to share their feedback.
- Written comments submitted via email
- Stakeholder workgroups, convened jointly by the Climate Change Subcabinet and the Governor's Advisory Council on Climate Change and organized around each of the chapters of the draft Framework. Each stakeholder workgroup included 20-60 individuals with expertise related to the chapter topic. They met to provide input on the Framework during the winter and spring of 2022. Details on the process, who participated, and the input they provided can be found at https://climate.state.mn.us/framework-workgroups.

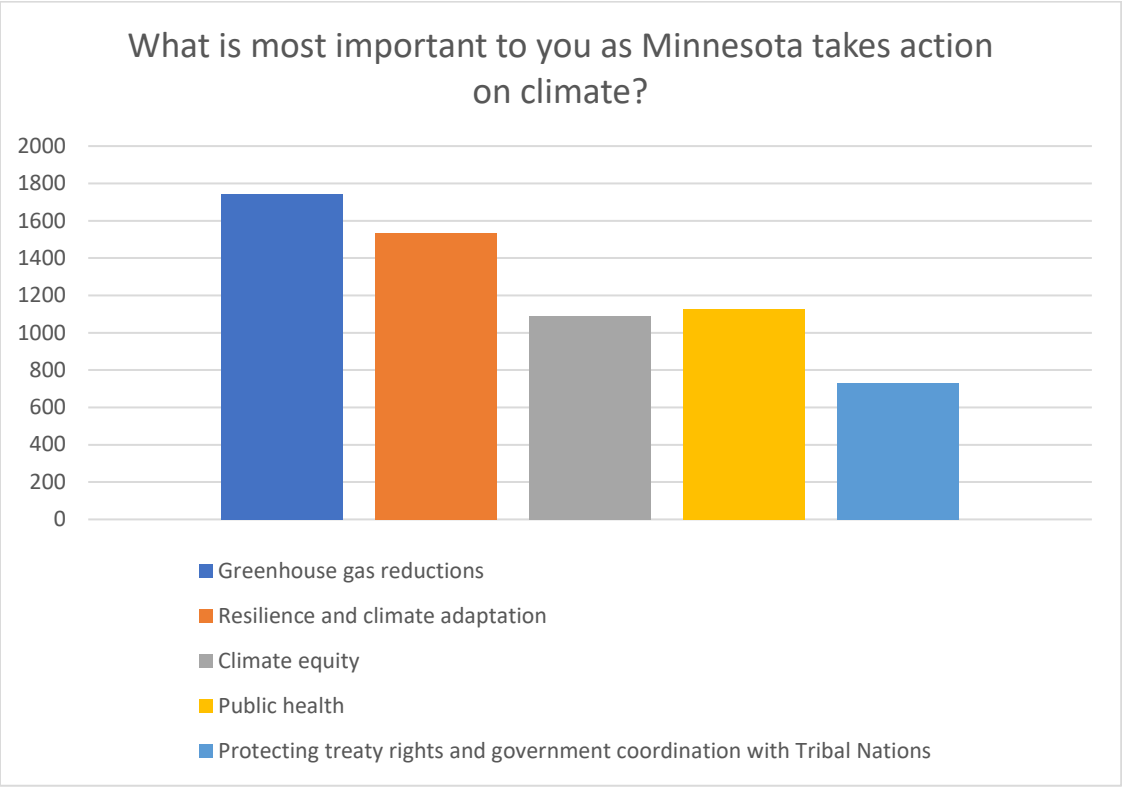
All of the input received from the various engagement opportunities was considered in the final draft of the Climate Action Framework. Below is a summary of the input received and how it was integrated into the document.

ENGAGEMENT HQ SUMMARY

From February 1, 2022, through April 29, 2022, Minnesotans were invited to provide feedback on the draft Climate Action Framework. Each of the six climate action goals laid out in the draft Framework had a dedicated engagement webpage and a survey to collect input on the content of that goal. Across the six engagement web pages, we received over 4,700 surveys from nearly 2,900 people representing 489 different ZIP codes in Minnesota.

Survey participants were asked several questions related to each goal of the draft Climate Action Framework to help us better understand Minnesotan's priorities related to climate action and get their take on the content of the Framework.

Every survey participant was asked "what is most important to you as Minnesota takes action on climate?" and were asked to choose up to three options. Greenhouse gas reductions were the most frequently selected option, followed by resilience and climate adaptation, public health, climate equity, and protecting treaty rights and government coordination with Tribal Nations.



Participants were also able to indicate "other" as an option for this question. We received 1,885 "other" responses. The most common "other" responses included support for nuclear power and keeping taxes and energy costs low. Some participants expressed skepticism that climate change is real and a cause for concern.

All data collected through the surveys was passed on to interagency and leadership staff teams for consideration in the final draft of the Climate Action Framework.

SUMMARY OF INPUT BY CLIMATE ACTION GOAL

Below is a summary of the feedback collected through the survey, comments received via email, and comments collected through the workgroup process for each of the climate action goals laid out in the Framework. The summary also includes how the input was addressed in the final Framework.

Introduction

Intergovernmental Panel on Climate Change (IPCC) targets

Many commenters stated that the Framework should reflect the most current science from the IPCC and the levels of GHG emission reductions and adaptation required to avoid the most catastrophic impacts of climate change. The Subcabinet agreed that it is important to reflect the most current science and set ambitious goals to guide our work. We know we cannot achieve these targets alone but will need the efforts of all levels of government, businesses, nonprofits, and individuals to achieve them. To respond to this input, the Subcabinet has adopted goals based on IPCC analysis in the "Working together to meet global goals" section of the Framework.

Next steps

Many commenters highlighted the need for immediate action on climate change and wanted to know more about how the Subcabinet will implement the Framework. The Subcabinet agrees that it is important to use the Framework to accelerate our work on climate change and to be transparent about the process. To respond to this input, the Subcabinet developed the "What's next" section of the Framework to highlight critical next steps and priorities.

Goal 1: Transportation

Greenhouse gas reduction goals

Commenters recommended that the Framework should set strong greenhouse gas (GHG) reduction targets and align those targets with Intergovernmental Panel on Climate Change (IPCC) goals. They specified that the draft Framework target of an 80% GHG reduction by 2050 should instead align with IPCC targets of achieving net zero GHG emissions by 2050. There was disagreement on which GHG target to include in the Framework. Some commenters had concerns that a net zero target might be unrealistic, and to keep the objective at 80% by 2050 and focus on education to earn greater buy-in. Many survey responses said the target of 80% reduction by 2050 went too far as well.

Considering this input and input received on MnDOT's Statewide Multimodal Transportation Plan, we modified our measure of progress to reduce GHG emissions in the transportation sector by 80% by 2040, which aligns with a net-zero target by 2050.

Equity and environmental justice

Commenters recommended that the Framework should ensure that strategies benefit all Minnesotans, especially people living with disabilities, lower-income households, rural households, people of color, and those disproportionately impacted by the transportation sector. The State should ensure that a diverse set of voices is involved in the implementation of the framework, with stronger community engagement rather than engagement with only community leaders. The Framework should also differentiate strategies and goals for rural and urban areas.

Commenters also highlighted links between transportation, environmental justice, and equity. Some public commenters noted that Black, Indigenous, and People of Color (BIPOC) communities are disproportionately impacted by climate change, and others asked for the Framework to identify the steps necessary to address past and ongoing harms of highways for low-income and BIPOC communities. In the Engagement HQ survey, "increasing transit service to create more reliable and convenient transit networks, with initial priority given to routes in communities where transit is essential for travel and residents are disproportionately impacted by air pollution" was ranked as the most important priority action.

In response, we added language to the Goal 1 Challenges section that frontline urban communities that are bearing the biggest burdens of climate impacts also bear the impacts associated with proximity to freeways. We also updated the Goal 1 Vision section that Minnesota's transportation system is sustainable and resilient to a changing climate and supports transportation options for all Minnesotans, especially people living with disabilities, lower-income households, rural households, Black, Indigenous, and People of Color, and those disproportionately impacted by the transportation sector.

Throughout Goal 1, we have included the word "just" whenever the word "fair" is used. Throughout engagement with stakeholders on transportation equity last year, we learned "fair" better communicates equity when used or coupled with "just." On its own, people said "fair" signals equality more than it does equity.

Vehicle miles traveled reduction target

Commenters indicated that the Framework should take further action to reduce vehicle miles traveled (VMT), and should set a specific goal for reducing VMT, which should include different goals in urban and rural areas, and specify how to determine metrics. As part of this recommendation, the Framework should include specific strategies for expanding transportation access across all transportation modes and invest in education and awareness to help people feel more comfortable walking, biking, and using transit. Other commenters suggested that the framework should prioritize actions to reduce VMT first, electrify transportation next, and then decarbonize what can't be electrified.

We have included in Goal 1 of the Framework the Statewide Multimodal Transportation Plan (SMTP) VMT reduction target of 14% per capita by 2040 in line to achieve 20% per capita by 2050. The SMTP also commits to working with transportation users and partners to identify statewide strategies to achieve these targets.

Through the SMTP, per capita reduction will be measured from a 2019 baseline and include interim 5-year targets to provide opportunities for evaluation and adjustment. The VMT reduction target came out of a recommendation from the Sustainable Transportation Advisory Council (STAC), a long-form public engagement group that submits recommendations to MnDOT each December.

A 20% reduction target by 2050 is consistent with targets set by other state transportation departments, including CA (-15% by 2050), CO (-10% by 2030), DE (-20.4% from 2010), ME (-20% by 2030), and WA (-50% by 2050). It also aligns with communities in Minnesota, including Hennepin County (-26% by 2040), Eden Prairie (-14% by 2050), Minneapolis (-21% by 2030), St. Louis Park (-12% by 2030), and St. Paul (-40% by 2040). These VMT targets primarily focus on travel by personal vehicles and measuring per capita, which is also the intent of Minnesota's target.

The proposed target is a starting point for engagement, partnership, and planning. MnDOT will finalize the target after SMTP public engagement concludes and engage with transportation stakeholders and partners on implementation strategies starting in fall 2022. MnDOT will explore a range of strategies related to increasing travel options, travel demand management, and highway spending.

VMT reduction strategies will look different depending on the community. Rural communities have farther distances between destinations, fewer convenient multimodal options, and less access to high-speed internet. Strategies for rural communities could include expanding broadband to allow for reliable telecommuting and telehealth access. There may be more potential to reduce VMT in urban communities where denser development is more conducive to walking, biking, and transit options.

Strategies to expand access to and awareness of transportation modes other than driving alone are included in the State Action Steps listed in Summary of Climate Actions and can be found under Initiative 1.1: Connected Communities.

Electric vehicles and EV charging stations

Commenters recommended that the Framework further accelerate progress on electrification, and requested a more aggressive electric vehicle (EV) adoption goal and additional benchmarks related to electrification. They also requested that the Framework elevate electrification strategies specific to medium- and heavy-duty vehicles, include additional strategies that increase equitable access to EVs, and add an action focused on providing support for private and public fleets looking to electrify.

Commenters advised that the Framework take steps to ensure the sustainability of EVs. Specifically, the Workgroup requested more information about EV battery sourcing. Some commenters supported that materials for EV batteries should be mined locally in Minnesota. We also received requests that the Framework introduce robust public education about EV battery recycling and mechanisms for the "harvesting" of electronic waste associated with EVs as the preferred source of minerals (lithium, nickel, and manganese) needed for EV battery production before turning to the mining of natural lands. The State should ensure that clean electricity is used to power EVs. In addition, commenters recommended that the Framework should identify the role of electric utilities in transportation electrification, including in implementing EV charging infrastructure and communicating about electrification opportunities.

Other commenters submitted concerns about EVs contributing to environmental harms, including power plant emissions, tire wear, and mining. They also had concerns about EV costs and equity. Alternatively, some commenters also expressed support for EVs, including support for setting a goal of 100% passenger and commercial EVs by 2050, tax incentives for EV purchasing, and increasing the number of EV charging stations. Other ideas proposed include supporting a tax on fossil fuels or a phased-in penalty on ICE vehicles to fund EV programs and mandating stricter emissions standards.

The Framework already included significant focus on EVs, including a measure of progress for 20% of Minnesota's fleet to be electric by 2030. In addition, one of the Clean Transportation goal's initiatives, 1.2 Clean and efficient vehicles, is comprised largely of action steps to advance EV adoption. Minnesota is receiving significant federal funds to accelerate installation of EV charging stations and the state is currently working to implement the Clean Cars Minnesota rule, adopted in 2021, that requires vehicle manufacturers to deliver for sale in Minnesota increasing numbers of EVs. These two efforts serve as cornerstones to the rest of the EV efforts described in the Summary of Climate Actions. These efforts will be supported by increased availability of EVs in the consumer automobile market, and more auto manufacturers transitioning production to only electric vehicles. We also added a new action step under Appendix 1 to coordinate with state and federal agencies to identify opportunities for battery recycling and reuse.

Transit

Commenters highlighted the importance of improving the connectivity of transit, providing planning assistance for transit in small communities, prioritizing bus rapid transit with clean, electric buses in impacted communities, and encouraging transit for short trips.

Other commenters recommended that the Framework should have a more targeted focus on transit and not group it with walking and biking. We heard that public transit content is too vague and not ambitious enough, and transit should be a focus of the Clean Transportation chapter because of the equity implications. Specific comments included recommendations to include bus rapid transit, free fares in low-income neighborhoods, and protecting green space and habitat when making transit improvements.

We agree with the feedback that public transit service improvements play a crucial role in shifting trips away from single-occupancy vehicles. We demonstrate a focus on transit through Sub-initiative 1.1.1 by increasing investment in safe, comfortable, and convenient walking, biking, and transit opportunities, and through the state action step to increase transit service to create more reliable and convenient transit networks, with initial priority given to routes in communities where transit is essential for travel to jobs, services, schools, grocery stores, parks, and residents disproportionately impacted by air pollution." The state also continues to play a supporting role to regional and local transit providers, and we have included as state action step in the Summary of Climate Actions support of Metro Transit's Zero Emission Bus Plan, which sets the target of at least 20% of 40-foot bus replacement procurements being electric between 2022 and 2027.

We considered how the COVID-19 pandemic highlights the importance of seeking innovative policy and technology solutions to make the transit system more resilient. One solution that transportation departments across the country are looking at is demand-response transit – a more flexible alternative to fixed route service – which could benefit low-density communities.

Low carbon liquid fuels

Commenters suggested that the Framework should strategically support use of low carbon liquid fuels, including incentives to prioritize low carbon liquid fuels, including biofuels, in harder-to-electrify sectors. Some stakeholders shared that biofuels are an important tool for reducing emissions in existing vehicles, and that electrification should not be the only answer. Commenters stated that a clean fuel standard, if properly crafted, could serve to further reduce GHG emissions in the transportation sector. Due to its potential holistic approach, a clean fuel standard may provide economic incentives, resulting in improved soil and water quality, minimized land use, and other environmental impacts. Stakeholders requested more specific strategies in this area.

Other comments included concerns about the lifecycle impacts of biofuels, especially ethanol, and commenters also supported efforts to phase out liquid fuels, eliminate ethanol subsidies and discourage ethanol production.
We heard feedback both in support and in opposition to low-carbon liquid fuels. We have determined that Goal 1 of the Framework will include that hydrogen and advanced biofuels may be particularly helpful in reducing emissions from heavy-duty vehicles and other hard-to-electrify modes, such as air travel.

Passenger rail

Commenters suggested implementing an integrated statewide multimodal transportation system that includes the reintroduction of regional passenger rail service on the network of existing rail lines designated in Minnesota's Statewide Rail Plan. This would include introducing clean energy and infrastructure improvements that enhance the safety and efficiency of freight and passenger rail conveyance across Minnesota.

As the feasibility of implementing regional passenger rail service through this recommendation may be limited by logistical challenges of running passenger rail on freight rail lines, we are not including this as part of Goal 1 of the Framework.

Intercity passenger rail lines have been proposed and studied between the Twin Cities and locations including Milwaukee, Chicago, Duluth, and extending the Northstar Commuter Rail line to St. Cloud. The Twin Cities-Milwaukee-Chicago Intercity Passenger Rail Service project is currently in the final design phase for railroad infrastructure improvements, with construction anticipated to start in 2023, and service expected to begin in 2024 or sooner. Progress on other intercity rail projects has been delayed by the state legislature.

Land use and urban sprawl

Commenters recommended that the Framework should include strategies for land-use planning that reduce the need for driving, including working alongside cities and local governments to pursue comprehensive planning. Examples of strategies for land use planning and addressing sprawl include making changes to zoning codes, promoting denser housing and mixed-use land developments, and encouraging and supporting "smart-growth" land-use practices.

Commenters noted that focusing on transportation infrastructure can only go so far without addressing sprawl. Specific recommendations for policies to address sprawl included eliminating single-family zoning and zoning that prevents mixed uses and giving the Metropolitan Council the power to adopt an urban growth boundary.

Framework Goal 1 supports MnDOT project prioritization and programming that lower VMT by accounting for local development patterns and land use policies. A potential example could be prioritizing projects that enhance walkable land uses. This can help set a precedent that the state will support good local land use planning and not automatically facilitate increased travel demand driven by low density and outward growth. Other potential steps to encourage localities to be partners with their land use decisions could include calling for supportive land uses in Complete Streets guidelines.

As part of Goal 1 implementation, MnDOT will coordinate with Met Council and other MPOs during the next comprehensive plan update to explore opportunities to provide technical assistance to local partners to make climate-smart land use/zoning updates, such as land use regulations that encourage more compact development. MnDOT will also explore updating the agency's project prioritization process in collaboration with MPOs to prioritize projects that enhance transit-oriented and walkable land uses.

Safety

Many commenters recommended that Goal 1 of the Framework promote pedestrian and bicyclist safety education.

Other commenters suggested that the Framework should identify specific actions to improve safety for people biking, walking, and rolling, and that it should address systemic safety issues with infrastructure. We heard that the Framework should include proven infrastructure improvements, such as increasing separation between people walking and biking and vehicles, to make biking and walking safer and increase adoption of these modes.

We agree that infrastructure improvements and safety education will support mode-shift away from single-occupancy vehicle trips, and have included them as state action steps in Appendix 1 under Initiative 1.1: Connected Communities.

Goal 2: Climate Smart Natural and Working Lands

More specificity

Commenters on the Framework's Goal 2 made very specific proposals related to the management of NWLs, including programmatic changes, specific targets and goals, and funding needs. These comments tended to be at a level of specificity that lies outside the scope and objectives of the Climate Action Framework. These very specific comments will, however, play a strong role as feedback for future implementation steps and/or research directions.
Several commenters wanted additional details on policies, program actions, and targets that were not provided in the draft Framework. The intent of the Framework is to provide overall direction and motivate action on important strategies needed for reaching Minnesota's climate goals. The expectation is that details on "who, what, when, and where" will be developed through subsequent stages of implementation.

Bolder goals and actions

Many commenters wanted the draft to be more ambitious about conservation and soil health-related goals. Commenters suggested specific benchmarks and goals for GHG reduction and adaptation/resilience – including a goal to shift 7.5 million acres to continuous living cover. These comments will be used to scope future research and policy targets. The results of the Engagement HQ survey showed that most people did not think our initial targets for natural and working lands laid out in the draft Framework went far enough. Therefore, for the final Framework, we developed a Measure of Progress on better integrating climate adaptation and resilience into state NWL plans by 2030 instead of 2035.

Include biodiversity more explicitly within initiatives

We received many comments highlighting additional benefits natural and working lands can provide, particularly with respect to preserving biodiversity now and as our climate continues to change. Commenters also noted the vital connections between Minnesota's native plant and animal communities, and native peoples' cultural heritage. This came out most strongly and eloquently in comments noting the importance of existing plant and animal communities to native peoples' cultural and spiritual practices and wellbeing. While in the end, we did not include an initiative specific to biodiversity within this section of the Framework, we endeavored to ensure that the important connection between climate and biodiversity – particularly climate resiliency and adaptation – was recognized in the chapter.

Recognize that natural lands are also working lands, and vice versa

Many comments, especially those from Tribal participants, emphasized the interrelatedness of "natural" and "working" lands and the need to acknowledge the ecological, cultural, and spiritual benefits that all types of landscapes can provide. In response, we added additional text to the "Context" section and will continue to emphasize these points when implementing the Framework.

Build a workforce that can accomplish goals for NWL

Several commenters pointed out that access to a trained and ready workforce will be essential for implementing climate-smart strategies described in the chapter. This was true in both the agricultural and forestry sectors. Commenters also suggested that accelerating climate-smart practices provides opportunities to put Minnesotans to work in sectors that promote climate mitigation and adaptation—in addition to other benefits. While some of these ideas were already in the chapter, we added some extra text under "What we will do" to further highlight the role of workforce development in achieving our goal of Climate-Smart Natural & Working Lands.

Economic tradeoffs of climate practices

Commenters pointed out that changing practices (and incorporating new technologies) to be more "climate-smart" (whether a crop farmer, dairy farmer, forest owners, or logger) can result in upfront costs. We revised chapter text to more clearly identify the economic tradeoffs in the "Context" section.

Forestry

Forests as a "sink," not a "source," of emissions

Minnesota's forests are currently a 'sink' of atmospheric carbon—absorbing more CO_2 each year than is released due to harvest, pests, disease, and wildfire. Several commenters felt that the contribution of forests to climate mitigation was not being adequately reflected in the draft Framework. We took steps to ensure accuracy and clarity in the information presented, and further highlight the climate mitigation benefits of forests. This included changes to the Framework's introduction and changes in Goal 2 to further distinguish forests from the agricultural sector.

"Keeping forests as forests" as a climate mitigation strategy

Several commentators proposed "keeping forest as forests" as an important climate mitigation strategy. Avoiding permanent conversion of forests to other land uses (e.g., development) is a well-documented climate mitigation strategy used around the world. While this strategy is described as a state action step in Appendix 1 under Initiative 2.1, we inserted this language more explicitly as part of the Framework's Goal 2 in response to stakeholder feedback.

Strengthen forest carbon measurement and tracking systems

Commenters called for a more holistic evaluation of the contribution of forests to climate mitigation, specifically expanding the scope of forest carbon accounting systems to include carbon sequestered and stored-in products made from wood fiber harvested in Minnesota. These suggestions also included a proposal for evaluating the avoided

emissions from using wood products in place of fossil fuels and energy-intensive materials like concrete and steel. Enhancing forest carbon accounting practices is not within the scope of the Framework but it will be addressed during its implementation.

Agriculture

Support for specific best management practices

Many commenters raised specific best management practices for agriculture like no-till, living cover systems, and increased crop diversity. Many of these comments were addressed in Appendix 1, but not at the level of detail suggested. These detailed comments, however, will provide a resource for future research and action. We made edits to Goal 2 to highlight the importance of nitrous oxide reductions from improved cropland and nutrient management.

Manure Management

Commenters shared ideas to reduce methane releases by managing food sources for cattle and using solid manure storage rather than liquid manure storage. Commenters also supported adding livestock on the land, especially in rotational grazing, and reducing livestock in confined animal feeding operations. In response to these comments, we made edits to Goal 2 to emphasize the importance of methane emissions in reducing climate impacts from livestock.

Peatlands, wetlands, prairie

All natural lands are important in climate action

Commenters shared the importance of grasslands and wetlands, particularly peatlands, because these habitats store carbon and help make watersheds more resilient to climate extremes. They also noted the habitat benefits of grasslands and wetlands for at-risk wildlife and pollinator species. We made edits to the chapter to reflect the biodiversity and climate benefits of protecting and restoring peatlands, other wetlands, and prairie.

Goal 3: Resilient Communities

Measures of progress with robust resilience goals

Commenters wanted measures of progress for resilient communities that would emphasize both progress and outcome objectives for adaptation planning and implementation. We added additional language to reflect this while also acknowledging that communities have different adaptation needs.

Resilient metrics are essential for adaptation

There was strong support by commenters to include the need to identify Minnesota-specific resilient metrics that reflect both process and outcome results. We added this as one of our sub-initiatives and included as a state action step the development of resilient metrics that identify baselines, evaluate capacity, and provide scalability.

Capacity and funding are integral to resilience success

Many commenters repeatedly highlighted that communities need both funding and capacity to succeed in planning and implementing adaptation solutions. We included specific sub-initiatives to emphasize these resources as well as state action steps to identify opportunities.

Inclusive community adaptation planning and implementation that builds upon equity-based solutions

Multiple commenters stressed the need for equity-based solutions in how adaptation resources were allocated, planned, and implemented, with many advocating that underserved communities should lead or be directly involved in

community resilience decision-making. We have made edits to include equity as a central theme throughout all of Goal 3 Resilient Communities sub-initiatives and state-action steps.

Community tree canopy goals defined by topography and species

We received substantial comments on the challenge of identifying tree canopy goals given that many communities are losing trees due to emerald ash borer and extreme weather events. Minnesota's northern communities often have greater canopy to work with compared to many in the south. Tree canopy targets should be based on a community's tree canopy percentage. We included this within the Framework. We also included a state action step that references the DNR's upcoming state-wide tree canopy assessment comparing 2010 percentages to those of 2020. This will be a valuable tool to help communities with adaptation planning achieve their tree canopy goals.

Water resilience

Many commenters wanted water resilience as part of the Framework as climate change threatens to reduce water quality and quantity by altering precipitation and temperature patterns that our waters depend on. Community resilience may be influenced by our state's lakes, rivers, wetlands, and groundwater that contribute to drinking resources, food production, and healthy ecosystems. As a result, we added protection of water quality and quantity as a sub-initiative and included implementing the 2020 State Water Plan as a state action step.

IPCC recommendations on adaptation

Several commenters emphasized the value of including in the Framework the three most compelling findings from the Intergovernmental Panel on Climate Change (IPCC) report on adaptation that was issued on February 28, 2022. These are that adaptation reduces risk, enhances resilience, and provides co-benefits – but to do so requires strategic planning and implementation. The next 10 years is the most effective time span to get this done. Once temperatures escalate over 1.5 degrees Celsius, opportunities for successful adaptation rapidly diminish. We have included the IPCC's recommendations for both mitigation and adaptation as part of the Framework.

Goal 4: Clean Energy and Efficient Buildings

Decarbonizing the energy supply

We heard broad support for the need to decarbonize the electricity supply as it serves as the basis for decarbonizing many other sectors, such as transportation. Additionally, we heard support for adding detail around decarbonizing thermal energy. There were differing views from the public, however, about whether electricity, renewable energy, and thermal standards were necessary, and many survey respondents indicated concern about electricity sector regulations. One reason given was that existing utility commitments and markets were already moving in this direction. Although we respect and agree that market forces are moving these sectors in the right direction, the Subcabinet recognizes the outsized role of the electricity system in impacting GHG emissions, and based on modeling, establishing carbon-free electricity and renewable energy standards may be among the most impactful solutions to achieve statutory objectives.

Access, affordability, and energy burden

We also heard wide support among stakeholders in the working group for doing three key things in combination with one another, in addition to decarbonizing the energy supply: 1) making energy affordable for all; 2) making the entire energy system more efficient and less wasteful, specifically targeting efficiency investments towards lower-income households; 3) ensuring everybody has access to energy. There are many existing actions in the Framework that speak to reducing energy use and energy burden for both residents and businesses, and stakeholders discussed a variety of

additional actions to strengthen the Framework on these points. Several new actions were created based on this feedback, including one focused on streamlining energy and housing programs to make them easier to access and maximize benefits for all program participants. Stakeholders expressed concern about the energy cost to end users to close the final 5% gap on decarbonizing heating energy to cover extreme conditions such as during deep cold or heatwave cycles. Cross-sector energy optimization and expansion of hybrid technologies can mitigate these end-goal costs. Two new measures of progress were created around reducing statewide energy burden and statewide primary energy usage.

Net-zero buildings

Additionally, we heard substantial support for the need for the building sector to achieve net zero, although there were diverse opinions about how best to achieve that goal. We heard support for adding more detail and intention around building codes, benchmarking, disclosure, and performance standards within the Framework. The Framework continues to include an action to improve codes and standards for all new commercial and large multi-family buildings to achieve net zero by 2036, and also highlights the need to update codes and standards for all new buildings. Critical to net-zero buildings is to maximize building energy efficiency before applying renewable power generation. One key opportunity that we heard, and subsequently included, within the Framework was the opportunity to use cross-sector coupling (the sharing of energy streams across sectors) to reduce waste heat, as well as the opportunity to increase efficiency and renewable energy by broadening the focus from individual net-zero buildings to include efficiencies based on the building site and/or neighborhood scale.

Goal 5: Health and Equity

Feedback from the Healthy Lives and Climate Equity Workgroup

The Healthy Lives and Climate Equity Workgroup (Workgroup) was one of six topic-area workgroups convened during the spring of 2022 to take an in-depth look at the draft Climate Action Framework (Framework) and help shape revisions to the document. The feedback that resulted from these conversations is summarized in the Minnesota Draft Climate Action Framework External Stakeholder Workgroup Summary (see pages 23-26). Many of the themes discussed by the Workgroup echoed concerns raised via public comment. Feedback from the Workgroup led to wording changes throughout Goal 5: Healthy Lives and Communities of the Framework, changes or additions to the list of action items in Appendix 1, and a list of considerations for future implementation stages of the Framework.

The Workgroup felt strongly that the State needs to build a foundation of trust with communities in Minnesota and work in partnership with them, rather than implementing top-down solutions. At the same time, the Workgroup felt that state government has a critical role to play in leading climate action and using existing authorities to help move the state towards its climate goals. The Workgroup also expressed concerns about implementation of the Framework. Many of the actions identified in the document are broad, and they noted that without more detail, it is difficult to determine whether these actions will be successful in meeting community needs and priorities.

To counter these challenges, the Workgroup stressed the importance of developing implementation plans with communities to create spaces of trust and accountability, where communities can share their needs and bring forward solutions. The Workgroup also stressed the importance of ensuring that equity is considered in the access to State support and resources for implementing the Framework.

Another key theme of Workgroup discussions was how the Framework can better address the intersectionality of race and ethnicity, geography, age, income level, and other social factors and how these play a key role in inequities throughout the state. The Workgroup noted that there is great diversity throughout the state, and that climate change will have different effects across households, communities, and regions. The group emphasized that both rural and urban residents will be impacted and that we need more research and data to describe and understand the unique

challenges that will be faced in different places. Addressing inequities based on race and ethnicity and other key factors has been integrated throughout the Framework, but the State acknowledges that more needs to be done, including collecting better data and sharing the data so that disproportionate impacts are documented and acted upon.

Improve public health and healthcare systems to alleviate health inequities and the disproportionate impacts of climate change

Public commenters drew strong connections between health and equity, noting that health cannot be achieved without addressing equity. Many commenters highlighted that climate change is occurring in an already complex and challenging environment, with many interacting stressors especially within BIPOC communities, including COVID-19, nearby polluting industries, and the ramifications of historic and current institutional and systemic racism.

Commenters specifically mentioned the importance of access to culturally appropriate healthcare and mental health services. Affordable, quality and culturally appropriate/responsive healthcare is still needed in many communities in Minnesota and is critical for communities facing the health impacts of climate change. Access to mental healthcare will also be increasingly critical for helping Minnesotans cope with the multitude of stressors amplified by climate change. Commenters emphasized that more support is needed for state programs and services that work at the intersection of health and climate change. This includes support for the Minnesota Climate & Health Program and emergency preparedness and response programs in both public and private settings. Commenters pointed out that all Minnesota public health and healthcare systems should be ready for climate change impacts, and prepared to continue providing services pre, during, and post climate-related events.

With this input, additional actions to help ensure access to culturally appropriate, affordable, and responsive healthcare and mental health services were added to the Framework. Actions in support of state and local public health emergency preparedness and response programs for planning and responding to climate-related disasters, as well as ensuring hospitals and healthcare facilities perform assessments and implement strategies to build climate resiliency were also included.

Health data and personal stories that illustrate the disproportionate impacts of climate change throughout the state

Commenters mentioned the lack of health equity data and personal stories that exemplify the health and equity challenges described in the Framework. Many people asked, where is the data to show what communities are experiencing? Commenters want better data and more access to the data. They want stories that describe the lived experiences of Minnesotans in rural, suburban, and urban areas. They want to see data linked together with narratives and descriptions that explain health disparities and the diverse impacts of climate change throughout the state. Reviewers also want the Framework to be more explicit about who is impacted and why.

In short, commenters are eager to paint a more detailed picture of what climate is doing to our state. Many commenters requested a regular report on the health impacts of climate change. Commenters expressed the importance of the State working collaboratively with community organizations and leaders to develop and use data, and share diverse experiences. Some commenters also wanted to see more detailed metrics to measure progress and accountability toward improving public health in the face of climate change.

To address these comments, an action was modified that included working with community organizations and leaders to create a Climate & Health Equity Index that would identify communities at greater risk for negative health impacts from climate change. Actions to improve reporting of climate-related illnesses/diseases and regular reporting of the health impacts of climate change were added.

Education about climate change, its health impacts, and solutions

Commenters stressed education as critical to stemming the tide of the health impacts from climate change. Commenters said that many people still don't know that climate change is impacting the health of Minnesotans right now. They emphasized the importance of including climate change science, health impacts, and climate solutions in K-12

and higher education curricula. By engaging children and young adults in thinking about age-appropriate climate science and climate change topics throughout their education, Minnesota can prepare future generations equipped to uphold a resilient and climate-aware state. Supporting advanced education in training related to green jobs, leadership, and innovation in climate-related industries was also mentioned.

Several educational actions that encourage development and implementation of climate change curriculum were added to Appendix 1. Actions related to educating the public and healthcare professionals were modified to include partners.

Goal 6: Clean Economy

Workforce development and economic transition

We heard strong support from commenters for a comprehensive workforce development plan, centered on the needs of industry and business, that identifies in-demand occupations, as well as jobs that will decline, starting with a statewide assessment of employers and what their employment needs are. The existing Framework draft included a workforce development plan as a priority to re-emphasize the importance of living-wage fulfilling work, the greening of all jobs, and identifying and adapting to change. Based on public comments and results from the survey, we added more detail and additional features for that plan along with economic transition considerations. Both public comments and some working group members noted the need for more specificity in the measures of success, and to define realistic, concrete goals. We edited the Framework's measures of success to include more quantitative goals.

Strategies to ensure inclusion

We heard persuasive support for strategies that diversify the workforce and business owners, including efforts that support all communities across the state. We heard that there should be a focus not just on green jobs, but the greening of all jobs, and the transition to a clean economy. The need for inclusive strategies is a perennial issue that applies to all job training efforts, not just in the clean economy space. We updated the Framework to include specific strategies to support inclusion in workforce development strategies and clean economy economic transition. Public comments included the need to train and transition workers with dignity and equity.

The private sector is leading

We heard from businesses that are responding to consumer demand by creating cleaner products and requiring cleaner supply chains. We heard clear feedback from working group members that the public sector, philanthropy, and nonprofits can partner to actively support business development so that Minnesota companies can both grow jobs and ensure an adequately trained workforce. We also heard that the private sector among others can help to identify in-demand jobs and jobs that will transition.

Transition to a clean economy

We heard about the importance of supporting an active transition toward a clean economy. The economy is changing, and we need to find a way to adapt or better yet get ahead of it. We can achieve this by helping communities with specific transition needs, while also creating jobs in new sectors, and expanding the definition of a clean economy to include new jobs in health, natural resources, tourism, and more. While some commenters wondered about the appropriate pace of change, most expressed a sense of urgency. Ideas to support an active transition included incentives, training, new investments in research and development, new requirements, and clear measures of progress. These ideas were added to the Framework by including the workforce development plan that builds upon economic transition objectives.