

**From:** [Maureen Edwards](#)  
**To:** [Climate Council](#)  
**Subject:** [EXTERNAL] Climate Solutions Plan  
**Date:** Monday, April 20, 2020 2:18:27 AM

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Dear Folks:

I am really heartened by the fact that Montana has joined the U.S. Climate Alliance. My biggest concern is what Gov. Bullock indicated in an email I received on Feb. 12, 2020 stating that the Council is tasked with issuing recommendations that move the state toward an interim goal of net greenhouse gas neutrality by no later than 2035. This is way too late!

I am sending the transcript of a lecture that I believe may be useful.

## Getting the carbon out of the electricity sector

MIT symposium looks at the role of advances in storage, solar, nuclear, EVs and



The generation of electricity is a huge contributor to the world's emissions of climate-altering greenhouse gases, producing some 25 percent globally. That's because more than two-thirds of the world's electricity is still being produced by burning fossil fuels. But progress in a variety of areas could allow for drastic reductions in those emissions, as several specialists in engineering and economics outlined last week at the third of six climate change symposia being held this academic year at MIT.

Titled "Decarbonizing the Electricity Sector," the symposium centered on four areas: improvements in solar energy and storage systems, advances in nuclear power and fusion, electric vehicles, and expanding access to electricity in the developing world while curbing emissions.

"Globally, we are in the midst of a major decarbonization strategy to create clean electricity," said Paul Joskow, a professor of economics at MIT's Sloan School of Management and co-moderator of the symposium. But, he said, it will also be essential

to cut emissions from the other major sectors, especially in transportation and in building operations.

Jessika Trancik, an associate professor of energy studies at MIT's Institute for Data, Systems, and Society and the event's other moderator, said that "solar represents one of the biggest successes," given that solar module prices have dropped by 90 percent since 2000. But there is still great potential for significant further progress in the next few years.

Moungi Bawendi, the Lester Wolfe Professor of Chemistry, described some promising research on solar technology, including the use of perovskite-based solar cells with potential for much greater output for a given weight. This technology may open up possibilities for solar panels that could be integrated into building exteriors, including transparent ones incorporated in windows.

The material is soluble and could be produced in a roll-to-roll process like printing a newspaper, potentially making it inexpensive and easy to deploy, Bawendi said. Today, "it's within striking distance of silicon" in its efficiency. Because it is a hundred times more absorbent of solar energy than silicon, "it can be made a hundred times thinner and still collect the same amount of light," he said. But there are still challenges related to scaling up its production and making it more durable when exposed to water. "It's an engineering problem that can be solved," he said.

As for storage, which is crucial as solar and wind power become larger components of the world's generating capacity, there is great progress in that field as well. Currently, over 90 percent of storage capacity in the electric grid is in the form of lithium-ion batteries, said Yet-Ming Chiang, the Kyocera Professor of Materials Science. But more cost-effective alternatives are under development, which could enable rapid expansion of renewables.

For example, he described efforts to develop batteries based on much cheaper and more abundant materials than lithium, including sulfur and zinc. Prices for some kinds of batteries based on such materials could potentially drop to as little as \$1 per kilowatt hour, compared to about \$160 for today's lithium-ion batteries, he suggested.

Other kinds of batteries, emphasizing storage capacity for a given weight, are also being developed, which might help expand battery power into areas such as aviation, where it

has not played a role so far, he said. Still others might be used for backup storage; these may be used infrequently but would remain stable for long periods.

Jacopo Buongiorno, the TEPCO Professor of Nuclear Science and Engineering, described a recent [report \[news.mit.edu\]](#) that he led, on the future of nuclear technology, which found several areas of new kinds of nuclear plant designs that hold promise for future installations. But he said at this point such potential is mostly in other countries, as there is little interest among domestic utility companies today. New designs, including ones that are modular and standardized to reduce construction costs, could help to revitalize that industry.

Meanwhile, promising work on fusion power, which if perfected could provide virtually limitless emissions-free power, is progressing well on several fronts, said Earl Marmor, a senior research scientist in MIT's physics department. One key to that has been the development of improved superconductors, enabling a drastic reduction in the size of a fusion plant needed to produce a given amount of power. That technology is at the heart of an ongoing [joint project \[news.mit.edu\]](#) between MIT and Commonwealth Fusion Systems.

Another factor that could help in the transition away from fossil fuels is the increasing use of electric cars. Trancik said that today, the use of an electric car reduces emissions per mile travelled by about 30 percent on average, but that depends crucially on the mix of generating sources used in the grid at the location and time when the car is recharged. Cars charged entirely by solar power would eliminate their emissions altogether.

David Keith, an assistant professor of systems dynamics at MIT Sloan, said "my question is how quickly can electric vehicles diffuse into the fleet?" He pointed out that there are some 250 million cars in this country, and their average lifetime is 15 years, so the turnover is a slow process. Currently, even though virtually all automakers offer some kind of electric model, their sales still represent a very small fraction of the total.

Christopher Knittel, the George P. Shultz Professor at MIT Sloan, said there has been great progress in lowering the costs of the kind of lightweight batteries needed for electric vehicles, and that as those prices continue to fall, that could unleash rapid growth in the penetration of electric vehicles into the market. They will soon reach the point where battery prices will no longer cause electric vehicles to be costlier than their

gasoline counterparts, and that could be a turning point, he said.

But as the use of electricity grows around the world, any progress in reducing emissions in the industrialized world could be offset if new generating capacity in the developing world follows the same fossil-based trajectory other nations have. That can sometimes be the most accessible option, however, so finding ways to hold emissions down while advancing the availability of reliable power can be a challenge.

Kate Steel, co-founder of Nithio, described how her company approaches that issue by providing simple, low-cost, solar-powered installations that can provide some basic services, such as lighting and cellphone charging, to people in regions not yet served by reliable electric grids or any service at all.

Rob Stoner, deputy director for science and technology at the MIT Energy Initiative, said that there are presently about 800 million people worldwide without access to electricity. While there is a goal of providing universal access by 2050, that will be very challenging to achieve.

Thank you.

Maureen Edwards, resident of Polson, Montana

**From:** [Jason Krumbeck](#)  
**To:** [Climate Council](#)  
**Subject:** [EXTERNAL] comments  
**Date:** Monday, April 20, 2020 10:00:36 AM

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Good morning. I agree completely with the draft climate solutions plan and have the following comments:

The PSC should be required to consider the costs of mitigation as well as future economic damages from CO2 and climate change in all modeling when comparing power sources.

The state should adopt a carbon tax that essentially will add in the costs of mitigation and future economic damage from all greenhouse gas generating activities.

Tax incentives and codes should be updated to encourage electric heaters, heat pumps, water heaters, etc.

Utilities should not be able to increase costs to homeowners for net metering beyond the true costs of the the meters and infrastructure upkeep.

The state should explore albedo effect roofing, rooftop gardens, and solar for all public buildings.

There should be a grant or tax incentives to fund transition in irrigation techniques for ranchers/farmers.

Thank you,

Jason Krumbeck

**From:** [REDACTED]  
**To:** [Climate Council](#)  
**Subject:** [EXTERNAL] Comments on DRAFT MONTANA CLIMATE SOLUTIONS PLAN  
**Date:** Tuesday, April 21, 2020 4:51:32 PM

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April 21, 2020

Comments on DRAFT MONTANA CLIMATE SOLUTIONS PLAN

Montana Climate Solutions Council

## **COMMENT ON PRELIMINARY COUNCIL RECOMMENDATION 1A and IB**

I would like to offer a strong voice of support for Preliminary Council Recommendation 1A and IB. If Montana's citizens, government, commerce, legislature, area researchers, and natural resource specialist are to effectively engage in a common understanding and common path forward then that path must be built on a foundation of common readily accessible vetted climate data and information.

The Climate Theme of the [Montana Spatial Data Infrastructure](#) (MSDI) is well-suited to meet that need. MSDI datasets are generally accepted as the best available, standardized, statewide data that meet the essential, digital geographic information needs of Montana. MSDI is supported under the direction of the [Montana Land Information Advisory Council](#) (MLIAC) as defined in statute. MSDI themes, like the Climate Theme, benefit from the institutional structure and skills of the Montana Library.

Each MSDI theme has a steward that takes on the role of "stewardship" for the data. Stewardship activities may include direct or indirect coordination of the production, maintenance, integration, enhancement, distribution, promotion, and support for that data theme. Through a rigorous application and adoption process, the Montana Land Information Advisory Council (MLIAC) selected the Montana Climate Office as steward for the MSDI Climate Theme. The MSDI initiative is also strongly supported by the Montana Association of Geographic Information Professionals. Development of MSDI has been part of a foundational discussion in Montana's professional and agency circles since the early 1990's.

The overarching goal of MSDI is to make the "best" data the "easiest" to obtain. Often users will utilize potentially un-referenced data with no known lineage to make their case simply because it is the easiest to obtain. "Best" implies an independent, professional, rigorous process to determine the most appropriate data for a given geographic area or application. Universities, through the research and peer-review process, are well-suited to this task. The Montana Climate Office within the Montana State University system is well-suited to ensure that data is appropriate to Montana's interests. Stewardship goes much further than that. It also means providing guidance and perhaps error terms when applying available data to a specific question. The Montana Climate Office under the auspices of the Montana State University can provide that guidance. While vetted and appropriate data use is one side of the coin, "easiest to obtain" is the other. This is where the Montana State Library can provide significant guidance. It means an ongoing conversation with the user community to ensure they have the understanding and capacity to utilize what is being offered.

To ensure the "best" data is the "easiest" to obtain requires a long-term sustained commitment of funding to both sides of that coin. It's not magic, but without a guaranteed foundation of support it is extremely difficult to meet this challenge and ensure an institutional structure that can continue to respond to the information needs of Montana. Studies conducted in other states as well as Montana have shown that the MSDI (or MSDI-like) approach is effective government. Rather than have multiple public and private entities with varying levels of expertise each producing their own data interpretation, we all benefit from a community-guided conversation through a well-known institutional architecture that gets us there. It's simply the starting point for building consensus on information that can provide the foundation for additional conversation, application, and policy.

## #11b-03

In 2010 and I reviewed the underlying institutional structure of every state climate office in the United States. All but two of these were University based. One was a state-level government agency. One was housed within the Department of Natural Resources. It was clear in this review that the state climate offices that had funding support independent of research funds were the most successful in meeting the needs of the citizens of that State. Offices that relied heavily on research dollars to meet the information needs of the State degraded overtime to “chase research dollars” and eventually became very disconnected from the information needs of the State. In those cases, the State got what they did (or more accurately, did not) pay for.

As the Climate Solutions Plan moves forward to implementation, I strongly hope that due consideration will be given to the institutional and funding requirements necessary to provide a vetted, appropriate, and accessible suite of climate data and information to support the climate conversation in Montana.

Thank you for providing this opportunity to comment.

Michael Sweet, Montana citizen

#11b-04

**From:** [REDACTED]  
**To:** [Climate Council](#)  
**Subject:** [EXTERNAL] Montana Climate Solutions Plan Draft  
**Date:** Wednesday, April 22, 2020 3:54:52 PM  
**Attachments:** [Letter To Climate Solutions Council.docx](#)

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Please see my attached letter in regard to the draft plan. Thank you for your time and energy put into this draft.

Respectfully,

Gretchen Boardman  
General Manager  
Big Flat Electric Cooperative



April 21, 2020

Montana Climate Solutions Council  
ClimateCouncil@mt.gov

Re: Montana Climate Solutions Plan Draft

Dear Council,

I am writing to you on behalf of Big Flat Electric Cooperative in Malta, MT. We are one of the smallest electric cooperatives in the state. We serve Blaine, Phillips and Valley counties with 1,100 members and just under 2,000 electric meters. I want to thank you for your efforts in this draft plan and giving us a chance to express our thoughts.

I would like to address net greenhouse gas neutrality by 2050. While we at Big Flat Electric Cooperative continue to work towards a cleaner more efficient future, I do have some concerns of being net greenhouse gas neutrality by 2050. I feel this should be aspirational not a requirement especially with what is going on in the world today. COVID-19 is a challenge in itself and none of us know exactly what our future will hold after this pandemic is over. Our world may be completely different or have some alterations. Things may be put on hold due to spending, travel and exposure. If we end up having mandates, it could have many impacts on our small rural communities. Net greenhouse gas neutrality imbalance will affect our farmers and low-income members. With the unknown in our near future net greenhouse gas neutrality is unrealistic in our area. If mandates of vehicle electrification or decarbonization policies are put into place these will harm our members. I hope that you will consider the net greenhouse gas neutrality by 2050 as a motivated direction but not a mandate.

Again, I greatly appreciate your time and dedication on this draft and appreciate the opportunity to voice our opinions.

Sincerely,

Gretchen Boardman  
General Manager  
Big Flat Electric Co-op., Inc.

[Redacted]  
[Redacted]

**From:** [Jonah Kurman-Faber](#)  
**To:** [Climate Council](#)  
**Subject:** [EXTERNAL] CXC Comment Letter - Draft Montana Climate Solutions Plan  
**Date:** Wednesday, April 22, 2020 10:06:48 AM  
**Attachments:** [CXC Comment Letter - Montana Climate Solutions Council \(April 2020\).pdf](#)  
[2E927ABDD3FE46FCB028052866FAE7CC.png](#)

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Dear Montana Climate Solutions Council,

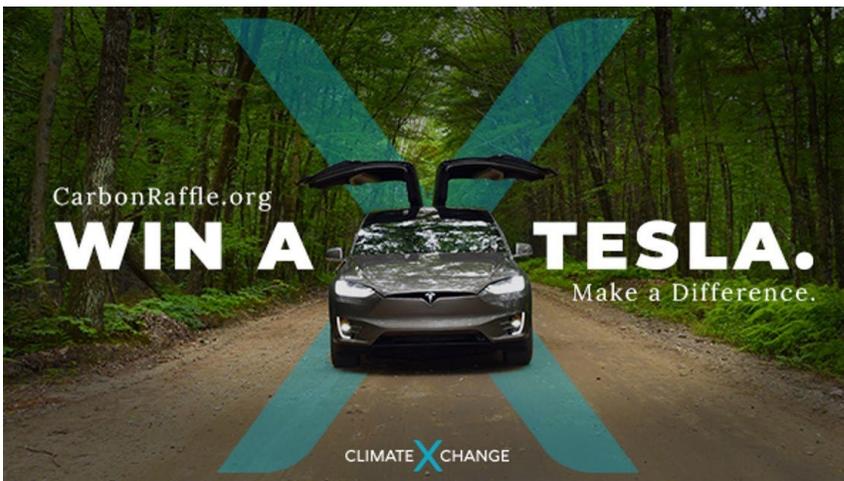
It's with pleasure that I deliver the attached comment letter from [Climate XChange \[climate-xchange.org\]](#) to the Council. Feel free to reach out directly with additional inquiries about the contents of this letter.

Best regards,  
Jonah Kurman-Faber



**Jonah Kurman-Faber** | Senior Research Associate  
[REDACTED], Boston MA 02116  
[Climate-XChange.org \[climate-xchange.org\]](#)

*Climate XChange has launched its 2019 Tesla Raffle! This year we're offering a fully optioned custom Tesla, and two cash prizes! Drawing 2/14/20. Check out details at: [www.carbonraffle.org \[carbonraffle.org\]](#)- thanks for the support.*



**Comment Letter: Draft Montana Climate Solutions Plan**

April 22, 2020

**To: Montana Climate Solutions Council**

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Dear Montana Climate Solutions Council,

Thank you for your continued efforts to advance robust and equitable climate action in the state of Montana during this challenging time. In support of these efforts, Climate XChange submits the following comments in response to the “Draft Montana Climate Solutions Plan” released on February 11th, 2020.

Climate XChange (CXC) is a national organization that provides research and education to move states towards a low-carbon economy through market-based mechanisms. We provide technical assistance to policymakers and key stakeholders on smart policy design choices to create impactful and equitable programs in a holistic state context.

Climate XChange also runs the State Carbon Pricing Network (SCPN), a national network of over 6,000 policymakers, businesses, experts, organizations, and other key stakeholders across all 50 states. The SCPN includes state Senate and House members, agency officials, municipal governments, local businesses, and universities in the state of Montana. Through the SCPN, Climate XChange provides a platform for sharing knowledge and resources across state lines to empower members to design and navigate smart market-based mechanisms.

In particular, Climate XChange submits the following letter in response to the following question posed by the Montana Climate Solutions Council (the Council):

“How should the state consider possible economy-wide emissions policy proposals such as a price on carbon or cap and trade proposals?”<sup>1</sup>

In this letter, we submit three items to the Council for review and consideration:

1. An informational overview of the current policy landscape for state carbon pricing programs.
2. Preliminary analysis on the revenue potential, public health, and economic benefits from carbon pricing in Montana.
3. Recommendations for policy and modeling practices to maximize the efficiency and impact of GHG reductions and co-benefits in Montana’s climate solutions.

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<sup>1</sup> Draft Montana Climate Solutions Plan, Page 24

## The Policy Landscape for State Carbon Pricing

Over the past year, a record number of carbon pricing policies have been introduced across the United States. 12 states have carbon pricing programs implemented or scheduled for implementation, and 26 states have carbon pricing under consideration at the executive and/or legislative level. In total, 44 bills have been introduced and 11 executive orders have been established in relation to carbon pricing since the beginning of 2019.<sup>2</sup>

Many western and rural states have introduced carbon pricing recently, including New Mexico, Nevada, Oregon, Minnesota, and Washington State. All of these states have also joined the US Climate Alliance and set ambitious GHG targets for the short, medium, and/or long term, and passed other complimentary climate policies.

These states are in different stages of preparing a plan to meet their GHG targets. New Mexico is currently undertaking a modeling process to assemble a complete climate plan, including an economy-wide cap-and-invest program.<sup>3</sup> Oregon has recently passed a comprehensive executive order to reach ambitious targets with existing legislative authority. Nevada is in the early stages of building up resources to follow a similar process, with their recent executive order calling on market-based mechanisms to be part of their plan.<sup>4</sup>

Momentum for smart climate policy, and carbon pricing in particular, has also rekindled in states due east of Montana, specifically Minnesota and Wisconsin. Both states are U.S. Climate Alliance members, and have recently passed executive orders to study market-based solutions to climate change. Minnesota has introduced carbon pricing legislation in both 2018 and 2020, and Wisconsin has introduced a bill to incorporate the social cost of carbon in utility decisions. Minnesota and Wisconsin were previously both members of the Midwestern Greenhouse Gas Reduction Accord (MGGRA), an initiative to develop a regional cap-and-trade program that connects states across the Midwest.<sup>5</sup>

### The Western Climate Initiative

Many western states, including Montana, were previous members or observers of the Western Climate Initiative (WCI), one of the two carbon pricing systems currently active in the US, prior to its implementation. WCI is an economy-wide cap-and-invest program that is linked between California and Quebec.

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<sup>2</sup> <https://climate-xchange.org/network/>

<sup>3</sup> <https://climate-xchange.org/2019/11/22/new-mexico-executive-branch-considering-cap-and-trade/>

<sup>4</sup> <https://climate-xchange.org/network/>

<sup>5</sup> <https://climate-xchange.org/2019/12/12/cap-and-trade-ambition-renewed-in-2019-after-a-decade-of-decline/>

Started in 2012, the program covers 80-85% of emissions across both jurisdictions, including electricity generation, transportation fuels, heating fuels, and industrial activity. Stationary sources of emissions over 25,000 metric tons CO<sub>2</sub>e per year, such as fossil-fuel-fired electricity generators and industrial facilities, are required to submit allowances equal to their on-site reported emissions. Fuel distributors over the 25,000 metric ton CO<sub>2</sub>e threshold are required to submit allowances equal to the emissions resulting from in-state consumption of their products.

Quarterly allowance auctions have raised over \$13.1 billion in California alone, which are dedicated to a large portfolio of climate investments that maximize GHG reductions, job creation, public health outcomes, and other co-benefits.<sup>6</sup> Cap-and-trade was initially designed as a “backstop” policy to achieve California’s emissions reduction target for 2020, complementing a larger suite of climate policies, such as fuel efficiency, energy efficiency and renewable portfolio standards.<sup>7</sup> However, cap-and-trade is now expected to reduce emissions more than any other California policy this decade, as the state progresses to an emissions reduction target of 40% below 1990 emissions by 2030.<sup>8</sup>

WCI was created in 2007 to reduce regional emissions among seven Western states, including California, New Mexico, Oregon and Washington. Montana was previously a member of WCI between 2008 and 2011, under the leadership of former Governor Brian Schweitzer. In 2007, the Governor’s Climate Change Advisory Committee (CCAC) identified WCI as a key policy option to meet Montana’s recommended emissions reductions goals and work with neighboring states in the region to achieve economy-wide reductions.<sup>9</sup> The CCAC also identified the opportunity to use Montana’s land for offsets in the regional program, and to engage in the process of defining offsets.

### **The Regional Greenhouse Gas Initiative**

The Regional Greenhouse Gas Initiative (RGGI) currently stands as the longest-running carbon pricing program in the US. The program was first established in 2008 in the Northeast and Mid-Atlantic as a regional cap-and-invest program for the electricity sector. Fossil-fuel-fired electric power generators with a capacity of 25 megawatts (MW) or greater are required to submit allowances equal to their CO<sub>2</sub> emissions over a three-year

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<sup>6</sup> California Air Resources Board, *California Cap-and-Trade Program Summary of Proceeds to California and Consigning Entities* (March, 2020), [https://ww3.arb.ca.gov/cc/capandtrade/auction/proceeds\\_summary.pdf](https://ww3.arb.ca.gov/cc/capandtrade/auction/proceeds_summary.pdf)

<sup>7</sup> Climate XChange, *Carbon Pricing in a Just Transition* (Sept. 2019), <https://1akqm23qb5w51pwn3n2deo7u-wpengine.netdna-ssl.com/wp-content/uploads/2018/08/Carbon-Pricing-in-a-Just-Transition-Final-Website.pdf>

<sup>8</sup> California Air Resources Board, *California’s 2017 Climate Change Scoping Plan* (Nov. 2017), [https://ww3.arb.ca.gov/cc/scopingplan/scoping\\_plan\\_2017.pdf](https://ww3.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf)

<sup>9</sup> Montana Climate Change Advisory Committee, *Montana Climate Action Plan* (Nov. 2007), <https://deq.mt.gov/Portals/112/Energy/ClimateChange/Documents/FinalReportChapters.pdf>



control period.<sup>10</sup> The auctioning of allowances has raised \$3.5 billion in revenue, nearly all of which has been dedicated to energy efficiency, renewable energy, GHG abatement, and direct bill assistance. In the first ten years of the program, RGGI power plants experienced a 47% decrease in CO<sub>2</sub> emissions, outpacing the country by 90%.

The program currently boasts membership of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont, with regulations and statutes underway in Pennsylvania and Virginia to join the program as well.

### **The Transportation and Climate Initiative**

The same states are seeking to replicate RGGI's success in the transportation sector. The Transportation and Climate Initiative (TCI), a cap-and-invest program for transportation fuels, is on pace to finalize a Memorandum of Understanding (MOU) in 2020, with intent to fully implement the program as soon as 2022. The program would sell allowances at government auction and require gasoline and diesel distributors to submit allowances equal to the emissions resulting from in-state consumption of their fuels.

WCI, RGGI, and TCI all openly encourage additional states to participate. The Council may consider regional collaboration and linkage with existing programs. Alternatively, Montana could design a standalone program and link with regional markets at a later date, a direction that New Mexico and Oregon have been trending in. Carbon pricing is an extremely flexible concept that can be designed in many ways to meet Montana's legal, political, and administrative constraints - its impact and equity lies in the details.

## **Benefits of Carbon Pricing in Montana**

### **Revenue for Climate Investments**

Achieving a cost-effective, rapid and just transition requires new sources of up-front public and private capital. Carbon pricing plays a key role in raising new dedicated revenue sources to complement other mitigation and adaptation measures that Montana needs funds for.

For example, were Montana to implement a WCI-style program as part of a larger climate plan, the state could raise \$13.5 billion in auction revenue to direct to climate investments over the next ten years.<sup>11</sup>

However, there is vastly greater public and private capital leverage potential in Montana than \$13.5 billion would indicate. On average, every dollar that California has invested from

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<sup>10</sup> For more information on the Regional Greenhouse Gas Initiative, see [www.rggi.org](http://www.rggi.org)

<sup>11</sup> Modeled by CXC using technical parameters from WCI, projected carbon prices through 2030, and emissions projections in Montana.

their cap-and-trade program has leveraged an additional \$3.7 dollars from additional public and private sources.<sup>12</sup> For Montana, the direct/indirect capital leverage potential from such a program could exceed \$50 billion over the next ten years.

This scenario assumes carbon prices stay relatively low. In February 2020, WCI allowances sold at auction for \$17.87 per metric ton CO<sub>2</sub> (tCO<sub>2</sub>).<sup>13</sup> By comparison, The Stern-Stiglitz High-Level Commission on Carbon Prices finds that achieving the Paris temperature target will require a carbon price of at least \$40-80/tCO<sub>2</sub>e by 2020 and \$50-100 by 2030, provided a supportive policy environment is in place.<sup>14</sup> Such price levels in a Montana carbon pricing program could lead to direct revenue potential of \$25 to \$42 billion over the next ten years, with \$90+ billion in additional leveraged capital from other sources.

Comprehensive state climate plans will require new substantial dedicated sources of revenue. While carbon pricing is not to be the only source of such revenue, it is one of the only revenue sources that also serves as a mitigation policy itself by incentivizing polluters to seek cleaner ways of doing businesses. A comprehensive climate plan for Montana will identify current funding gaps for the transition, as well as new revenue sources to meet them.

### **Public Health Benefits**

Crafting smart policy requires examining the intersection of economics, energy systems, public health, infrastructure, and other state needs. When evaluated holistically and comprehensively, state administrations find that carbon pricing policies are not just GHG mitigation programs, but also serve as extremely economically compelling public health and sustainable development programs as well.

The combustion of fossil fuels produces local air pollutants that are harmful to human health, particularly affecting vulnerable and overburdened communities. A Climate XChange study found that the public health and climate benefits of cap-and-invest in California outweigh costs by almost five times, estimating that health co-benefits are worth \$351 per metric ton CO<sub>2</sub> abated.<sup>15</sup> An analysis of RGGI found that the program generated

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<sup>12</sup> California Air Resources Board, *2020 Annual Report to the Legislature on California Climate Investments* (March 2020) [https://ww3.arb.ca.gov/cc/capandtrade/auctionproceeds/2020\\_cci\\_annual\\_report.pdf](https://ww3.arb.ca.gov/cc/capandtrade/auctionproceeds/2020_cci_annual_report.pdf)

<sup>13</sup> [https://ww3.arb.ca.gov/cc/capandtrade/auction/results\\_summary.pdf](https://ww3.arb.ca.gov/cc/capandtrade/auction/results_summary.pdf)

<sup>14</sup> Carbon Pricing Leadership Coalition, *Report of the High-Level Commission on Carbon Prices* (May 29, 2017), [https://static1.squarespace.com/static/54ff9c5ce4b0a53decccfb4c/t/59b7f26b3c91f1bb0de2e41a/1505227373770/CarbonPricing\\_EnglishSummary.pdf](https://static1.squarespace.com/static/54ff9c5ce4b0a53decccfb4c/t/59b7f26b3c91f1bb0de2e41a/1505227373770/CarbonPricing_EnglishSummary.pdf)

<sup>15</sup> Climate XChange, *Cap-and-Trade in California: Health and Climate Benefits Greatly Outweigh Costs* (2020), <https://climate-xchange.org/2020/03/16/cap-and-trade-in-california-health-and-climate-benefits-greatly-outweigh-costs/>

\$5.7 billion in health benefits between 2009 and 2014, including hundreds of premature deaths and over 8,000 asthma attacks avoided.<sup>16</sup>

Modeling efforts in other states reveal that public health benefits from carbon pricing ramp up dramatically when stringency is increased. Preliminary modeling from the Transportation and Climate Initiative reveals that reducing transportation emissions 25% over ten years unlocks \$10 billion in yearly public health benefits over business-as-usual. Conversely, a 20% reduction only creates \$3 billion in yearly public health benefits.<sup>17</sup>

This dynamic is clear in Montana and the greater region as well. Preliminary analysis by Climate XChange finds that the level of climate action identified in the Clean Energy Transition Institute (CETI) June 2019 report would unlock over \$4 billion in public health benefits per year for the region.<sup>18</sup> An accurate picture of Montana's cost-effective climate strategy must include a holistic evaluation of benefits to the state, including detailed modeling of public health impacts.

### **Economic Development**

When revenue is dedicated to climate mitigation and adaptation investments, revenue from carbon pricing offers compelling economic development benefits as well. A 2018 study found that California Climate Investments create 8.8 jobs per \$1 million invested, compared to 1.6 jobs and 2.2 jobs created per \$1 million invested in the fossil fuel and manufacturing industries respectively.<sup>19</sup> RGGI-related investments in clean energy and energy efficiency created nearly 45,000 job-hours in the region between 2009 and 2017.<sup>20</sup>

Research has shown that there is significant potential to create jobs through clean energy investments in Montana as well. Looking at large-scale wind, large-scale solar photovoltaic (PV), small-scale solar PV, and energy efficiency projects, an analysis found that construction and installation would create 6.2 jobs per \$1 million invested across all project

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<sup>16</sup> Abt Associates, *Analysis of the Public Health Impacts of the Regional Greenhouse Gas Initiative*, (Jan. 2017), <https://www.abtassociates.com/sites/default/files/2018-06/Analysis%20of%20the%20public%20health%20impacts%20of%20regional%20greenhouse%20gas.pdf>

<sup>17</sup> Transportation and Climate Initiative, *Evaluating the Potential Environmental and Economic Benefits and Costs of a Cap and Invest Program for Transportation Emissions in the TCI Region* (Dec. 2019), [https://www.transportationandclimate.org/sites/default/files/TCI%20Modeling-Results-Summary\\_12.17.2019.pdf](https://www.transportationandclimate.org/sites/default/files/TCI%20Modeling-Results-Summary_12.17.2019.pdf)

<sup>18</sup> Clean Energy Transition Institute, June 2019. "Meeting the Challenge of Our Time: Pathways to a Clean Energy Future for the Northwest." Public health estimates derived by CXC from EPA's Co-Benefits Risk Assessment (COBRA) Health Impacts Screening and Mapping Tool.

<sup>19</sup> Lusk Center for Innovation, *Employment Benefits from California Climate Investments and Co-investments* (2018) [https://innovation.luskin.ucla.edu/wp-content/uploads/2019/03/Employment\\_Benefits\\_from\\_CA\\_Climate\\_Investments\\_and\\_Co-investments.pdf](https://innovation.luskin.ucla.edu/wp-content/uploads/2019/03/Employment_Benefits_from_CA_Climate_Investments_and_Co-investments.pdf)

<sup>20</sup> Analysis Group, *The Economic Impacts of the Regional Greenhouse Gas Initiative* (April 2018), [https://www.analysisgroup.com/globalassets/uploadedfiles/content/insights/publishing/analysis\\_group\\_rggi\\_report\\_april\\_2018.pdf](https://www.analysisgroup.com/globalassets/uploadedfiles/content/insights/publishing/analysis_group_rggi_report_april_2018.pdf)

types.<sup>21</sup> Operations and maintenance would on average create an additional 12.9 jobs per \$1 million invested across all project types.

While the analysis in Montana did not measure the decrease in energy bills from renewables and energy efficiency measures, research has shown that carbon pricing can help decrease the cost of electricity to consumers. Electricity prices in the RGGI region decreased 5.7% since program launch, as opposed to an 8.6% increase in prices elsewhere in the US.<sup>22</sup>

### Recommendations for Montana

#### Meet the GHG ambition of other states

The Intergovernmental Panel on Climate Change (IPCC) finds that in order to keep global temperature rise below 2 degrees celsius and avoid the worst impacts of climate change, global emissions must reach 45% below 2010 levels by 2030 and reach ‘net zero’ by 2050.<sup>23</sup> Many states, especially those that are a part of the U.S. Climate Alliance, have already updated their targets to better align with IPCC findings, including interim reduction goals of 45-50% and long-term reduction goals of 80% or further.

Executive Order 8-2019, signed by Governor Bullock, joins the State of Montana to the U.S. Climate Alliance. The executive order designates an interim goal of net greenhouse gas neutrality for average annual electric loads in the state by 2035, and a goal of net greenhouse gas neutrality economy-wide at a date to be determined by the Council.

#### Interim and Long-Term GHG Targets by State

State	Interim Target	2050 Target
<b>California</b>	By 2030: 40% below 1990 levels	By 2045: 100% emission reductions (net zero)
<b>Colorado</b>	By 2030: More than 50% reduction of total emissions	More than 90% reduction of total emissions
<b>Connecticut</b>	By 2030: 45% below 2001 levels	80% below 2001 levels
<b>Florida</b>	By 2025: 1990 levels	80% below 1990 levels

<sup>21</sup> Synapse Energy Economics, *Employment Effects of Clean Energy Investments in Montana* (June 5, 2014), [https://www.synapse-energy.com/sites/default/files/SynapseReport.2014-06.MEIC\\_Montana-Clean-Jobs.14-041.pdf](https://www.synapse-energy.com/sites/default/files/SynapseReport.2014-06.MEIC_Montana-Clean-Jobs.14-041.pdf)

<sup>22</sup> Acadia Center, *the Regional Greenhouse Gas Initiative: 10 years in review* (2019), [https://acadiacenter.org/wp-content/uploads/2019/09/Acadia-Center\\_RGGI\\_10-Years-in-Review\\_2019-09-17.pdf](https://acadiacenter.org/wp-content/uploads/2019/09/Acadia-Center_RGGI_10-Years-in-Review_2019-09-17.pdf)

<sup>23</sup> [https://www.ipcc.ch/site/assets/uploads/2018/11/pr\\_181008\\_P48\\_spm\\_en.pdf](https://www.ipcc.ch/site/assets/uploads/2018/11/pr_181008_P48_spm_en.pdf)



State	Interim Target	2050 Target
<b>Maine</b>	By 2030: 45% below 1990 levels	At least 80% below 1990 levels
<b>Massachusetts</b>	By 2020: 25% below 1990 levels	100% emission reductions (net zero)
<b>Michigan</b>	By 2020: 20% below 2005 levels	80% below 2005 levels
<b>Minnesota</b>	By 2025: 30% below 2005 levels	80% below 2005 levels
<b>Nevada</b>	By 2025: 28% below 2005 levels By 2030: 45% below 2005 levels	100% emissions reduction (net zero)
<b>New Hampshire</b>	By 2025: 20% below 1990 levels	80% below 1990 levels
<b>New Jersey</b>	N/A	80% below 2006 levels
<b>New York</b>	By 2030: 40% below 1990 levels	100% emissions reduction (net zero)
<b>Oregon</b>	By 2035: 45% below 1990 levels	80% below 1990 levels
<b>Pennsylvania</b>	By 2025: 26% below 2005 levels	80% below 2005 levels by 2050
<b>Rhode Island</b>	By 2020: 10% below 1990 levels By 2035: 45% below 1990 levels	80% below 1990 levels
<b>Washington</b>	By 2030: 45% below 1990 levels By 2040: 75% below 1990 levels	95% below 1990 levels

We recommend that the Council designates a goal of net neutrality by 2050, and models multiple policy scenarios to achieve it, in order to reflect the science of the IPCC, the climate ambition of other states, and the robust economic and health benefits that Montanans stand to gain.

Achieving net neutral average annual electric loads by 2035 is a laudable goal for Montana. However, this interim goal needs to be complemented with short and medium-term actions in other sectors to avoid uneconomic carbon lock-in of the state’s transportation systems, buildings, industrial facilities, and other sources of GHG emissions, which will lead to more costly GHG reductions in the long-term. Modeling policy scenarios to achieve net neutrality by 2050 will be a key step for the Council in identifying these early and medium-term actions, and what level of funding is required to execute them.



**Modeling CP Scenarios**

As a part of this modeling exercise, we recommend that the Council include multiple carbon pricing policy scenarios, in order to reveal what funding and mitigation synergies exist between carbon pricing and other vital policy measures in the state. These policy scenarios may include joining WCI, a sector-specific program such as RGGI or TCI, or a novel economy-wide program in Montana.

As a part of this analysis, we recommend that the Council measure the level of new funding required in order to execute a cost-effective mitigation plan. Identifying concrete funding gaps helps policymakers calibrate what level of dedicated revenue a carbon pricing program could be designed to provide, and assists lawmakers in subsequent efforts to meet those funding needs through new statute.

In addition, these scenarios serve as crucial sensitivity analysis and preparation for future federal action. RGGI and WCI were originally created to be compatible with a federal program, which states were expecting in the future. Canada implemented a federal carbon price in 2019, which allows provinces to either enact their own carbon pricing program or adhere to a federal backstop policy. Modeling carbon pricing in Montana can ensure the state is prepared for all federal regulatory outcomes and anticipates how other climate measures in Montana are impacted.

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Thank you for the opportunity to provide comments on the Draft Montana Climate Solutions Plan. We look forward to continuing to support the Council's efforts to finalize an impactful and equitable climate plan for the state of Montana. Please reach out to us at the email address provided below with any additional questions.

Sincerely,  
Climate XChange

Please reach out to Jonah Kurman-Faber, Senior Research Associate at [REDACTED] with any inquiries.

**From:** [Leslie Smith](#)  
**To:** [Climate Council](#)  
**Subject:** [EXTERNAL] Comments on Climate Solutions Council Recommendations  
**Date:** Wednesday, April 22, 2020 4:02:22 PM

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First of all I would like to thank the council members for all the hard work and hours they have put into this topic. Being a member of and also sitting on the board of directors of my local electric cooperative I feel I need to comment today.

I take the direction of where our electricity comes from very seriously. I have 3 grandkids, ages 10, 12, and 14, that I worry about all the time. One of my main worries is “will the world as I know it now be the same for them when they are my age?” Also will there be reliable and affordable electricity? I don’t see where solar and wind will be the answer, especially concerning reliability, unless the industry comes up with large capacity, long life batteries. Also we still need hydropower, from our dams, and coal fired generators. With that being said there needs to be development of cost-effective technology to capture and store carbon. We can’t just be tearing out dams.

Our government needs to always keep in consideration the end costs and how they will effect our state. If our economy is put in jeopardy by the efforts of reducing carbon emissions then all forms of decarbonization will end.

I don’t like the idea of mandates either. There are just too many things to assume concerning them, such as more-effective or affordable technology not being developed and ready to be put in place to meet any deadlines that are mandated. Some utilities are already actively and effectively working with ideas on how to decarbonize. That is another reason mandates are not necessary. Cooperatives oppose any additional mandates and I do too.

Another issue that concerns me is that cooperatives be required to report their work to support and advance EV infrastructure. Some of Montana’s cooperatives are already working on that development and what they have accomplished should not have added mandates. The cooperatives meet together many times a year so we are all up on what each one is working on. They are great at sharing so we know about those that are working on the EV infrastructure. It is on all the cooperative’s radar.

Thank you for letting me share my thoughts. I am new to writing comments on government issues but I am sure I will be doing it again.

Leslie Smith  
Hill County Electric Cooperative



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[www.avast.com](http://www.avast.com) [avast.com]

From: Les and Chris Arthun

To: Climate Council

Subject: Comments for Montana Climate Council

Date: 4/23/2020

Council,

Everything put forward in the Montana Climate Solutions Plan will be extremely costly to all tax payers. The report is void of any fact based calculations that demonstrate even the capability to transition away from fossil fuels in a life time let alone in fifteen years.

Hydroelectric power is great clean use of a natural resource to create energy, but it was not that long ago that Vice President Gore and other environmentalists were advocating for the removal of many dams.

The committee does not show the tremendous volume and density of wind mills and solar panels it would take to replace the energy supplied by fossil fuels. With successful law suits by one land owner against other land owners in stopping development wind farms of just a few wind mills, it seems unlikely that there could be the development of enough across the state to even come close providing reliable replacement energy.

In a well supplied and reliable energy replacement, those parts of Montana that would not have wind mills would be inundated with solar panels. Just like wind mills, very few people would be willing to have the roof of their neighbor's house covered in solar panels, let alone their own.

Discussion of the coal tax and what revenues it brings in (\$50 to \$60 million in tax revenues per year) were nonexistent. The coal tax funds numerous grants which in turn creates and sustains jobs across the state. Also, nonexistent in the plan are the alternatives from the green power that would replace these funds.

People moved to Montana because it has been a pristine and undisturbed place unlike the places they left. It is quite unclear that they and others would want to create such a drastic change as this plan is recommending. Montana, land of wide open spaces filled with wind mills and solar panels!

Most of the sitting committee seem to be biased to the side of the 'CLIMATE CHANGE', the softer offered synonym formerly known as 'GLOBAL WARMING' (did not want to scare people that much). In our view there should be a more balanced resource of thought to approach this issue rationally and fairly. It also looks like all or most of the reference information and studies that were used to justify the council's arguments are hard slanted to the GLOBAL WARMING side and little if any reference to another perspective that does not agree with those alarmist opinions. A good and solid study involves all sides equally in the discussion of a subject of this magnitude.

There was no reference to scientific studies that argue against most of the climate change issues. The Heartland Institute's 'Climate Change and Montana: A Scientific Assessment' looks at this climate change issue from a common sense science approach and critiques most of the collection, interpretation and use of the climate change data that is suppose to support your supposed dyer climate situation.

In closing we reflect on the comments made by the Yellowstone Electric Cooperative CEO who said do not spend a fortune of time and money on putting the State Government in control of these egregious demands to change our way of life. The demand for so called green energy will come in due time on its own if and when people want or need it.

We strongly emphasize again that this will be extremely costly to the tax payer. There is little evidence that there would be a solid job market in green energy to replace the solid jobs we already have. Just look at what happened to Obama's big Solyndra deal! Let us not follow the Paris Climate Accord over the cliff!

Very Sincerely,

Les and Chris Arthun-Third Generation Ranchers that have been working with the environment before it became COOL!

**From:** [Laura Black](#) [REDACTED] [Sent You a Personal Message](#)  
**To:** [Climate Council](#)  
**Subject:** [EXTERNAL] Comments on the Draft Montana Climate Solutions Plan  
**Date:** Thursday, April 23, 2020 3:18:06 PM

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Dear Montana Climate Council,

Dear Members of the Governor's Climate Council,

Thank you for your work. As you move forward, I ask that you consider these requests.

Please explicitly protect and prioritize clean air and clean water for all citizens.

Please explicitly prioritize climate solutions that value and address the needs of the most vulnerable populations in our state, including by working with tribal communities to integrate Indigenous understanding in adaptation efforts. Please explicitly prioritize protection of lands and sustainability of ecosystems (interdependent communities of plant and animal species).

Please prioritize increasing significantly renewable energy to meet our energy needs.

Please explicitly plan for severe climate outcomes and the resulting disruptions to people who make Montana their home.

Thank you for considering my comments.

Sincerely,

Laura Black

[REDACTED]  
Bozeman, MT 59772

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Lillian Miller at Sierra Club at [REDACTED] or [REDACTED].

**From:** [Duane Braaten](#)  
**To:** [Climate Council](#)  
**Subject:** [EXTERNAL] Fwd: Public Comments  
**Date:** Thursday, April 23, 2020 8:38:39 AM

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April 23, 2020

To: Montana Climate Solutions Council

From: Duane G. Braaten  
Pres. Flathead Electric Cooperative  
Kalispell MT

Dear Council Members,

Thank you for allowing me the opportunity to address a few concerns I have pertaining to how some of mandates you are considering impact electrical utilities.

At Flathead Electric we have spent countless hours and EE money to embrace sound environmental stewardship. We are proud of the accomplishments in this area and feel they have been very successful. Our members often encourage us to engage in energy efficiency and they have been very supportive in participating in the various programs we offer. As a Co-op we are able to maintain a high level of involvement in these programs without jeopardizing the economics and reliability aspect of the service we render. I feel too often the economics and reliability of the service is overlooked in the mandates that are set forth.

I think one area Montana could be very helpful is in recognizing the federal hydro system as a carbon free, renewable resource. We currently have entities that are trying to breach the dams that provide this valuable resource in our region. Again as stewards of the environment, we are fighting to prevent this careless behavior. Any help from the environmental sector of the state of Montana would be much appreciated.

In closing, I urge you to please allow us to continue to prove we are responsible, governing bodies, that work hard to protect the environment as well as the economics and reliability of our electric power resources.

Sincerely,  
Duane G. Braaten

#11b-10

**From:** [Mayflower Pastoral Team](#)  
**To:** [Climate Council](#)  
**Subject:** [EXTERNAL] support of Climate council reports  
**Date:** Thursday, April 23, 2020 3:35:25 PM

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To whom it may concern,  
I am so appreciative of the Montana Climate Change advisory committee's recommendations on what Montana can do to curb climate change and I really hope that our government will follow up on these plans.

Amy Carter

--

Rev. Amy M. Carter  
Pastor, Mayflower, United Church of Christ



Billings, MT 59102

**From:** [Greg Findley](#)  
**To:** [Climate Council](#)  
**Subject:** [EXTERNAL] Comments on Draft Montana Climate Solutions Plan  
**Date:** Friday, April 24, 2020 7:03:59 PM

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Dear Governor Bullock and members of the Montana Climate Solutions Council,

Thank you for your work in drafting a climate solutions plan for the State of Montana. While this is a great first step, I have some comments and suggestions for making this plan even stronger.

First, we must begin with the science, and the IPCC Special Report of October, 2018, says that "Global net human-caused emissions of carbon dioxide (CO<sub>2</sub>) would need to fall by about 45 percent from 2010 levels by 2030, reaching 'net zero' around 2050." That is what we must accomplish globally. We know that in the United States we have emitted way more than our share of overall emissions, both per capita and cumulatively, and we also know that as a wealthy developed nation we have the capacity to cut emissions more than developing nations, therefore we have an obligation not just to match the IPCC emissions cuts, but to exceed them to allow poorer countries more time to both improve lives for their citizens and lower their emissions.

To meet these reduction targets we must cut emissions more than 7% per year globally. We also know that speed is of the essence, and the longer it takes us to reduce emissions, the steeper the cuts will need to be in later years.

Montana needs to pass legislation requiring a reduction of 50% in statewide greenhouse gas emissions by 2030, and we must get to net zero emissions before 2050. Nothing else is acceptable. Even at this level of cuts we will only have a 67% chance of avoiding climate catastrophe. None of us would get in our cars if we had a 33% chance of dying on the highway, yet we set this level of risk as our goal in avoiding climate disaster; we must at least plan to meet this goal. The current draft plan does not do that.

To achieve our goals we must:

- Require Electrify anything that can be electrified:
  - Transportation
  - cooking
  - Heating
  - Water heating
  - Washing and drying
- This electricity must come from renewable sources only

Some specific policies we must adopt"

- Redesign the rate structure for Montana's IOU's so that they are not compensated for building more fracked gas power plants or burning more coals, but instead:
  - Adopt Pay for Performance that guarantees profits for cutting emissions, reducing energy use, and retiring fossil fuel burning power plants
  - Decouple profits from energy sold to no longer incentivize selling more electricity

- Adopt TOU rates to minimize peak energy needs
- Incentive energy efficiency and reduced energy use
- Encourage utility owned community solar
- Adopt statewide renewable energy portfolio standards of 50% renewable energy by 2030 and 100% renewable energy by 2045
- Change state law to allow every city the opportunity to municipalize electricity for their city
- In buildings:
  - Ban all new natural gas lines by 2025
  - Remove current natural gas lines by 2035, with financial assistance from the IOU's who will be compensated through rTE RE-DESIGN
  - Require extreme levels of energy efficiency for all new buildings, and provide financial assistance to retrofit existing homes for low income residents
  - Require all new subdivisions to either install solar on all new homes and buildings, or to install community solar to provide enough energy for the subdivision
- Apply a statewide occupancy tax for second home owners who don't live in Montana, and use the proceeds to install solar and update energy efficiency of low income homes
- Adopt other state's most stringent vehicle emissions standards
- Incentive EV charging infrastructure across the state with tax incentives and building permit fast-tracking
- Ban all new leases for fossil fuel extraction beginning in 2025
- Stop development of the Keystone XL Pipeline
- Incentive development of Montana's wind potential (rated 5th in the nation by NREL) and encourage sales of wind power to WA, OR, and other nearby states
- Install solar panels on all public schools, requiring union installers and apprentices to train new installers, with priority given to current fossil fuel workers
- Do not waste money on expensive and ineffective carbon capture and sequestration; instead, invest in wind, solar and battery storage
- We must not leave current energy workers behind as we transition to clean energy

As we begin to recover from the COVID 19 pandemic, we must prioritize rebuilding efforts that emphasize energy efficiency and green energy. IF we don't, we just need more public money again soon to mitigate and adapt to climate change.

Thank you,

Greg Findley



**From:** [Rochelle Gravance](#) [REDACTED] [Sent You a Personal Message](#)  
**To:** [Climate Council](#)  
**Subject:** [EXTERNAL] Comments on the Draft Montana Climate Solutions Plan  
**Date:** Thursday, April 23, 2020 4:28:27 PM

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Dear Montana Climate Council,

Dear Members of the Governor's Climate Council,

I am a resident and constituent of Montana. Below you will find I have copied and agree with the Montana Sierra Club's recommendations to model and modify the new Climate Solutions Plan. If agriculture and tourism, according to varying statistics, are the leading industries in the state, the question to ask is why? Because of the natural and unique resources of Montana. Every effort should be made to enhance, preserve and upgrade all of Montana's industries to align with the health and beauty of the land and water that profits and makes Montana unique. One could look at the history of this nation along with the history of Montana to see it is bold change-makers who take bold action that has saved our natural resources before all became battered and extinct. And none of it came without a fight and overcoming several setbacks. I encourage one to consider the lessons so beautifully outlined in *The Last Stand* by Michael Punke and *Sand Country Almanac* by Aldo Leopold. Let us learn from our repeating history and take bold action to upgrade our future Montana.

Suggestions:

We appreciate the indication that protecting Montana's water quality and quantity is key to adapting to climate impacts. Explicit protection for clean air and clean water is key for both climate mitigation and adaptation.

We strongly support an increase in the allowable systems size for distributed generation systems.

We strongly support an increase in the renewable energy portfolio standard. There are no specifics attached to that goal at the moment; we urge the council to set a goal backed by the projections of climate scientists, mirroring recent commitments by Helena and Missoula to 100% clean electricity by 2030, as well as an exclusion of large hydropower.

We strongly support the need to integrate traditional and indigenous knowledge into adaptation efforts.

There's a nod to "the needs of young, sick, aging, and other vulnerable populations" in managing local infrastructure. We urge the council to explicitly prioritize climate solutions that center the needs of impacted populations that are disadvantaged because of geography (i.e. tribal nations and rural communities), vulnerability to climate impacts (the elderly, young, people with disabilities), vulnerability to economic transition (i.e. fossil fuel workers), and identity groups with less access to power in our society (low-income groups, people of color, LGBTQ folks, women).

We strongly support a strong demand response standard and energy storage standard for the state's investor owned utilities.

We strongly support expanding funding and capacity for apprenticeship programs in green jobs.

We strongly support reforming Montana fiscal policy to addressing economic transitions with an emphasis on support for people, families, and communities most impacted by the climate crisis.

We support efforts to expand energy efficiency, efforts to replace water heaters with grid-integrated water heaters, and mobile home replacement programs.

We support expanded community solar development and enabling shared solar for IOUs.

We support incentives for solar-ready and solar-integrated design and building.

We support reducing property taxes on new renewable energy.

We strongly support low emission vehicle standards and expanded EV infrastructure and accessibility.

We are also deeply concerned about some major gaps in the draft plan. Here are a few:

First and foremost, the cost of not taking adequate measures to prevent and prepare for the worst outcomes of the climate crisis are immeasurably high. When assessing the cost of any potential solution, the council should take into account the cost of not addressing the climate crisis in the window we have left. All solutions should be prioritized based on their potential impact in helping avert the crisis and achieving maximum greenhouse gas emissions in the next 8-9 years, the window of time scientists have identified as critical, as well as their ability to promote community resiliency. We absolutely need regulation of greenhouse gas-emitting industries in our state, not just incentive-based solutions. The current plan omits any mandates to restrict the activity of greenhouse gas-emitting industries in our state.

It's unclear that the sum total of the mitigation and adaptation goals would meet either the goals of the council or use all available state leverage to bend the global emissions curve as quickly as possible, mitigate the climate crisis, and meet the needs of Montana communities in adapting to current and future changes. The timeline of greenhouse gas neutrality in the electricity sector by 2035 is slower than current climate projections call for. We need to be adapting state goals in line with the current scientific understanding of what's necessary to avert global climate tipping points. There is an underlying implication in this plan that innovation, carbon sequestration, and incentive-based efforts to reduce emissions might be enough to avert a global climate crisis, without providing accompanying evidence that this is indeed the case. An understanding of what is necessary to meet the challenge of addressing the climate crisis, not what seems currently politically feasible, should guide the council's final recommendations.

We are deeply interconnected, and our communities suffer when we don't have sufficient support systems in place that protect the needs of the most vulnerable. Making sure all Montanans have access to healthcare, job security, and basic resources that prevent community breakdown in a crisis are key to substantive climate solutions that fully address the issue of community resiliency.

Land protection is key to both adaptation and mitigation and should be explicitly named as such. This can and should include meaningful consultation with Montana's Tribal Nations and a consideration for expanding the land under indigenous management.

The scope of the solutions should extend to include the scope of Montana's influence as a state. This can and should include restrictions on new fossil fuel infrastructure built within state borders and partnership with other states in advocating for solutions that address the scale, scope, and urgency of the climate crisis, i.e. retracting all existing federal subsidies for fossil fuels and a governing agenda like the proposed federal Green New Deal that addresses the climate crisis concurrently with systemic inequities and a plan to help people and communities weather the economic transition.

Finally, this plan needs to be based on an adequate assessment of the challenges we face in tackling this issue, including past obstacles to implementing climate solutions, and a substantial communication plan to promote public understanding of the climate crisis and the necessity of action. The plan should include an articulation and assessment of the risks of hitting global climate tipping points, a system for regularly updated information flows, and a prioritization of solutions that aim to avert them. What are the major obstacles (in Montana, nationally, or globally) to making adequate progress on this issue, and why has this crisis instead worsened over the many decades we've known about this problem? How will the climate solutions plan address the long history of misinformation and propaganda campaigns by special interest groups that have stymied action on this issue?

Sincerely,

Rochelle Gravance

[REDACTED]  
Columbus, MT 59019  
[REDACTED]

#11b-13

**From:** [charly](#)  
**To:** [Climate Council](#)  
**Subject:** [EXTERNAL] comments  
**Date:** Thursday, April 23, 2020 1:36:44 PM  
**Attachments:** [climate solutions comment .docx](#)

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First and foremost, I applaud you on a well-thought out, comprehensive plan. The time and energy it must have taken is beyond commendable. Thank you for undertaking this task and bringing it front and center as there is no single issue as imperative as climate change and its effects on humanity, all life and the planet itself.

Many points and issues addressed are insightful and imperative. Here are a few thoughts of mine and some areas I believe need primary attention.

The best available science and information are the **only way** to effectively manage climate related risks.

Fossil fuels and, in particular, burning coal for energy must be stopped just as soon as possible, and not relied upon as a “fill-in” energy source for longer than as needed during the transition to 100% renewable. Coal burning needs to be stopped permanently. Do establish a safety net for coal workers and for coal-dependent communities with temporary financial support and adequate re-training opportunities.

Renewables and, in particular, solar and wind should be highlighted much more than in this current plan. Educational programs in trade schools, community colleges and other programs for development, maintenance and installation can be financially supported and available readily and widely. The offering of more community-owned solar is an excellent plan.

Stopping deforestation of our last remaining intact forests is one of the best ways to keep carbon sequestered. Logging should be minimized and undertaken only with rigorous oversight. In fact, more trees should be planted and nurtured.

Education and promotion of “individual actions” also have a part in this plan. Buying and eating locally, cease idling of car engines and drive less, support local community supported agriculture and small farms and dairies, support recycling centers, consider a plastic bag tax state-wide, support community compost systems, educate the public regarding unnecessary food waste (a substantial contributor to climate change effects) and food choices (local, less meat, less confined animal factory meats) and many more.

Thank you again for this Montana Climate Solutions Plan and for welcoming public input.

Hillery Daily

**From:** [Ross Holter](#)  
**To:** [Climate Council](#)  
**Subject:** [EXTERNAL] Comments  
**Date:** Thursday, April 23, 2020 1:16:59 PM  
**Attachments:** [Mt gov climate solutions response.pdf](#)

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Please see attached document containing comments regarding the Climate Solutions Council's Plan. Thank-you.

***Ross Holter***

**Director of Energy and Member Services**

**Flathead Electric Cooperative**





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#11b-14



[www.flatheadelectric.com](http://www.flatheadelectric.com)



TOLL FREE (

Thursday, April 16, 2020

To: Montana Climate Solutions Council

From: Ross Holter  
Director of Energy and Member Services  
Flathead Electric Cooperative

Re: Comments regarding Climate Solutions Council Recommendations.

Thank-you for the opportunity to provide input related to the initial recommendations developed by the Council. The decisions made in this process may have a significant impact on the future of Flathead Electric Cooperative's member ratepayers and our fellow co-op members across the state. Therefore, we have a very keen interest in these recommendations and any future developments.

While we applaud the intent of this effort there are specific areas of concern for Flathead Electric Cooperative (FEC) and all other Co-ops in Montana. The following is a partial list:

- Imposing vague mandates for Energy Efficiency achievements when FEC has led the way in this area.
- Requiring a Demand Response Standard-when we have once again led the way through our innovative PeakTime Program and residential demand rate structure.
- Updating Renewable Portfolio Standards-when FEC's energy mix is almost completely carbon free. In addition, we were the 1<sup>st</sup> entity in the state to install a 100 kW Community Solar array and have never turned down a net metering installation on our system.
- Mandating EV charging standards-when we have pioneered charging installations and are currently working with the DEQ for funding to provide a network of chargers across the Yellowstone to Glacier corridor.
- Tying the development of the Keystone XL pipeline to the rate of murdered and missing indigenous people-when there is no evidence connecting the two.

There is a saying in the Co-op world; "if you've seen one Co-op, you've seen one Co-op" because they are all so different. Trying to develop broad mandates over utilities in such a large and diverse state like Montana is fraught with difficulties. For virtually any of the recommendations outlined in this document to be successful I believe a whole new approach is needed. An approach of collaboration, not compulsion, one of agreement, not enforcement.

Thanks for the opportunity to comment.



#11b-14

Ross Holter  
Director of Energy and Member Services  
Flathead Electric Co-op



**From:** [Laura Jackson](#)  
**To:** [Climate Council](#)  
**Subject:** [EXTERNAL] Climate Solution Draft Plan comments  
**Date:** Thursday, April 23, 2020 9:36:31 PM

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Draft Montana Climate Solutions Plan comments. April 23, 2020

First, sincere thanks for all your efforts made to initiate this process of both preparing our state to deal with climate change impacts and to reducing our contribution to the causes of this change.

I am also especially appreciative of being given the opportunity to consider and comment on the draft plan.

As I write these comments we are all confronting a global pandemic causing deaths directly and indirectly and economic upheaval. I find it instructive to compare how all levels of community and government and individuals are reacting to these realities in comparison to their reactions, or non-reactions, to other current threats to our lives and livelihoods. Nationally the comparable number of deaths resulting from air pollution and industrial and agricultural toxins has been accepted as a price of “doing business.” It seems global warming and the changes it will bring to our lives will be more deadly than this pandemic that has now so hugely disrupted or lives and the economy—there is a clear message here about how we need radically to consider our climate change response options.

Please reconsider your direction to minimize science when you say “sound science and information alone are insufficient to effectively manage climate-related risks.” Please do not sanction business as usual for energy sources, extraction industries, logging, and agriculture. These are a large part of the problem and sustaining them is not necessarily the solution. There are alternative energy solutions and alternative economies available, but they will not grow if we continue to support and subsidize the industries that got us here. The best available science and information are the only way to effectively manage climate related risks. In the past, when industries died, we let them and those that had vision re-tooled and found new ways to be a part of a changing economy. Now we have government subsidies to bolster dying industries rather than allowing change to happen. Subsidies should be given to help facilitate adaption and growth of individual citizens and communities impacted in the process of change.

Specific notes:

Page 1: “Achieving net greenhouse gas neutrality by average annual electric loads in the state by no later than 2035 and a goal of net greenhouse gas neutrality economy-wide at a date to be determined.”

This is inadequate. Within 10 years we are rapidly approaching irreversible Tipping Points to what will be a Climate Catastrophe. We need to move this goal to 2030.

Page 2: “Not only does the state face a series of physical risks tied to a

changing climate, the state and our businesses also face a series of fiscal, economic, financial and policy risks tied to the changes happening around us”

Specifically include a statement that Biodiversity and Eco-System Services are at risk and need to be understood as essential among concerns for which we need to prepare. We do need to respond “to the needs of government agencies, tribal nations, land managers, business owners, non-profits, and individuals.” But ultimately the need for all these groups in the face of climate crisis is to change as soon as possible what we have been doing, sharing the immediate burden of change for our long term viability, to stop burning fossil fuels, stop deforestation of our last remaining intact forests, and to consider a far wider range of options to reduce climate change near time impacts than are supported or even mentioned in this draft plan.

Page 3: Guiding Principles #1: ...impacts with an understanding of the state’s geography, culture, history, economy, (add in) **ecology**, and resources.

Page 6: “Ensure local governments have access to updated information concerning current and future high-risk floodplain and wildfire prone-wildland urban interface zones. Support state and local code updates to further reduce risks and impacts.” This item is of the first importance and should somehow be highlighted and emphasized. Reducing the construction of homes in vulnerable areas is essential for greater resiliency capacity for community services. State legislation directing this is vital.

“Support local governments to integrate flood, disaster, and wildfire protection planning with community land use planning and decisions when requested by local officials.” This support is, of course, important, but we need a mandate to move in this direction as well as support. Though updated information on flood plains and wildfire prone areas is important for local governments, as you mention on p 4, that information should be based on the best available science not politics. It would be better to promote and mandate strong zoning to protect houses from damage due to flooding and fire and thereby also reduce the burden on local services to protect inappropriately located structures and citizens.

Page 7: Working Landscapes. Add: Explore and support opportunities for livestock producers to pasture finish and locally market their animals, often as a value added product, thus minimizing animal transportation and bypassing Confined Animal Feeding Operations and their huge greenhouse gas output.

Page 7: Resilient Forests: Forest management needs to recognize very specifically the science that shows that the most beneficial practice in the face of climate change is leave older forests intact for their value as carbon sinks and ongoing carbon storage. Preserving old growth forest is climate

wise. It preserves carbon sinks at no cost and sustains biodiversity essential to all our living systems' health. Wildfire risk reduction begins with our own state forestry practices. The greatest risk of uncontrollable wildfire results directly from our predicted changing climate. The greatest risk of uncontrollable wildfire results directly from our predicted changing climate. A hotter climate is documented as the largest factor leading to increasingly devastating wildfire. We can mitigate the damaging extent of this change by our strategies and should do so. Logging is not the solution, according to our most recent science.

Page 9: Responding to the "questions to guide partner and public feedback." The last several items in particular would seem to reference unnecessary "reinventing the wheel" agendas. As in a number of mentioned areas of study above, there is a great deal of study and research already on the books; implementation strategies and the will to change in line with the science are what needs to be our focus at this time. For example, there is no need to pay for social science surveys. A comprehensive educational promotion of true energy solutions is necessary. It should include the reality of the climate impact that the current energy economy creates. It should be similar to the information that is being promoted currently on Covid-19. The message, though difficult, gets across to the public if it is honestly and consistently expressed.

Page 16-17: Incentives for Solar-Ready Designs etc.: Include passive solar systems that proactively provide heating such as Trombe walls and sun room/envelope, and earth shelter designs. Could Ground Source Heat Pumps be encouraged with On Bill Financing? Refrigeration, including air conditioning is very expensive in greenhouse gas (GHG) terms. The need for more air cooling is coming. How do we encourage innovation in increasing its efficiency, while decreasing GHG?

Page 20: A key strategy/discussion on logging needs to be added under **SECTION IV: Industrial, Oil and Gas, Agriculture and Forestry 20: IMPROVE GREENHOUSE GAS EMISSIONS AND CARBON SEQUESTRATION INVENTORY AND ACCOUNTING SPANNING NON-ELECTRIC AND TRANSPORTATION SECTORS ACROSS MONTANA'S ECONOMY**

Logging has been shown in many recent studies to produce more atmospheric carbon than almost any other activity, including wildfire, see: <https://www.nacarbon.org/nacp/documents/WWR%202018%20April%20final.pdf>. The following outcomes of this latest research should be especially noted:

- Simulations show increased net carbon uptake with little change in wildfires by 2100.
- Reforestation, afforestation, lengthened harvest cycles on private lands, and restricting harvest on public lands increase NECB 56% by 2100, with the latter two actions contributing the most.
- Resultant co-benefits of these strategies included improved water

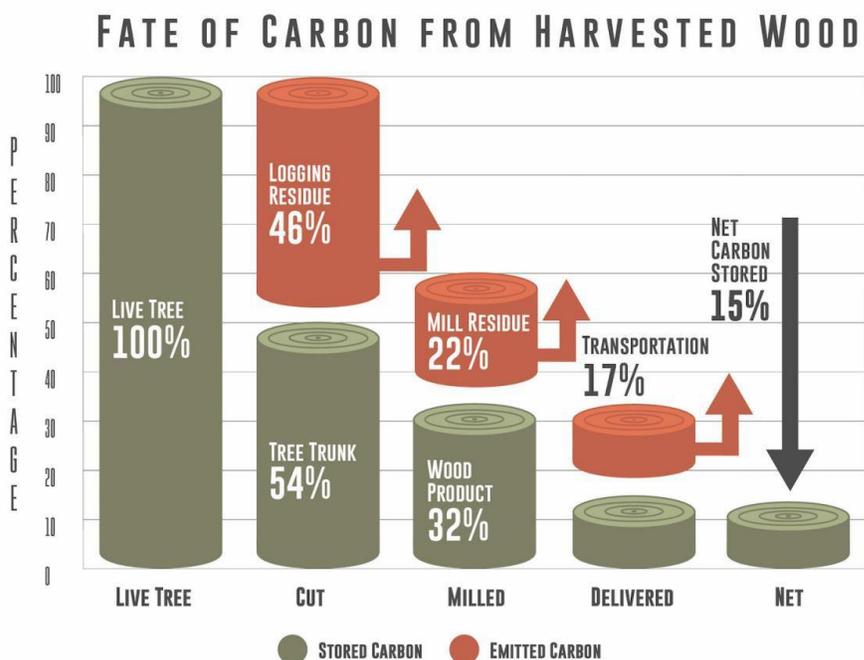
availability and biodiversity, primarily from increased forest area, age, and species diversity.

- Converting 127,000 ha of irrigated grass crops to native forests could decrease irrigation demand by 233 billion m<sup>3</sup> y<sup>-1</sup>.
- Utilizing harvest residues for bioenergy production instead of leaving them in forests to decompose increased emissions in the short-term (50 years), reducing mitigation effectiveness.
- Increasing forest carbon on public lands reduced emissions compared with storage in wood products because the residence time is more than twice that of wood products.
- Forest sector emissions tracked with our life cycle assessment model decreased by 17%, partially meeting emissions reduction goals.

Please also consider the science that finds water quality and quantity (see <https://www.anu.edu.au/news/all-news/250000-melbourne-residents-losing-water-due-to-logging>) decrease with logging. Certainly, logging is not a good idea to combat climate change impacts forecast for our state.

Simply put: reducing logging would slow climate warming (see Moomaw et al 2019 <https://www.frontiersin.org/articles/10.3389/ffgc.2019.00027/full>). Current research indicates more logging will exacerbate global warming and the negative health impacts of wildfire smoke. Please note the current cost of timber management in our forests. (please see Environmentally Harmful Subsidies in the US: Issue #1 the federal logging program. <https://sustainable-economy.org/wp-content/uploads/2019/05/CSE-Federal-logging-report-May-2019.pdf>) Certainly that 2 billion could be put to better use in actions that mitigate rather than increase climate warming. Research clearly explains the reasoning behind Massachusetts choice to stop logging altogether (see <https://arstechnica.com/science/2019/11/state-legislation-would-enlist-forests-in-the-battle-against-climate-change/>). Obviously this would be a radical proposal for Montana, but putting it on the table would open up a science based conversation looking forward rather than backward.

While producing some wood products will always be a necessity, science makes it clear that their production does not enhance carbon storage. As a matter of fact it emits more carbon than a forest fire. While fire leaves nearly 85% of carbon on the landscape, wood products only preserve about 12% of the carbon from the original log. See the chart below:



Forest fuel “reduction management plans” should be limited to one half mile from structures as supported in Jack Cohen’s work (see <https://www.fs.usda.gov/treesearch/pubs/5603>). This would also provide jobs for loggers, not large logging conglomerates. Defensible space work will provide for new jobs and a new economy (see [http://nreconomics.com/reports/2018-04-28\\_EnvNow\\_Report.pdf](http://nreconomics.com/reports/2018-04-28_EnvNow_Report.pdf)). If you are truly worried about jobs for the local individuals and not industry profits, this would be a much more carbon and local economy friendly focus.

Page 22-23: Carbon Capture and Storage – This is coming but, while it may become a part of GHG reduction, one of the downsides is that it distracts from the issue of our need to burn less fossil fuel up front. There is also scientific reason to question any use of biofuels as a means of reducing carbon emissions: This is not a clean energy solution. Please review this article about the carbon emitted from biofuels as it compares to coal and fossil fuels. [https://www.pfpi.net/wp-content/uploads/2011/04/PFPI-biomass-carbon-accounting-overview\\_April.pdf](https://www.pfpi.net/wp-content/uploads/2011/04/PFPI-biomass-carbon-accounting-overview_April.pdf). (please include this and all linked articles as part of the public comment record). One section of the article states:

Burning biomass emits more CO<sub>2</sub> than fossil fuels per megawatt energy generated:

Wood inherently emits more carbon per Btu than other fuels

1. Natural gas: 117.8 lb CO<sub>2</sub>/mmbtu
2. Bituminous coal: 205.3 lb CO<sub>2</sub>/mmbtu
3. Wood: 213 lb CO<sub>2</sub>/mmbtu (bone dry)

Wood is often wet and dirty, which degrades heating value. Typical moisture content of wood is 45 – 50%, which means its btu content per

pound is about half that of bone dry wood. Before “useful” energy can be derived from burning wood, some of the wood’s btu’s are required to evaporate all that water.

Biomass boilers operate less efficiently than fossil fuel boilers (data from air plant permit reviews and the Energy Information Administration)

1. Utility-scale biomass boiler: 24%
2. Average efficiency US coal fleet: 33%
3. Average gas plant: 43%

There is no question that coal-fired electricity generation in Montana should be ended as soon as possible, while providing job training, and support for green energy solutions to diversify changing local economies. Economic diversity will save small communities, not single economies that only continue due to exorbitant government subsidies. That money should be used for the solution not the cause.

Distributed Generation is an excellent idea linked with support for Local Renewable Energy Micro-Grids that could provide energy security with less reliance on Macro-grid. Cost incentives that make individual capital investments in renewable energy attractive should be sustained and enhanced for the long term benefit of all users.

The Montana State Renewable Portfolio Standard needs to be upgraded to support moving toward net neutrality immediately.

Page 30: See discussion above of negatives around biomass fuels. A further cost of woody mass derived biofuels is the ongoing loss of biomass out of forests. Biomass preservation is carbon storage for free plus ecosystem services.

The biggest risk factor for uncontrollable wildfire is heat, everything burns hotter with more heating in our climate regimes and dryer air/less shade. Wildland/Urban Interface fire risk reduction begins at home. That is where fuel reduction work needs to be focused.

Page 32: Adopt and Support ...Ready Communities: The question is how do we get our communities and their representatives to join in? One answer is to be clear in our minds, and effectively share narratives about what our future will most likely look like under existing climate change scenarios.

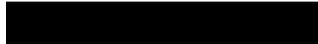
The range of ideas the Draft Plan considers should be widened in the interest of honestly informing citizens as to options that we need to have in mind. Consider removing or reducing subsidies for resource extraction and radically bolstering clean energy solutions, encourage and facilitate working from home for less commuting (the cost of strengthening our telecommunication grid could be well rewarded, even without the current covid 19 circumstances), lower speed limits, incentivize higher mileage vehicle use, eat less meat, eat locally, discourage green lawns, discourage the use of fertilizer, herbicides and pesticides, mow lawns less often, reduce auto trips by combining errands, carpool, and stop purchasing what is unnecessary. These could sound radical, but including them

in your documents is in itself a way to educate the public and expand the conversation on the best available science concerning climate change and it empowers individuals in their thinking and actions regarding their futures.

Footnote: A fine resource for brain storming around our climate situation, available in book format, is: *Drawdown, The Most Comprehensive Plan Ever Proposed to Reverse Global Warming*. Edited by Paul Hawken. Please include it in your references.

Thank you for your time and attention to these comments.

Laura Jackson



Hamilton, MT



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TOLL FREE

April 23, 2020

Montana Climate Solutions Council  
[ClimateCouncil@mt.gov](mailto:ClimateCouncil@mt.gov)

Re: Comments on the Draft Montana Climate Solutions Plan

Thank you for the opportunity to comment on the Draft Montana Climate Solutions Plan (Plan). Flathead Electric Cooperative (FEC) serves over 68,000 meters and 53,000 members in Montana. In the areas we serve, we strive to maintain a clean and healthy environment while recognizing the critical importance of electricity in the lives of all Montanans.

### **Reducing Greenhouse Gas Emissions**

For over 80 years, FEC has been a steward of the environment by protecting our clean water and air. For most of its history, FEC has purchased a large majority of its energy from the Federal Columbia River Power System through the Bonneville Power Administration (BPA). The hydropower FEC purchases from BPA is carbon-free, renewable, and has allowed the northwest to be dramatically lower in CO2 emissions than anywhere else in the country.

Executive Order 8-2019 requires the Climate Solutions Council to develop a Montana Climate Solutions Plan that includes recommendations to achieve an interim goal of net greenhouse gas neutrality for average annual electric loads in the state by no later than 2035. The power FEC sells to its members is nearly 100% carbon-free and FEC has met this goal for decades by serving its members with hydropower along with developing Montana's first landfill gas-to-energy generator and Montana's first community solar project.

### **Energy Efficiency**

We are concerned that the Plan requires the establishment of "...a graduated energy efficiency standard, a demand response standard, and an energy storage standard for the state's Investor Owned Utilities" and focuses on "aggressive and timely adoption of energy efficiency measures." These types of mandates, even though the first one is currently only applicable to IOUs, are not necessary for FEC to meet the goals of the Plan and they disrupt the local control that is the hallmark of electric cooperative operations.

FEC is a leader in energy efficiency as witnessed by the many national and regional energy efficiency and conservation awards it has won over the years. Since 2010, FEC has spent almost \$21.5 million dollars on a wide array of energy efficiency programs on behalf of its members which have saved over 125.6 million kWh, which is enough energy to run almost 10,500 homes for a year.



We recognize that energy efficiency will always be an important environmentally and economically friendly energy resource. It is clean and emission free and serves our regional and national goals of carbon reduction and energy independence. However, the Key Strategy "...adopt a new energy efficiency standard at 1% energy savings on an annual basis within 3 years after program implementation, then increase the standard to 1.5% annually for the next 4 years, and to 2% annually thereafter..." would treat utilities like FEC unfairly because after years of spending millions of dollars to implement energy efficiency programs, the low hanging fruit are gone and each incremental kWh of energy efficiency is getting more and more expensive and harder to obtain. Over the past few years, FEC has seen a significant drop in energy efficiency savings due to years and years of aggressive energy efficiency acquisition and adoption by our members.

The arbitrary percentages included in this Key Strategy do nothing to recognize past energy efficiency achievements of utilities like FEC and should not be applied to all utilities in such a general sense. Each utility is different – some are primarily residential with high energy efficiency costs per kWh saved, while others have residential but also have industrial and large commercial members which allow for larger and more economical energy efficiency savings.

It would behoove the state to fund a statewide Conservation Potential Assessment (CPA) to determine where energy efficiency savings is available before moving forward with this Plan. A CPA will help the state determine where the most cost-effective energy efficiency lies and where to specifically target program resources.

## **Mandates**

Even though many of the mandates in this Plan are currently written for IOUs only, we are concerned that if this Plan is adopted, it will allow for regulation to be easily shifted to include electric cooperatives like FEC. FEC does not need this Plan to do what's right for its members and is voluntarily addressing nearly all these areas noted in the Plan in ways that don't affect the reliability and affordability of our electricity. We are already doing demand response, time-of-use rates, inclining block energy rates, member-friendly net metering, and we are a leader in the state in promotion of electric vehicles. We are even specifically mentioned in the Plan as "the only utility in the state providing an on-bill financing option."

Our regulators, FEC's Board of Trustees, are elected by FEC's members to carry out the mission of FEC. The types of mandates in this Plan will only stifle local control and inhibit the flexibility that electric cooperatives like FEC currently enjoy.

Thanks again for the opportunity to comment on the Plan.

Sincerely,



Mark Johnson  
General Manager



**From:** [Levon Martin](#)  
**To:** [Climate Council](#)  
**Subject:** [EXTERNAL] Comments on draft Montana Climate Solutions plan/recommendations  
**Date:** Thursday, April 23, 2020 4:07:42 PM

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Dear Council Members,

Thank you for your efforts in producing the draft Montana Climate Solutions plan. In addition to the specific comments below, please make it a priority that implementation begin immediately for those measures which can begin right away and that will help reduce greenhouse gas emissions.

### **Section 1: Adaptation.**

- Please support efforts to expand Montana's ability to understand climate risks and prepare for change. Recommendations 1A - H should be funded and acted upon.
- In particular, Montana needs more accessible, up-to-date climate science. Please support a larger Montana Climate Office with more staff and funding, stronger Montana University System climate coordination, research and funding, and increased support from the state to communities so they can develop climate adaptation and mitigation strategies and plans.

### **Section 2: Mitigation.**

- Recommendations 2A -E and 2G-K are essential for Montana to reduce greenhouse gas emissions and avoid building new fossil fuel infrastructure. Our state is woefully deficient in programs and funding to support energy efficiency and conservation, and the key strategies identified should be enacted swiftly and funded, saving Montana residents and businesses money while improving public health.
- A statewide energy efficiency standard is needed to meet the plan goals.
- Raising the size cap on rooftop solar systems is very important. This would benefit schools, libraries, and other public buildings, save taxpayer dollars and create educational opportunities.
- The adoption of low emission vehicle standards and actions that will incentivize, promote, or enhance electric vehicles is crucial to reducing transportation emissions.

Add key strategies that would strengthen transit systems throughout Montana, helping to reduce emissions from transportation.

- Support community climate action planning, including goal setting, energy data collection across sectors, and planning efforts to reduce emissions and save money in local communities.
- Voluntary controls on oil and gas development are insufficient. The industry has had decades to voluntarily curb greenhouse gas emissions and has not. Methane emissions from oil and gas development should be required.
- Carbon capture and sequestration is not an appropriate climate solution for coal-fired electricity. The final recommendations should focus on reducing reliance on coal-fired electricity instead of relying on misguided, expensive, risky, and unproven technology.

Please encourage and support local communities that choose to set strong carbon emission reduction goals.

In addition, Montana's renewable energy standard should be raised to 80% by 2035. This is achievable and will create jobs and save money.

There is a need to replace the coal severance tax as coal sales drop -- a tax on electricity could replace the coal severance tax, and also fund worker retraining programs and pension security for fossil fuel workers. Please consider adding the above ideas to the solutions plan.

Thanks,  
Lee Martin



Missoula, MT 59802

**From:** [McNamara, Amy](#)  
**To:** [Climate Council](#)  
**Subject:** [EXTERNAL] NRDC Comments on Montana Climate Solutions Plan  
**Date:** Thursday, April 23, 2020 6:20:55 PM  
**Attachments:** [NRDC Montana Climate Solutions Plan comments 4.23.20.pdf](#)

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Montana Climate Solutions Task Force Members:

The Natural Resources Defense Council (NRDC) thanks Governor Bullock and his staff for convening the Montana Climate Solutions Task Force and each of you for your individual contributions to developing an actionable set of recommendations and strategies to guide Montana's efforts to address the climate crisis. We fully support your efforts to reduce emissions, prepare for climate impacts, and address the challenges and opportunities that come with our state's transition to a clean energy future. NRDC respectfully provides the attached comments on the draft plan in an effort to strengthen and improve it and to support the State of Montana as it steps up to this challenge.

Sincerely,

Amy McNamara

**AMY MCNAMARA**  
*Director, Northern Rockies  
Nature Program*  
NATURAL RESOURCES DEFENSE COUNCIL

[REDACTED]  
BOZEMAN, MT 59715  
[REDACTED]

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#11b-18

April 23, 2020

Montana DEQ  
c/o Rebecca Harbage/Director's Office  
P.O. Box 200901  
Helena, MT 59620-0901

Submitted via email to: [ClimateCouncil@mt.gov](mailto:ClimateCouncil@mt.gov)

Montana Climate Solutions Task Force Members:

The Natural Resources Defense Council (NRDC) thanks Governor Bullock and his staff for convening the Montana Climate Solutions Task Force and each of you for your individual contributions to developing an actionable set of recommendations and strategies to guide Montana's efforts to address the climate crisis. We fully support your efforts to reduce emissions, prepare for climate impacts, and address the challenges and opportunities that come with our state's transition to a clean energy future.

Montana needs to take every step possible to prepare for and address climate change and its associated impacts. As you note in the Draft Plan, Montana's climate is already changing. Those changes have led to negative public health outcomes; loss of lives, income, and property; and forest fires, floods, droughts, and other climate related disasters. In addition to the community and economic impacts, the change is stressing our natural systems and the human communities and wildlife that depend on our public lands and natural resources for clean water, healthy air to breathe, and emotional as well as physical health.

The climate crisis is not slowing down, nor can our efforts to address it. Montana needs leadership to guide thoughtful, proactive steps to prepare communities, businesses, and individuals to thrive in the future. NRDC respectfully provides the following comments on the Draft Plan in an effort to strengthen and improve it and to support the State of Montana as it steps up to this challenge.

## **Guiding Principles for Effective Climate Adaptation**

In addition to the guiding principles listed on pages 3-4 of the draft, we recommend including the following:

- *Include all voices in decision making:* Enable full participation and representation of communities, particularly vulnerable and marginalized communities and tribal governments in decision-making.
- *Advance environmental justice:* Eliminate the disproportionate burden of negative environmental impacts from climate change borne by low-income individuals and communities of color.
- *Promote collaboration:* Enhance meaningful collaboration and partnerships among a multiplicity and diversity of stakeholders.

- *Advance research for public interests:* Ensure public funding for research and development is used for research that serves the public interest rather than private interests.

## 1: Preparing Montanans for Climate Impacts

We are pleased to see the emphasis on implementing climate preparedness and adaptation efforts statewide. NRDC supports recommendations 1A-1H and would like to see them funded and acted upon. In addition, we have specific comments for recommendations 1A, 1D, 1F, and 1G.

*1A: Support a common framework for preparing for climate impacts at multiple scales by growing and sustaining climate science and information development.*

Montana needs the following to develop a common framework for addressing climate impacts:

- more accessible climate science,
- a consistently funded Montana Climate Office with more staff,
- stronger Montana University System climate coordination, research and funding, and
- increased financial support and guidance from the state to communities so they can develop adaptation strategies.

In addition, Montana should be partnering closely with federal agencies to take advantage of federal climate resources and programs such as USDA's Climate Hubs,<sup>i</sup> USFS's Northern Rockies Adaptation Partnership,<sup>ii</sup> and USFS's Northern Institute of Applied Climate Science<sup>iii</sup> as well as partners such as the U.S. Climate Alliance,<sup>iv</sup> and other national, regional, state, and local non-profits.

*1D: Adapt Montana's built environment to climate change.*

We support proactive efforts outlined in this section to prepare for and increase Montana's resiliency to future climate impacts, including floods, wildfires, and drought.

As Montana faces more frequent flooding events, we encourage you to consider the highly successful *Floodplains by Design* grant program being implemented by the Department of Ecology in Washington.<sup>v</sup> The competitive grant program is a public-private partnership focused on re-establishing floodplain functions in Washington's major river corridors. Floodplains provide important habitat for fish and wildlife, rich soil for farms, and beautiful backdrops for state residents. In the past, attempts were made to control rivers, thinking flooding could be stopped by walling off rivers with levees, straightening them, and laying a grid of commercial and residential development across them. Now, more people live in the path of dangerous floodwaters. Such a program can lead to multi-benefit projects that reduce flood hazards to communities while restoring the natural functions of state rivers and their floodplains. Projects to reconnect the floodplain can benefit communities, improve flood protection for towns and farms, restore habitat for aquatic and terrestrial species, improve water quality, and enhance outdoor recreation.

*1F: Build the resilience of Montana's private working landscapes (farms, rangelands, and forests) and support voluntary and incentive-driven efforts for climate smart management that reduces risks, improves bottom lines, and enhances carbon storage in soils, forests, and wood products.*

We are pleased to see that recognizing Montana producers for adoption of soil health practices, enhancing research, and partnerships with producers are priority strategies for the Council. We recommend the Council consider the following specific policy recommendations to support the strategies listed in the Draft Plan:

- Subsidize crop insurance premiums for producers who plant cover crops.<sup>vi</sup> Cover crops help the soil hold and retain additional moisture, enhancing resiliency in both extremely wet and extremely dry weather conditions.<sup>vii</sup>
- Adopt a Montana Healthy Soils Program to cost-share practices and collect data on their benefits—including improving access to affordable and reliable soil health tests.<sup>viii</sup> This will have the dual benefit of incentivizing greater adoption of resiliency practices and helping to increase knowledge about the most impactful suite of practices based on local conditions.
- Fund Montana’s conservation districts to provide additional on-farm technical assistance. This will ensure correct deployment of the various strategies, helping farmers shorten the learning curve associated with new agronomic practices.
- Invest in irrigation efficiency measures. Studies show that enhancing irrigation efficiency can improve yields, and help farmers and ranchers be better prepared to continue to produce in dry conditions when less water is available.<sup>ix</sup> This will have the added benefit of reducing energy needs for irrigation and furthering climate change mitigation goals.
- Provide funds for the development of compost infrastructure. Compost can rapidly increase soil organic matter—and thus soil’s water holding capacity—and improve production even during drought conditions.<sup>x</sup>
- Provide funds to incentivize practices that reduce reliance on synthetic agri-chemical inputs, such as fertilizers, pesticides, and herbicides. These inputs are not only very greenhouse gas-intensive products, they also harm the soil microbiology, limiting soil’s ability to filter and store water and thereby reducing the resiliency of agricultural systems.<sup>xi</sup>

Additionally, in response to the Council’s questions regarding funding and aligning federal and state programs, the Council should encourage a Montana application to the Federal Soil Health Demonstration Trial to finance these efforts.<sup>xii</sup> Another creative financing strategy that has been deployed in California is an optional 1% surcharge on restaurant tabs that is reinvested in local regenerative agriculture projects, akin to community choice aggregation models that have been used to finance renewable energy projects.<sup>xiii</sup> This financing mechanism could be particularly attractive in parts of the state that have significant tourism industries.

*1G: Support climate-resilient forests, rangelands, and wildlife using an all-lands, all-hands approach across ownership boundaries.*

Climate change is already having significant effects on species, ecosystems, and biodiversity in Montana. For example, our temperatures are three degrees warmer than they were a few decades ago, early spring runoff is affecting water availability and causing flooding, and our fire seasons are longer than they have been in recent history. In addition, climate change brings shifts in species distribution, changes in life-history events, decoupling of plant-pollinator relationships, reductions in populations, extinction, loss of habitat, increased spread of wildlife disease, and invasive species.<sup>xiv</sup> Adaptation strategies fall into four broad categories: land and water protection and management; direct species management; monitoring and planning; and law and policy.<sup>xv</sup> We encourage Montana to use the broad suite of strategies that are available to it and to apply its existing toolset in novel and innovative ways to meet the challenges posed by climate change. To accelerate Montana’s carbon sequestration, Montana should increase investments in conserving lands that contribute towards carbon sequestration as well as meet other needs for wildlife habitat, water filtration, and recreation. Special attention should be paid to lands that will assist wildlife as they adapt to climate change and move to habitat that will be more suitable as the climate shifts.

## 2: Strategies to Reduce Greenhouse Gases

As noted in the introduction to these comments, NRDC acknowledges the effort undertaken by the Council in identifying a variety of actions that, if undertaken, would result in emission reductions. It is important, however, to understand what these individual emission reduction strategies are not and, hence, what the Draft Plan lacks—and that is a recommendation for the establishment of an overall regulatory framework that would require emission reductions by setting emission limits in order to eliminate or make negligible carbon pollution. A binding emission limit drives reductions and necessitates the adoption of a variety of strategies, such as are called for by the Council’s Draft Plan, and including carbon pricing, which the Draft Plan fails to discuss, to achieve the called upon reductions. There are several examples of emission limit regulatory regimes in the US: the Western Climate Initiative, which is a economy wide cap and invest program that links California and the province of Quebec, being the most notable example.<sup>xvi</sup>

### Section I: Energy Efficiency – Residential and Commercial Buildings, Tribal and Local Governments

Section I (2A-2E) offers a variety of useful policy ideas to support and improve energy efficiency. The energy efficiency recommendations are particularly strong. We offer the following suggestions to 2E

*2E: Support programs to advance commercial energy audits, grid-integrated water heaters, and mobile home replacement.*

At page 24 of the Draft Plan, comments are requested on policies related to beneficial electrification. We discuss transportation below, here we want to emphasize the need for the development of incentive plans and policies for the adoption of highly efficient electric air-sourced heat pumps for water and space heating, many of which would replace less efficient gas, propane and wood fueled sources. Heat pumps are now the most efficient way to heat space and water and allow for the possibility of fueling home and commercial heating with renewable energy.<sup>xvii</sup> Moreover, their application has been demonstrated in cold climate regions like Montana. Solar thermal, while not neatly fitting into the category of beneficial electrification, can also play an important role in reducing greenhouse gas emissions from natural gas and propane fueled hot water heaters. Solar thermal is being deployed in Montana, in both single-family and multi-unit residential structures. Both air-sourced heat pumps and solar thermal achieve emission reductions and avoid fossil fuel costs, producing economic benefits for customers.

### Section II: Renewable Energy, Transmission and Markets, Peak and Capacity Challenges Efficiency

Section II (2F-2K) offers a variety of useful policy ideas to support and improve renewable energy. An overarching point in this regard deserves greater emphasis however: to achieve the carbon reductions needed to avoid the worst impacts of climate change, we must rapidly decarbonize the economy. Doing so requires leading with near-term carbon reductions in the electric sector, immediate retirement of fossil generation, and replacement with renewable energy and storage. While analysts and technology experts are and will continue to evaluate the lowest cost ways to achieve the last 10-20 percent reductions from electricity generation, the first 80-90 percent is clear: replace large-scale fossil fuel generation with clean, renewable energy as soon as possible. Fortunately, the technology is here today to do so, and the costs are low enough to achieve these reductions without increases in customer bills, particularly if coupled with the sorts of energy efficiency policies discussed in your Draft Plan.

NRDC fully supports exploring the potential for more responsibly sited, utility-scale renewable energy development in Montana. We believe utility-scale renewables will be essential as Montana decarbonizes its economy. To that end, the Council’s Draft Plan is silent on siting guidance aimed at protecting our

birds and wildlife. Siting guidance should be addressed by this report. Montana should apply lessons learned from other regions with regard to siting large-scale wind and solar including:

- Proactive stakeholder engagement so that current, local resource information is incorporated in efforts to identify the least conflict locations for projects.
- State-wide planning (rather than county by county) to identify the least conflict locations state-wide for wind and solar projects and associated transmission infrastructure. We commend Montana Fish, Wildlife & Parks' leadership for working with businesses, non-profits, and other to advance a Montana Wind and Wildlife workshop, currently scheduled for Fall 2020.
- Adopt best practices for impact avoidance, minimization, and mitigation in the development of large-scale renewable facilities. The U.S. Fish and Wildlife Service's *Wind Energy Guidelines*,<sup>xviii</sup> and guidance from the American Wind and Wildlife Institute<sup>xix</sup> and/or the Avian Solar Work Group<sup>xx</sup> can support the development of thoughtful siting guidance.
- Incentivize development of projects in areas with the least conflicts.
- Incentivize the inclusion of storage technologies in wind and solar projects to avoid overbuilding and decrease costs per kWh.

*2J: Encourage the Public Service Commission to open a docket on energy storage and explore state incentives for the installation of utility-scale storage development.*

NRDC strongly supports investments in energy storage solutions that contribute to our ability to bring more renewable energy onto the grid and increase our overall capacity to meet energy demands with renewable energy. We support this goal to increase clean energy to replace—not augment—fossil energy.

*2K: Advance market efforts to take advantage of a coordinated Western energy market.*

NRDC strongly supports a coordinated Western energy market. For western utility customers these markets mean lower costs, cleaner energy, and a more efficient use of the grid, which is currently encumbered by a lack of efficient, system-wide coordination. Several key trends now favor a full region-wide energy market, including state climate goals, declining renewable energy costs, and keen interest in western reliability coordination services offered by western balancing authorities.

A significant benefit of the Western Energy Imbalance Market is the ability to transfer energy across balancing areas. Interstate transfer reduces the need for natural gas plants to provide base load power, as balancing areas in a regional market can integrate wind and solar across a broad geography to address reliability needs. Montana has abundant wind to sell to other states and several Montana utilities have shown interest in joining the Western Energy Imbalance Market. NorthWestern Energy and Bonneville Power Administration are scheduled to enter the Western Energy Imbalance Market in 2021 and 2022, respectively.<sup>xxi</sup> Montana utilities joining the EIM will advance the state's climate and clean energy goals and contribute to progress on reducing the carbon footprint of the westwide energy sector.

### Section III: Transportation

At page 24 of the Draft Plan, comments are requested on policies related to beneficial electrification. While not specifically advertent to the subject in the transportation section of the Plan, transportation electrification is, of course, a critical element of an overall strategy to 1) decarbonize the electric sector and 2) shift away from the use of fossil fuels to non-carbon based electricity in transportation, as well as other applications such as water and space heating (addressed above).

*2L and 2M: Adopt low emission vehicle standards and establish tax incentives for low and zero emission vehicles. Advance comprehensive strategies to develop and expand electric vehicle infrastructure and accessibility.*

The report includes useful suggestions for reducing carbon pollution from the transportation sector, which is now the largest emitting sector nationally. We encourage the Council to include adoption of both LEV (discussed in 2L) and ZEV, the policy that requires minimum sales of zero emitting vehicles. The report does not mention, but ZEV is also increasingly being adopted by states seeking reductions in transportation emissions: Colorado adopted ZEV in 2019 and New Mexico and Minnesota are also moving forward with rulemakings. Washington state just passed a law that will lead to a rulemaking later this year.

#### Section IV: Industrial, Oil and Gas, Agriculture, and Forestry

In Section IV, we encourage the Council to recommend additional measures in Montana to reduce greenhouse gas emissions and siting impacts from the industrial sector. We suggest the Council includes the following in its final recommendations:

- Embrace a more systematic approach toward the siting and development of mineral resources given that intact working landscapes provide the best opportunity to ensure resiliency in the face of climate change while also maximizing carbon sequestration goals. Similarly, the Council should encourage the Bureau of Land Management to adopt protocols to direct leasing in prescribed areas, while avoid leasing in areas with low oil and gas potential.
- Adopt meaningful requirements that require producers to capture fugitive emissions. In addition, increase protocols and monitoring measures to ensure that methane capture requirements are being achieved and are in compliance.
- Require industry to fully assess and report the quantitative lifecycle of greenhouse gas emissions associated with their operations. The Council should also institute auditing and monitoring requirements to properly assess such emissions.
- Strengthen bonding and reclamation requirements for mines and wells.

*2O: Improve greenhouse gas emissions and carbon sequestration inventory and accounting spanning non-electric and transportation sectors across Montana's economy*

NRDC supports the Council's goals of establishing a statewide inventory of greenhouse gas sources and sinks and in doing this we provide the following comments and suggestions:

- We applaud the Council's suggestion to gain a greater understanding of agriculture-related emissions. In addition to the COMET-Farm and COMET-Planner tools that are listed, we encourage the Council to recommend funding for academic research on the climate impacts of various conservation practices, and reiterate our earlier recommendation for a Healthy Soils Program that could simultaneously incentivize those practices and measure their outcomes.
- We also encourage the Council to more explicitly recognize the powerful role that Montana's 60 million acres of agricultural lands could play in sequestering carbon. Because most practices that improve agricultural resiliency also enhance soil carbon sequestration, the same strategies and policies that were outlined in our comments to "Preparing Montanans for Climate Impacts" could be applied here as well.

- In addition, Montana is blessed with 38 million acres of public land which, along with our natural and working lands, are incredibly important for removing carbon dioxide from the atmosphere. The U.S. Energy Information Administration estimates that land and forests are responsible for an estimated net sequestration of 940 million metric tons of carbon dioxide equivalents, or 16 percent of total U.S. carbon dioxide emissions.<sup>xxii</sup>
- We encourage the Council to consider how a suite of changes in ecosystem management, restoration, and conservation can play into Montana’s climate mitigation goals. Research demonstrates that alternative management approaches on natural and agricultural lands can contribute to climate mitigation goals. Modeling for California indicates that changes in forest management, reforestation, avoided land conversion, compost amendments to grasslands and wetland and grassland restoration can contribute as much as 13.4% to the state’s goal to become carbon neutral by 2045.<sup>xxiii</sup>

### **3: Capturing Innovation Opportunities in Montana’s Response to Climate Change and Addressing the Needs of Workers and Communities in Transitions**

*3D: Continue the state’s efforts to evaluate, expand existing, and recruit new industries to Montana that reduce carbon emissions or sequester carbon while providing well-paying jobs and tax base.*

Advanced Energy Storage: As noted in Section 2K, NRDC supports investments in energy storage solutions that contribute to our ability to bring more renewable energy onto the grid and increase our overall capacity to meet energy demands with renewable energy. To this end, we support innovation in Montana to advance this goal and expand our clean-energy economy.

Agriculture: Montana’s agricultural sector also offers opportunity to transition to a resilient and climate-friendly economy. Investments in regenerative agriculture could spur a new wave of good, rural jobs—everything from soil scientists collecting and analyzing samples, to cover crop seed dealers, to a resurgence of local milling and processing facilities.<sup>xxiv</sup> This transition could be facilitated through investments in not only on-farm practices via cost-shares and technical assistance, but also through apprenticeship programs in partnership with the Montana University System and Montana’s seven tribal colleges, community sourcing guidelines, and development of regional food hubs.

Biofuels: There is a growing body of peer-reviewed science showing that some forms of biomass fuel, such as whole trees and other large-diameter wood, emits more GHGs than fossil fuels. Those increases can persist for 35 to 100 years or even more, depending on regional variations in climate and forest type. Forest-derived biomass would, therefore, make climate change worse. In light of the emerging science and these concerns, NRDC strongly recommends using only forest-derived biomass feedstocks that will demonstrably reduce GHG emissions in the near term (as compared with fossil fuels) and do not threaten natural forest ecosystems—e.g., sawdust and waste wood chips from sawmills that would otherwise quickly decompose.<sup>xxv</sup>

*3F and 3G: Prepare Montana’s workforce for opportunities in a changing economy and in sectors important to climate mitigation and transportation. Reform Montana fiscal policy to address economic transitions.*

NRDC appreciates the fact that the Council is cognizant of the critical need to develop strategies to ensure that communities, i.e., Montana citizens, are not harmed as a result of changes to the state’s economy as it transitions away from fossil fuels and adopts renewable energy. This, of course, is playing out in the city of Colstrip with the closure of two of the Colstrip generating units and the tenuous position of the remaining units.

The Draft Plan makes clear that the development of transition strategies is a work in progress. NRDC offers the following general observations about transition planning for the Council’s consideration.

- A funding mechanism should be developed to ensure that when needed there will be sufficient funds to provide community transition planning and assistance. Since the economic activity has benefitted the state, this funding obligation should be viewed through that lens.
- Community involvement is critical in transition planning, including participation by all affected stakeholders. To achieve this, robust community engagement and outreach is essential. If segments of the community are not represented or underrepresented, planning will not be maximally effective.
- In this regard, planning must pay special attention to the inclusion and needs of historically disadvantaged groups, whether by income, class, race, or other measure. In Montana this means ensuring that tribal governments as well as affected tribal members are fully engaged and receive the benefits of transition assistance.
- The process of developing and implementing a community transition plan must be a joint effort between the community and state. Planning for and implementing transition strategies are involved and complicated and require the additional capacity state agencies can bring.
- Job creation and training is essential to addressing the impacts stemming from the loss of economic activity. It will be important to ensure that the jobs that are created, while not necessarily identical to the ones that are lost, are remunerative, allowing for a good standard of living. Accordingly, it is important to require labor protections such as allowing for union membership and requiring prevailing wage rates.

## Conclusion

Thank you for your consideration as you continue your important work to position Montana, its residents, and our economy for a brighter future for generations to come.

Sincerely,

Amy McNamara  
Director, Northern Rockies  
Nature Program

Noah Long  
Director, Western Region  
Climate and Clean Energy Program

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<sup>i</sup> U.S. Department of Agriculture, Climate Hubs, <https://www.climatehubs.usda.gov/>.

<sup>ii</sup> U.S. Department of Agriculture, United States Forest Service, Northern Rockies Adaptation Partnership, <http://adaptationpartners.org/nrap/>.

<sup>iii</sup> U.S. Department of Agriculture, United States Forest Service, Northern Institute of Applied Climate Science, <https://www.nrs.fs.fed.us/niacs/>.

<sup>iv</sup> U.S. Climate Alliance, <http://www.usclimatealliance.org/>.

<sup>v</sup> Department of Ecology State of Washington, Floodplains by Design, <https://ecology.wa.gov/About-us/How-we-operate/Grants-loans/Find-a-grant-or-loan/Floodplains-by-design>.

<sup>vi</sup> Several other states have adopted or are considering similar programs. See, Iowa Cover Crop Crop Insurance Demonstration Trial, <https://www.cleanwateriowa.org/covercroppdemo>; Illinois Fall Covers for Spring Savings

- 
- Program, <https://www2.illinois.gov/sites/agr/Resources/LandWater/Pages/Cover-Crops-Premium-Discount-Program.aspx>; Wisconsin Senate Bill 715, <https://docs.legis.wisconsin.gov/2019/proposals/reg/sen/bill/sb715>.
- <sup>vii</sup> U.S. Department of Agriculture, Sustainable Agriculture Research and Education, Cover Crops, <https://www.sare.org/Learning-Center/Topic-Rooms/Cover-Crops>.
- <sup>viii</sup> See, e.g., California Healthy Soils Program, <https://www.cdfa.ca.gov/oefi/healthsoils/>.
- <sup>ix</sup> See, NRDC & Pacific Institute, “Agricultural Water Conservation and Efficiency Potential in California,” (2014) <https://www.nrdc.org/sites/default/files/ca-water-supply-solutions-ag-efficiency-IB.pdf>.
- <sup>x</sup> Ryals, R. and W. L. Silver, “Effects of Organic Matter Amendments on Net Primary Productivity and Greenhouse Gas Emissions in Annual Grasslands,” *Ecological Applications* 23, no. 1 (January 2013): 46-59, <https://doi.org/10.1890/12-0620.1>.
- <sup>xi</sup> See, Friends of the Earth, “The Climate Change Mitigation Potential of Organic Agriculture,” <https://foe.org/climate-change-mitigation-potential-organic-agriculture/>.
- <sup>xii</sup> U.S. Department of Agriculture, Natural Resources Conservation Service, “USDA Seeks Proposals for On-Farm Conservation and Soil Health Test Projects,” March 12, 2020, <https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/newsroom/releases/?cid=nrcseprd1555070>.
- <sup>xiii</sup> See Zero Foodprint, <https://www.zerofoodprint.org/>.
- <sup>xiv</sup> Mawdsley, Jonathan R. et al. “A Review of Climate-Change Adaptation Strategies for Wildlife Management and Biodiversity Conservation,” *Conservation Biology* 23 (5), 1080-1089 (October 2009), <https://doi.org/10.1111/j.1523-1739.2009.01264.x>.
- <sup>xv</sup> Julius, S. H., and J. M. West. Preliminary review of adaptation options for climate-sensitive ecosystems and resources, synthesis and assessment product 4.4. U.S. Climate Change Science Program, (2007), <http://www.climatechange.gov/Library/sap/sap4--4/default.php>.
- <sup>xvi</sup> Western Climate Initiative, <https://wci-inc.org/>.
- <sup>xvii</sup> See, e.g., Natural Resources Defense Council, “NRDC/ECOTOPE Heat Pump Water Heater Performance Data” November 30, 2016, <https://www.nrdc.org/resources/nrdc-ecotope-heat-pump-water-heater-performance-data>.
- <sup>xviii</sup> U.S. Fish and Wildlife Service, “U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines,” March 23, 2012, [https://www.fws.gov/ecological-services/es-library/pdfs/WEG\\_final.pdf](https://www.fws.gov/ecological-services/es-library/pdfs/WEG_final.pdf).
- <sup>xix</sup> American Wind and Wildlife Institute, <https://awwi.org/>.
- <sup>xx</sup> Avian Solar Work Group, <http://www.aviansolar.org/>.
- <sup>xxi</sup> Western Energy Imbalance Market, “Western EIM Benefits Report, Fourth Quarter, 2019,” January 30, 2020, <https://www.westerneim.com/Documents/ISO-EIMBenefitsReportQ4-2019.pdf>.
- <sup>xxii</sup> U.S. Energy Information Administration, “Emissions of Greenhouse Gases in the United States,” March 31, 2011, [https://www.eia.gov/environment/emissions/ghg\\_report/ghg\\_land.php](https://www.eia.gov/environment/emissions/ghg_report/ghg_land.php).
- <sup>xxiii</sup> Cameron, D.S. et al, “Ecosystem management and land conservation can substantially contribute to California’s climate mitigation goals,” *Proceedings of the National Academy of Sciences* 114, #48 (November 28, 2017), 12833-12838, <https://doi.org/10.1073/pnas.1707811114>.
- <sup>xxiv</sup> See, e.g., National Wildlife Federation, “The Growing Business of Cover Crops,” (2014) <https://www.nwf.org/~media/PDFs/Wildlife/A-G/TheGrowingBusinessofCoverCropsWhitePA882014.pdf>.
- <sup>xxv</sup> Natural Resources Defense Council, “Cleaner Skies are Friendlier Skies: NRDC’s 2016 Aviation Biofuels Scorecard,” (June 2016) <https://www.nrdc.org/sites/default/files/aviation-biofuels-sustainability-report-2016.pdf>.

#11b-19

**From:** [Jay Mennenga](#)  
**To:** [Climate Council](#)  
**Subject:** [EXTERNAL] Legislation  
**Date:** Thursday, April 23, 2020 12:23:01 PM

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Dear Governor Bullock,

I am a member of the Citizens Climate Lobby in Bozeman. We are supporting a Climate Fee and Dividend in Congress (HB 763) as the best way to reduce carbon emissions. Thank you for your MT Climate Action Plan.

Sincerely,  
Jay Mennenga  
Pray, Mt

Sent from [Mail \[go.microsoft.com\]](mailto:go.microsoft.com) for Windows 10

#11b-20

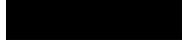
**From:** [Craig Menteer](#)  
**To:** [Climate Council](#)  
**Subject:** [EXTERNAL] comment  
**Date:** Thursday, April 23, 2020 5:35:21 PM

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Dear Governor, I recommend that you ban trapping of beavers as a step toward solving the climate crisis. This ban plus the implementation by the MT Fish Wildlife and Parks of a 'Beaver Believer Bureau' to stock beaver, deal with so-called problem beavers and educate the public would improve our states water quality.

--

Craig Menteer



Missoula, Montana 59801

**From:** [Susan Morgan](#) [REDACTED] [Sent You a Personal Message](#)  
**To:** [Climate Council](#)  
**Subject:** [EXTERNAL] Comments on the Draft Montana Climate Solutions Plan  
**Date:** Thursday, April 23, 2020 3:20:33 PM

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Dear Montana Climate Council,

Dear Members of the Governor's Climate Council,

We need to do ALL we can to try and mitigate the climate change which is happening, and lessen the impact. The science of its progression is THERE, the choices are inconvenient, but we need to be responsible before we reach a tipping point where change is exponential. For our children and grandchildren. . .

Thank you for using your influence and power to educate others and institute change.

Sincerely,

Susan Morgan

Sincerely,

Susan Morgan

[REDACTED]  
Missoula, MT 59803

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Lillian Miller at Sierra Club at [REDACTED]

LINCOLN COUNTY

STATE OF MONTANA

MARK PECK, COMMISSIONER  
DISTRICT NO. 1, LIBBY

JERRY BENNETT, COMMISSIONER  
DISTRICT NO. 2, TROY

JOSH LETCHER, COMMISSIONER  
DISTRICT NO. 3, EUREKA

ROBIN A. BENSON  
CLERK OF THE BOARD AND COUNTY RECORDER

April 23, 2020

Montana DEQ  
c/o Rebecca Harbage  
Director's Office  
P.O. Box 200901  
Helena, MT 59620-0901

Dear Ms. Harbage,

Thank you for the opportunity to comment on preliminary recommendations from the Montana Climate Solutions Council as laid out in the Montana Climate Solutions Plan. Issues surrounding carbon and greenhouse gas emissions are broad and encompassing and may have big impacts on Montanans and our way of life. Thank you for addressing this difficult topic and the obvious effort that you have put into the draft document.

Lincoln County has expansive forests (93% of the county) with most of those forests occurring on federal lands. These forests are an important form of carbon storage. Trees sequester carbon as they grow. Forest soils are a carbon sink. These are simple facts that do little to explain a complex system; a system that has been influenced profoundly by humans. But a climate solution for Montana must include an extensive analysis and integration of the role that forests, and forest soils, play in mitigating climate change and what is necessary for them to function properly in that role.

Reference 1G: Wildfires pump millions of tons of carbon into the atmosphere every year. Some experts estimate 20% of annual greenhouse gas emissions are from wildfires globally. Add in the oil and gas required to create and deploy firefighting resources to fight fires, and the numbers just get higher. As the climate gets warmer and drier, forests are more likely to burn destroying this important carbon sink. Therefore, Montana must continue the work on forest resiliency.

Resilient forests today can only be developed through forest management activities. Cross boundary treatments and the ability of agencies to implement treatment are critical to the development of resilient forests. While the plan addresses the need for treatment to reduce wildland fire risk, insect and disease, and protection of communities, it doesn't address the fundamentals that are critical as to whether those treatments happen. The plan needs to specify the need for continued support from federal and state government to promote forest

LIBBY, MONTANA 59923

**LINCOLN COUNTY**

**STATE OF MONTANA**

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DISTRICT NO. 1, LIBBY

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DISTRICT NO. 2, TROY

JOSH LETCHER, COMMISSIONER  
DISTRICT NO. 3, EUREKA

ROBIN A. BENSON  
CLERK OF THE BOARD AND COUNTY RECORDER

treatments. That support should be identified in terms of continued research and funding, and policy changes and development.

Wildfire-adapted communities require that private lands be managed as well as state and federal lands. Many people do not have the means to treat their properties and funding to complete this work is another obstacle to achieving the safety and protection of communities. Continued and expanded cost-share funding should be included as a recommendation to help move us toward wildfire-adapted communities. Coordinating with Fire Adapted Montana to promote this work should also be supported by the plan.

Support for the development of county-wide Community Wildfire Protection Plans (CWPPs) that help direct communities to identify and prioritize treatment areas in the WUI should be added to the plan as a key strategy. CWPPs give counties leverage to secure grants for fuel reduction and provide input on proposed agency forest projects.

Reference 1F and 2O: Dead trees no longer sequester carbon, but they continue to store carbon. If left to rot they release carbon slowly but can create a fuels problem. If burned, they release carbon very quickly. But if trees are made into useful wood products their carbon storage properties can be a beneficial sink for a very long time. Promotion of wood products and widespread use over plastics should play an important part in Montana’s mitigation plans. Use of lumber and compostable paper products should be a part of the state’s efforts to mitigate carbon emissions and sequester carbon. The state should be taking an offensive position for wood product development, marketing and use.

Plastics production, use and waste is being heavily scrutinized as plastic garbage fills our oceans and landfills. The failure of viable plastics recycling is opening doors to new (and old) ideas for biodegradable packaging. This opportunity should be exploited by the state.

Facilities that produce wood products need to be located near the forests that are producing the raw material. Hauling logs to Usk, Washington and Plummer, Idaho from Lincoln County doesn’t do much for reducing carbon emissions. A strategy is needed to identifying markets, both existing and new, including small wood markets. A network of small mills that create a variety of products linked by rail, based on the resources available at each location is another strategy that should developed. Providing facilities that can produce products from the trees that are removed to create forest resiliency and, in turn, provide carbon storage should be a key strategy for the western part of Montana. Such a concept should be explored as trees will continue to grow and die. Healthy, growing forests are a desired condition for both resiliency and carbon sequestering now and into the future.

LINCOLN COUNTY

STATE OF MONTANA

MARK PECK, COMMISSIONER  
DISTRICT NO. 1, LIBBY

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JOSH LETCHER, COMMISSIONER  
DISTRICT NO. 3, EUREKA

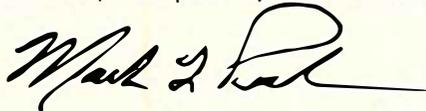
ROBIN A. BENSON  
CLERK OF THE BOARD AND COUNTY RECORDER

Reference 1H: Lincoln County's forests and people depend on clean, sufficient water but nowhere in this section is water use addressed as a conservation measure. Reduced water use will be a very important part of community resiliency in the future and should be included as a key strategy.

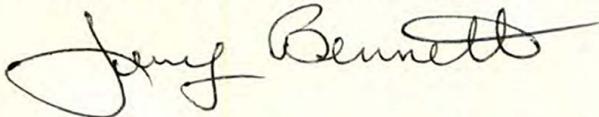
In closing, we would encourage the state to utilize any and all existing resources to address the strategies recommended, and those yet to be developed. There is a great deal of information that exists on the topic and climate change is not a state issue, but a global one. Take precautions not to re-invent the wheel. The 2007 Climate Change Action Plan should be used as a tool in this process for determining the feasibility of strategies and recommendations that were made, and for determining the success of those that were implemented.

Sincerely,

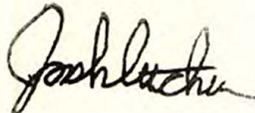
Mark Peck, Chairperson, Commissioner Libby District



Jerry Bennett, Commissioner Troy District



Josh Letcher, Commissioner Eureka District





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#11b-23



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TOLL FREE

Tuesday, April 23, 2020

To: Montana Climate Solutions Council

From: Mikel Parrish  
Director of Information Technology  
Flathead Electric Cooperative

Re: Comments regarding Climate Solutions Council Recommendations.

Thank-you for the opportunity to provide input related to the initial recommendations developed by the Council. The decisions made by this council could have a great impact on Flathead Electric Cooperative's membership.

While I respect the effort to protect our planet, I want the council to consider the positive impact of the many programs that Flathead Electric and other Co-ops in the region currently sponsor. We already have many programs in place that focus on protecting our environment and do not need government mandates to continue these efforts.

As a first step please take a focused look at what is already being done before deciding there is a problem that needs solving.

Thanks for the opportunity to comment.

Mike Parrish  
Director of Information Technology  
Flathead Electric Co-op



**From:** [Max Scheder-Bieschin](#)  
**To:** [Climate Council](#)  
**Subject:** [EXTERNAL] Comments on the draft Montana Climate Solutions Plan  
**Date:** Thursday, April 23, 2020 12:24:15 PM  
**Attachments:** [Montana Loan Guarantee Proposal MSB April 2020.docx](#)

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Thank you for your efforts to address and navigate the issue of our changing climate.

Attached is a business/funding proposal I ask the committee to consider for the State of Montana.

Here are some of my personal thoughts:

- I am tired of hearing about all of the doom and gloom around the future of our eco-system. I am tired of the deniers. I am tired of the fear mongers. I am overwhelmed by the enormity of the issues and I am frustrated by the lack of a clear path forward. I don't think I am alone.
- In my view, climate change or, rather, **climate restoration** - because what we must do is restore our climate and our eco-system - is the grand challenge of our generation. We will either rise to meet this challenge in the next 20 or 30 years or go down in history as the generation that knew better and did nothing to diminish an eco-system collapse.
- The science is in. It has been proven. "5 Sigma Status" has been achieved on this issue, which means it has the same scientific veracity as the world is round and not flat or the speed of light is 299,792,458 m/s. It is more proven than the theory of relativity,  $E=MC^2$ , which is strongly supported by data but has not yet achieved "5 Sigma Status."
- The big disconnect is the idea that it is down to the individual - the "average consumer" or the "average household" - to make choices in the way we live. "...stop using plastic, buy solar energy, drive an electric car, eat only plants grown locally, eliminate your carbon footprint, have no trash..." "To be blunt, how is it possible that this is even considered rational? It only fuels frustration that leads to claims that climate change is fake news, that global warming is a conspiracy theory.
- To be specific, let's think of the "average household" for a minute. The average US household is ~2.5 people, earning a combined annual income of ~\$62,000. This is pre-tax or adjusted gross income, so after average taxes that household income decreases to, again on average \$51,000. That is \$1,700 per person, per month. This money has to pay for all food, housing, transportation, energy, let alone any discretionary spending. People are focused on survival for the most part, paying their bills and putting food on the table.
- Said differently, all of the key indices - average net worth, average savings, average household equity, etc - support the conclusion that people are stretched and do not have enough money to spend more for the environment, notwithstanding the tremendous good intentions and desires we may have. **There is therefore a massive disconnect between what is best for society and what is best for the individual and dealing with climate restoration forces us to confront this head on.**

Accordingly, as entrepreneurs, policy makers and leaders, **we must ensure that the best, most affordable choice for the individual is also the right choice for society and future generations.**

If the most affordable choice for an individual creates more carbon emissions, trash, pollution,

or waste then our society is out of balance. We have to change something to fix this and bring our choices into alignment with our interests.

This change can come from a company creating a low-cost alternative, aligning individual interest with public interest. It can come from public policy that incentivizes the right choices at both a personal, corporate, municipal and even federal level.

If using renewable energy costs more than using coal, what choice do we have? If getting to work or the grocery store with a private gas-powered vehicle is cheaper than using an electric vehicle or efficient public conveyance then, what choice do we have? If we continue to allow private interests to lobby government policy makers to subsidize their carbon intensive industries, then what choice do we have?

What if the best most affordable place to live was also helping society? What if buying or renting a home helped restore the climate? What if buying the best most affordable food helped restore the climate? What if going to work to make money helped restore the climate? What if using energy to power your home and transportation helped to restore the climate? What if all of the best, most affordable, choices for the average individual helped to restore our climate? What if abundance and comfort didn't equal a big carbon footprint? What if the more wealth and abundance that is created the more our climate and eco-system is restored?

Not possible? Why? Each of the foregoing questions can already today be answered "yes". And, this is a good thing as making them real is essential to meet the challenge that we face - preventing our eco-system from collapsing beyond the point where it can sustain us.

In summary, some suggested organizing principles for the task force:

1. **Alignment** - What we do is not only best and most affordable for the individual; it is best for society.
2. **True Sustainability** - Businesses should strive to be carbon negative, and economically and environmentally sustainable, both now and into the future.
3. **People positive** - if what we are doing is not good for all people - employees, customers, community - we are part of the problem.
4. **Inclusivity** - Policy and businesses should bring in as many other people and entities as possible.
5. **Abundance** - there are more than enough resources already. There is more than enough land. There is more than enough water. There is more than enough food. There is more than enough wealth. Creating **more** wealth and abundance **for everyone** is the path forward.
6. **Urgency** - We have to move quickly, what we are doing is important and helping lots of people, we will have a sense of urgency in our activities.
7. **Integrity** - We want to do what is right and will ask ourselves what if everyone did it, before we decide to do something.

Lastly, we must not allow people to lead us with fear. Anyone trying to scare you should be suspect.

Thank you for your attention and please let me know how I can become actively involved in your efforts.

#11b-24

Max

Max Scheder-Bieschin

Cell: [REDACTED] / E-mail: [REDACTED] / LinkedIn: [linkedin.com/in/max-scheder-bieschin](https://www.linkedin.com/in/max-scheder-bieschin) [[linkedin.com](https://www.linkedin.com)]

## State Loan Guarantee For Climate Restoration and Carbon Drawdown

We propose that the State of Montana provide a loan guarantee program for any qualifying project that will through energy savings, displacement of a qualifying expense, or by generating revenue, within 10 years equal to the amount of the loan and meeting an efficiency standard inclusive of carbon emissions, shall be eligible for a 20 year loan backed by a state loan guarantee.

By providing this program Montana will lead the country in combating climate change in a wholly incentivizing manner. Any individual, company, municipality, or entity will be able to replace their fossil fuel-based infrastructure at the lowest possible interest rate on the capital expenditure. The projects will be proposed by the business installing or selling the qualifying technology. This program will create an economic boom as almost every light, car, truck, appliance, electrical generation, industrial process, agricultural process, and on and on needs to be replaced with carbon negative, reducing or sequestering technology.

The best part of this program is that it will be revenue generative to Montana. The default rate on loan guarantee programs provided by USDA or USDOE is less than 1/2 of 1% whereas Montana Income tax on all of the goods and services provided under the program will create revenue for the State greatly in excess of the default rate.

The difficult part of creating this program is writing the “efficiency standard” and requirements for qualifying projects. This criteria should be initially broad to create as large a stimulus as possible and generate as much carbon reduction as possible. The program should contain a process to, on an ongoing basis, evaluate the projects that register for the loan guarantee so that the qualifying criteria can be refined over time. If a loan provider ever has a question as to whether a given project will qualify perhaps there is a safe harbor program with an evaluation fee attached to offset the cost of evaluating a given project and the responses could be public to provide guidance to others.

Businesses focused on climate restoration, energy efficiency, renewable energy, clean transportation, carbon sequestration, and on and on will come to Montana to find markets for their products or services. Montana will create a shining example of how a small policy initiative can create an economic boom while creating carbon reduction goals massively ahead of expectations.

Investors, Banks, Credit Unions and other sources of capital can safely put their money to work stimulating business to submit qualifying projects.

For the individuals, companies, municipalities and entities the projects will create free operational cash flow because in order to qualify they have to pay for themselves within 10 years but under a 20 year loan the savings will be greater than the loan payment.

There are no losers under this stimulus. It is revenue positive for the state, revenue generative for the customers, an economic boom for the businesses participating with follow on economic benefits, job creating, and the big winner is the environment.



April 24, 2020

#11b-25  
Delivered via email.

Montana Climate Solutions Council Members:

First and foremost, we, the undersigned members of Montana Conservation Voters, hope this message finds you safe, healthy and rising to the challenges of the coronavirus.

We also thank you for the opportunity to submit public comment on the draft Montana Climate Solutions Plan. This viral pandemic is showing us in real time what happens when science and experts are ignored. And just like the coronavirus, the climate crisis is not slowing down. Neither can our efforts to combat it.

We fully support your efforts to reduce emissions, prepare for climate impacts and address the challenges and opportunities that come with our state's transition to a clean energy future. To secure a carbon-free future for Montana, we need increased funding and capacity for the Montana Climate Office, clean energy programs and land conservation.

We're blessed to live in a state with 38 million acres of public land which, along with our natural and working lands, are incredibly important for removing carbon dioxide from the atmosphere. The U.S. Energy Information Administration estimated in 2008 that land and forests were responsible for an estimated net sequestration of 940 million metric tons of carbon dioxide equivalents, or 16 percent of total U.S. carbon dioxide emissions. To accelerate Montana's carbon sequestration, we need to echo our intention with land conservation and restoration and that takes money.

Overall, we want to stress the need for a statewide energy policy that ensures the benefits of emission reduction and creates access to clean energy for all Montanans. This plan should include a statewide energy efficiency standard, strengthening our Renewable Portfolio Standard, incentivizing, enhancing and promoting the use of electric vehicles and accelerating our land conservation to remove carbon from our atmosphere.

Thanks in advance for your consideration as you continue your important work to protect clean air for our kids and a brighter future for generations to come.

Sincerely,

Elizabeth Ametsbichler,  
Missoula  
Don Burgard, Kalispell  
Guy Bateman, Missoula  
Mikal Begnoche, Bozeman  
Bruce Bender, Missoula  
Norman Bishop, Bozeman  
Thomas Carlsen, Clancy  
Beth Covitt, Missoula  
Arica Crootof, Dillon  
Joan Daoust, Helena  
Brandon DeMars, Billings

Mary Catherine Dostal,  
Billings  
Jane Duncan, Missoula  
John Dunkum, Missoula  
Mary Lynn Eiseman,  
Missoula  
Keegan Eisenstadt,  
Missoula  
Michael Enk, Great Falls  
Susan Elizabeth Epstein,  
Fort Harrison  
Eric Feaver, Helena



Dan Fenn, Bozeman  
Dorothy Filson, Bozeman  
Mary Fitzpatrick, Billings  
Kristin Freeman, Missoula  
Joanne Gores, Helena  
Marya Grathwohl, Billings  
Gretchen Grayum, Helena  
John Heffernan, Missoula  
Michele Henson, Bozeman  
Wayne Hill, Big Sky  
Cynthia Ann Hills,  
Livingston  
Rachel Huff Doria,  
Missoula  
Abigail Huseh, Missoula  
Denise Ingman, Helena  
Gary Ingman, Helena  
Anita Jones, Missoula  
Dave Jones, Missoula  
Gayle Joslin, Helena  
Connie Keogh, Missoula  
Kathy Knudsen, Missoula  
Kathleen Masis, Billings  
Ethel MacDonald,  
Missoula  
Elizabeth Madden,  
Bozeman  
Jerrod Maddio, Bozeman  
Carol McEvoy, Clancy  
Larry McEvoy, Clancy  
Christy McNeish, Billings  
Harry Mitchell, Great Falls  
Shane Morigeau, Missoula  
Joe Newman, Bozeman  
Jacqueline Norris,

#11b-25

Missoula  
Steve Paulson, Billings  
Ross Prosperi, Missoula  
Gail Richardson, Bozeman  
John Richardson,  
Bozeman  
Caryn Rouse, Missoula  
Katie Scherfig, Bozeman  
Jessica Scherfig, Missoula  
Makenna Sellers, Helena  
Addison Sessions, Billings  
Tim Sherry, Billings  
Wade Sikorski, Baker  
Frank Smith, Poplar  
Jeanne-Marie Souvigney,  
Livingston  
Tim Speyer, Helena  
Laurie Stalling, Missoula  
Dorothy Starshine, Great  
Falls  
Tom Steenberg, Missoula  
Andrew Stickle, Missoula  
Clinton Summers,  
Missoula  
Whitney Tawney,  
Bozeman  
Mark Thane, Missoula  
Ginny Therriault, Missoula  
Thomas Towe, Billings  
Agnes Vandergrift,  
Missoula  
Bill Walker, Billings  
John Russel Wicks, Ledger  
Carol Williams, Missoula  
Pat Williams, Missoula

**From:** [Megan Thornton](#) [REDACTED] [Sent You a Personal Message](#)  
**To:** [Climate Council](#)  
**Subject:** [EXTERNAL] Comments on the Draft Montana Climate Solutions Plan  
**Date:** Thursday, April 23, 2020 9:59:15 PM

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Dear Montana Climate Council,

Dear Members of the Governor's Climate Council,

I strongly recommend incorporating the insightful and important suggestions from Sierra Club into the next draft of the Climate Solutions Plan.

The points made are excellent, especially as concerns a science-based assessment of what is necessary to truly meet the challenge posed by the climate crisis, rather than what seems politically feasible today.

This draft is a step in the right direction, but it's not enough. MT leadership, please don't waste anymore time downplaying the gravity of the situation and the scope of what must be done to avert catastrophe.

This is our chance to manifest the dream of a good and livable future for our children and grandchildren. Is there anything more important or worthy of prioritizing?

Thank you for your consideration,

Megan Thornton

Sincerely,

Megan Thornton

[REDACTED]  
Missoula, MT 59803  
[REDACTED]

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Lillian Miller at Sierra Club at [REDACTED]  
[REDACTED]

**From:** [Donna Williams](#)  
**To:** [Climate Council](#)  
**Subject:** [EXTERNAL] Draft Montana Climate Solutions Plan - public comment  
**Date:** Thursday, April 23, 2020 4:11:31 PM  
**Attachments:** [Screen Shot 2020-04-23 at 11.24.50 AM.png](#)

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To the Intrepid Climate Council:

I can't tell you excited I am that such a council exists and that there is a plan for Montana. Thank you so much for all your hard work.

**I decided to take the proposed recommendations and plug them into a climate simulator called En-ROADS** to see how this preliminary plan would fare. (See below for more info on En-ROADS.)

As you famously quote on page 10, "all models are wrong, but some models are useful." While En-ROADS has 18 main variables, most of which can be modified in one or a dozen ways, it can't possibly measure the effects of many of the good recommendations in your proposal. Specifically, I could find no place to plug in 1A, 1B, 1C, 1E, 1H, 2K, 2O, 3E, 3F, although I support all of them. Therefore, I had to translate our plan and squish it quite a lot in order to fit it into the En-ROADS model because the goals of the model don't resemble our Montana goals very well. Nevertheless, I took the most optimistic interpretation I could in order to see best possible outcomes if we proceed with this plan.

**The results were encouraging.** (See chart below)

If we enthusiastically and immediately implemented the current plan as stated to the *fullest* extent, and this resulted in the *most* optimistic of all possible outcomes, we would just barely comply with the Paris Accord's goal of keeping the temperature rise **under 2 degree Celsius**.

That's *almost great*.

Unfortunately, this plan would **fail** to meet the **IPCC's** latest recommendation to keep emissions low enough to prevent a temperature rise greater than **+1.5 degree Celsius**.

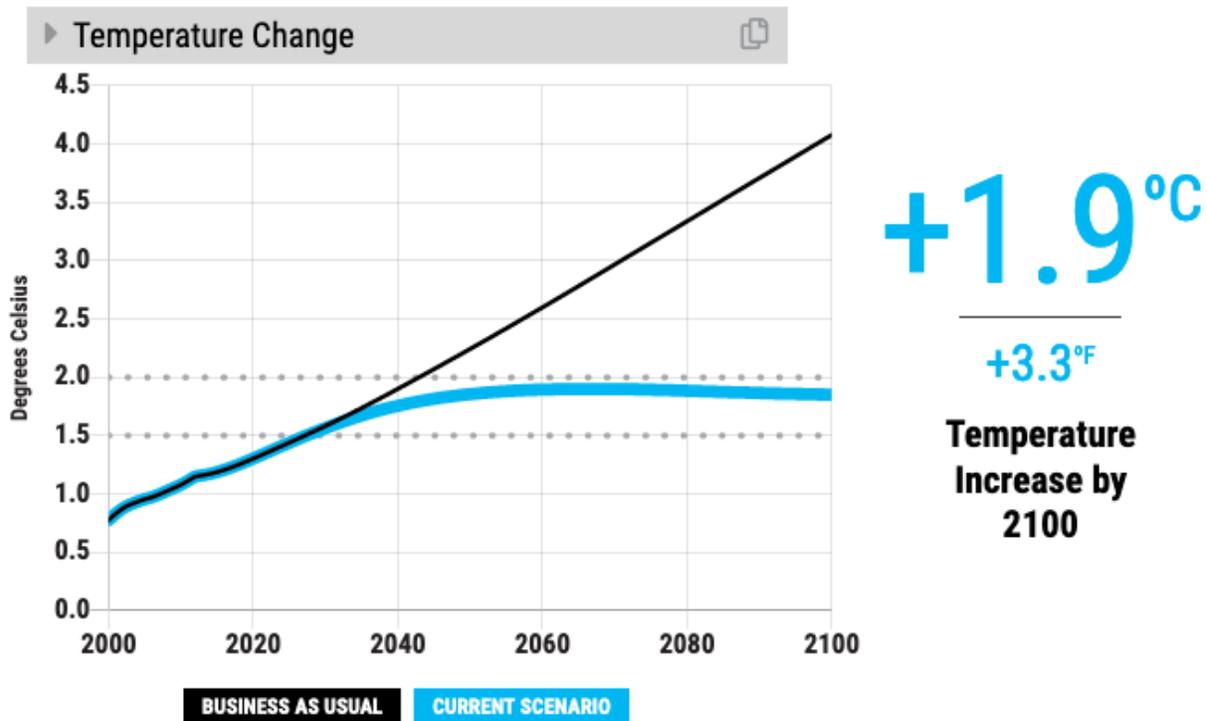
**However**, there are some additional remedies the En-ROADS simulator suggests that could earn us the extra -0.4 degrees we would need to meet the goal. They are:

- **Carbon pricing.** (I fundamentally dislike this option as I feel it places unfair burden on people in low-income brackets. But, much as I dislike it, apparently it could buy us up to -0.3 degrees C.)
- **Stop building new gas, oil, and coal infrastructure** by 2025. (By itself, this earns -0.2 degrees C.) The caveat on this is that all three must be discouraged simultaneously because otherwise it's like a game of whack-a-mole with the other two fossil fuels popping up to grab the marketshare for the one that's blocked. This one's my personal favorite.
- **Reduce gas, oil, and coal utilization** by half between 2025-2040. (-0.3 degrees C)
- **Or, alternatively, very aggressively tax** coal, oil and natural gas. (-0.2 degrees C) Doing both at the same time seems to have no more effect than doing just one. Personally, I favor regulation over taxation, but if you went with the tax perhaps you could supplement a fund that ex-employees of fossil fuel companies could draw on for retraining.
- **Explore the potential of Biochar or Enhanced mineralization.** (-0.1 degrees C) I don't fully understand what these are, so if it is already implied in the proposed plan using other terms, I

apologize for not plugging it into the corresponding place in En-ROADS.

- **Let go of your ambitions for Economic Growth** and accept the status quo. (-0.2 degrees C) Lowering GDP to 1.7%/yr growth will actually dampen the temperature change by another -0.1 degree Celsius, whereas increasing GDP to 3.7%/yr growth **costs +0.3 degree Celsius rise**. Unfortunately, this is one of the more powerful variables. According to this model, there really is no way to average more economic growth whilst lowering emissions both at the same time. It's a choice.

Here's the result I got for the draft plan:



You can see (and adjust) my specific scenario here.

<https://en-roads.climateinteractive.org/scenario.html?p208=2&p209=1&p1=18&p2=2021&p5=-0.03&p6=50&p7=14&p10=3&p11=2021&p13=1&p14=-0.03&p15=25&p16=-0.07&p17=2021&p19=50&p20=2021&p21=100&p22=2021&p26=25&p35=2&p45=50&p46=2021&p47=5&p48=2021&p50=4&p51=2021&p53=4&p54=2021&p55=5&p56=2021&p57=-10&p60=-50&p62=2021&p64=3&p65=50&p66=2021&p218=2&p219=3&p68=100&p69=2021&p70=100&p71=2021&p74=100&p75=2021&g0=1&g1=86&v=2.7.15> [en-roads.climateinteractive.org]

**Disclaimer:** You should know that I received no training in the use of this tool—I just jumped in and started pushing buttons—so I can make no claims as to the accuracy of my results. Any errors are mine alone and are no fault of the smart people at MIT or the thousands of calculations this thing makes.

**To learn more about the En-ROADS simulator:** (and how to get the proper training)  
<https://www.climateinteractive.org/tools/en-roads/> [climateinteractive.org]

With deep hope for a better Montana on a healthier planet,

Donna Williams

Great Falls, MT 59401

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**The Boring Specs** *(please check me work!)*

Things I could not find a way to enter (but I approve of):

1A, 1B, 1C, 1E, 1H, 2K, 2O inventory, 3E, 3F

Things I entered in the En-ROADS simulator:

- 1D the bullet about Urban forest might fall under Carbon: Afforestation, for example.
- 1F = Carbon Removal: Technological and Ag soil carbon sequestration
- 1G = Carbon Removal: Afforestation / Land and Industry Emissions: Methane, Ag / Land and Industry Emissions: Deforest
- 2A = Buildings & Industry: Energy Efficiency
- 2B = Buildings & Industry: Energy Efficiency, Electrification / Energy Supply: Renewables, Storage breakthrough
- 2C = Energy Supply: Renewables, Subsidy
- 2D = Energy Supply: Renewables, Subsidy / Energy Supply: Carbon Price, performance
- 2E = Buildings & Industry: Energy Efficiency
- 2F = Energy Supply: Natural Gas tax
- 2G = Energy Supply: Renewables, Subsidy
- 2H = Energy Supply: Renewables, Subsidy / B&I: Energy Efficiency, Electrification
- 2I = Energy Supply: Renewables, Subsidy
- 2J = Energy Supply: Renewables, Storage breakthrough
- 2L = Transport: Energy Efficiency
- 2M = Transport: Electrification
- 2P = Energy Supply: Coal, CCS R&D / Natural Gas, CCS R&D
- 2Q = Energy Supply: Renewables, Subsidy / B&I: Electrification
- 2R = Energy Supply: Renewables, Subsidy / Natural Gas tax / Oil tax / Coal tax
- 3. Energy Supply: New Technology breakthrough
- 3. Growth: Economic + half of max
- 3D. = Energy Supply: Renewables, Storage breakthrough / Carbon Removal: Technological, Ag soil sequestration / Energy Supply: Bioenergy
- 3G = Energy Supply: Renewables, subsidy / Coal, tax / Oil, tax / Natural Gas, tax

Things in En-ROADS I did not use:

Population growth

Biochar

Enhanced mineralization

Methane & Other GHG (the proposed plan mostly references CO2)

Building efficiency retrofit (the proposed plan specifies new construction)

Carbon Price

Nuclear

**My Actual Input**

Energy Supply: Coal, tax = 18 (modest)  
Energy Supply: Coal, tax start year = 2021  
Energy Supply: Coal, CCS subsidy = max  
Energy Supply: Coal, CCS R&D breakthrough cost reduction = max (50%)

Energy Supply: Oil, tax = 14 (modest)  
(Energy Supply: Oil, all other subtopic sliders left at status quo)

Energy Supply: Natural gas, tax = 3.0  
Energy Supply: Natural gas, tax start year = 2021  
Energy Supply: Natural gas, methane leakage reduced = 1%  
Energy Supply: Natural gas, CCS subsidy = max  
Energy Supply: Natural gas, CCS subsidy start year = 2021  
Energy Supply: Natural gas, CCS R&D breakthrough = 25% cost reduction

Energy Supply: Bioenergy (glancing mention in 3D bullet on Biofuels)  
Energy Supply: Bioenergy R&D breakthrough cost reduction = 25%  
Energy Supply: Bioenergy R&D breakthrough year left at = 2030

Energy Supply: Renewables, Subsidy = max  
Energy Supply: Renewables, Subsidy start year = 2021  
Energy Supply: Renewables, breakthrough cost reduction = max  
Energy Supply: Renewables, breakthrough year = 2021  
Energy Supply: Renewables, storage cost reduction = max  
Energy Supply: Renewables, storage year = 2021

Energy Supply: New Technology = max (with no specifications)

Energy Supply: Carbon Price, Emissions performance standard = 1/2 reduced (50 ton CO<sub>2</sub>/TJ)  
(Energy Supply: Carbon Price, all other subtopic sliders left at status quo)

Transport: Energy efficiency = high (4%/yr)  
Transport: Energy efficiency start year = 2021  
Transport: Electrification = high (4%/yr)  
Transport: Electrification start year = 2021

Buildings & Industry: Energy efficiency = max (5%/yr)  
Buildings & Industry: Energy efficiency start year = 2021  
Buildings & Industry: Energy efficiency retrofitting = no change (5%/yr)  
Buildings & Industry: Electrification = max  
Buildings & Industry: Electrification start year = 2021

Growth: Economic = 3% GDP per person per year (ouch. costs 0.2 degree C rise by 2100)

Land and Industry Emissions: Deforestation = max%

Land and Industry Emissions: Methane & Other, Ag and waste reduction = 50%

Carbon Removal: Afforestation, Available Land = 50%  
Carbon Removal: Afforestation, Start year = 2021  
Carbon Removal: Afforestation, Time to secure land = 2 years  
Carbon Removal: Afforestation, Planting time = 3 years

Carbon Removal: Technological, Bioenergy CCS = max%  
Carbon Removal: Technological, Bioenergy CCS year = 2021  
Carbon Removal: Technological, Direct air capture = max%  
Carbon Removal: Technological, Direct air capture year = 2021  
Carbon Removal: Technological, Ag soil carbon sequestration = max%  
Carbon Removal: Technological, Ag soil carbon sequestration year = 2021



March 21, 2020

Ms. Rebecca Harbage  
Director's Office  
Montana Department of Environmental Quality  
PO Box 200901  
Helena, MT 59620

Dear Ms. Harbage,

The mill manufacturing members of the Montana Wood Products Association would like to thank-you for this opportunity to comment on the Draft Montana Climate Solutions Plan.

The MWPA represents Montana's industrial timberland owners and our primary and secondary wood manufacturers. Montana's wood manufacturing industry continues to be Montana's largest manufacturing sector, employing over 7500 people and providing approximately one billion in primary and secondary sales annually.

With over 23 million acres of forested lands in Montana, our timber industry continues to provide key forest management activities that maintain air and water quality, improve wildlife habitat, and produce wood products and services vital to a strong forest products economy. It is very important that any plan does not jeopardize key forest health and economic components that maintain:

- tree growth and stand structure, composition, and function
- resiliency to disturbance from fire, windthrow, insects and diseases, drought, and management
- diversity of tree species and age classes that support a diverse array of plants and animals
- clean air and water, biodiversity, critical habitat, and recreation opportunities, and
- critical forest products infrastructure and employment opportunities

Therefore, we are concerned that the draft Climate Solutions Plan for Montana undermines current management efforts that seek to manage to a desired future condition and are often collaboratively developed. Burdening management regimes with layers of new regulations or bureaucratic programs only serves to stifle efforts to improve forest health, creates uncertainty, and will come at a cost to the Montana taxpayer.

Thank you for your consideration,

*Julia Altemus*

Julia Altemus  
Executive Director

**From:** [Valan Anthos \[REDACTED\]](#) [Sent You a Personal Message](#)  
**To:** [Climate Council](#)  
**Subject:** [EXTERNAL] Comments on the Draft Montana Climate Solutions Plan  
**Date:** Friday, April 24, 2020 3:00:35 PM

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Dear Montana Climate Council,

Dear Members of the Governor's Climate Council,

Thank you for your work on this critical issue. I appreciate the time and thought put into this draft, but I am deeply concerned that it does not follow the IPCC reports that say we must cut emissions by more than half by 2030 and Helena and Missoula's commitments to achieving 100% renewable electricity by 2030. Those targets are not just lofty goals, they are what is needed to even have a chance to control warming enough to avoid mass starvation, migration, bigger wildfires, and billions of people in peril because of our failure to act now. There should be a concrete goal in adding more renewable energy, if we do not set measurable standards in line with current science we will not achieve them. There also needs to be more support for community and distributed energy such as rooftop solar, as this will play an important role in reducing emissions and making our grid more resilient at the same time.

I think it is important we also make sure to include and center Indigenous knowledge and adaption efforts, ensuring reservations can lead the way on issues of energy and food sovereignty and that these vulnerable populations are not left behind and disproportionately impacted by the path we choose.

Sincerely,

Valan Anthos  
[REDACTED]  
Missoula, MT 59801  
anthosvz10@gmail.com  
[REDACTED]

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Lillian Miller at Sierra Club at [REDACTED]  
[REDACTED]

**From:** [Denise Roth Barber](#)  
**To:** [Climate Council](#)  
**Cc:** [Ann Brodsky](#); [Lisa Fairman](#)  
**Subject:** [EXTERNAL] MT's Climate Action Plan  
**Date:** Friday, April 24, 2020 3:17:51 PM

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Dear members of the Montana Climate Solutions Council,

Thank you for serving on the Council and for committing to pursuing climate change solutions here in Montana. I am writing to urge you to please include Zero Waste goals in MT's action plan.

Zero Waste plans are one of the quickest and cheapest ways a state can immediately reduce its climate impact, since nearly half, 42%, of greenhouse gas emissions come from the provision of goods and food, according to the EPA. For this reason, the trash can is now seen as one of three primary targets to address the climate crisis, along with smokestacks, and tailpipes.

Zero Waste is an ambitious goal to divert up to 90% of waste from our landfills by a set time. Strategies prioritize a “circular economy” where reduced consumption, along with reuse, repair, and repurposing of products diverts waste from the landfill. Heavy emphasis is placed on waste prevention as opposed to landfill management. [This video \[bit.ly\]](#) (or [https://bit.ly/2GJkc5a \[bit.ly\]](https://bit.ly/2GJkc5a)) does an excellent job articulating the necessity of zero waste in fighting the climate crisis. Here are some key takeaways from this video:

- 42% of greenhouse gas emissions come from the provision of goods and food. These are called Consumptive Emissions. By comparison, passenger transport is 24%.
- There are three primary targets to address the climate crisis: SmokeStacks, TailPipes, and **Trash Cans**
- Zero Waste is one of the quickest and cheapest ways a community can immediately reduce its climate impact
- Zero Waste actually means less recycling, not more because we produce fewer materials to get rid of. (I know this to be true personally because I am recycling a lot less plastic due to some purchasing changes we've made in our home, and I have re-committed to home composting)

The Helena Citizens Conservation Board, of which I am a member, has made Zero Waste one of its main priorities, and I welcome the opportunity to discuss this concept with members of the Council.

Thank you for the opportunity to comment on MT's Climate Action Plan. Please feel free to call me anytime if you wish to talk about this further.

Denise Barber  
, Helena MT

**From:** [Winona Bateman](#)  
**To:** [Climate Council](#)  
**Subject:** [EXTERNAL] Comments on Climate Solutions Plan  
**Date:** Friday, April 24, 2020 5:18:47 PM

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While we do see some good ideas developing in the first draft of the climate council plan, it is also clear that the sum total of these recommendations does not appropriately address the scale, scope, and urgency of the issue.

**Here are some of the proposals we urge the council to further develop, implement, and/or fund as soon as possible:**

- We appreciate the indication that protecting Montana's water quality and quantity is key to adapting to climate impacts. **Explicit protection for clean air and clean water is key for both climate mitigation and adaptation.**
- We strongly support an increase in the allowable systems size for distributed generation systems.
- **We strongly support an increase in the renewable energy portfolio standard. There are no specifics attached to that goal at the moment; we urge the council to set a goal backed by the projections of climate scientists, mirroring recent commitments by Helena and Missoula to 100% clean electricity by 2030, as well as an exclusion of large hydropower.**
- **We strongly support the need to integrate traditional and indigenous knowledge into adaptation efforts.**
- There's a nod to "the needs of young, sick, aging, and other vulnerable populations" in managing local infrastructure. **We urge the council to explicitly prioritize climate solutions that center the needs of impacted populations** that are disadvantaged because of geography (i.e. tribal nations and rural communities), vulnerability to climate impacts (the elderly, young, people with disabilities), vulnerability to economic transition (i.e. fossil fuel workers), and identity groups with less access to power in our society (low-income groups, people of color, LGBTQ folks, women).
- **We strongly support a strong demand response standard and energy storage standard for the state's investor owned utilities.**
- We strongly support expanding funding and capacity for apprenticeship programs in green jobs.
- **We strongly support reforming Montana fiscal policy to addressing economic transitions with an emphasis on support for people, families, and communities most impacted by the climate crisis.**
- We support efforts to expand energy efficiency, efforts to replace water heaters with grid-integrated water heaters, and mobile home replacement programs.
- **We support expanded community solar development and enabling shared solar for IOUs.**
- We support incentives for solar-ready and solar-integrated design and building.
- We support reducing property taxes on new renewable energy.
- **We strongly support low emission vehicle standards and expanded EV infrastructure and accessibility.**

We are also deeply concerned about some major gaps in the draft plan. Here are a few:

- **First and foremost, the cost of not taking adequate measures to prevent and prepare for the worst outcomes of the climate crisis are immeasurably high.** When assessing the cost of any potential solution, the council should take into account the cost of not addressing the climate crisis in the window we have left. **All solutions should be prioritized based on their potential impact in helping avert the crisis and achieving maximum greenhouse gas emissions in the next 8-9 years, the window of time scientists have identified as critical, as well as their ability to promote community resiliency. We absolutely need regulation of greenhouse gas-emitting industries in our state, not just incentive-based solutions.** The current plan omits any mandates to restrict the activity of greenhouse gas- emitting industries in our state.
- **It's unclear that the sum total of the mitigation and adaptation goals would meet either the goals of the council or use all available state leverage to bend the global emissions curve as quickly as possible, mitigate the climate crisis, and meet the needs of Montana communities in adapting to current and future changes.** The timeline of greenhouse gas neutrality in the electricity sector by 2035 is slower than current climate projections call for. We need to be adapting state goals in line with the current scientific understanding of what's necessary to avert global climate tipping points. There is an underlying implication in this plan that innovation, carbon sequestration, and incentive-based efforts to reduce emissions might be enough to avert a global climate crisis, without providing accompanying evidence that this is indeed the case. **An understanding of what is necessary to meet the challenge of addressing the climate crisis, not what seems currently politically feasible, should guide the council's final recommendations.**
- **We are deeply interconnected, and our communities suffer when we don't have sufficient support systems in place that protect the needs of the most vulnerable.** Making sure all Montanans have access to healthcare, job security, and basic resources that prevent community breakdown in a crisis are key to substantive climate solutions that fully address the issue of community resiliency.
- **Land protection is key to both adaptation and mitigation** and should be explicitly named as such. This can and should include meaningful consultation with Montana's Tribal Nations and a consideration for expanding the land under indigenous management.
- **The scope of the solutions should extend to include the scope of Montana's influence as a state.** This can and should include restrictions on new fossil fuel infrastructure built within state borders and partnership with other states in advocating for solutions that address the scale, scope, and urgency of the climate crisis, i.e. retracting all existing federal subsidies for fossil fuels and a governing agenda like the proposed federal Green New Deal that addresses the climate crisis concurrently with systemic inequities and a plan to help people and communities weather the economic transition.
- Finally, **this plan needs to be based on an adequate assessment of the challenges we face in tackling this issue, including past obstacles to implementing climate solutions, and a substantial communication plan to promote public understanding of the climate crisis and the necessity of action.** The plan should include an articulation and assessment of the risks of hitting global climate tipping points, a system for regularly updated information flows, and a prioritization of solutions that aim to avert them. What are the major obstacles (in Montana, nationally, or globally) to making adequate progress on this issue, and why has this crisis instead worsened over the many decades we've known about this problem? How will the climate solutions plan address the long history of misinformation and propaganda campaigns by special interest groups that have stymied action on this issue?

#11b-31

Best,  
Winona

**Families for a Livable Climate**

*Take action, create hope.*

Web: [livableclimate.org](https://livableclimate.org) [[livableclimate.org](https://livableclimate.org)] (Sign up for action alerts and news.)  
[Instagram](https://www.instagram.com/livableclimate) [[instagram.com](https://www.instagram.com)] & [Twitter](https://twitter.com/livableclimate) [[twitter.com](https://twitter.com)]: @livableclimate

**From:** [Black, Jo \(Jo Dee\)](#)  
**To:** [Climate Council](#)  
**Subject:** [EXTERNAL] Comments from NorthWestern Energy for the Montana Climate Solutions Council  
**Date:** Friday, April 24, 2020 3:59:17 PM  
**Attachments:** [NorthWestern Energy's comments.docx](#)

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Gov. Steve Bullock and members of the Montana Climate Solutions Council,

NorthWestern Energy builds, maintains and operates about \$4.3 billion in essential electric and natural gas infrastructure dedicated to serve Montana. Our critical role is to provide reliable, safe, affordable energy whenever customers need it. We are a dependable partner with the communities we are privileged to serve. Our 1,200 Montana employees provide more than electric and natural gas service; they are often the backbone of the communities they call home.

Today, more than 60% of the energy produced by NorthWestern Energy for Montana comes from renewable and carbon-free sources, including hydro, wind and solar. Over the last decade, we have already reduced the carbon intensity of our energy generation in Montana by more than 50%. In the last six years alone, we have invested more than \$1 billion in clean energy projects, including hydro, wind and solar facilities.

**In order to achieve the Montana Climate Solutions Council's interim goal of net greenhouse gas neutrality for average annual electric loads in Montana by 2035:**

1. Montana law, MCA 69-8-419 (2)(a), requiring utilities to provide adequate and reliable electricity supply service at the lowest long-term total cost would need to be amended by the legislature to allow utilities to include carbon emissions (with a negative value) in the analysis of energy supply options.
2. Alignment of state energy policy and regulation is critical as local governments and energy providers implement plans and make investments for a lower-carbon, sustainable future. The Montana administration, the Montana Public Service Commission, the Montana Legislature and the Montana Consumer Counsel must have a sustained and coordinated commitment to state policy governing electric supply planning and procurement in Montana.
3. The Montana Climate Solutions Plan should be inclusive and equitable, without barriers to participation, especially for low- and fixed-income households.
4. The financial analysis of climate policy must include impacts on Montanans' energy rates.
5. NorthWestern Energy is addressing climate change and is committed to reducing the carbon intensity of our electric portfolio's generation and long-term power purchase agreements by 90% by 2045. This is a realistic, achievable goal. If we can accelerate that reduction with advancements in technology and state policy changes, we will.
6. In keeping with the intent of the first of the guiding principles for effective climate adaptation, (Montana agencies, communities and stakeholders should approach climate change and its impacts with an understanding of the state's geography, culture, history, economy and resources) Montana's access to energy markets, rural geography, transmission infrastructure, generation portfolios, capacity deficit and peak loads must be considered in the climate policy.
7. Lower-carbon, clean energy is valuable to NorthWestern Energy's customers, the communities we serve, our employees, and our investors. NorthWestern Energy is working to provide safe, reliable and innovative energy solutions.
8. NorthWestern Energy supports decoupling, time-of-use rates and other tools to incentivize energy efficiency. Alignment of state energy policy and regulation is critical in order for these tools to contribute to an overall meaningful advancement to meet the goals of the Montana Climate Solutions Council.

**Jo Dee Black**  
*Public Relations Specialist*  
[jodee.black@northwestern.com](mailto:jodee.black@northwestern.com)



Butte, MT 59701-1711



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Gov. Steve Bullock and members of the Montana Climate Solutions Council,

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7. Lower-carbon, clean energy is valuable to NorthWestern Energy's customers, the communities we serve, our employees, and our investors. NorthWestern Energy is working to provide safe, reliable and innovative energy solutions.

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**Jo Dee Black**  
*Public Relations Specialist*



Butte, MT 59701-1711



**From:** [REDACTED]  
**To:** [Climate Council](#)  
**Subject:** [EXTERNAL] Draft Climate Solutions Plan  
**Date:** Friday, April 24, 2020 4:10:05 PM

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Dear Council Members,

I want to applaud you for the work and depth of the Draft Climate Solutions Plan you prepared and for inviting public comment. Prior to the Covid 19 pandemic, my own sense of the most pressing issue facing the planet was climate change. While the existential climate crisis remains, the pandemic now poses a more immediate, pressing issue facing people around the world, including Montanans. I can only hope the pandemic provides us the opportunity to pause and think about other crises we face, such as climate change, even if climate change is not as immediate and even if it is a more challenging crisis to solve.

I am a member of Helena's Citizen Conservation Board, and work on the Board's Waste Subcommittee. Although the information I share comes from the work I've done on the Board, I am not writing as a Board member, but as an individual citizen concerned about "waste" issues, which in turn are climate change issues. As stated by the USEPA: **"Municipal solid waste (MSW) landfills are the third-largest source of human-related methane emissions in the United States, accounting for approximately 14.1 percent of these emissions in 2017."** <https://www.epa.gov/lmop/basic-information-about-landfill-gas> [epa.gov]

That statistic is alarming but also provides us with an opportunity to address one emission area now. However, the Draft Climate Solutions Plan does not specifically address solid waste reduction, and I ask you to reconsider that omission.

Montana has enacted the Montana Integrated Waste Management Act, found at Title 75, chapter 10, part 8, MCA. The Act establishes waste priorities (source reduction, reuse, recycling, composting, and lastly landfill) and sets targets for recycling and composting.

Most Montana communities are taking some actions consistent with the priorities set forth in the Montana Integrated Waste Management Act. But there is room to do more in the way of waste reduction, both by setting more ambitious goals in the Act, itself, and on a community-by-community basis. A number of cities around the country, including Missoula, have in recent years enacted Zero Waste programs, in order to reduce carbon emissions from landfills, as well as from reduction in the production and use of other commodities when they are scaled back through principles such as refuse, reduce, and reuse.

The Zero Waste concept incorporates similar priorities as Montana's Integrated Waste Management Act (refuse, reduce, reuse, recycle) but with the goal of reaching a waste reduction target of zero, or close to zero. Missoula's plan includes the goal of reducing waste directed to the landfill by 2050. Missoula's Zero by Fifty report, found at <https://www.ci.missoula.mt.us/DocumentCenter/View/46366/ZERO-by-FIFTY-PlanFinal> [ci.missoula.mt.us], states that 9% of its community's greenhouse gas emissions are generated through the landfill disposal of solid waste alone. (Page 11.) I was told by one national organization

that Missoula's model is one of the best in the country.

The Draft Climate Solutions Plan contains numerous references to networking between the State and Montana's communities. The principle of Zero Waste, or even, more generally, greater waste reduction within the Climate Solutions Plan would greatly expand the opportunity for networking between the State, tribes, and local communities about this important issue.

Thank you for the opportunity to provide this comment, and I hope you will consider it as you make revisions to your Plan.

Sincerely,

Ann Brodsky  
Helena



**FLATHEAD ELECTRIC**  
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Community. Innovation. Reliability.



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#11b-34



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TOLL FREE

To: Montana Climate Solutions Council

From: Jerry Bygren, Trustee  
Flathead Electric Coop (FEC)

RE: Response to Climate Solutions Council Solutions

Council Members:

I appreciate the opportunity to respond to the Councils recommendations in this matter. These decisions will effect many coops and their members for years to come.

I am proud to be a FEC Trustee as we have already addressed many of these concerns and can certainly provide valuable input. We are fortunate to be in a resource rich part of our great state and able to deliver approximately 90% hydro while being reliable, affordable and carbon free to our members. This results in some of the lowest rates in the country. Other FEC progams include:

- Demand Response standards with our Peak Time program
- 100Kw solar program
- EV's and related charging Stations throughout Western Montana
- Energy Efficient programs for members
- Time of Use Billing
- 1<sup>st</sup> Landfill Gas to Energy Generator

These efforts and more by FEC need to be recognized for the efforts and dollars already put forth. All utilities are different and it is very difficult for a "1 size fits all" type of mandate.

Thank You,

Jerry Bygren



# MONTANA CLIMATE SOLUTIONS PLAN

## Preliminary Recommendations and Key Questions

February 12, 2020 Version

*Comments Prepared by Jeff Chaffee, P.E.*

These comments and responses to the Draft Montana Climate Solutions Plan (CSP) are my own and reflect a 40+ year career as an environmental engineer in Montana. My career spanned assignments at the Colstrip Generating Station, in the Montana Department of Environmental Quality and as an engineering consultant to major energy projects in the region. These experiences provide perspective on climate change and energy, and I appreciate the opportunity to share as part of this planning process. Before providing specific comments on sections of the plan, I share the following observations for your consideration:

1. Montana is often grouped with Idaho, Oregon and Washington as the Northwest States. However, it is very different than the populous west coast states and needs to carefully consider its own future.
2. Montana is an extremely small player in the global climate change picture. We wish to do our part in addressing risks, but must be careful how proposals impact our economy, unique values, etc.
3. The climate change discussion in the media and scientific community focuses on limiting potential temperature increases (warming). We control only our contributions to greenhouse gas emissions, not temperature. This is a global scale issue, not local, regional, or even national. Proposals for greenhouse gas emissions reductions should be evaluated on a national and global scale to determine their contribution to any potential impact on future climate.
4. The increases in temperature and related climate impacts predicted for the future are based on Global Climate Models (GCM). As with all models, GCM predictions are not correct, the question is, are they trustworthy enough to be useful in guiding actions? Recent scientific journal articles note that current GCMs are having trouble replicating actual climatic conditions looking backward without dramatically altering future predictions. These concerns are being studied, but shortcomings should be acknowledged and considered in how modeling results are viewed and used.

5. There are common sense proposals in the Draft CSP that can benefit Montanans and the environment that should rise to the top of the recommendations list in this plan.

## CS Plan Section Analysis and Responses:

### **1. Preparing Montanans For Climate Impacts**

There is a straightforward answer to get ready for climate change in Montana, prepare to adapt. There have been numerous studies on how the climate is changing in Montana and what future change might look like. As we look to the future, Montana needs to be supportive of our state's economic drivers: agriculture, natural resource industries, tourism, small businesses. Our ability to respond to future climate change will depend on maintaining our economy. And making sure energy produced for our state is sustainable and affordable. Developing Montana specific messages on how we are planning for and responding to future climate change in key areas is reassuring and helpful. Continually attacking any production and use of fossil fuels is harmful.

### **2. Strategies to Reduce Greenhouse Gas Emissions**

Before launching into a variety of options for reducing greenhouse gas (GHG) emissions from sources in Montana, the CSP should inform the reader on the estimated actual emissions of GHG from Montana sources. And these emissions should be put in context by comparing them with both national and global emissions:

- *2007 Center for Climate Strategies Report*: Montana GHG emissions from consumption-based activities estimated at 36 million metric tons of CO<sub>2</sub>(e);
- More recent data from the US Energy Information Association (EIA) for 2017 recorded 30 million metric tons of GHG emissions for Montana;
- Comparing our emissions with national emissions of approximately 6.1 billion metric tons of GHGs shows Montana is about 0.6% of US emissions and is listed among the ten states with the least emissions in the country; and
- Putting Montana on a global GHG scale of approximately 54 billion tons, shows we contribute less than one tenth of one percent of total emissions.

As the Montana Climate Solutions Council prepares to evaluate reduction strategies, they cannot make thoughtful decisions on what matters in the big picture (and GHG are a global scale pollutant) without this data and making relevant comparisons. For example, the GHG emissions from the Colstrip Generating Units are often discussed in the media as the second largest source west of the Mississippi. While that statement may have been correct, it is the wrong comparison. At approximately 15 million tons per year when all 4 units were operating, Colstrip was approximately 0.03% of global emissions. It should not be the singular target for emissions reduction, without being thoughtful about impacts on our communities, economy, and energy supply. If it is closed to address climate change, we gain little in reduced GHG globally, while crippling communities and potentially having detrimental impacts on Montana's energy system.

There have been some recent significant reductions in Montana GHG emissions. The closure of Colstrip Generating Units 1&2 in January reduced emissions by approximately 4 million tons per year based on 2018 emissions numbers. The Lewis and Clark Generating Station in Sidney is slated to close by the end of this year. The future of Colstrip Units 3&4 is in doubt as many of the utility owners plan to abandon their ownership/participation in coal-fired generation. Real and potential emissions reductions are part of planning for the future. These changes show that Montana is arguably doing its part in reducing emissions and continuing a relentless drive to zero carbon emissions from energy is impractical and unreasonable. We all have a part to play in this discussion, but we also need to recognize the value of fossil fuels to our way of life. Throughout recent history, Montana has produced natural resources to benefit our state, region and country. We are proud of this legacy, believe it is important to our well-being in the future, and this plan should acknowledge these facts.

### **3. Capturing Innovation Opportunities in Montana's Response to Climate Change and Addressing the Needs of Workers and Communities in Transitions**

Pursuing innovative technology and opportunities in responding to a changing world is good, who could argue against it? However, we should not be chasing rainbows. Writing plans with lots of impractical ideas in them will not solve climate change. Please reference the Climate Change Mitigation Plan prepared during Governor Schweitzer's administration over 10 years ago. How much of that plan took hold and resulted in Montana based solutions? This plan has many similarities, being full of think tank ideas developed elsewhere.

More specifically, unless we become leaders in our own energy development for the future, we end up being followers. There is much wringing of hands about climate change, what can we do that matters? What do the numbers show us? Let's focus on GHG emissions, not modeling of temperature changes with hundreds of assumptions. Montana should not transition away from our natural resource industries, they have always been a strength, a significant advantage over surrounding states.

#### **List of Recommendations:**

I find the list of 33 recommendations from this plan to be overwhelming, a blizzard of ideas without any explanation of what is most important, where is the most gain for the least cost? What reduction in GHG emissions is projected to result? Are these good ideas for Montana?

How about a prioritized top ten list for Montana? Sorting through the lengthy list identified a few that spoke to me as having possible relevance for Montana and some potential for finding acceptance:

*1G: Support Climate Resilient Forests, Rangelands and Wildlife using an All Hands on Deck Approach Across Ownership Boundaries.*

*2A: Modernize Montana Building Energy Codes and Administrative Processes to Promote Energy Efficiency and Other Climate Benefits*

*3A: Montana, led by the Montana Science and Technology Committee and the Office of the Commissioner of Higher Education, should identify key opportunities for Technology Led Economic Development, Prioritizing Areas that Assist with Climate Change Transitions and Mitigation*

An important point about any of these recommendations, they will find much better acceptance if they are developed with stakeholder involvement and agreement. If they are passed down as mandates, they will undoubtedly be resisted. During the Schweitzer Administration planning effort in 2007, subcommittees were appointed to flesh out preferred concepts for carbon reduction. This allowed greater input and helped move lofty concepts into more doable action items. Much work remains to be done to find what really works for Montana in responding thoughtfully to climate change. I appreciate your consideration of my comments.

**From:** [dimarco](#)  
**To:** [Climate Council](#)  
**Subject:** [EXTERNAL] Montana Climate Solutions Plan comments  
**Date:** Friday, April 24, 2020 4:22:35 PM

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Paragraph 1B on page 4 is about establishing a Climate Advisory Council to coordinate research and assessment needs, but none of the strategies address establishing the Council or coordinating research and assessment needs. Was that an oversight?

Sustainability is barely mentioned in the document. All of our actions from this point forward should be made with an eye toward sustainability.

Solar and wind energy were originally conceived to be applied locally. Part of the reason for this is the high loss of energy from the electric grid. Siting renewable energy sources where they are needed makes the most sense long-term. So I would like to suggest that the term "solar ready" be applied to cities and towns as well. Not only should buildings be solar ready, but cities and towns should be laid out to be solar ready, because solar energy is the most obvious source of renewable energy.

Since we are entering into an era where violent storms could be more frequent, we may want to consider installing solar panels inside buildings to protect them. Even if storm damage is not a concern, having panels inside would reduce maintenance costs. Passive solar installations were not mentioned in the document, and always seem to be overlooked. However, they can contribute considerably to a reduction in energy costs without adding significantly to building costs.

Regarding wind energy, I hope the new bladeless wind turbines will be considered. This type of wind power generator has the same profile as a telephone pole, and is therefore a more city friendly design. The big blade generators are a blight on the landscape, and harmful to our avian friends. I hope they are phased out and replaced soon.

Urban sprawl is not mentioned, but because it is not sustainable and because it raises the cost and energy needs of everything, it should be addressed in this document. I hope the Council strongly advocates for comprehensive land-use planning.

Livestock feedlots are also not mentioned. Feedlots are not sustainable because they are harmful to our health, both from the environmental contamination and food they produce. Since they are also noted as contributors to global warming, I'm surprised they are not mentioned. Neither feedlots nor the feedlot diet (widely used in farms of all sizes) are sustainable.

Invasive species are mentioned, but I hope your report will advocate for eradication of all non-native flora and fauna. This is not some purest pursuit, but rather a response to a troubling trend. For instance, the city of Bozeman has chosen many non-native trees in its effort to prepare Bozeman's "forest" for climate change. The example this sets could have wide range negative ramifications.

I am glad to see an emphasis on regeneration of soils. We need to complete the nutrient cycle so that soils do not continue to be depleted with each harvest, whether we are talking about

food or forests. It is getting more difficult to get all the nutrients we need from our diet. We will need to be healthy in order to be able to make it through the climate and population crises.

I question the wisdom of including biofuels in the list of possible solutions. This is neither the time to be cutting more trees, or further depleting our agricultural soils. What threat does it pose to food security in the future? It seems that the use of biofuels is not sustainable, so should we be considering it?

I also question the wisdom of using carbon sequestration. What is the cost in dollars and energy, and is it worth it? How many wells will have to be drilled? We have other more desirable ways of capturing carbon don't we? I did not see any mention of catalysts for converting CO<sub>2</sub> into carbon and oxygen, or other compounds. The former seems more desirable. Breaking down the excess CO<sub>2</sub> appears to be a solution with few if any undesirable consequences. Is this something we should be considering too?

To: [ClimateCouncil@mt.gov](mailto:ClimateCouncil@mt.gov)

Re: Public comment for Draft Montana Climate Solutions Plan [Updated 2/12/2020]

April 24, 2020

Dear Montana Climate Solutions Council,

Please include initiatives and policies to expand recycling, composting, and other beneficial diversion in Montana's Climate Action Plan. Recycling provides economic, environmental, and community benefit in Montana whether from households, businesses, and in construction.

- Recycling creates jobs in collection, processing and manufacturing support Montana's economy. Changes in the market are leading to "In-sourcing" to reestablish more domestic capacity for recycling which can have additional job opportunities in Montana.
- Recycling saves water, energy, and resources while reducing Greenhouse Gases and material going into the waste stream. Composting additionally reduces methane production from landfills and creates nutrient rich soil.
- Individuals, households, and communities benefit from being able to take tangible action on a daily basis to reduce their greenhouse gas emissions and be part of the solution for local and global health.

Montana's Climate Action Plan should include expanding recycling, composting and related beneficial diversion efforts. These actions are more critical than ever to engage Montana's communities and economy in the fight to reduce greenhouse gases and stop climate change.

Additional comments and resources follow.

Thank you very much for your consideration.

Sincerely,

Matt Elsaesser

Owner, 406 Recycling  
Box 321, Helena, MT 59624  
406Recycling.com  
406.449.6008



## Economics of Recycling in Montana:

### In Montana?

- 17% in 2017, 22% goal
- 2003 Economic Study
- MT's Integrated Solid Waste Management Plan

Full Time Jobs:	300
Part Time Jobs:	40
Wages (+ benefits)*:	\$ 9,330,000
Revenues:	\$89,120,000

#### The Economic Impacts of Recycling in Montana

Like other states, Montana's recycling sector is diverse and significant. The types of companies in Montana that are involved in recycling are:

- City/County transfer stations
- Recycling haulers and collectors
- Retailers of recycled materials and products made of recycled materials
- Manufacturers of recycled materials
- Recycling processors
- Producers and sellers of organic compost

#### The Economic and Ecological Impacts of Recycling in Montana



July 2004

At: Energy and Pollution Prevention Bureau  
Business & Community Assistance Program  
100 North Last Chance Gulch  
Helena, MT 59620-0001

### Conclusion

Recycling in Montana is more than just a fad; it is a real industry. Even without any form of mandatory recycling or other specific in-state mandate to foster recycling, this industry creates and sustains many full-time, reasonably well-paying jobs. With our continued growth in consumption and need for recycling, these numbers are likely to grow over time. The networks that enable recycling in Montana are mostly private. Recycling activity in Montana is a model point for the interplay between private sector activity and social concern—between economic incentive and environmental responsibility. Recycling in Montana has a vibrant economic base that reaches throughout the majority of the state. It has a tremendous opportunity for future growth.

- Recycling is a substantial part of Montana's economy as noted excerpts from the above study from 2003/2004. Public discourse in recent legislative sessions has confirmed that the numbers have likely increased since the study.

## Opportunities in public infrastructure:

- The regulatory environment ensures that communities have sanitary landfills and trash collection, often through tax assessments, but Montana struggles to establish sustainable recycling, composting, and reduction efforts. Montana should recognize and encourage the greenhouse gas savings and other benefits of these actions.

### Recent History: Sanitary Landfills & I.S.W.M.

- The tugboat Mobro 4000 in 1987 went as far as Belize and Mexico looking for a home for 6 million pounds of waste before returning to New York Harbor.
- Integrated Solid Waste Management & Curbside Programs
- Resource Conservation & Recovery Act (RCRA)
  - Subtitle D
  - Sanitary Landfill
  - Consolidation
  - New Investment
- Waste Forecast



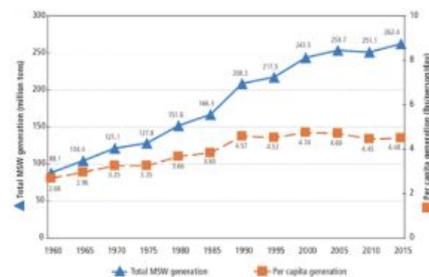
1987: Members of Greenpeace (right) burn trash in New York. "The Boatload" showed Mobro on her way home to Connecticut Bay. (Photo by Steve York)

- Per-capita household generation of trash has leveled out while recycling and composting have grown. This success has been good for reducing emissions but means lower margins in recycling while trash costs are covered through tax assessments or requirements. State policy and leadership is needed to help communities establish stable partnerships and programs for recycling, composting, and other beneficial diversion that will reduce greenhouse gases and other environmental impacts. (Source EPA)

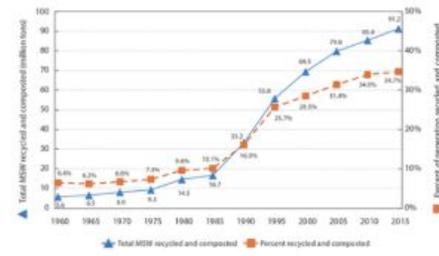
### “Municipal” Waste Generation & Recycling/Compost

- Per capita leveled out; recycling and composting has increased
- More than tripled since 80's
- Saves energy, water, and resources
- Reduces pollution including carbon emission

MSW Generation Rates, 1960-2015



MSW Recycling & Composting Rates, 1960-2015



### Per-capita generation flat; Recycling has grown

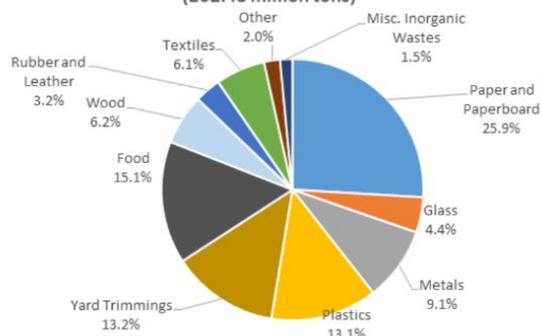
- Lighter packaging
- Increased recycling, composting, and Diversion
- Economic slowdowns
- Public sentiment & consumer demand



- Some communities recycle and divert over 80%, even 90%, even in rural areas can recycle or compost more than throw away with plastics (volume) and glass (weight) alongside basic of cans, cardboard and paper

- Separated and aggregate materials from the waste stream to be used again in the economy.
- Most of waste stream can be recycled or composted.
- Municipal/Residential, Commercial, Specialized, C & D, HHW; Reduce, Reuse, Upcycling

Total MSW Generated by Material, 2015 (262.43 million tons)

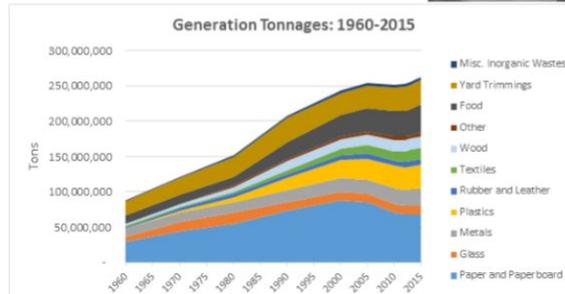


- Montana’s leadership to address climate change should include establishing infrastructure to recycle, compost and beneficially divert much more of our waste stream as communities rural and urban alike have been able to do.

- A changing waste stream has led to challenges and opportunities as plastic pollution has created more awareness and new opportunities
  - Plastics have grown quickly and overwhelmed rural recycling programs.
  - Created new awareness and demand from communities to recycle and reduce
  - Opportunities for innovation and new businesses in Montana to study and implement methods for recycling plastic, depolymerize plastic to liquid fuel, and replace plastics with biodegradable materials.

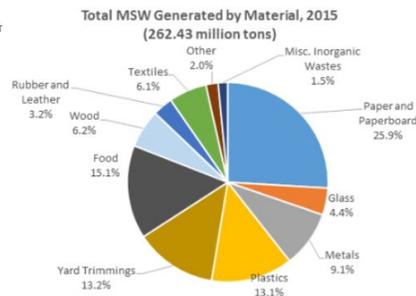
### Plastics

- Many types
- High volume per weight
- Get tangled at sorting facilities



### Plastics

- Many benefits from food preservation to healthcare but hard to recycle:
  - Many different types
  - Smaller amounts per container
  - Getting into the environment
  - Often lower carbon footprint
- New Mobro 4000?
- A catalyst for change?



### Opportunity But Collection is Key

- Lake County/Polson, MT (PET/HDPE/Color2)
- Boise, Idaho (Plastics to gas & fuel)
- Sakai, Japan (young bacteria; 50 years)



- Montana's efforts to reduce emissions should include these efforts.
- Continued policy to utilize recycled material in major infrastructure projects, such as MDT projects to restore asphalt and allowing recycled material in road construction, should be recognized for their greenhouse gas saving and further encouraged.

*Note: Above images show newly discovered bacteria that break down plastic, regional efforts producing fuel from plastic, and collection examples in Montana. All images from 406 Recycling presentation and available with source citation by request.*

**VIA ELECTRONIC MAIL**

April 24, 2020

Montana Climate Solutions Council  
 1520 E. 6<sup>th</sup> Avenue  
 Helena, Montana 59601

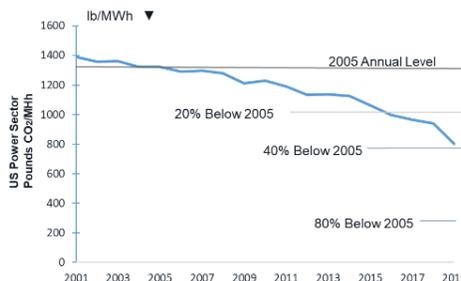
Subject: MHPS Americas’ comment submission for the Montana Climate Solutions Plan

Mitsubishi Hitachi Power Systems Americas, Inc. (MHPS Americas) is submitting comments in response to the Preliminary Recommendations and Key Questions of the Montana Climate Solutions Plan. As the Council proposes strategies to meet the carbon reduction goals set out in Governor Bullock’s Executive Order 8-2019, MHPS Americas encourages the Council to include the following: development of a Renewable Hydrogen Energy Storage Roadmap (RHESR); encourage financial incentives for Renewable Hydrogen infrastructure; define Renewable Hydrogen Energy Storage and recognize Renewable Hydrogen as an energy storage technology in the Climate Solutions Plan.

MHPS believes the market has undergone – and is undergoing – two distinct decarbonization trends, which we reflect as Decarbonization 1.0 and Decarbonization 2.0. Decarbonization 1.0 represents the retirement of coal-fired units and replacing them with natural gas and renewables. This trend is underway in most of the US, and in some parts of the US this transition is already complete. Decarbonization 2.0 represents the reduction and replacement of natural gas with a combination of renewables plus energy storage. It is our belief that Montana is in a unique position to set policies today, which will prepare the State for Decarbonization 2.0.

***Decarbonization 1.0 - Retiring Coal and Replacing with Natural Gas and Renewables***

The deployment of natural gas and renewable resources in place of retiring coal-fired power plants has resulted in substantial reductions in carbon emissions throughout the United States. This transformation is quantified in Carnegie Mellon University’s Power Sector Carbon Intensity Index ([www.emissionsindex.org](http://www.emissionsindex.org)), which presents publicly available emissions data from the EPA and DOE. Updated quarterly, the CMU index illustrates a decline of carbon intensity on the US power grid by 38.5% since 2005. CMU determined that this reduction was due to the retirement of coal-fired power plants and their replacement by natural gas and renewables.



Created By The  
**Carnegie Mellon University**  
 Scott Institute for Energy Innovation

Sponsored by  **MHPS**

<sup>1</sup> <https://emissionsindex.org/#chart-1-view-1>

As part of industry Decarbonization 1.0, we are able to achieve 75% or greater reductions in CO<sub>2</sub> emissions through the combination of natural gas and renewables displacing coal and other carbon-intensive units. In many states, regions, and countries, this strategy will represent the quickest and lowest cost for reducing power sector CO<sub>2</sub> emissions.

### ***Decarbonization 2.0 - Natural Gas Infrastructure Today to Support Renewable Hydrogen Tomorrow***

In a growing number of states, regions, and countries, Decarbonization 1.0 has run its course, and no coal-fired power plants remain in operation. Therefore, the next phase of decarbonizing the electric grid involves reducing or replacing natural gas power generation with a combination of renewables and energy storage. One way to cost effectively aid this transition is by leveraging natural gas power generation infrastructure to support the large-scale integration of renewables through hydrogen energy storage.

As grids move toward larger penetrations of renewables, so does our need to move toward securing bulk energy storage to absorb the increasing percentage of daily, weekly, and seasonal surplus renewable energy and to shift it to periods of time when the grid faces sustained shortages. While battery storage has become increasingly affordable, it is only effective for short durations of a few hours and low percentages of renewable energy. A large-scale solution using electrolysis, a proven technology to convert renewable energy into hydrogen, and storage is now available.

We commend the Council for recognizing the pivotal role Renewable Hydrogen Storage will play in the decarbonization of the electric grid, and for coordinating Montana's goals with the broader Western electricity market. As recognized in the Plan, Montana is uniquely positioned to take advantage of clean energy the region, such as utilizing the Advanced Clean Energy Storage (ACES) in Utah to source carbon-free electricity. Through the creation of RHESR, policy makers will be able to identify opportunities for state-driven energy investment, while also taking advantage of major infrastructure energy developments in the region. The establishment of a RHESR will promote the best utilization of existing assets while serving as a model for state and local governments as well as tribal nations as they engage in long-term planning initiatives.

We support the Council's recommendation for the Public Service Commission to explore state incentives for the installation of utility-scale energy storage development. The use of Renewable Hydrogen Energy Storage is a critical component for Montana to achieve its goal of net greenhouse gas neutrality. While we have continued advancements in turbine technology to utilize renewable hydrogen, public policy has fallen short in supporting the entire ecosystem around renewable hydrogen energy storage. In particular, electrolysis systems – which convert excess renewable energy into hydrogen – require increased support and recognition to further help drive down costs. Likewise, a policy framework to promote the hydrogen energy storage system, including geologic or above-ground storage of hydrogen and a power generation facility to convert hydrogen back into electricity, needs to be in place.

As such, we believe that the Climate Solutions Council should include the following recommendations in the Governor's Climate Solutions Plan:

- (1) Mandate the development of a Renewable Hydrogen Energy Storage Roadmap by the Governor's Montana Climate Office and/or in partnership with the Climate Advisory Council at Montana University
- (2) Utilize models produced by the Renewable Hydrogen Energy Storage Roadmap to implement tax incentives for a robust build-out of Renewable Hydrogen Energy Storage infrastructure, including but not limited to; pipelines, hydrolytic electrolyzers, etc.
- (3) Define Renewable Hydrogen Energy Storage as the conversion of renewable energy into hydrogen via electrolysis technology; the temporary storage of hydrogen in a vessel or geologic formation; and the conversion of hydrogen back to electricity;
- (4) Recognize Renewable Hydrogen as an energy storage technology, and technology that converts Hydrogen into deliverable renewable energy, as qualifying towards decarbonization goals.

MHPS Americas appreciates the opportunity to provide comments recommending the incorporation of Renewable Hydrogen Energy Storage technologies as part of the solution towards the achievement of the state's climate resiliency goals.

Sincerely,

Susan Fernandez  
Senior Director of Communications & Government Relations  
Mitsubishi Hitachi Power Systems Americas

April 24, 2020

Montana Governor Steve Bullock  
Montana Climate Solutions Council  
[ClimateCouncil@mt.gov](mailto:ClimateCouncil@mt.gov)

Re: Draft Montana Climate Solutions Plan

Dear Governor Bullock and Members of the Climate Solutions Council,

Thank you for the opportunity to review and provide feedback on the Draft Montana Climate Solutions Plan in which you outline Montana-specific recommendations to both reduce greenhouse gas emissions and prepare the state for climate impacts.

The American Lung Association is the oldest voluntary health organization in the United States, currently representing the 35 million Americans with lung disease, including asthma, lung cancer and COPD. The Lung Association is the leading organization working to save lives by improving lung health and preventing lung disease through research, education and advocacy.

Many public health experts rank climate change as the most serious health threat of our time, and millions of people face greater risk to their health because of climate change, including in Montana. Threats include increased risk of air pollution and extreme weather events such as wildfires, droughts, and floods, among other challenges. The World Health Organization estimates that over 80 percent of the current health burden from the changing climate is on children younger than 5 years old. Other groups of people who are particularly vulnerable to the health effects of climate change include older adults, people with chronic diseases, people of color, and people with low incomes.

With that background, the American Lung Association expresses support for your efforts to take action on climate change, both those regarding mitigation and adaptation. We strongly support the work of the Climate Solutions Council to initiate the development of a coordinated statewide effort to address climate change, both by reducing greenhouse gas emissions and by preparing for the impacts of climate change in Montana.

With regard to climate adaptation, the Lung Association supports policies to ensure that communities have the tools and resources to identify, prepare for, and adapt to the health impacts

of climate change in their communities, and thus appreciates the recommendations in Part 1 – “Preparing Montanans for Climate Impacts” – and particularly Preliminary Council Recommendations 1A and 1C. Funding and capacity-building will be critical in order for small communities to measurably benefit.

With regard to strategies to reduce greenhouse gas emissions, the Lung Association prioritizes science-based emissions reduction policies that maximize benefits to health; transition rapidly away from the use of coal, oil, and natural gas to clean, safe, and renewable energy and energy efficiency; emphasize active transportation in the transition to zero-carbon transportation systems; expand energy conservation and efficiency measures; and ensure that pollution is cleaned up in all communities.

Recognizing that your planning is ongoing, we wish to highlight and urge greater action on the recommendations in Part 2 – “Strategies to Reduce Greenhouse Gas Emissions” – that would establish a statewide energy efficiency standard; increase and update the state’s renewable energy portfolio standard; raise the size cap on distributed generation solar systems; and adopt low emission vehicle standards, establish tax incentives for low and zero emissions vehicles, and take other actions to address transportation emissions.

The health impacts of climate change demand immediate action. The longer we wait, the more lives will be affected. In developing a unified Montana-made strategy to reduce greenhouse gas emissions and prepare Montanans for climate impacts, our state has a tremendous opportunity to better protect all Montanans.

Thank you for your hard work on this important issue, and for taking these critical first steps toward a healthier and better-prepared Montana.

Sincerely,

Ronni M. Flannery, Director  
American Lung Association in Montana

**From:** [bob filipovich](#)  
**To:** [Climate Council](#)  
**Cc:** [bob filipovich](#)  
**Subject:** [EXTERNAL] Comments on Climate Solutions Draft Plan  
**Date:** Friday, April 24, 2020 3:40:54 PM

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While there is much to praise and take action on in Section 2 of this Plan, the Plan appears to prioritize adaptation over mitigation and the built environment over the natural environment, including living beings.

Governments, like other powerful entities, cannot be all things, for all people, all the time. Therefore, principles and priorities are essential to serving the best master. To address the myriad problems within climate change, scientific principles must be the most important guides. The health and vitality of earth's environment and living beings must a higher priority than the built environment, including the so-called 'economy'. Life trumps built wealth.

To mitigate climate change, governments must distinguish between mitigation and adaptation. My cntr – f word search imperfectly shows that 'mitigation' appears 20 times in the Plan's text, but 'adaptation' appears 42 times. This difference implies that the foremost priority in this Plan, unfortunately, is 'adaptation'. Similarly, 'climate' appears 143 times, 'change', 150 times, but 'greenhouse' appears 26 times and 'gas' appears 50 times. 'Dioxide' (as in carbon dioxide) appears only twice, 'methane', 6, 'oxide' (as in NO2), 2, and ozone, zero. These word counts strongly imply that the cause of climate change (greenhouse gases) is not clearly addressed within the Plan. The fundamental cause of climate change is 'global', 3, 'warming', 1. But 'fossil' (as in 'fossil' fuel) appears only 5 times. We must recognize, then mitigate the scientific cause, not merely adapt to the symptoms we may notice.

Other word count indicators also imply incorrect priorities: 'solar', 32, is demonstrably less efficient than 'wind', 4, although these two renewable sources of energy overlap in nature, so both deserve our attention. 'Pollution', zero, 'particulates', zero, 'air' (as in 'air quality') appears only twice. 'Efficiency', 31 is good, but 'conservation', 12 (as a common noun, not part of an agency's title) is far less expensive. 'Economy' gets 37 while 'earth' receives less than one mention. The verb 'adapt', 42 overrules 'mitigate', 2, and 'adaptation', 42 beats 'mitigation', 20. 'Climate', 143, dominates 'greenhouse' 26; 'Solar', 32, dwarfs 'wind', 4. 'Air – the canary indicator of temperature and humans' first need – gets 7 uses as a noun; 'soil' 14, and 'water', 41 are the big three necessities of life. Again, 'Earth', a.k.a., Gaia, zero. 'Pollution', zero.

There's much in Section 2, pp. 9 – 24 that deserves high priority. The questions for the public require insider knowledge plus wide ranging curiosity. When we need more of something, incentivize it and tax it less. Do the opposite for that which harms Gaia over the long run.

Section 3 is like a tree branch: the further a technology extends away from the natural core, the less predictability and reliability we have, but the more delicate, expensive, and unfixable it is.

Carbon capture & storage is man's imitation of permafrost. Mankind cannot outdo nature's requirements over the long run. Thanks for reading. Bob Filipovich [REDACTED] [REDACTED]

[REDACTED]. Helena 59601

**From:** [uma graham](#)  
**To:** [Climate Council](#)  
**Cc:** [Uma Graham](#)  
**Subject:** [EXTERNAL]  
**Date:** Thursday, April 23, 2020 11:59:51 PM

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Dear Montana Climate Solutions Council,

The outlined goals of strategizing responses to future vector-borne diseases, increasing food safety & nutrition, reducing GHG emissions, preserving water quality & availability, and developing novel technologies can be realized through the strategy of Diversifying Montana's Agriculture. Creating innovative alliances between MT farmers, my community of MSU, and non-profit research organizations such as The Good Food Institute to develop value-added products from local nutrient-dense crops, into tasty, climate-friendly alternatives to animal products is essential to reduce the carbon footprint of Montanans.

I would be pleased to discuss this feedback in great detail if there are questions

Thank you,

Uma Graham

#11b-42

**From:** [REDACTED]  
**To:** [Climate Council](#)  
**Subject:** [EXTERNAL] IMHO  
**Date:** Friday, April 24, 2020 12:04:02 PM

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Climate change is fundamental to the future of this planet. As birders, my husband and I are very aware of the devastating implications if we maintain the status quo. Decline of the quality of air and water and loss of habitat is very concerning to us  
John and Mary Griffith Bozeman, Mt.  
(Please do not put our name or email on any lists for solicitation.)



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#11b-4



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TOLL FREE

April 23, 2020

Thank-you for this opportunity to provide comments towards the Montana Climate Solutions Council. Societies worldwide as well as Montanans are concerned about global warming. It is an important subject and difficult to grapple within a local sense given the title IS GLOBAL WARMING.

Because my expertise is the electricity sector I will mostly deal with it. Assuredly the fossil fuels aspect is also crucial – and it too is major part of our electricity world.

But close scrutiny will show access to, the affordability and the reliability of electricity is a major bulwark of our civilization today- maybe the most needed?

It calls for some local action(s) weighed with ability to recognize fairness and congruent actions regionally across our planet. Current climate solution attempts are necessarily fraught with questions and fairness.

Local states near Montana have passed or ordered legislation. Washington has passed its “CETA” law. Oregon failed to pass its proposed Carbon legislation promulgating a Gubernatorial driven directive when Oregon’s Legislature failed to pass their proposed Carbon legislation. Oregon’s failed passage was due to rural legislators feeling the more powerful urban legislators were passing legislation which fell more heavily on rural Oregonians. Thus, we can see arriving at “FAIR” solution(s) is a difficult diagnosis.

For example, we see the rapid, steady, continuing closing of our regional coal plants when demand for our high grade coal is in increasingly sought after by Asian Nations who are lowering their carbon footprint with our superior grade coal. That is indeed a conundrum.

Meanwhile the same closure of those plants puts our region at great risk of reliability. We had a reliability factor under 4% just this year, but with rapid oncoming coal generator shutdowns, our region’s reliability factor is projected to possibly reach 7% and potentially up to 16% higher. The FERC/WECC reliability requirement is 5% or less. This conundrum has now become a problem—especially for Montanans’, for it was in Montana where the lowest temperature ever recorded in the contiguous 48 states occurred

69\* below zero- in 1954 on Roger’s pass—very close to Helena. So cold was that temperature the thermometer was sent to the Smithsonian to be tested and was found to be accurate.

Reliability, when Montana has these cold temperatures is uncomfortable on our west coast. Reliability in Montana at 69\* below zero is possibly a life & death situation for many in Montana. Certainly for those who heat with electricity, but just as much so for those who heat with gas in Montana today. I suspect most gas heated homes in Montana today have efficient gas heaters. Good



for them. However, these modern gas appliances cannot fire without first having electricity to purge the latent gas from that appliance, and even then it will require electricity to energize the piezo electric ignition process.

What percentge of Montanan's have gas or electric heat only? Doesn't that need to be understood within this study? Meanwhile, the chance that reliability issues will emerge are most likely at those times of stress on the system, both from a generation aspect as well as a poles and wires aspect.

If analyzed, I suspect access to affordable, reliable electricity supply is perhaps the most important and valuable commodity in our modern society. In fact, we in the UNITED STATES built an economy and standard of living that is, or at least was, the envy of the world. Affordable, reliable electricity is what promulgated that standard of living. Check out those places in our world that either do not have reliable, or affordable, or any electricity and you will find a direct correlation with the layering of the worldwide poverty index.

Make no mistake, Climate Solution is an enviable laudable goal, but do not let us lose sight that affordability and reliability are directly tied to being a first world nation. Who of us wish unwittingly to thrust upon our progeny second or third world economies. This is indeed a very serious subject and the ramifications are myriad and critical.

Meanwhile being from western Montana, I come under the Bonneville Power Administration's (BPA) (FCRPS) Federal Columbia River Power system wherein nearly all our electricity is CARBON FREE, 96% even. Furthermore through our NWPPCC (Northwest Power & Conservation Council) we have been required, each utility to pay to do significant conservation for many years. We have paid many multi millions of dollars into BPA to fund this regional effort. My own utility has spent millions, to where it is now very expensive to fund further conservation of electricity.

The Climate solutions proposal needs to recognize past effort to align with future expectations for those who have already conserved so much. To ladle a specific percentage to all utilities when those of us in the BPA system is an unfair approach for us. We no longer have access to the inexpensive low hanging fruit. Rather, do look at our history, what we have spent, allow us to remain in that regional program wherein we are still doing the same thing, and certainly do a different schematic that holds into account our past efforts.

Please also recognize the double edged sword aspect of accruing conservation of electricity in that it adds to the cost of business while lowering gross sales which puts a doubling effect of stress on the cost of our product. It is a noble and laudable thing to do, but some of our co-operative owner/members do



not have money to spare to keep the lights or heat on as it is. Affordability to some degree is also driven by conservation effort. It does not negate it, but it should be recognized.

Modern renewables – non historic hydropower renewables -- are truly great products.

Unfortunately they definitely exacerbate the reliability issue. We have seen our modern renewable problem with reliability remains more substantial with each new wind or solar installation. Wind often blows in a cold snap or a heat wave, and then stops blowing during the cold snap or a heat wave, driving summer air conditioning peaks as well as winter heating peaks. Modern renewables leave us hot or cold during these times presenting a reliability problem. In our region we all know it is coldest at night, when clearly the sun is not shining and therefore solar power is unavailable in those moments.

Batteries are evolving, but this mixture is a challenge from a modern renewability and maybe affordability perspective. I would not wish to see today's modern homelessness affordability crisis repeated by a modern electricitiness crisis as well.

Finally, given Montana's and Wyoming's abundance of quality coal and the impact to Montana revenues for state funding as well as for those working in the coal industry, it is unfortunate that the rest of the world wishes to procure them and burn them to keep themselves more economically competitive, while we do not. The carbon aspect remains even higher to transport that product to far distant lands to burn in plants without the degree of environmental capture we currently have in plants we are abandoning. From a world perspective, nothing is gained and in actuality the whole scenario loses.

Furthermore, when Eastern Montana Electric Co-ops needed more power in years past, they were pushed toward coal generation by governmental attributes of funding and politics. It seems they are under a truly herculean dilemma of cost by having to build anew as they lose their best current reliability factor. This will not be easily nor affordably replaceable. Some rural Montanans' are not wealthy people. Rising costs of electricity could exacerbate opportunities and crush smaller remote communities. Their voices and plight need to be known and registered. If sequestration could work it would be a win win. My knowledge here is extremely weak, but nonetheless, I am asking this council to consider this as a possibility to save rural Montana counties and people.

I have no real knowledge of Carbon Sequestration, but I do feel if it has any real possibility the Climate Solutions Council should interface with those who do understand the potential or even current efficacy of Carbon Sequestration and delve into as a possible solution of returning that carbon where it



has been for eons. Climate Solutions of less atmospheric carbon are truly huge issues for today. Carbon sequestration might sound like pipe dreams, but nonetheless, who has more at stake from a statewide, as well as a worldwide view, than Montana, particularly Eastern Montana.

Carbon Sequestration is touted by those facing a truly grim future to provide reliable affordable electricity and many of those are Montanans. I believe the Climate Solutions Council should take some stand to endorse or at least lend an open ear or even be encouraging to that process of possibility.

This is truly an important issue and getting it as best it can be is important. It cannot be an issue of those of us who are better placed, have more money or education who displace those of us who have less. Access to reliable, affordable electricity cannot go the way of home affordability disenfranchising a significant portion of our society like homelessness has done today.

I wish this council well. I thank you again for this opportunity and I hope your final product will protect and benefit all of Montana.

Douglas E. Grob

Kalispell, Montana



**From:** [Diana Hammer](#)  
**To:** [Climate Council](#)  
**Subject:** [EXTERNAL] Comments on the DRAFT Recommendations  
**Date:** Friday, April 24, 2020 6:19:15 PM

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**Dear Governor Bullock, Shaun McGrath, DEQ Administrator, and the Montana Climate Solutions Council Review Committee,**

**Thank you for putting the Climate Solutions Council together, for drafting these recommendations, and providing the opportunity for public feedback.**

I am a former Life Scientist with the US EPA having worked as a Superfund Project Manager and most recently as a Tribal Program Manager. I currently serve on Helena's Conservation Committee, an advisory board set up in 2017 when Helena signed onto the Paris Climate Accord. The Board is charged with building upon the City's 2009 Climate Action Plan and advising the City Commission on climate change planning, mitigation, and adaptation. Across the state and the nation, we are setting local action in a void of strong state and federal action on climate change. This needs to change. The Climate Emergency calls for 'all hands on deck' and that we act as if our future depends on it.

**As the late CEO of Interface Carpet famously asked, "What is the business case for trashing the planet?"**  
**Responsible fiscal policy and taking care of each other, future generations, and the planet means taking swift action on climate change.**

I offer several comments:

**First of all, Climate Change science is clear, it's real and it is happening here in Montana. Every week or year of delay will result in the need for even more aggressive climate action. The best time for to take action was 30 years ago; the second best time is NOW. These recommendations are a start, I would hope with the next revision we will set an implementation schedule with specific, actionable, measurable, and ambitious goals and metrics. Failure to act will only increase the difficulty and cost of critical future actions.**

Specifically,

**Regarding energy use, an direct approach is to 1) Reduce Consumption - use less, increase efficiency; 2) Electrify everything - cars, appliances, heating sources, etc.; and then, importantly 3) Green the Grid.**

#### **SECTION 1: PREPARING MONTANA**

1A: Support AND emphasize urgent action not just studies and data collection. We know what to do and we need to do it.

1B: Support - especially the targeted messaging since climate impacts are felt by ALL and will disproportionately impact the most vulnerable.

1C: Support - last summer's IPCC report linked climate change and land use. The land use decisions we can make can either mitigate or exacerbate climate change. Montana has amazing natural resources that we can use as allies in mitigating climate change - our forests, grasslands, wetlands - all carbon sinks. Let's be sure we support, protect, and restore these

life-supporting ecosystem functions as allies.

1D: Support - we can do a lot with site selection and building orientation (passive solar features). Especially like the hazard mitigation - let's not put ourselves or our structures in areas like to have problems - fire, flood, etc. Working with nature and mimicking natural systems is key. Increasing canopy cover is key - reduce urban heat island impacts, save water and energy, store carbon, improve air quality. Also as above, let's be sure we support, protect, and restore these life-supporting ecosystem functions as allies. I would also add that investment in renewable energy for all public buildings, universities, schools, big box stores would provide a return for tax-payers and consumers. Aspirational goal: solar panels on every roof and community solar as option. State revolving solar energy loan program (modeled on what Helena offers).

1E: Support - AND the best way to help ensure that we have the natural environment that people want to visit is to take aggressive action on climate change and reduce our dependence on fossil fuels and reduced emissions. If not, we are at ever-greater risk of drought, wildfire, impaired fishery, limited snow pack and skiing, water pollution from nutrients and sediment loading post-fire, as well as flooding.

1F: Support - AND promote regenerative agriculture, including pollinator strips and buffer zones.

1G: Support - AND identify key landscapes and features at-risk of loss (development, resource extraction, etc.) and protect those areas as natural buffers and carbon sinks.

1H: Support - water quality and availability - and temperature are all vulnerabilities in a changing climate.

## **SECTION 2: REDUCING EMISSIONS**

2A: Support - AND work with Montana Association of Realtors to adopt a 'Green MLS' so home buyers can better evaluate (and appreciate) a home's energy efficiency

2B: Support - AND expand the LIEAP Program and offer incentives to Landlords to upgrade buildings so the renters have lower utility bills.

2C: Support - AND expand to include incentives for real-time energy use monitors that could be loaned out (via County Extension Offices?) to home and business owners to increase awareness and identify energy use patterns and devices (energy hogs).

2D: Support - AND require NWE to launch a consumer education program to help cities, businesses, and residents increase energy efficiencies.

2E: Support - AND promote straw bale homes as an alternative to new mobile homes - energy efficient, these may be especially welcomed in Indian Country. For instance, there are currently several straw bale homes on the Northern Cheyenne Reservation and interest in building more - a job training and job creation program that also addressing the severe housing shortage in Indian Country.

2H: Support - AND create a revolving loan fund and/or attractive state credits for undertaking these programs.

2I: Support - BUT don't study - adopt!

2J: Support - AND require the PSC to not allow future utility investments in fossil fuel production

2K: Support - diversification and redundancies make the system more resilient.

2L: Support - AND not just explore but adopt tax incentives for LEV and ZEV

2M: Support - AND provide incentives for larger employers to install systems

2N: Support - AND help communities provide electric public transit

2O: Support - AND disallow flaring of methane and require monitoring to minimize production emissions. In addition, provide incentives to reduce methane generation and emissions - don't just study this.

2P: Support - BUT the emphasize must be on changing our energy sources, reducing consumption and emissions.

2Q: Support - absolutely! The 50kW ceiling is long-outdated and many Montanans will take advantage of this.

2R: Support - AND adopt a 100% renewable energy standard by 2040. NWE is already at 60% renewable.

### **SECTION 3: INNOVATION**

3A: Support - AND look at opportunities for in-pipe hydropower and other cutting edge technologies to save money, resources

3B: Support - AND decentralized energy production and microhydro

3C: Support - AND set deadlines for implementation; concerned about 'analysis paralysis' and only the appearance of doing something

3D: Support - AND set tight deadlines; concerned about 'analysis paralysis' and only the appearance of doing something

3E: Support - AND provide seed money/grant funding for community organizing + outreach and education + workshops to design actions; Look at Transition US for ideas about how to build community, strengthen neighborhoods in the process: <https://www.transitionus.org/> [[transitionus.org](https://www.transitionus.org/)]

3F: Support - AND be realistic that Colstrip jobs are going away yet the transmission lines are there - why not erect a vast solar array and some wind turbines to create long-lasting, sustainable employment opportunities?

3G: Support - AND consider a state-wide sales tax on luxury items (e,g, RVs, boats, furs, second homes at higher rate, etc.) , excluding food, medicine, and clothing.

### **IN ADDITION:**

- Suggest that Montana take a cue from Utah and explore ways to cut emissions and ensure a healthy environment and productive future for all Montanans. More on the Utah Road Map here: <https://gardner.utah.edu/utahroadmap/> [[gardner.utah.edu](https://gardner.utah.edu/)]
- Suggest that each County be required to have a Climate Action Plan with goals for 2025, 2030, through 2050 and that set criteria for these plans; provide incentives to comply and penalties for non-compliance.
- An area that is completely missing from the current draft is recommendations about waste reduction. Please revise to include recommendations for Zero Waste goals. These should include education and actions re: source reduction (using less), promoting buy-back programs, leasing options rather than ownership, lending libraries for tools, recycling, composting, support for commercial composting, used oil collection, etc. There is a strong case to be made re: waste reduction, GHG reduction, and savings to the tax-payer in longer landfill life (saves money on expansion, operation and maintenance).

I apologize that these comments are not more detailed as the deadline (even though it was extended) snuck up on me. I look forward to seeing the revised version.

**Again, thank you for the opportunity to comment.**

Sincerely,

Diana Hammer, MPH, MSc

#11b-44

[REDACTED]  
Helena, MT 59601-6299  
[REDACTED]



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TOLL FREE

April 24th, 2020

To: Montana Climate Solutions Council

From: BJ Hattel  
Interim Director of Information Technology  
Flathead Electric Cooperative

Re: Comments regarding Climate Solutions Council Recommendations.

Thank you for the opportunity to provide input related to the initial recommendations developed by the Council. The decisions made in this process may have a significant impact on the future of Flathead Electric Cooperative's member ratepayers and our fellow Co-op providers across the state.

I understand there is good intent in this effort, but specific areas in the recommendation outline could negatively impact our ratepayers and those of other Co-ops across the state. As with most Co-ops this affects the rural communities the most. Imposing vague mandates for Energy Efficiency achievements is at the head of the concerns. While we at Flathead Electric pride ourselves in leading this area, the recommendation is vague which is concerning. The language lacks sight into past efficiency accomplishments, cost effectiveness, and which type of measures are acceptable. Also the requirement of a Demand Response Standard can be seen as intrusive. We have adopted a voluntary program which puts our members in control. Enforcing a requirement could be an to be a overstep where progress is already being made.

Trying to develop broad mandates for the whole state will result in undue burden for the power providers ultimately resulting in more financial stress for the Montana citizens. Enforcement of these recommendations does not make sense. The good intent would add overhead costs in measurement/enforcement efforts at the state level and to the organizations where the mandate applies. Many of those organizations are already making progress in these areas. A broad mandate does not make sense, when looking at the diverse circumstances across our great state. Each of the recommendations outlined in this document should be handled with a collaborative effort.

Thank you,

BJ Hattel  
Flathead Electric Co-op



**From:** [Maura Henn](#)  
**To:** [Climate Council](#)  
**Subject:** [EXTERNAL] Healthy Soils Contributes to Climate Resilience  
**Date:** Friday, April 24, 2020 3:45:44 PM  
**Attachments:** [Montana Soil Health Sign On Letter FINAL.pdf](#)

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Montana Climate Solutions Task Force Members:

On behalf of the Grow Montana Food Policy Coalition and eight additional organizations, I would like to thank Governor Bullock and his staff for convening the Montana Climate Solutions Task Force and for providing the opportunity to submit comments on the Council's Draft Climate Solutions Plan. We are pleased that Montana producers are being recognized for their adoption of soil health practices, and we are writing to ensure that soil health is included as a top priority in Montana's climate solutions strategy. We respectfully submit a set of proposals the Montana Climate Solutions Council can include in its Climate Solutions Plan to protect our growers and scale up investments in soil health.

Sincerely,

Maura Henn

Coordinator

Grown Montana Food Policy Coalition

AERO | COMMUNITY FOOD & AGRICULTURE COALITION | GALLATIN VALLEY FARM TO SCHOOL  
GROW MONTANA FOOD POLICY COALITION | MONTANA ORGANIC ASSOCIATION  
NATIONAL CENTER FOR APPROPRIATE TECHNOLOGY | NATURAL RESOURCES DEFENSE COUNCIL  
NORTHERN PLAINS RESOURCE COUNCIL | WESTERN LANDOWNERS ALLIANCE

April 24, 2020

Montana DEQ  
c/o Rebecca Harbage, Director's Office  
P.O. Box 200901  
Helena, MT 59620-0901  
Submitted via email to: [ClimateCouncil@mt.gov](mailto:ClimateCouncil@mt.gov)

Montana Climate Solutions Task Force Members:

On behalf of the undersigned organizations, we would like to thank Governor Bullock and his staff for convening the Montana Climate Solutions Task Force and for providing the opportunity to submit comments on the Council's Draft Climate Solutions Plan. We are pleased that Montana producers are being recognized for their adoption of soil health practices, and we are writing to ensure that soil health is included as a top priority in Montana's climate solutions strategy.

Agriculture is a key industry in Montana, generating over \$3.5 billion in 2017 through the sale of agricultural commodities.<sup>i</sup> Montana's 27,000 agricultural producers operate on 58 million acres in the state and 94 percent of farms are family owned. Livestock make up 55 percent of the industry's annual sales and crops make up the remainder. Given agriculture's significant contribution to the state's economy, we need to ensure that our growers can weather climate uncertainties and market volatilities. We can achieve those goals and advance Montana's climate solutions strategy by investing in the capacity of soil. Montana should increase its investments in and help growers adopt agricultural practices that build healthy soil.

Nationally, agricultural soils have the capacity to sequester 250 million metric tons of CO<sub>2</sub> from the atmosphere.<sup>ii</sup> Building soil health not only increases carbon sequestration, it also reduces nutrient runoff into our precious waterways, increases soil's water holding capacity, and increases producer profitability and resiliency in the face of climate and market volatility. Here are some proposals the Montana Climate Solutions Council can include in its Climate Solutions Plan to protect our growers and scale up investments in soil health:

- We support the strategy discussed on page 7, Section 1F, to develop partnerships with producers and their associations around soil research and soil health practices and benefits. The Colorado Collaborative for Healthy Soils is a possible model for a multi-

stakeholder forum that also should include non-profit organizations as well as university researchers.

- Adopt a Montana Healthy Soils Program to cost-share soil building practices and collect data on their benefits—including improving access to affordable and reliable soil health tests.<sup>iii</sup> This will have the dual benefit of incentivizing greater adoption of resiliency practices and helping to increase knowledge about the most impactful suite of practices in local conditions.
- Provide channels for farmers and ranchers to offer feedback on agricultural and soil science research priorities. This will encourage researchers, particularly those at Montana’s universities and colleges, to pursue research projects with applicable and practical information for producers. Presently, research offers limited information for producers managing native, semi-arid rangeland for grazing.
- Fund Montana’s conservation districts to provide additional on-farm and ranch technical assistance. This will ensure correct deployment of the various strategies, helping farmers and ranchers shorten the learning curve associated with new agronomic practices.
- Provide funds to incentivize soil building practices that reduce reliance on synthetic agri-chemical inputs, such as fertilizers, pesticides, and herbicides. These inputs are not only very greenhouse gas-intensive products, they also harm the soil microbiology, limiting soil’s ability to filter and store water and thereby reducing the resiliency of agricultural systems.<sup>iv</sup> Providing incentives for reintegrating cropping and livestock as a means of reducing dependence on chemical inputs is one strategy for encouraging soil-building practices that could be applied on an individual farm basis, or could be used to encourage farm-to-farm partnerships that encompass complimentary enterprises.
- Provide cost-share funding to incentivize and assist growers in transitioning into the National Organics Program.
- We support the strategy on page 7, Section 1F, to recognize producers who utilize exemplary practices. To implement this strategy, create a database of “Soil Champions” who exemplify soil stewardship. These champion growers can serve as mentors to others who want to experiment with or make the transition into soil stewardship practices.
- Subsidize crop insurance premiums for producers who plant cover crops.<sup>v</sup> Cover crops help the soil hold and retain additional moisture, enhancing resiliency in both extremely wet and extremely dry weather conditions.<sup>vi</sup>
- Where and when appropriate, invest in irrigation efficiency measures. Studies show that enhancing irrigation efficiency can improve yields, and help farmers and ranchers be better prepared to continue to produce in dry conditions when less water is available.<sup>vii</sup> This will have the added benefit of reducing energy needs for irrigation and furthering climate change mitigation goals.
- Provide funds for the development of compost infrastructure. Compost can rapidly increase soil organic matter—and thus soil’s water holding capacity—and improve production even during drought conditions.<sup>viii</sup>

- Create infrastructure for collecting a 1% surcharge on restaurant tabs that are used to provide cost-share funding for Montana growers to employ soil building practices. This financing mechanism could be particularly attractive in parts of the state that have significant tourism industries.
- Increase Montana processing capacity to support a more resilient and community-based food system, able to make use of a diversified crop-livestock mix that can benefit healthy soils.

Montana needs to take every step possible to prepare for and address climate change and its associated impacts. As the draft plan notes, the climate crisis is not slowing down, nor can our efforts to address it. Montana has the opportunity to lead on soil building efforts through collaborative, proactive measures that prepare our producers to thrive despite the effects of climate volatilities.

Thanks in advance for your consideration and, again, for the opportunity to provide comments on the draft plan.

Sincerely,

Lindsay Ganong  
Robin Kelson  
Co-Executive Directors  
AERO

Bonnie Buckingham  
Executive Director  
Community Food & Agriculture Coalition

Erin Jackson  
Education Director  
Gallatin Valley Farm to School

Maura Henn  
Coordinator  
Grow Montana Food Policy Coalition

Jamie Ryan Lockman  
Executive Director  
Montana Organic Association

Andrew Coggins  
Rocky Mountain West Regional Director  
National Center for Appropriate Technology

Amy McNamara  
Northern Rockies Director  
Natural Resources Defense Council

John Brown  
Chair, Soil Task Force  
Northern Plains Resource Council

Cole Mannix  
Northern Rockies Regional Director  
Western Landowners Alliance

- 
- <sup>i</sup> USDA National Agricultural Statistics Service, 2017 Census of Agriculture State Profile: Montana, [https://www.nass.usda.gov/Publications/AgCensus/2017/Online\\_Resources/County\\_Profiles/Montana/cp99030.pdf](https://www.nass.usda.gov/Publications/AgCensus/2017/Online_Resources/County_Profiles/Montana/cp99030.pdf).
- <sup>ii</sup> National Academy of Sciences, Negative Emission Technologies and Reliable Sequestration, <https://www.nap.edu/catalog/25259/negative-emissions-technologies-and-reliable-sequestration-a-research-agenda>.
- <sup>iii</sup> See, e.g., California Healthy Soils Program, <https://www.cdfa.ca.gov/oefi/healthysouils/>.
- <sup>iv</sup> See, Friends of the Earth, "The Climate Change Mitigation Potential of Organic Agriculture," <https://foe.org/climate-change-mitigation-potential-organic-agriculture/>.
- <sup>v</sup> Several other states have adopted or are considering similar programs. See, Iowa Cover Crop Crop Insurance Demonstration Trial, <https://www.cleanwateriowa.org/covercroppdemo>; Illinois Fall Covers for Spring Savings Program, <https://www2.illinois.gov/sites/agr/Resources/LandWater/Pages/Cover-Crops-Premium-Discount-Program.aspx>; Wisconsin Senate Bill 715, <https://docs.legis.wisconsin.gov/2019/proposals/reg/sen/bill/sb715>.
- <sup>vi</sup> USDA Sustainable Agriculture Research and Education, Cover Crops, <https://www.sare.org/Learning-Center/Topic-Rooms/Cover-Crops>.
- <sup>vii</sup> See, NRDC & Pacific Institute, "Agricultural Water Conservation and Efficiency Potential in California," (2014) <https://www.nrdc.org/sites/default/files/ca-water-supply-solutions-ag-efficiency-IB.pdf>.
- <sup>viii</sup> Ryals, R. and W. L. Silver, "Effects of Organic Matter Amendments on Net Primary Productivity and Greenhouse Gas Emissions in Annual Grasslands," *Ecological Applications* 23, no. 1 (January 2013): 46-59, <https://doi.org/10.1890/12-0620.1>.

**From:** [Andy Hudak](#)  
**To:** [Climate Council](#)  
**Subject:** [EXTERNAL] Climate Plan  
**Date:** Friday, April 24, 2020 6:23:49 PM

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First, let me thank Gov. Bullock for assembling this team to look at Montana's energy future.

Dear Governor Bullock and the Climate Solutions Council,  
Thank you for all your hard work in developing a landmark Montana Climate Plan.

I would like to address two of the questions from the "Questions to Guide Partner and Public Feedback," from Section 2: Strategies to Reduce Greenhouse Gas Emissions.

As a Montana resident believe the most effective and efficient path forward for lowering emissions in Montana is with the help of a national, market and incentive-based Carbon Fee and Dividend policy.

A slow, predictable rising pollution fee on fossil fuels will bolster all other Montana initiatives for efficiency, alternative energy, storage, grid upgrades, and support carbon sequestration in industry, agriculture and forestry.

A carbon fee and dividend is estimated to reduce emissions by 40% in first 12 years using incentives instead of regulations, save lives, reduce pollution, and puts money in people's pockets to help during the transition!

I SEE NO DOWSIDE!!

This could also create millions of new jobs in Montana and across the US... think of those coal plant workers that just got layed off in E Montana!!!

How could this NOT appeal to most Americans regardless of political affiliation. (With the possible exceptions of the electric coops, who for some reason, didn't even include much solar and wind in their plans!!!)

I am sure you know that the government not keeping any of the money, SO

THIS "WE DO NOT NEED MORE GOV'T" argument ENCOURAGED BY THE COOPS IS WRONG! .

**Please consider adding support for a national Carbon Fee and Dividend policy into the Montana Climate Plan.**

Peace ... (Inside ourselves first, then out there in the world, eh? :-)

Warmly,

Andy

O: (406) 862-11112 C: (406) 261-4840 (Emergencies & cancellations only)

PO Box 1763

Whitefish, MT 59937

"Follow your heart but take your brain with you."

-- Alfred Adler

And people stayed home  
and read books and listened  
and rested and exercised  
and made art and played  
and learned new ways of being  
and stopped  
and listened deeper  
someone meditated  
someone prayed  
someone danced  
someone met their shadow  
and people began to think differently  
and people healed  
and in the absence of people who lived in ignorant ways,  
dangerous, meaningless and heartless,  
even the earth began to heal  
and when the danger ended  
and people found each other  
grieved for the dead people  
and they made new choices  
and dreamed of new visions  
and created new ways of life  
and healed the earth completely  
just as they were healed themselves.

*Kathleen O'Meara*



Forward Montana Foundation thanks the Montana Climate Solutions Council for this opportunity to provide comment on the preliminary recommendations of the Climate Solutions Plan. We are excited to see that the State of Montana understands the severity of climate change to our state and its residents. The state must play a lead role in aggressively pursuing climate solutions that work for Montana.

Forward Montana Foundation engages young people in our democracy and facilitates avenues for young people to advocate on issues they care about most. After thousands of conversations with young people, we determined that climate change is a top concern for young people. Over the past year, we've collected over a thousand climate action stories from young Montanas across the state. We've asked them: What do you value and can't stand to lose to climate change? How has climate change affected you or your community? What's your vision for Montana's future? Here are just a few responses:

- "Like many Montanans, I greatly value nature and our local ecosystems, and reliance on toxic and environmentally damaging energy sources like coal and gas place these ecosystems at risk. I want to be able to teach my young nephews about Montana's natural resources and share my love of this state's mountains, woods, and rivers with them, but our reliance on non-renewable energy means that the things I love about my home state may not survive long enough for my nephews and other future generations to enjoy. We MUST stop prioritizing short-term profits over long-term values!" --Chris, 29
- "One thing I cannot stand to lose is the biodiversity within Indigenous cultural areas that my people rely upon for subsistence still today due to impoverishment." --Marcos, 19
- "Montana is a headwaters state and I can't bear to think about declining runoff in our rivers and streams. The impacts for our two major economic drivers, agriculture and recreation, would be devastating." --Andrea, 24
- "At this point we are close to the point of no return. We want a future worth living in and if things don't change soon we won't have one." --Kellen, 16

These pledges highlight that young, and very young, Montanans are deeply concerned and scared for the future of the planet. Our conversations with young people reflect the growing narrative and concern around the country. According to a [December 2019 survey](#) by the United States Conference of Mayors, 80% of voters under 29 view "global warming as a major threat to human life."

In 2019, the International Panel on Climate Change (IPCC) released an [updated climate report](#) that painted a bleak picture: climate change is worse than we thought, we have less time than we thought, and society has not done enough. Specifically, the report urged that we need to keep our common home within 1.5 degrees of warming if we want a livable planet. It's clear that we need climate action now.

The strategies identified in the Climate Solutions preliminary report offer a great framework for moving forward. It is imperative that we drastically reduce our carbon emissions to prevent further global catastrophe; at the same time, we must prepare our communities for a warming world. The impacts of the climate crisis will be devastating to Montana's premier industries (agriculture and tourism), exacerbate wildfires, and disproportionately impact tribal communities. At Forward Montana Foundation, we are particularly concerned because as Tosh, age 8 says, "I won't get to grow up."

Forward Montana Foundation urges the MT Climate Solutions Council to implement just and equitable solutions that ultimately reduce our greenhouse gas emissions and are inline with a 1.5 degree warming scenario as outlined by IPCC. Solutions must center the needs of impacted populations including Tribal Nations and rural communities.

We are excited that a number of the ideas outlined promote collaboration and coordination with the Montana University System, Tribal Governments, and local entities. We especially applaud the Council for recognizing the importance of "community-driven and bottom-up planning" (page 3). By using the best available science and community-based ideas, we are hopeful that the State of Montana will approve and implement a comprehensive climate plan that will address the most pressing issues of our time.

### **Increase the renewable energy portfolio standards**

Forward Montana Foundation strongly supports an increase in the renewable energy portfolio standards (100% by 2030) with an exclusion of large hydropower. We urge the MT Climate Council to analyze how roadmaps such as the one from the [International Renewable Energy Agency](#) can work in Montana. Commitment to 100% renewable energy is not a desire, it's a matter of necessity to maintain a livable planet. We hope that Montana will join the growing ranks of states that have committed to or have announced plans to transition to a 100% renewable energy portfolio.

### **Strengthen transportation solutions**

Forward Montana Foundation supports the adoption of low emission vehicle standards and opportunities to incentivize and promote electric vehicle use. However, in order to tackle the crisis at hand, we need to dramatically strengthen our public transit system. In addition to expanded bike infrastructure, communities like Bozeman, Missoula, and Billings, need better resourced public transit systems. Access to public transit is a powerful tool to address both climate change and societal inequities, but it must be *more* convenient and

dependable than a car in order to be effective. It is especially critical for young Montanans and low-income communities who will benefit from greater mobility without the economic burden of a vehicle. We encourage the Council to include recommendations to foster convenient and dependable public transit in the final plan.

### **Embrace solutions that meaningfully reduce carbon emission; not merely hide them.**

Forward Montana Foundation urges the Council to pursue solutions that meaningfully reduce carbon emissions. While “carbon neutrality” is a nice buzzword, achieving net zero carbon emissions cannot be achieved solely through carbon offsets, cap and trade, or other similar initiatives. These market-based measures either 1) merely hide the carbon emissions and outsource them to other communities (often to communities of color and low-income communities) and 2) fail to achieve the intended outcome of conserving forests (see [here](#) and [here](#)).

The draft plan also asks “how should the Public Service Commission evaluate greenhouse gas impacts of decisions and rate-payer risks?” It’s clear that the economic, societal, and climate impacts of the climate crisis greatly outweigh the initial costs. The risk to rate-payers is in *not* taking action. It is costing Montana ratepayers more to hold onto energy legacies of the past.

Instead of investing in risky solutions, resources should be invested in community-based solutions that actually work.

### **Climate solutions through a climate equity and justice lens**

Climate solutions will only be effective if they’re equitable and just. This means centering the needs of communities most impacted by the climate crisis and implementing worker retraining programs. It also means uplifting knowledge from Indigenous communities and respecting the sovereign rights of Tribal Nations.

We encourage the Council to strengthen points to “address the needs of the young, sick, aging, and other vulnerable populations” (page 6) and “expand the use of nature-based solutions that use natural systems, mimic natural processes, or work in tandem with traditional approaches” (page 6) We look forward to seeing tangible projects that the State can work towards implementing in the final draft.

The impending climate crisis threatens all that we love about Montana including our clean air and clean waters that so many industries and communities rely on. The impacts of a warming world will add stress to our healthcare infrastructure and agricultural systems and will threaten Montana’s premier outdoor recreation opportunities including skiing, fishing, and hunting. This is no time for half measures. Please take bold, comprehensive action. The lives of our generation depend on it.

**From:** [Sue Kronenberger](#)  
**To:** [Climate Council](#)  
**Subject:** [EXTERNAL] MT Climate Solutions Plan  
**Date:** Friday, April 24, 2020 12:10:12 PM

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To the Climate Council:

I am writing to recommend that you include in this plan several significant areas that greatly affect climate. The components I name, if developed and managed well, will have a positive outcome with helping to stop and reduce global warming. We as a society need goals and action plans to:

REDUCE WASTE

MOVE TOWARD ZERO WASTE

INCREASE RECYCLING

INCREASE COMPOSTING

Our family has been composting and recycling for a long time, but larger efforts that support individual effort is needed at the state level to make this highly effective.

Reducing waste is a major necessity. Broad, state-wide educational programs are needed to move our communities to lifestyles and choices that that are not driven by greed and endless consumerism, but rather by a shared caring for a healthy continuation of the human race.

Sincerely,

Susan Kronenberger,

Helena Montana



*"We can influence the direction of history. We always influence the direction of history. Our thoughts, our speech, and our actions all influence the trajectory of history. In that, every action is a social action. Every thought is a social thought." Larry Ward*



# Montana Electric Cooperatives' Association

#11b-50

Touchstone Energy® Cooperative 

**April 24, 2020**

**Montana DEQ  
c/o Rebecca Harbage, Director's Office  
P.O. Box 200901  
Helena, MT 59620-0901**

Re: Montana Climate Solutions Council Draft Proposal Comments

The Montana Electric Cooperatives' Association [MECA] thanks the Montana Climate Solutions Council (hereafter referred to as the "Council") for allowing the public to offer their opinions, concerns, and recommendations for improving the recommendations under consideration by the Council.

We would also like to thank the work done by the Council members and staff who have collaborated diligently to find solutions agreeable to all parties. Members have engaged with our representative on the Council, Gary Wiens, in a productive fashion while trying to find solutions that both advance the Council's goals and consider the impact to Montana's Electric Cooperatives and their member-owners: the citizens of Montana.

We continue to request that public input be solicited before a final draft is submitted to the Governor in accordance with the Governor's Executive Order creating the Council, No. 8-2019, which states:

"The Council shall engage members of the public in formulating their recommendations, including conducting meetings in an open and transparent manner and facilitating public comment on draft products at appropriate times during their deliberations."

The inclusion of "...draft products..." as a plural would indicate the intention to open up multiple drafts for public comment, not just the initial product currently being offered. By adding substantial recommendations to a product after this period of public comment without offering another comment period we believe this would be a decision by the Council harmful to public trust in the process. Notably, the Governor's Executive Order declares the Council "shall engage" the public, not "may engage".

In considering various recommendations, MECA urges all subgroups and the Council to keep in mind the following:

- Proposals should be weighted according to their effectiveness in solving the global problem of greenhouse gas emissions. An example of one of the more effective of these proposals would be to develop cost-effective technology to capture and store carbon. This is because, globally, dependence on fossil-fuel emissions is continuing to increase;
- “All of the above” alternatives for de-carbonization must be included. This means setting aside policy objections, for example, to major hydropower or nuclear energy, such as next-generation modular nuclear;
- As stated by the Governor’s office, cost impacts on Montanans are an important consideration. Although some argue against consideration of costs, if Montana’s economy is destroyed in an effort to decarbonize, decarbonization will likely come to a screeching halt;
- The governor’s timeline goals for achieving a net greenhouse gas neutral economy must be aspirational not mandatory. To set such goals as deadlines or mandates is to assume various emerging or undeveloped technologies will be affordable or useable within the set time frames or to assume other more-effective or affordable technologies will not be developed. This is especially true in light of the COVID-19 crisis as many of the goals and mandates rely on a stable, thriving economy;
- Some have argued we should not worry about the implications of major policy changes because, in the past, they have somehow worked out without harming consumers. This is not accurate. In Montana, the best example is electricity deregulation in 1997. Had the Legislature not sought to mostly reverse course on this public policy, Montanans would have suffered much more severely;
- Mandates are unnecessary if a utility is already steadily and effectively undertaking decarbonizing actions.

Specific proposals MECA would like to comment on:

## **2Q: Increase the Allowable Systems Size for Distributed Generation Systems (expanded Net Metering)**

MECA has long been an opponent of mandated Net Metering due to the unfair cost-shifting as a result. As such, we cannot support advancing this proposal. Moreover, co-ops all voluntarily offer net metering and some allow generators larger than the state law to qualify for the credit.

## **2R: Increase and Update the State Renewable Energy Portfolio Standard**

While co-ops are, currently, only impacted indirectly by RPS standards, we are opposed to further changing RPS requirements. We believe, as evidenced by existing renewable growth and development, that demand for additional renewable resources is self-perpetuating and does not need further government-mandated increases.

There has also been discussion about holding cooperatives to the requirements of RPS while simultaneously not considering existing hydropower as a renewable resource. This would have a devastating impact on cooperatives' ability to meet a new and higher RPS standard, particularly cooperatives in western Montana.

### **1.1: Modeling for Climate Council Recommendations**

MECA opposes utilizing models presented by the Clean Energy Transition Institute [CETI] due to insufficient data and scrutiny of methodology. CETI has never shown us the hard data or assumptions they made when they created the model, but the council at large seems set on using them as their modeling ideal.

Some of the flaws with the model:

- Relies on 100% light duty vehicle electrification by 2035.
- Relies on heavy utilization of heat pump water heaters.
- Believes that 96% of energy must be "clean" by 2050.
  - o Suggests adding 79 GWs of new solar and wind by 2050, a number quite impossible given current costs, time, and location requirements.

The model claims it can accomplish all this with cumulative costs of transitioning equaling roughly 1% of the region's (MT, ID, WA, OR) total GDP. We do not see how this is possible. We also do not see how it is possible to fully electrify 100% of the state's light-duty vehicle fleet by 2035. Montana is a rural, hardworking state, and the many farmers who would be impacted by this would have no way to pay for a new electric vehicle, nor could they afford a rapid charger on their very rural property.

We have been told in the past that we have to prove CETI's model is factually incorrect. We disagree: it is up to the modeling company to demonstrate their numbers, assumptions, assertions, and recommendations are based on reliable and reasonable data. They have not yet done so. The burden of proof is on CETI, not us, to demonstrate they deserve to provide the blueprint for making sweeping legislative and regulatory changes that would impact so many areas of Montana's lives.

**Creating a 3rd Party Administrator for Dispersing USBP Funds**

Finally, MECA opposes additional energy efficiency requirements including a 3rd party administrator for disbursement of USBP funds.

- We will never agree to the proposal for a TPA to be used for controlling USB funds. It usurps co-op's local-control authority granted by the Legislature, and proof that a TPA would work better has yet to be demonstrated.
- A TPA would have difficulty in dispersing funds across such a huge and diverse state.

MECA respectfully submits these comments to the Council on behalf of our cooperatives, who serve over 400,000 residents in every county of Montana. As always, we are eager to find ways to move Montana forward in responsible and efficient energy use, and we welcome additional discussion around these issues.

Sincerely,

/s/

Kirk Lundby  
Government Relations Officer  
Montana Electric Cooperatives' Association

**From:** [KayBee Masis](#)  
**To:** [Climate Council](#)  
**Subject:** [EXTERNAL] Comments on draft Recommendations  
**Date:** Friday, April 24, 2020 11:33:39 PM

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To: Climate Solutions Council

From: Kathleen Masis M.D., Billings Montana

Thank you for addressing the most critical challenge to Montanans, and for the opportunity to comment on these recommendations.

Comments:

1. I support the Guiding Principles for Adaptation.
2. I recommend that Tribal Nation consultation be more robust in the future than is evident in the text of the Recommendations, as in the following statements.

1. "Montana agencies, communities and stakeholders should approach climate change and its impacts with an understanding of the state's geography, culture, history, economy, and resources." p.3

2. "Communities cannot do adaptation planning individually and without support. The state needs to provide coordinated assistance to gather and share information, build and support networks and partnerships among communities, universities, non-profit and philanthropic organizations, provide sustained funding for planning, and leverage federal dollars and capacity." p.3

3. These Recommendations do refer to Tribal involvement: IA. Common framework, and IB. Climate Advisory Council. The rest of the Recommendations do not.

### 3. Strategies to Reduce Greenhouse Emissions

Timely, science-based, and specific to Montana. Reducing the need for electricity generation is a strategy that must be implemented. Otherwise we risk the utility's overbuilding to cover capacity issues from intermittent demand.

2B. Energy Efficiency, Demand Response, and Energy Storage Standards are basic elements of State Climate Action Plans. It is past due for Montana to introduce them here.

2C. On-bill financing gives residents the means to participate in the reduction of GHG emissions. The cheapest energy is what isn't used.

2M. Electric vehicles are needed to reduce greenhouse gas emissions. Montanans want to participate. Let's get going.

2O. Key Strategy. "Using widely available methods, develop greenhouse gas emissions and sink estimates for key sectors of Montana's economy and land use." We have to be able to inventory sectors other than electricity and transportation if we are to make the impact needed to reduce greenhouse gas emissions.

#### 2R. Questions to guide partner and public feedback:

How should the state consider possible economy-wide emissions policy proposals such as a price on carbon or cap and trade proposals?" p23

This question is as open-ended as it can be. How should we consider proposals such as a *price on carbon or cap and trade*? There are two ways to put a price on carbon. One is a carbon tax or fee, and the other is cap and trade. The state should consider these

proposals with the following in mind: a price on carbon is an effective and efficient method of reducing greenhouse gas emissions. There are several states with proposals, and several bills in Congress for a federal price on carbon. #11b-51

“All environmental pollution, including emissions of greenhouse gases (GHGs), imposes costs on people who did not create the pollution. This is an example of an economic externality—a consequence or side effect of an action that is not experienced by the individual or entity from which it originates, and that is not reflected in prices. The damages and associated costs to society that GHGs cause through climate change (e.g., increased extreme weather events, rising sea levels, and loss of biodiversity) are not paid for by the entities that emit those gases, so those costs are not reflected in the market prices of goods and services. Because polluters do not have to account for the costs associated with the damages that greenhouse gases create, society produces and consumes too many pollution-creating products (like fossil fuels) resulting in additional GHG emissions being put into the atmosphere.

...

A growing number of jurisdictions are adopting market-based climate policies. By putting a price on carbon, these policies give businesses the incentive to innovate so they can cut emissions at the lowest possible cost...

Compared to traditional command-and-control regulations, market-based policies can more cost-effectively reduce greenhouse gas (GHG) emissions by creating financial incentives for GHG emitters to emit less. [P1](#).

Janet Peace Jason Ye MARKET MECHANISMS: OPTIONS FOR CLIMATE POLICY.  
Center for Climate and Energy Solutions. April 2020.  
<https://www.c2es.org/site/assets/uploads/2020/04/market-mechanisms-options-climate-policy.pdf> [c2es.org]

Thank you.

#11b-52

**From:** [Mosteller Photos](#)  
**To:** [Climate Council](#)  
**Subject:** [EXTERNAL] please  
**Date:** Friday, April 24, 2020 10:20:05 AM

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Governor Bullock,

Please delist beaver trapping!

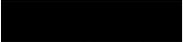
Thanks.

sincerely,

Rosella Mosteller

--

Rosella Mosteller

  
[mostellerphotos.com](mailto:mostellerphotos.com) [[mostellerphotos.com](http://mostellerphotos.com)]



Summer Nelson, Director  
Montana Chapter of the Sierra Club  
P.O. Box 7201  
Missoula, MT 59807

Re: Comments on the Draft Montana Climate Solutions Plan

April 24, 2020

To the members of the Montana Climate Solutions Council and Governor Bullock:

Thank you for the opportunity to comment on the first Draft Montana Climate Solutions Plan that represents your hard work and dedication as council members. On behalf of the Montana Chapter of the Sierra Club, and our over 2,600 members and thousands more supporters in the state, we submit the following comments and ask that you consider them critically and incorporate them into any future drafts of the plan.

As Montana continues to grapple with the rapidly evolving public health crisis we've found ourselves in, we need the State of Montana to do its absolute best to both respond to the crisis at hand and quickly apply the lessons of this current public health crisis to help our communities mitigate future crises and endure the changes we're unable to stop.

Covid-19 is unfortunately a precursor to what we expect to become more widespread and all too common as climate breakdown becomes globalized. If we do not successfully halt greenhouse gas emissions, naturally store carbon, and make other systemic changes necessary to abate the climate crisis, we will face rapid changes and impacts that will soon be beyond our control. These anticipated conditions will exacerbate the spread of infectious diseases, as well as other adverse impacts to Montanans and global populations. How we respond to the current health crisis and the policies we create now will pave the way for our ability to respond to and recover from future, possibly preventable crises to come.

Given the stark reality the Covid-19 pandemic has presented, a revised Montana Climate Solutions Plan must fully acknowledge and assess the extent of the threats we face, develop solutions in line with current scientific understanding of the issue, and prioritize solutions that center the people and communities most impacted. While there are a number of ideas in the first draft that we applaud and thank the council for, and hope to

see implemented and funded as quickly as possible, there are elements that need strengthening and reevaluating as well.

Several aspects of the Draft Montana Climate Solutions Plan reflect thoughtful leadership, innovative ideas, and cooperation among the parties on the Council and those consulted with. We thank you for the following, in particular, and urge that these be included in the final plan and that the Council do everything in its power to ensure these are incorporated into implementation plans and fully funded.

- We appreciate the acknowledgement that “[b]uilding resilience will require addressing current climate variability and recent extreme events as well as preparing for future change and emergent threats.”
- We appreciate the indication that protecting Montana’s water quality and quantity is key to adapting to climate impacts. **Explicit protection for clean air and clean water is key for both climate mitigation and adaptation.**
- We strongly support an increase in the allowable systems size for distributed generation systems.
- **We strongly support an increase in the renewable energy portfolio standard and hope to see a goal backed by the projections of climate scientists, mirroring recent commitments by Helena and Missoula to 100% clean electricity by 2030, as well as an exclusion of large hydropower.**
- **We strongly support the need to integrate traditional and indigenous knowledge into adaptation efforts.**
- There’s a nod to “the needs of young, sick, aging, and other vulnerable populations” in managing local infrastructure. **We hope to see the council explicitly prioritize climate solutions that center the needs of impacted populations** disadvantaged because of geography (i.e. tribal nations and rural communities), vulnerability to climate impacts (the elderly, young, people with disabilities), vulnerability to economic transition (i.e. fossil fuel workers), and identity groups with less access to power in our society (low-income groups, people of color, LGBTQ folks, women).
- **We strongly support a strong demand response standard and energy storage standard for the state’s investor owned utilities.**
- We strongly support expanding funding and capacity for apprenticeship programs in green jobs.
- **We strongly support reforming Montana fiscal policy to addressing economic transitions with an emphasis on support for people, families, and communities most impacted by the climate crisis.**
- We support efforts to replace water heaters with grid-integrated water heaters & mobile home replacement programs.
- **We support expanded community solar development and enabling shared solar for IOUs.**
- We support incentives for solar-ready and solar-integrated design and building.
- We support reducing property taxes on new renewable energy.

- **We strongly support low emission vehicle standards and expanded EV infrastructure and accessibility.**

While we do see some good ideas developing within this council, we are also deeply concerned about some major gaps at this point. Our primary concerns are outlined below.

- **Critically, the cost of not taking adequate measures to prevent and prepare for the worst outcomes of the climate crisis are immeasurably high.** When assessing the cost of any potential solution, the council should take into account the cost of not addressing the climate crisis in the window we have left. **All solutions should be prioritized based on their potential impact in helping avert the crisis and achieving maximum greenhouse gas emissions in the next 8-9 years, the window of time scientists have identified as critical, as well as their ability to promote community resiliency. We absolutely need regulation of greenhouse gas-emitting industries in our state, not just incentive-based solutions.** The current plan omits any mandates to restrict the activity of greenhouse gas-emitting industries and projects in our state.
- **It is unclear that the sum total of the mitigation and adaptation goals would meet either the goals of the council or use all available state leverage to bend the global emissions curve as quickly as possible, mitigate the climate crisis, and meet the needs of Montana communities in adapting to current and future changes.** The timeline of greenhouse gas neutrality in the electricity sector by 2035 is slower than current climate projections call for. We need to be adapting state goals in line with the current scientific understanding of what's necessary to avert global climate tipping points. There is an underlying implication in this plan that innovation, carbon sequestration, and incentive-based efforts to reduce emissions might be enough for Montana to do its part to avert a global climate crisis, without providing accompanying evidence that this is indeed the case. **An understanding and prioritization of what is necessary to meet the challenge of addressing the climate crisis, not what seems currently politically feasible, must guide the council's final recommendations.**
- **We are deeply interconnected, and our communities suffer when we don't have sufficient support systems in place that protect the needs of the most vulnerable.** Making sure all Montanans have access to healthcare, job security, and basic resources that prevent community breakdown in a crisis are key to substantive climate solutions that fully address the issue of community resiliency. We are experiencing that kind of breakdown of the support system through the present health crisis, and the Council must respond accordingly and incorporate strong recommendations for support systems that will enable all of us to survive and thrive and to collectively meet the challenges of climate disruption even as we experience such disruption.

- **Land protection is key to both adaptation and mitigation and should be explicitly named as such, with recommendations that protect and restore nature as part of combating climate change and preserving species and biodiversity.** This must include meaningful consultation with Montana's Tribal Nations and a consideration for expanding the land under Indigenous management. It should also include additional protections for land and waters at the state and local levels, and working with federal agencies and officials to increase protections of federal lands and waters within Montana.
- **The scope of the solutions should extend to include the scope of Montana's influence as a state.** This can and should include restrictions on new fossil fuel infrastructure built within or passing within state borders and partnership with other states in advocating for solutions that address the scale, scope, and urgency of the climate crisis. This should include, for example, advocating for retracting all existing federal subsidies for fossil fuels and a governing agenda like the proposed federal Green New Deal that addresses the climate crisis concurrently with systemic inequities and a plan to help people and communities endure the economic transition.
- Finally, **this plan needs to be based on an adequate assessment of the problem we face, including past obstacles to implementing climate solutions, and a substantial communication plan to promote public understanding of the climate crisis and the necessity of action.** The plan should include an articulation and assessment of the risks of hitting global climate tipping points, a system for regularly updated information flows, and should prioritize solutions that aim to avert them. It must seek to answer questions and advance solutions in response to questions such as: What are the major obstacles (in Montana, nationally, or globally) to making adequate progress on this issue, and why has this crisis worsened over the many decades we've known about this problem? How will the climate solutions plan address the long history of misinformation and propaganda campaigns by special interest groups that have stymied action on this issue?

Again, thank you for the opportunity to comment and for your consideration of our input. We look forward to seeing the very positive ideas you have included in the first draft carried forward into a final plan, and to seeing significant revisions to ensure Montana takes every action within its power to adequately address the unprecedented crisis with which we are faced.

With gratitude for your efforts, and concern for the current and future well-being of us all,

Summer Nelson, Director  
Montana Chapter of the Sierra Club



BUTTE-SILVER BOW  
OFFICE OF THE CHIEF EXECUTIVE

#11b-54

Courthouse, [REDACTED]  
Butte, Montana 59701-9256

April 24, 2020

**SENT VIA EMAIL TO CLIMATECOUNCIL@MT.GOV**

***RE: Comments on Montana Climate Solutions Council draft report***

Dear Governor Bullock and members of the Montana Climate Solutions Council:

Please accept this letter on behalf of the City-County of Butte-Silver Bow to thank you for the great amount of work and thought put into the preliminary recommendations and key questions in the Montana Climate Solutions Plan. The draft document appears to be very comprehensive, proactive and reflects well on Montana's serious commitment to addressing climate change and the diverse stakeholders' views considered in its development over the past several months.

Butte-Silver Bow is particularly pleased the draft plan includes the Mitsubishi-Hitachi hydrogen project as a case study. We are excited at the economic opportunities that exist around this innovative project for Butte and for Montana as a whole. Realization of this project will allow our community and Montana to play a vital role in integrating and decarbonizing electricity for ourselves and our neighboring states.

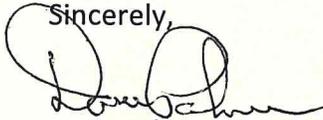
While the inclusion of the case study the plan's general references to renewable hydrogen are encouraging, we feel more strategic planning and specific actions are necessary in order for a project of this nature to be successful. Butte-Silver Bow intends to pay close attention as the Council reconvenes in the coming weeks to finalize the plan and are interested in including more specific directions to better ensure the success of the hydrogen-base storage of renewable energy case study. These specifics should include but not be limited to forming strategic public-private partnerships, supporting funding for advanced planning and applied research in renewable hydrogen storage, financial incentives for infrastructure development and drafting of new or revised legislation.

Again, Butte-Silver Bow commends the Council's significant efforts and foresight in developing this plan. We are committed to assisting Montana in whatever ways possible to see the Mitsubishi hydrogen storage project from concept to reality. We believe the success of this project will be a great thing economically for Butte and southwest Montana and will also be a

#11b-54

crucial part of our state achieving its decarbonization goals and solving climate change impacts into the future.

Sincerely,

A handwritten signature in black ink, appearing to read "Dave Palmer", written over the word "Sincerely,".

Dave Palmer,  
Chief Executive

#11b-55

**From:** [Curtis Shuck](#)  
**To:** [Climate Council](#)  
**Cc:** [Curtis Shuck](#)  
**Subject:** [EXTERNAL] Comments to Draft Montana Climate Solutions Plan  
**Date:** Friday, April 24, 2020 9:46:14 AM  
**Attachments:** [image003.png](#)  
[WDF Comments Draft Montana Climate Solutions Plan ces.pdf](#)  
[BWA3 Well Monitoring Analytics 4.9.2020 ces.pdf](#)

---

Dear Montana Climate Solutions Council,

Attached please find a copy of the Well Done Foundation Inc and Well Done Montana LLC Comments to the Draft Montana Climate Solutions Plan for your review and consideration.

Please let me know if you have any questions?

Thanks!

**CURTIS E SHUCK**

BOARD CHAIRMAN

Mobile



[www.welldonefoundation.com/](http://www.welldonefoundation.com/) [[welldonefoundation.com](http://welldonefoundation.com)]



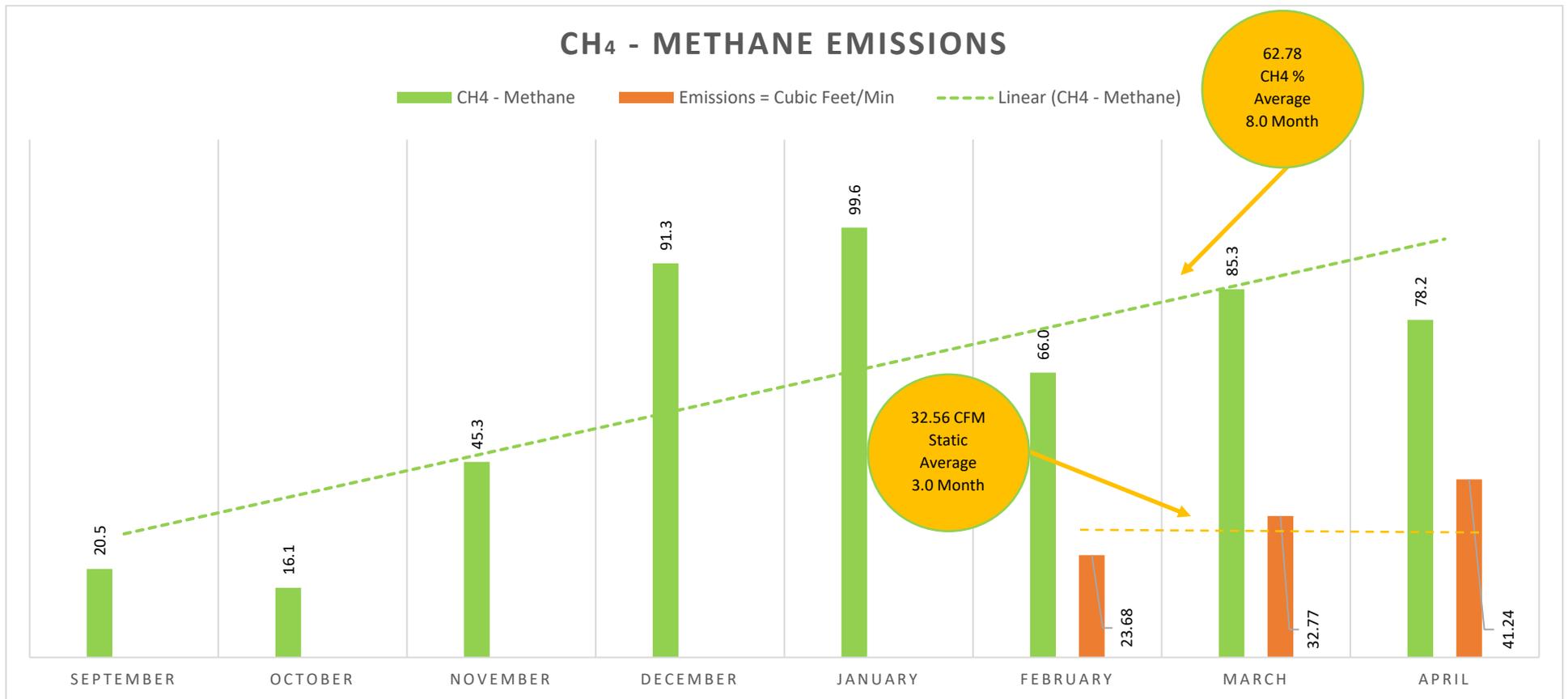
#11b-55



## Big West Anderson #3

API No. 25-101-10152

Updated: April 9, 2020



**Note:** Big West Anderson #3 total adjusted annual CH<sub>4</sub> GWP Emission Factor (EF) is 6,622.71 Metric Tons



#11b-55

[REDACTED], Montana 59718 [REDACTED]

TO: Montana Climate Solutions Council  
FROM: Curtis Shuck, Well Done Foundation Inc. and Well Done Montana LLC  
DATE: April 24, 2020  
RE: Comments on Draft Montana Climate Solutions Plan

#### MEMORANDUM

The Well Done Foundation and Well Done Montana LLC is pleased to provide the following comments on the Draft Montana Climate Solutions Plan:

Under Section IV of the Draft Plan, the Council recommends partnerships as a Key Strategy to reduce greenhouse gas emissions. The Draft further goes on to considers working with the Montana Board of Oil & Gas Conservation to use the Damage Mitigation Account to help fund the Plugging and Abandonment of Orphaned Wells.

Well Done Montana believes that the Climate Solutions Council should further incentivize the use of creative Public-Private Partnerships with NGOs' and other focused private sector businesses, such as the Well Done Foundation and Well Done Montana LLC, to specifically address Montana's Orphaned Well issue. It should be apparent that the current programs have not been effective and that something more proactive should be supported by Montana's Climate Solutions Council. Furthermore, the Council should be looking to Public-Private Partnership solutions as another strategy to reduce the financial liability to the state while retaining their regulatory oversight and ultimately taking results-based actions more quickly.

Well Done Montana LLC, in partnership with the Well Done Foundation, has adopted six (6) of Montana's Orphaned Oil Wells and on April 23, 2020 (Earth Day) plugged and abandoned their first, the Big West Anderson #3 (25-101-10152) in Montana's legacy Kevin-Sunburst Oil Field. Well Done Montana had been collecting emissions data on the Big West Anderson #3 Orphaned Well for a period of eight (8) months and has determined that this one orphaned well alone was responsible for emitting a Global Warming Potential (GWP) of greater than 6,600 Metric Tonnes of Carbon Dioxide equivalent (CO<sub>2</sub>e) per year<sup>1</sup>.

The adoption and plugging of the Orphaned Well "Big West Anderson #3" cost the State of Montana \$0.00 and reduced GHG emissions by 6,660 Metric Tonnes per year. The Big West Anderson #3 Campaign made history as the first of its kind in the State of Montana and the first of many more such campaigns for the Well Done Foundation and Well Done Montana LLC. This pilot project should serve as an example of what is possible when we collaborate and creatively look to the effective use of Public-Private Partnerships.

The Toole County Board of Commissioners along with the Board of Oil & Gas Conservation has endorsed the Well Done Foundation's creative approach to addressing Montana's Orphaned Well issue and we are hopeful that the Montana Climate Solutions Council will include a reference to "Public-Private Partnerships" in the final Montana Climate Solutions Plan.

<sup>1</sup> Well Done Montana LLC's BWA\_Well Monitoring Analytics.4.9.2020

#11b-56

**From:** [Aaron Street](#)  
**To:** [Climate Council](#)  
**Subject:** [EXTERNAL] Montana Climate Solutions Plan Comments  
**Date:** Friday, April 24, 2020 11:15:11 AM

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Dear Climate Solutions Council,

After reading the 'Montana Climate Solutions Plan' I have some feedback. I would like to suggest either implementing a carbon based fee program similar to the federal "Energy Innovation and Carbon Dividend Act" (HR 763) or endorsing the federal bill. The idea of such a program is to implement a gradually increasing fee on the extraction of fossil fuels, sending a clear market signal that a shift away from fossil fuel based energy is required, while giving those currently using fossil fuels time to adapt. The fees collected are then distributed to consumers to offset the increased costs associate with the shift to cleaner energy.

Thank you for your time,

Aaron Street

#11b-57

**From:** [Alec Underwood](#)  
**To:** [Climate Council](#)  
**Cc:** [Melissa Petrich](#); [Tom and Gerri Puchlerz](#)  
**Subject:** [EXTERNAL] Montana Wildlife Federation comments on Climate Council's preliminary recommendations  
**Date:** Friday, April 24, 2020 1:03:00 PM  
**Attachments:** [MWF comments on Climate Solutions Council Preliminary Recommendations.pdf](#)

---

Hello,

On behalf of the Montana Wildlife Federation, please accept the attached comments on the preliminary recommendations of the Montana Climate Solutions Council.

Thank you for the opportunity to comment.

Alec Underwood

**Alec Underwood**  
Federal Conservation Campaigns Director  
Montana Wildlife Federation

██████████  
Helena, MT 59624

office: ██████████

cell: ██████████

[www.montanawildlife.org](http://www.montanawildlife.org) [[montanawildlife.org](http://montanawildlife.org)]



Protecting Montana's wildlife, land, waters, and  
hunting & fishing heritage for future generations.

#11b-57

April 24, 2020

Submitted via email to [ClimateCouncil@mt.gov](mailto:ClimateCouncil@mt.gov)

RE: Comments on Climate Solutions Plan Recommendations

Dear Montana Climate Solutions Council,

The Montana Wildlife Federation (MWF) is the oldest wildlife conservation organization in Montana. Since 1936, MWF has been at the table to protect Montana's fishing and wildlife, lands and waters, and hunting and fishing heritage. MWF has over 7,000 members and supporters and 18 affiliate organizations.

MWF recognizes the long-term threat of climate change on Montana's fish and wildlife, their habitat, and the outdoor recreation economy that contributes \$7.1 billion annually and supports over 71,000 jobs in Montana. MWF has acted as one of the only hunting and angling conservation groups in the state to continually advocate for action on climate change to protect Montana's fish and wildlife and sporting opportunities.

Generally, MWF is in support of the council's preliminary recommendations and would like to commend the council, Governor Bullock, and his staff for their efforts on creating and implementing a plan to combat climate change. It is apparent that in order for Montana to be prepared for the impacts of climate change, a plan needs to contain timely strategies involving both mitigation and adaptation efforts at multiple scales.

One of the most concerning impacts of climate change that will affect fish and wildlife is the changes in hydrologic cycles. Declining snowpack and changes in timing of runoff, coupled with the increased frequency and intensity of drought, will continue to have increasingly severe impacts on water availability for important fisheries. This includes threatened and endangered fish species and species of special concern. It's projected that climate change will result in significant declines of thermally suitable habitat for cold water fisheries by 2080. The social, ecological and economic importance of our fisheries in Montana must be considered while adopting strategies for adapting to climate change.

Recommendations 1D and 1H of the plan mention protecting water quality and quantity from climate change and utilizing natural storage solutions such as beaver mimicry. Beaver mimicry is

a proven tool to restore and protect river corridors and floodplains. MWF is in full support of these strategies and encourages the incorporation of additional natural solutions to changes in water quality and quantity. While it is important that we focus on climate change mitigation efforts, it is also important that we are increasing and prioritizing adaptation efforts, especially for at-risk fish and wildlife populations. We also strongly support recommendation 1G which calls for supporting our forests, rangelands, and wildlife using an all-lands, all-hands approach across ownership boundaries.

The draft report included many proposed strategies to reduce greenhouse gas emissions by increasing energy efficiencies and the use of renewables. We strongly support the following recommendations:

2A: modernize Montana building energy codes and administrative processes to promote energy efficiency and other climate benefits;

2B: establish a graduated energy efficiency standard, a demand response standard, and an energy storage standard for the state's investor-owned utilities;

2C: advance efforts to promote energy efficiency through tools like on-bill financing;

2D: adopt rate strategies like decoupling, time-of-use rates, inclining block rates and/or performance measures to facilitate energy efficiency;

2E: support programs to advance commercial energy audits, grid-integrated water heaters, and mobile home replacement;

2F: encourage expanded community solar development and enact policy to enable shared solar for investor-owned utilities;

2M: advance comprehensive strategies to develop and expand electric vehicle infrastructure and accessibility;

2O: improve greenhouse gas emissions and carbon sequestration inventory and accounting spanning non-electric and transportation sectors across Montana's economy; and

2Q: increase the allowable systems size for distributed generation systems.

The outlined plans aiding in community transitions are essential in transitioning industry heavy Montana communities to an economy with net greenhouse gas neutrality. Many small Montana towns, especially those in Eastern Montana, rely on the current energy industry for livelihood. Transitions in these small communities are going to be extremely difficult and will require extensive training, preparation, education, and funding. Recommendations that we support regarding this issue include:

1C: Build community resilience to climate change through effective planning;

1F: Build the resilience of Montana's private working landscapes (farms, rangelands, and forests) and support voluntary and incentive-driven efforts for climate-smart management that reduces risks, improves bottom lines, and enhances carbon storage in soils, forests and wood products key strategies; and

3F: Prepare Montana's workforce for opportunities in a changing economy and in sectors important to climate mitigation and adaptation.

The Montana Wildlife Federation supports the strategies and recommendations of the Montana Climate Solutions Council. We commend the efforts being made to address the impacts of climate change on Montana's fish, wildlife, and communities and greatly appreciate the opportunity to comment on the preliminary recommendations of the council.

Sincerely,

A handwritten signature in cursive script that reads "Tom Puchlerz".

Tom Puchlerz  
President



**FLATHEAD ELECTRIC**  
**COOPERATIVE**  
Community. Innovation. Reliability.



**KALISPELL**

Kalispell, MT 59901

**LIBBY**

Libby, MT 59923

#11b-58



www.flatheadelectric.com



TOLL FREE (

April 24, 2020

Montana Climate Solutions Council  
[ClimateCouncil@mt.gov](mailto:ClimateCouncil@mt.gov)

Re: Comments on the Draft Montana Climate Solutions Plan

Thank you for the opportunity to comment on the Draft Montana Climate Solutions Plan (Plan). As a non-profit electric cooperative that serves over 53,000 members, we strive to maintain a clean and healthy environment while recognizing the critical importance of electricity in the lives of all Montanans. We also recognize the importance of local control to our membership and are always concerned when state-wide mandates are proposed.

Carbon reduction is a consistent topic of conversation and a concern for many Montanans but there must be careful thought put into any plan developed around it. A balance must be struck between the how-to's and the financial impacts they cause on many Montanans that are already struggling to pay their bills. Flathead has been a leader in many of the initiatives outlined in the Plan and does not need a mandate to continue.

Most of the energy we purchase is from the Federal Columbia River Power System through the Bonneville Power Administration (BPA). The hydropower Flathead Electric purchases from BPA is carbon-free, renewable, and has allowed the northwest to be dramatically lower in CO2 emissions than anywhere else in the country. As part of BPA's obligation to achieve certain energy efficiency metrics, Flathead Electric has already spent millions of dollars on energy efficiency projects and saved our members millions of kWhs. But the thing that needs to be recognized is that every incremental energy efficiency kWh achieved costs incrementally more.

Flathead Electric developed Montana's first landfill gas-to-energy generator and Montana's first community solar project. We have added a second community solar project and are preparing to double the size of our landfill gas-to-energy generator. These are things that we have done to be good stewards of our community with no mandate required. They strike a cost-benefit balance for our members that can only be achieved through local control.

Flathead Electric has already implemented the rate making elements described in the plan. We have a TOU rate, we have an inverted block rate, we have a bill facing loan program, we have a demand response program and we have net metering. We provide price signals to our members, provide them an avenue to complete energy efficiency projects and provide them the avenue to connect renewable resources.

Even though many of the mandates in this Plan are currently written for IOUs only, we are concerned that if this Plan is adopted, it will allow for regulation to be easily shifted to include electric cooperatives like us. We do not need this Plan to do what's right for our members and ensure they have reliable and affordable electricity.



#11b-58

Our regulators, FEC's Board of Trustees, are elected by our members to carry out the mission of Flathead Electric. The types of mandates in this Plan will only stifle local control and inhibit the flexibility that electric cooperatives like us currently enjoy.

Thanks again for the opportunity to comment on the Plan.

Sincerely,

*Jason Williams*

Jason Williams, P.E.  
Assistant General Manager



I would like to begin by expressing appreciation for the comprehensive work of the Montana Climate Council. I will focus on three points to help strengthen the recommendations with the aim of coming to concrete actions quickly, because as we all know we are quickly running out of time to prevent a global climate disaster that will affect our Montana way of life.

Recommendation 1F is crucial for the state yet encompasses sectors that must be considered separately. It is important to develop concrete strategies for each sector and have them stand along. Also, Montana should promote large scale tree planting efforts. Communities and families can be involved to increase vegetative cover and store carbon. The omission of large- scale efforts and campaigns to plant trees should be remedied.

Another solution to include is a state carbon fee and divide – effective and cost efficient in terms of implementation it addresses the need to pay the full price of fossil fuels, and likely more practical than reducing subsidies. Also, it would help families transition to a lower personal carbon budget. It appears that the incentives that are being considered 2H 16 will take time to research and obtain approval. There is already experience with a carbon fee and dividend and Montana should learn from these experiences and move quickly.

The recommendations and strategies are technically advanced and promote innovation. A clear funding path is needed to really move forward. It also is important to engage communities and individuals in the plan to implement climate solutions. More actions should be oriented towards promoting individual efforts and behavioral change, for example through campaigns. After what we together have experiences with the pandemic, the plan should put more emphasis on bringing people together to address the interrelatedness of health, environment, community and climate.

Deborah Hines

Bozeman

#11b-60

**From:** [Curtis Shuck](#)  
**To:** [Climate Council](#)  
**Cc:** [Curtis Shuck](#)  
**Subject:** [EXTERNAL] RE: Comments to Draft Montana Climate Solutions Plan  
**Date:** Sunday, April 26, 2020 2:40:36 PM  
**Attachments:** [image002.png](#)  
[image004.png](#)  
[Big West Anderson.3 Well Monitoring Analytics 4.23.2020 Plugged.pdf](#)

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Dear Montana Climate Solutions Council,

I wanted to submit an updated copy of the Well Monitoring Analytics dated 4.23.2020 that includes our first post closure air samples from the Adopted Orphan Oil Well, the Big West Anderson #3 (API# 25-101-10152), that was plugged and abandoned by Well Done Montana LLC and the Well Done Foundation on April 23, 2020 (Earth Day).

Please include this updated graphic as an attachment to the comments to the Draft Montana Climate Solutions Plan submitted April 24, 2020 by Well Done Montana LLC and the Well Done Foundation.

Please let me know if you have any questions?

Thanks!

**CURTIS E SHUCK**  
BOARD CHAIRMAN



[www.welldonefoundation.com/](http://www.welldonefoundation.com/) [[welldonefoundation.com](http://welldonefoundation.com)]

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**From:** Curtis Shuck [REDACTED]  
**Sent:** Friday, April 24, 2020 9:46 AM  
**To:** [ClimateCouncil@mt.gov](mailto:ClimateCouncil@mt.gov)  
**Cc:** Curtis Shuck [REDACTED]  
**Subject:** Comments to Draft Montana Climate Solutions Plan

Dear Montana Climate Solutions Council,

Attached please find a copy of the Well Done Foundation Inc and Well Done Montana LLC Comments to the Draft Montana Climate Solutions Plan for your review and consideration.

Please let me know if you have any questions?

Thanks!

#11b-60

**CURTIS E SHUCK**  
BOARD CHAIRMAN



[www.welldonefoundation.com/ \[welldonefoundation.com\]](http://www.welldonefoundation.com/)



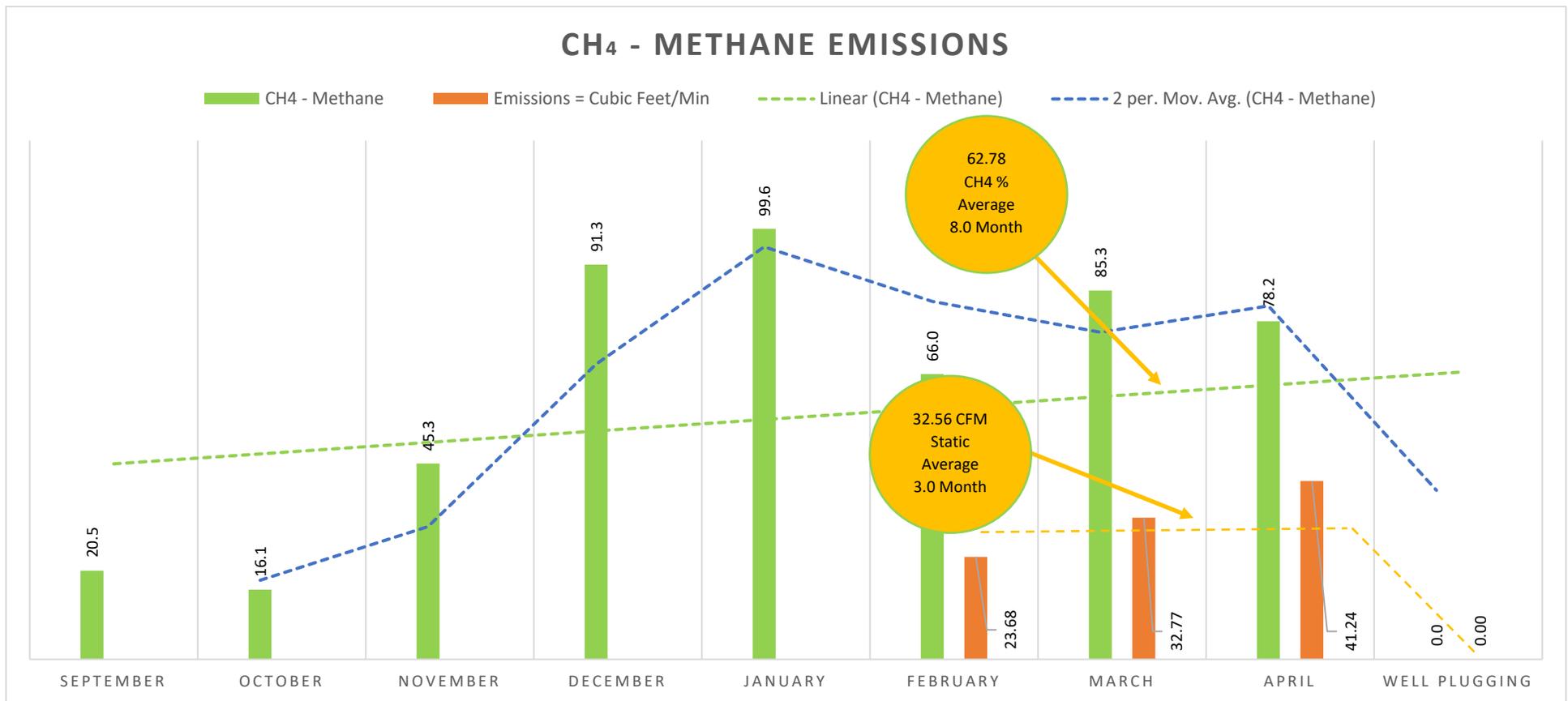
#11b-60



## Big West Anderson #3

API No. 25-101-10152

Updated: April 23, 2020



**Note:** Big West Anderson #3 total adjusted annual CH<sub>4</sub> GWP Emission Factor (EF) is 6,622.71 Metric Tons

**From:** [Harbage, Rebecca](#)  
**To:** [Climate Council](#)  
**Subject:** FW: Climate Solutions NRCS comments  
**Date:** Monday, April 27, 2020 5:14:06 PM  
**Attachments:** [SGI\\_ontarget\\_infographic.pdf](#)

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**From:** Watson, Tom - NRCS, Bozeman, MT <[REDACTED]>  
**Sent:** Monday, April 13, 2020 7:19 AM  
**To:** Holmes, Patrick <[REDACTED]>  
**Cc:** Tackett, Kyle - NRCS, Dillon, MT <[REDACTED]>; Thomas, Benjamin <[REDACTED]>; Tubbs, John <[REDACTED]>  
**Subject:** [EXTERNAL] Climate Solutions NRCS comments

Patrick,

It was great to follow-up with you, John and Ben regarding the overlap and partnering opportunities NRCS has with Montana's Climate Solutions Strategy.

I also wanted to thank you for the opportunity to provide comments and recommendations on the plan. As we discussed over the phone, Montana NRCS is well positioned to be a partner in delivering many of the key strategies found in the plan. We look forward to engaging in any way you see appropriate.

Montana NRCS is now fully implementing Montana Focused Conservation. Instead of funding conservation projects on a scattered, farm-by-farm, random approach, NRCS Montana targets its investments in very specific areas to achieve clearly defined natural resource outcomes as identified locally. We are calling these investments Targeted Implementation Plans or TIPs. This approach harnesses the power of multiple landowners in one area undertaking similar conservation projects to achieve a regional or landscape-scale result.

Below I have outlined actions that are currently underway that align with and support many of the recommendations in the plan. Recommendations for future actions can be found at the end of the document.

### **Preliminary Council Recommendations**

#### 1D: ADAPT MONTANA'S BUILT ENVIRONMENT TO CLIMATE CHANGE

- **Forestry** - Over the last year we have working with DNRC, USFS and others to improve our collective ability to deliver cross-boundary management actions that lead to reduced wildfire risk and improved forest health, especially in the Wildland Urban Interface.
  - NRCS and DNRC completed a 5-year funding agreement in 2019 where NRCS provides funds to DNRC to accelerate implementation of technical and financial assistance to NIPF owners in Montana through DNRC Service Foresters. The combined effort of this agreement will result in enhancing the protection of land and water resources on NIPF acres in Montana, keep viable forests as working lands, and demonstrate the benefits of conservation and restoration of NIPF lands in Montana.
  - NRCS has been at the table for the development of the updated Montana Forest

Action Plan as an Ex-Officio member of the MFAAC. The resulting plan will serve as a guiding document for partners as we look to align our efforts and move the needle at a scale that makes a difference. We look forward to the completion of the plan and the associated tools to better inform our decisions. In FY 2020, Montana NRCS will provide funding to 9 Targeted Implementation Plans to address forestry related resource concerns on private lands.

#11b-61

- We continue to work with our Forest Service partners to deliver the Joint Chiefs Landscape Restoration Partnership. We currently have 2 active projects and 1 recently approved proposal. Through the Joint Chiefs' Landscape Restoration Partnership, the two USDA agencies are restoring landscapes, reducing wildfire threats to communities and landowners, protecting water quality and enhancing wildlife habitat. This is just one funding mechanism that will play a role in implementation of the Forest Action Plan.
- **Nature Based Solutions** – NRCS is working with our partners across the state on many nature based solutions as mentioned in the plan.
  - **Beaver mimicry** – NRCS now has the ability to fund beaver mimicry activities through our EQIP program. We have worked with partners such as The Nature Conservancy and the Montana Watershed Coordination Council to get workshops and projects on the ground to pilot these new ideas and learn from them.
  - **Soil Health** – There is no better way to mimic nature than to implement the principles of soil health to eliminate erosion and improve the function of our soil resource to be more drought resilient (more below on soil health).

#### 1F: BUILD THE RESILIENCE OF MONTANA'S PRIVATE WORKING LANDSCAPES (FARMS, RANGELANDS, AND FORESTS) AND SUPPORT VOLUNTARY AND INCENTIVE-DRIVEN EFFORTS FOR CLIMATE SMART MANAGEMENT THAT REDUCES RISKS, IMPROVES BOTTOM LINES, AND ENHANCES CARBON STORAGE IN SOILS, FORESTS AND WOOD PRODUCTS

- We currently have a Soil Health Strategy being drafted for NRCS in Montana. It is our expectation that this strategy will elevate the delivery of soil health across Montana and will speak to many of the items in the Climate Action Plan such as developing and strengthening partnerships, targeting Farm Bill funds, using best science, etc.
- Soil health and drought resiliency was a key component of 5 TIPs in FY 2020.
- Continuing to educate and promote soil health to employees, producers, and partners is of utmost importance as we look to advance knowledge and adoption of soil health principles. A recent soil health symposium in February saw over 400 attendees. We will be working with our partners at the Soil and Water Conservation Districts of Montana to deliver another symposium in 2021 to capitalize on the momentum.

#### 1G: SUPPORT CLIMATE RESILIENT FORESTS, RANGELANDS, AND WILDLIFE USING AN ALL-LANDS, ALL-HANDS APPROACH ACROSS OWNERSHIP BOUNDARIES

- Many of the recommendations in 1G speak to building resilient rangelands across the state. Through the power of the Farm Bill, we are able to work with private landowners to improve rangeland condition and health, address wildlife concerns, and keep our working ranches working. In Montana, almost two-thirds of sage grouse habitat is on private land. NRCS has invested heavily (see attached infographic) in our working ranches over the last decade through the Sage Grouse Initiative (SGI) to address threats but also keep ranches on the landscape. Whether through the Environmental Quality Incentives Program, conservation easements or technical assistance; we are committed to maintaining and improving rangeland in Montana through voluntary conservation.

- We have built relationships with and financially support partners such as the Intermountain West Joint Venture and the Prairie Pothole Joint Venture to collaboratively expand and expedite field delivery, science, communications, and partnership development. These partnerships will focus on delivering comprehensive technical and financial assistance to farmers, ranchers, and other landowners to voluntarily protect, restore, and enhance natural resources on working lands. These relationships speak to the strengthening of partnerships mentioned in the Climate Solutions Plan in order to implement landscape-scale conservation. #11b-61

### **Recommendations**

1. Share our Soil Health Strategy and Farm Bill opportunities to Montana Climate Solutions Council and/or appropriate committee.
2. Integrate the Climate Solutions Plan into 2021 Soil Health Symposium. The symposium will provide a venue to showcase to a large group of ag producers and partners the role that soil health and private working lands can play in making Montana more resilient to a changing climate. NRCS is currently in the planning phases for this event that will take place in early 2021.
3. Connect the Council to targeting tools such as the Rangeland Analysis Platform (RAP) that were developed for landowners, managers, and conservationists to quickly and easily access information that can guide land use decisions.

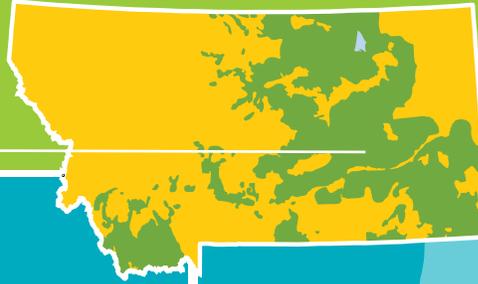
Thanks again for the opportunity to further discuss and Kyle and I look forward to further follow-up in person when we are able to travel to meet with partners. In the meantime, please let us know if you have any questions or comments. Stay safe and take care.

**Tom Watson**  
**State Conservationist - NRCS Montana**

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# On Target: Sage Grouse Initiative

**Montana** is the second most populous sage grouse state with **18%** percent of the range wide sage grouse population.



Conservation here requires cooperation with private land-owners as **2/3** of the habitat is on privately owned lands.

## Money to Montana



**26%**

Montana's focus on conserving rangelands occupied by sage grouse increased the state's Environmental Quality Incentives Program cost-share funding by 26% in a two-year span, an increase of \$8.7 million!

Between 2010 and 2018, Montana received an **additional \$88 million** in EQIP and easement funding.

## What did that buy?



**1.2 million acres**

of rangeland and habitat improvements and land easement protection. That's an area larger than Glacier National Park.



## Rangeland benefits for everyone

### Grazing



Well-managed NRCS grazing systems are highly compatible with healthy sage-grouse populations and also result in a 13% greater prevalence of preferred insects eaten by grouse chicks in grazed versus idled rangelands.

### Mesic Habitats



Mesic restoration makes meadows **25%** more productive and keeps water on the ranch in the fall when producers and wildlife need it most.

### Easements

More than 50% of all conservation easements ever funded in the state of Montana by NRCS were through Working Lands for Wildlife. Many are linked together and support the longest known sage grouse migration in the West.

### Conifer Removal



New satellite-mapping of expanding conifer trees into native rangelands helped target woodland management prescriptions that have been documented to boost sage grouse populations by 12% and restored water availability for ranchers.

## Focusing conservation provides big results –

conserved sage grouse habitat, increased rangeland productivity and sustainability, and resulted in **no** additional endangered species regulations.



## Wildlife Conservation Through Sustainable Ranching

Montana Natural Resources Conservation Service

[nrcs.usda.gov/](http://nrcs.usda.gov/)

**From:** [Caitlin Piserchia](#)  
**To:** [Climate Council](#)  
**Subject:** [EXTERNAL] Climate Council Comment  
**Date:** Monday, April 27, 2020 1:06:47 AM

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#11b-62

Dear fellow council members,

I'm grateful for the work that went into the first draft of this plan. I hope we will follow this draft with a comprehensive second draft that aims to further appreciate and address the scope, scale, and extent of the problem we face. We need to plant the seeds for solutions that meet the unique concerns of Montana communities, and I'm encouraged by the recommendations that prioritize support for local planning and response. There are a number of recommendations that I hope to see further detailed and put into action immediately, especially those related to energy efficiency, renewable energy, community transition, developing statewide information-sharing networks, and resiliency planning. However, there are a number of missing principles and gaps in this plan that I hope we will address if we're aiming to adequately meet this challenge.

As with covid-19, climate change is an invisible, mounting threat that highlights the fragilities in our social and economic systems. We're already experiencing localized climate breakdown in some places around the world, and our task is to prevent this issue from growing beyond human influence, risking humanity in the process, beginning with people with least access to money or power. It is a slow-burning global emergency that we have limited time left to prevent.

There are a few principles that I hope we will incorporate into the final draft of this plan and use to assess which recommendations should be prioritized in implementation: leaning on current, evolving climate science to guide timing and decision making, prioritizing a rapid transition away from fossil fuels, creating communication strategies that help counter disinformation about climate change, uplift the most vulnerable, and addressing the root causes of the issue with a broad & deep suite of solutions.

1.

We need to come up with a means of continually integrating the most up-to-date scientific understanding of the issue into decision making and implementation. In designing and implementing solutions, we should reassess the timeline we're operating under to be in line with our best understanding of the speed our climate system requires. In the [2018 Intergovernmental Panel on Climate Change report \[report.ipcc.ch\]](#) on the risks of failing to avoid warming of 1.5 degrees Celsius (we've passed 1 degree Celsius of global warming) and the global action necessary to do so, 133 authors drew on over 6,000 peer-

reviewed research studies to conclude we have 12 years or less to draw down emissions on a global scale. The report concluded that every fraction of a degree matters significantly at this point. Scientific uncertainty now hinges on exactly when the impacts of climate change will reach an irreversible threshold and manifest in globalized climate breakdown that threatens our ability to sustain ourselves and our communities. In 2020, our primary focus should be on which sweeping changes we can begin to implement in the next several years.

#11b-62

2.

We need some recommendations that will help us more quickly transition away from fossil fuels (in a way that centers the needs of communities and workers dependent on the industry). Per [a recent study \[nature.com\]](#) of the globe's carbon budget in *Nature*, currently existing fossil fuel infrastructure around the world, if utilized to the end of its lifecycle, will guarantee the globe warms over 1.5 degrees Celsius. This doesn't account for the emissions of any future infrastructure projects. [Another study \[nature.com\]](#) contends that we may be able to avoid 1.5 degrees of warming if no additional fossil fuel infrastructure was built. The climate risk of constructing any new fossil fuel infrastructure is very high and should be treated as such. This sounds difficult, but I hope we can keep close to heart the conviction that averting the worst climate outcomes we face is worth far more than further delays in the name of short-term profit or savings that would undercut longer-term efforts.

3.

We need clear communication from our government that helps us all better conceptualize the choice between the version of the future we're on track for and the brighter vision for our state we aim to choose instead. This is important for the sake of helping more people to contribute their thinking, creativity, and skills in helping draw down emissions, and it's also necessary for communities to adequately prepare themselves for changes to come. I hope we can further develop plans to facilitate clear, widespread, science-informed communication about the threat of climate change and the level of action needed to adequately mitigate and respond to the crisis, led by or in partnership with state government. Both policy and storytelling undergird our lives and our private and public decision making. The words "climate emergency," "climate crisis," or impending "climate collapse" more accurately describe the problem we face than the more tempered-sounding "climate change," and we need to act in line with the former descriptors. The current changes we're seeing are projected to be nonlinear, soon to activate feedback loops beyond our control. We are coming to understand that the changes rapidly approaching will make large swaths of the earth uninhabitable, force the migration of millions, and deliver famine, drought, heat, and more frequent, intense storms and fires. Each of

these problems has cascading ripple effects for all people, including the people of Montana. It is a psychological battle just to comprehend the nature, scope, and scale of this crisis, let alone maintain a focus on what's necessary to avert the worst of it. The world's leading climate scientists have urged worldwide mobilization on a historic scale to avert the worst impacts of climate change and avoid catastrophic tipping points and feedback loops. Widespread misinformation campaigns funded by private interests, the complicated nature of climate science, the delayed effects of climate change drivers, and the challenge of communicating impassively expressed scientific findings have all substantially slowed public understanding of the challenge we face, over the many decades scientists have warned us about this mounting problem.

#11b-62

4.

Lastly, the best plans to address climate change are extensive and far-reaching. As Dwight Eisenhower said, “[w]henver I run into a problem I can’t solve, I always make it bigger. I can never solve it by trying to make it smaller, but if I make it big enough, I can begin to see the outlines of a solution.” The problem of climate change isn’t just a question of emissions, it stems from a failure of our economic system to appropriately value the protection of ecosystems, health, and people above economic growth or short-term profit. We need solutions that actively protect the ecosystems that sustain us and recognize intact, healthy ecosystems as vital life-support systems for human communities. We also need to think about how to reduce harm to our communities, and especially to the groups most impacted by climate change & the necessary economic transition, more generally. Pursuing climate mitigation in tandem with efforts centered around addressing substantial economic inequalities, respecting tribal sovereignty, and prioritizing social equity will allow for an easier transition away from fossil fuels and help minimize the impact of climate impacts we won’t be able to prevent. The current draft plan includes a good deal of consideration for workers in fading industries. I also hope we can craft solutions that address the needs of groups vulnerable to the impacts of climate change-- the elderly, tribal groups, low-income and middle-income folks, and marginalized identity groups in every community.

The work gets harder every year our nation and international community fails to come together in addressing this crisis at the level we need. Our lives, our communities, our state, our ecosystems are hanging in the balance. This effort requires a hard look at what it is we value and what we’re willing to prioritize above all else in how we move forward with policymaking on this issue in Montana. We can’t afford to shy away from the challenge and miss this boat. Even with limited time to finish this plan, I hope we can plant the seeds now for the changes we need in our state.

I would welcome more conversation about any of these ideas.

#11b-62

All my best,

--

**Caitlin Piserchia**

*Community Organizer*

Montana Chapter of the Sierra Club

Pronouns: she/ her

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