

January 20, 2023  
Energy, Utilities, Environment, and Climate Committee  
Minnesota Senate  
95 University Avenue W  
Saint Paul, MN 55155

Dear Chair Frentz and the Senate Energy, Utilities, Environment, and Climate Committee:

Thank you for the opportunity to provide testimony in support of SF 4 – “100% Clean Energy Standard” and its companion bill, HF 7 as amended. The Union of Concerned Scientists (UCS) is a national nonprofit organization dedicated to advancing science-based policy solutions. UCS has more than 500,000 supporters, including over 6,400 in Minnesota.

**As multiple studies have shown, standards such as 100% carbon-free electricity by 2040 are achievable and will produce tremendous benefits for Minnesota and other states.**

For example:

- Last year, UCS, COPAL, and other project partners released [a report](#) finding that achievement of 100% renewable electricity standards in U.S. Climate Alliance states, including Minnesota, is feasible and produces significant health and economic benefits.<sup>1</sup> The state-specific fact sheet, [On the Road to 100 Percent Renewables for Minnesota](#), outlines how the state could meet its electricity needs completely and equitably with renewable energy by 2035 and dramatically reduce its use of fossil fuels in vehicles and buildings.<sup>2</sup>
- Earlier [analysis](#) by GridLab and Vibrant Clean Energy modeled electric sector scenarios to identify optimal pathways to significantly decarbonize Minnesota’s economy, finding that a nearly 100% carbon-free electricity sector would improve reliability, increase jobs, drive economic growth, reduce residents’ electric bills, and deliver drastically improved air quality.<sup>3</sup>
- For California, a [recent analysis](#) by GridLab, Telos Energy, and Energy Innovation found that renewable energy could supply 85 percent of the state’s electricity by 2030, while keeping the power on for its 40 million residents—even under stressful conditions such

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<sup>1</sup> <https://www.ucsusa.org/resources/road-100-percent-renewables>

<sup>2</sup> <https://www.ucsusa.org/sites/default/files/2022-05/on-the-road-100-renewable-mn-fact-sheet.pdf>. This analysis assumed that 100% of Minnesota electricity sales was met with renewables and that Xcel Energy’s Monticello and Prairie Island nuclear plants continue operating in accordance with their operating licenses.

<sup>3</sup> [https://gridlab.org/wp-content/uploads/2019/04/Minnesota\\_GridLab\\_Report.pdf](https://gridlab.org/wp-content/uploads/2019/04/Minnesota_GridLab_Report.pdf)

as low hydropower generation, retirements of fossil fuel-fired plants, and heatwaves similar to what caused rolling power outages in August 2020.<sup>4</sup>

- From a national perspective, the National Renewable Energy Laboratory (NREL) released [a study](#) in August 2022 identifying multiple pathways to a net-zero power grid by 2035.<sup>5</sup> While the analysis did not include provisions of the federal Inflation Reduction Act (IRA) or Bipartisan Infrastructure Law, NREL did release some updated 100% by 2035 scenarios with and without the IRA in its December [2022 Standard Scenarios Report](#).<sup>6</sup> Those scenarios showed that the IRA would accelerate solar and wind deployment and reduce CO<sub>2</sub> emissions to 80% below 2005 levels by 2030.

**By enacting a standard for 100 percent carbon-free electricity by 2040, Minnesota can join other leading states who have taken action to update their clean energy policies.**

Since Minnesota passed the Next Generation Climate Act in 2007, 15 states plus the District of Columbia and Puerto Rico have adopted 100% carbon-free or net-zero electricity requirements/goals ranging from 2033–2050.<sup>7</sup> Notably, in September 2021 Illinois enacted the Climate and Equitable Jobs Act which increased the state’s renewable portfolio standard to 50% by 2040 and puts Illinois on a path to 100% carbon-free electricity by 2045.

**A 100% carbon-free electricity standard can be further strengthened by more fully centering environmental justice and equity and by accelerating renewable energy targets.** Our primary recommendations as these bills move forward are to center environmental justice so that the benefits of decarbonization are wholly realized and distributed equitably; and to strengthen and accelerate the renewable energy targets to ensure Minnesota is investing in cost-effective resources on its path to 100% carbon-free electricity.

Equity and Environmental Justice Recommendations

**UCS recommends expanding upon the local benefits and environmental justice language to prioritize equitable access to the benefits of a clean energy economy as follows:**

- Remove municipal solid waste incineration, which adds to the pollution burdens borne by environmental justice communities, from the list of eligible resources (see below for additional discussion)
- Add provisions for transparent and robust stakeholder processes for when the Public Utilities Commission considers permits and siting of infrastructure (Section 216E.03, subdivision 10; Section 216F.04) or potential modification or delay of standard obligations (Section 216B.1691, subdivision 2b)

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<sup>4</sup> <https://gridlab.org/california-2030-study/>

<sup>5</sup> <https://www.nrel.gov/analysis/100-percent-clean-electricity-by-2035-study.html>

<sup>6</sup> <https://www.nrel.gov/analysis/standard-scenarios.html>

<sup>7</sup> <https://www.cesa.org/projects/100-clean-energy-collaborative/guide/map-and-timelines-of-100-clean-energy-states/>

- After “support families” in Section 216B.1691, subdivision 9(a)(1) add “and encouraging utilities and clean energy developers to implement actions to ensure equitable representation in the clean energy workforce”
- Add “, especially those residing in areas of concern for environmental justice,” after “all Minnesotans” in Section 216B.1691, subdivision 9(a)(4)
- After “clean energy economy” in Section 216B.1691, subdivision 9(a)(4), add “and ensuring equitable access to renewable energy, efficiency, and battery storage, especially to distributed solar and community solar”
- Change “particularly in” to “with priority given to” in Section 216B.1691, subdivision 9(a)(6)
- Add “workforce development” after “new energy generating facilities” in Section 216B.1691, subdivision 9(c)

### Renewable Energy Standard Recommendations

**1. UCS recommends accelerating the proposed renewable energy targets to encourage utilities to drive renewable energy development in the short term.** Minnesota should set a standard of at least 50 percent renewable energy by 2030 as other leading states have done, and preferably moving the 55 percent by 2035 target up to 2030. This would ensure the foundation to a carbon-free energy future is laid by renewable energy sources like wind and solar. The most cost-effective way to decarbonize the power sector is by deploying more wind and solar, which also brings accompanying health and economic benefits to residents. Additionally, stronger near-term renewable energy targets would help prevent unnecessary investments in new fossil generation, resulting in fewer long-term stranded assets that burden consumers. Finally, investing earlier in new clean energy resources would capitalize on federal incentives through the IRA, reducing overall costs even further.

**2. UCS recommends having separate, higher/accelerated targets for Xcel Energy.** Xcel has been historically required to meet higher renewable energy targets in exchange for dry cask storage at their nuclear plants. Xcel will need to store more nuclear waste in the future, especially if the licenses for Monticello and Prairie Island are extended. This provides a continued rationale for having higher/accelerated renewable and carbon-free targets for Xcel Energy specifically (see recommendations in the table below). Additionally, Xcel’s latest integrated resource plan already has the utility planning to achieve 52% renewable and 81% carbon-free electricity by 2030.<sup>8</sup> Accordingly, UCS recommends Xcel’s target be at least 40 percent renewable energy by 2025, and at least 60 percent by 2030. Its carbon-free targets should also be increased to 85% by 2030 and 95% by 2035.

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<sup>8</sup> 2030 Alternate Plan, Figure 1-2, page 5, <https://www.xcelenergy.com/staticfiles/xcel-responsive/Company/Rates%20&%20Regulations/Resource%20Plans/Upper%20Midwest%20Energy%20Plan%20-%20Reply%20Comments.pdf>

UCS Recommendations for Renewable and Carbon-Free Standards					
Year (goal type)	Xcel Energy	Other Utilities	Year (goal type)	Xcel Energy	Other Utilities
2025 (renewable)	40+%	30+%	2025 (carbon-free)	--	--
2030 (renewable)	60+%	50+%	2030 (carbon-free)	85%	80%
2035 (renewable)	65+%	55+%	2035 (carbon-free)	95%	90%
2040 (renewable)	--	--	2040 (carbon-free)	100%	100%

**3. UCS opposes the inclusion of municipal solid waste incineration and recommends removing it from the definition of eligible sources.** Mixed municipal solid waste incineration emits pollution that contributes to climate change and exacerbates climate impacts, which is at odds with the intention of a 100% carbon-free energy policy. In addition to their global warming emissions, the particulate pollution from waste incineration creates smog and bad air quality days that, when combined with extreme heat events, can put already overburdened communities at greater risk of respiratory distress and death. If municipal solid waste incineration is not removed as an eligible category, UCS recommends modifying the exception in HF 7 as amended (Section 216B.1691, subdivision 1a) to remove the upper cap on population density—the point of the exception is to exclude facilities located in densely populated areas, *not to include* facilities located in even more densely populated areas.

**4. UCS agrees with the HF 7 amendment limiting eligibility of hydroelectric facilities to existing facilities but recommends incorporating low-impact hydro certification requirements.** Minnesota policy should not encourage hydro facilities that require new or expanded impoundments or reservoirs as these often have problematic environmental and cultural impacts.

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Thank you for your consideration of these comments and for supporting a clean, equitable energy future for all Minnesotans.

Sincerely,



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