

February 12, 2021
Minnesota House Climate and Energy Finance and Policy Committee Minnesota House of
Representatives
100 Rev. Dr. Martin Luther King Jr. Blvd.
Saint Paul, MN 55155

Testimony – Next Generation Energy Act 2.0

Dr. Rachel Licker, Senior Climate Scientist, Union of Concerned Scientists

Dear Chair Long and the House Climate and Energy Committee,

I would like to thank Chair Long and the Climate and Energy Committee for the opportunity to provide testimony in support of HF XXX – Next Generation Energy Act 2.0 on behalf of the Union of Concerned Scientists. The Union of Concerned Scientists (UCS) is the nation’s leading science-based nonprofit organization with more than 500,000 supporters, including 6,800 in Minnesota. UCS believes in putting science into action to build a healthier planet, a more equitable society, and a safer world, and we are proud to support this proposal.

UCS worked on and was supportive of the bipartisan Next Generation Energy Act (NGEA), signed into law by Gov. Pawlenty in 2007. As climate science has advanced, we must re-align our climate solutions with the most up-to-date science. UCS has advocated for the last few years for Minnesota to [update](#) this policy – both the emission reduction targets and the [renewable energy standard](#). We are grateful for Representative Acomb’s leadership on this legislation and for her support of science-based policy.

UCS supports the emission reduction goals laid out by the bill, as well as, the measures to help ensure the new goals are met. The Next Generation Energy Act has helped Minnesota make some progress in reducing emissions from its economy, but the state has already missed the first goal of the NGEA and is not on track to meet the 2030 target. Requiring the government to take actions consistent with these standards and protect overburdened communities from disproportionate impacts will be key to ensuring Minnesota stays on track to meet updated science-based targets. Yearly reporting by the Minnesota Pollution Control Agency on Minnesota’s progress and recommendations on potential changes will also help ensure Minnesota stays on top of the climate science.

The science is clear – limiting global warming and its adverse effects requires rapid reductions in heat trapping emissions now.

The Intergovernmental Panel on Climate Change (IPCC) – the world’s most authoritative source of information on the science of climate change – made it clear in its 2018 report¹ that achieving the Paris Agreement’s temperature goals of limiting warming to 2.7°F (1.5°C) or

¹ <https://www.ipcc.ch/sr15/>

3.6°F (2°C) above preindustrial levels would require dramatic reductions in heat trapping emissions now. Limiting warming to 2.7°F (1.5°C) above preindustrial levels with no or a limited overshoot of this temperature goal requires that society reach net zero carbon dioxide emissions by around 2050, with nearly half of these carbon dioxide emission reductions achieved by 2030. In addition, net zero carbon dioxide emissions would need to be achieved by around 2070 to limit warming to 3.6°F (2°C) above preindustrial levels.

The report also makes clear that achieving these lower temperature goals will also require deep and swift reductions in non-carbon dioxide heat trapping emissions, including methane and nitrous oxide, as well as reliance on carbon dioxide removal (negative emissions) measures. The report is clear that the core component of a robust net zero goal is swift, deep, absolute heat trapping emission reductions, which carbon dioxide removal measures would complement. Carbon dioxide removal measures cannot be used to avoid or delay those deep, absolute emission reductions, or perpetuate fossil fuel dependence.

Pairing this bill’s updated emission reduction targets with policies to accelerate renewable energy deployment and electrification of Minnesota’s economy will be key to meeting the updated and strengthened greenhouse gas reduction goals. Rep. Long’s proposal to achieve 100 percent carbon-free energy by 2040, including 55 percent renewable energy by 2035 (H.F. 278) provides the much-needed update to Minnesota’s renewable energy standard as set by the original Next Generation Energy Act, which the state met [seven years early](#). Achieving 100 percent carbon-free electricity will go a long way toward meeting the updated greenhouse gas emission reduction targets, as will proposed policies such as Clean Cars Minnesota to reduce emissions in other sectors. The fact that Minnesota is behind on outdated emission reduction targets is a wake-up call to accelerate emission reduction across the state, not a reason to stray further from the science. Minnesota should double down on efforts to increase renewable energy like wind and solar and electrify transportation and building sectors as quickly and as much as possible.

Every fraction of a degree of additional global warming is expected to bring increasingly dramatic changes to the people, economies, and natural resources of Minnesota on top of those already observed.

Together with colleagues at the Union of Concerned Scientists and the University of Idaho, I co-authored a study in 2019² in which we examined how extreme heat is likely to change across the contiguous United States under three global warming scenarios. More specifically, we looked at the number of days in which the heat index³, or, “feels like” temperature, exceeds different thresholds relevant to human health and wellbeing (90°F, 100°F, 105°F).

Our analysis included three scenarios associated with different levels of global heat-trapping emissions and future warming:

1. A “no action” scenario, in which heat-trapping emissions continue to rise throughout the 21st century and global average temperatures warm by nearly 8°F (4.3°C) above pre-industrial levels by the year 2100. This scenario is consistent with our current and historical emissions growth.

² <https://www.ucsusa.org/resources/killer-heat-united-states-0>

³ The heat index is a metric that combines heat and humidity and is used by the National Weather Service to issue heat warnings. <https://www.weather.gov/safety/heat-index>

2. A “slow action” scenario, in which heat-trapping emissions start to decline at midcentury. This scenario projects a most likely warming of 4.3°F (2.4°C) globally by the year 2100.
3. A “rapid action” scenario, in which future global average warming is limited to 3.6°F (2°C) above pre-industrial temperatures, as prescribed by the 2015 Paris Agreement.

We found that in Minnesota, there have historically been 8 days per year on average with a heat index above 90°F. With no action to steeply reduce emissions, this would increase to 34 days per year on average by midcentury and 60 days by century’s end. However, with “rapid action,” by the end of this century, the number of days with a heat index above 90°F would be limited to 29 days per year on average. Put another way, meeting the Paris Agreement’s goal of limiting warming to 3.6°F (2°C) could spare Minnesotans one month of exposure to such extreme heat and its associated adverse health outcomes each year.

Extreme heat is already one of the deadliest weather hazards in the United States⁴. The individuals most harmed by extreme heat include residents of low-income communities with fewer resources to stay safe in the face of more frequent extreme heat days, those with preexisting health conditions, the elderly and very young, and those with high levels of exposure to extreme heat such as outdoor workers. Residents who are not white, have low or fixed incomes, experience homelessness, and those in other historically disenfranchised groups are particularly at risk of heat-related illness and injury for a multitude of reasons, including lack of access to air-conditioning or transportation to cooling centers and residence in the hottest parts of cities. In rural Minnesota, the prevalence of outdoor labor and lower access to and usage of air-conditioning in rural settings may elevate these risks for some rural populations.

Extreme heat is just one climate impact that is projected to significantly and adversely affect Minnesota. Others of note include increased exposure to flooding⁵ and increased risk of tick-borne diseases⁶.

The severity of projected climate impacts underscores the urgency of ensuring Minnesota’s climate policy is in line with the level of emission reduction science tells us we need to achieve in order to avert the worst consequences of climate change. Reducing greenhouse gas emissions 80 percent by 2050 simply is not enough to protect Minnesotans. Not only must the targets be strengthened to be in line with 45 percent carbon dioxide emission reductions by 2030 and net-zero carbon dioxide emissions by 2050, but it is critical to include accountability measures to ensure the state meets its targets.

Updated targets, even when it means the state will be further behind, will be an important signal to industry, utilities, and state actors to decarbonize quickly and steeply, which will reduce the economic and public health costs Minnesota faces due to climate change. We look forward to continued work with the Rep. Acomb Committee to ensure Minnesota’s climate and energy policy centers science and equity.

⁴ <https://www.weather.gov/hazstat/>

⁵ <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2020EF001778>

⁶ <https://link.springer.com/article/10.1007/s10393-014-0979-y>