Our Children's Trust Youth v. Gov

September 23, 2026

RECEIVED
By Rina V at 2:00 pm, Sep 23, 2026

Submitted via email only

DEQAIR@mt.gov
Montana Department of Environmental Quality
1520 E 6th Avenue
Helena, MT 59601

RE: Our Children's Trust Comments on DEQ's Draft Second Supplemental Environmental Assessment: Yellowstone County Generating Station

To Montana Department of Environmental Quality ("DEQ"):

Third time's the charm? Unfortunately, not here. DEQ's *third* attempt at an Environmental Assessment ("EA") for the Yellowstone County Generating Station ("YCGS") *still* falls short of what the law requires, continues to ignore and misrepresent climate science, and applies modeling that DEQ admits is flawed to ignore the massive greenhouse gas ("GHG") emissions the YCGS is emitting into Montana's already unconstitutionally degraded atmosphere. To point out these legal and scientific flaws, Our Children's Trust respectfully submits this comment letter on DEQ's Draft Second Supplemental EA for the YCGS on behalf of the youth Plaintiffs in the constitutional climate cases *Held v. State of Montana* and *Held v. State of Montana II.*

Following decisions by the Montana Supreme Court in *Held v. State of Montana*, 2024 MT 312, and *Montana Environmental Information Center v. DEQ*, 2025 MT 3, the DEQ published a Supplemental Draft EA for the Laurel Generating Station for Montana Air Quality Permit Application Number 5261-00. The Supplemental Draft EA included a "Greenhouse Gas Assessment" section that was absent from the first EA. The Draft Second Supplemental EA, currently under review here, follows the release of DEQ's January 2026 Guidance for Greenhouse Gas Impact Assessment Under the Montana Environmental Policy Act. Unfortunately, this Draft Second Supplemental EA is still legally and scientifically deficient.

The Draft Second Supplemental EA remains legally deficient because it relies on flawed modeling to find that the GHGs from the YCGS are insignificant and does not account for the current unconstitutional degradation of Montana's natural resources and environment, or the ongoing violations of Montana youths' constitutional rights, including their rights to a clean and healthful environment, to a stable climate system, to individual dignity, and to health, safety, and liberty from the *current* atmospheric concentration of GHGs. Nor does the Draft Second Supplemental EA demonstrate a need for a new gas-fired generation station, establish that a gas-fired power station is the best way to meet Montanans energy needs, or adequately consider alternatives means, such as renewable energy—the cheapest form of electricity—to meet Montanans current and future energy needs.

Accordingly, for the reasons outlined herein, DEQ must conduct further review to adequately evaluate the significant direct, secondary, and cumulative harms to Montana's

environment, natural resources, and citizens (and especially children) from the GHG emissions and climate harms that will result from the YCGS. Pending further review and demonstration of a compelling government interest in the project, because there is already an unconstitutional level of GHG emissions in the atmosphere, and because DEQ has failed to present any evidence to justify a further increase in GHG emissions, DEQ should *immediately* suspend or revoke the air quality permit for the YCGS and it should cease operating.

I. DEQ Relies on Admittedly Flawed Modeling to Downplay the Magnitude of the GHG Emissions the YCGS Is Emitting into Montana's Already Unconstitutionally Degraded Atmosphere.

As DEQ concedes, the Model for the Assessment of Greenhouse Gas Induced Climate Change ("MAGICC") is flawed. DEQ admits that when using MAGICC, "[a]ny single project's impacts will appear small in a global context" and notes the "inherent limits" of the model "as it relates to the analysis of project level emissions." Draft Second Supplemental EA at 13. Despite admitting these flaws, inexplicably and unjustifiably, DEQ relies on the model for its analysis to attempt calculate the climate impacts of the YCGS. These errors cannot withstand legal review.

While there is nothing inherently wrong with MAGICC and the Shared Socioeconomic Pathways ("SSPs"), they are tools to reflect global societal actions, not the incremental contributions of specific GHG-emitting projects in Montana. The use of these ill-fitted tools to determine an individual project's contribution to future global temperature change effectively ensures that even the largest projects are deemed to cause no significant harm to Montana's environment. Simply put, MAGICC is not designed to be used for determining cumulative climate impacts. This concern, which OCT raised in comments on DEQ's GHG Guidance document (those comments are attached as Exhibit 1 and incorporated into the present comments), are playing out here exactly as anticipated. As expected, DEQ erroneously concludes here that the GHG emissions from the YCGS are not significant, when in reality, the GHG emissions and impact on global temperature (not to mention the other adverse impacts that will ensure) are *massive* for a single project, especially when considering there is already unconstitutional depletion and degradation of Montana's environment and natural resources. (DEQ has come to this same conclusion in other EAs, for example, in DEQ's Draft Supplemental Environmental Assessment for Rosebud Area B, a massive coal mine expansion.[1])

Given the flaws of MAGICC, how should the cumulative impacts of a given project in Montana be assessed? The Intergovernmental Panel on Climate Change ("IPCC") 6th Assessment Report Longer Synthesis provided a clear directive in stating that "Every ton of CO_2 adds to global warming".[2] That is, every ton of CO_2 emitted will make the climate crisis worse and will cause further harms to Montana children and youth. Montanans are currently being harmed by climate change, as has clearly been documented by the U.S. 5th National Climate Assessment[3], the 2017

[1] https://deq.mt.gov/Files/Land/CoalUranium/Rosebud%20AM5%20Supplemental%20Environmental%20Assessment.pdf.
[2] https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_LongerReport.pdf.
[3] https://toolkit.climate.gov/NCA5.

Montana Climate Assessment[4], the 2021 Climate Change and Human Health in Montana Report[5], and *Held v. Montana*. Every additional ton of CO_2 that is permitted to be emitted will make these harms worse. It is very simple. (See *supra* IV for the analysis that DEQ should apply in deciding whether additional GHG emissions are constitutionally permissible). Even DEQ admits that every project's GHG emissions incrementally add to global GHGs and, thus, to secondary and cumulative climate impacts." Draft Second Supplemental EA at 16.

Contrary to DEQ's conclusion, the GHG emissions that are resulting from the YCGS are not insignificant, but are significant for Montana and the globe. To illustrate the significance of the emissions, and flaws with DEQ's findings, consider that the emissions of 695,195 metric tons of CO2e per year from the YCGS are more than the annual GHG emissions of 26 countries, and are more than all of Greenland's annual GHG emissions.[6] Considering that the YCGS will operate for at least 30 years, the total emissions during that time frame, at least 20,855,850 metric tons CO2e, are more than the annual emissions of *88 countries*.[7] In order to conclude that the GHG emissions from YCGS are insignificant, the emissions of dozens of other countries, not to mention other power plants and coals mines, would also be deemed insignificant. However, that is not how it works with GHG emissions, which are not ephemeral but rather accumulate and persist in the atmosphere for centuries, driving further warming and attendant impacts in Montana. The significance of the YCGS' GHG emissions is underscored when considering the already unconstitutional concentration of GHGs in the atmosphere.

DEQ's contention that the GHG emissions from the YCGS are also small when compared to Montana's total annual GHG emissions is also misleading. Draft Second Supplemental EA at 16. What matters is that the YCGS is the *single largest source of GHG emissions from a gas plant in Montana*. Indeed, is it the sixth largest emitter of GHG emissions for *all facilities* in Montana (the five facilities that emit more GHG emissions than the YCGS are two coal-fired power plants and three refineries). *See* Appendix 4 to DEQ's GHG Guidance Document at 6. Accepting DEQ's rationale, they would find that no single source of GHG emissions is Montana matters when it comes to GHG emissions and climate change, but that narrow-sighted rational has already been rejected by the courts, including in *Held v. State of Montana*, which found Montana's GHG emissions are nationally and globally significant. Those significant GHG emissions necessarily come from *individual* projects, and the YCGS is one of the Montana's largest and worst polluting projects!

In short, the Draft Second Supplemental EA's conclusion that the YCGS's contribution to climate change is not significant is a reflection of using the wrong tool for the job. Any comparison of an individual project to overall global emissions or overall global temperature change is going to appear small by this fundamentally flawed method. This is unsurprising as it is simply a reflection of the reality that the climate change crisis is driven by myriad sources of anthropogenic CO_2 emissions that collectively build up in the atmosphere, driving warming. More fundamentally, concluding that a single project's contribution to climate change is insignificant because the project's emissions appear small when compared to collective global emissions or because the

[4] https://montanaclimate.org/chapter/title-page.
[5] https://www.emountainworks.com/docs/2021_C2H2inMT_final.pdf.
[6] https://edgar.jrc.ec.europa.eu/report_2025.
[7] *Id.*

future global warming ostensibly attributable to an individual project appears small *ignores the fact that every ton of additional fossil fuel CO_2 emissions matters because the Earth's atmosphere is already dangerously over-saturated with CO_2 and each new ton of CO_2 emissions will persist in the atmosphere and drive warming for centuries*. As found in *Held,* every additional ton of CO_2 emitted exacerbates Plaintiffs' injuries and risks locking in irreversible climate injuries.

DEQ's conclusion to the contrary is, simply put, wrong as a matter of science and law.

II. DEQ Admits the YCGS will Allow for the Burning of Fossil Fuels and Release GHG Emissions Yet Ignores the Gravity of These Harms and the Ongoing Infringement of Youths' Constitutional Rights.

The purpose of the YCGS is to enable and facilitate the burning of fossil gas to produce electricity. Burning fossil fuels results in the release of GHG emissions, including fugitive methane emissions from gas transportation infrastructure, which DEQ admits. DEQ even admits that the CO2 will remain in the atmosphere for "thousands of years" and that the intensity of warming caused by GHG emissions "increases with increased GHG concentration in the atmosphere." Draft Second Supplemental EA at 7. Importantly, the Draft Second Supplemental EA does not deny that climate change is degrading Montana's environment and natural resources or that GHG emissions "are the primary drivers of anthropogenic climate change." Draft Second Supplemental EA at 7-8.

Despite these admissions, which of course are in line with the scientific consensus on climate change, the Draft Second Supplemental EA glosses over the consequences of such climate impacts on Montanans, and especially Montana's children and youth. The Draft Second Supplemental EA also downplays the significance of the degradation to Montana's environment and natural resources and ignores that the ongoing infringement of constitutional rights caused by *current* GHG concentrations. There is also no discussion of why the project is necessary given the already unconstitutional concentration of GHGs in the atmosphere and already unconstitutional degradation of Montana's environmental life support system.

DEQ was a defendant in *Held v. State of Montana*, and is aware of, and bound by, the ruling in that case, including the District Court's August 14, 2023, Findings of Fact and Conclusions of Law Order, and the December 18, 2024, Montana Supreme Court decision that fully affirmed the District Court's Order.

As DEQ knows, and as we have repeatedly stressed in other public comments, the District Court's August 14, 2023, Order in *Held v. State of Montana* set forth detailed findings of fact and conclusions of law relating to Montanans' fundamental rights, including their right to a clean and healthful environment. The Order also made detailed factual findings related to the array of serious harms that fossil fuel pollution and climate change has already caused and will increasingly cause to Montana's environment and citizens. Importantly, based on the testimony of the youth Plaintiffs and their experts at trial, the District Court detailed how Montana children, including the 16 youth Plaintiffs, are already suffering grave injuries because of DEQ's historic and ongoing approval of fossil fuel activities. The District Court made clear that these injuries to children will get worse if

fossil fuel permitting and activities continue. Based on the uncontested evidence presented at trial, the District Court found, in part, that:

> 89. Until atmospheric GHG concentrations are reduced, extreme weather events and other climactic events such as drought and heatwaves will occur more frequently and in greater magnitude, and Plaintiffs will be unable to live clean and healthy lives in Montana.
>
> 92. Every ton of fossil fuel emissions contributes to global warming and impacts to the climate and thus increases the exposure of Youth Plaintiffs to harms now and additional harms in the future.
>
> 98. According to the Intergovernmental Panel on Climate Change (IPCC), "Climate change is a threat to human well-being and planetary health (*very high confidence*). . . . There is a rapidly closing window of opportunity to secure a liveable and sustainable future for all (*very high confidence*). . . . The choices and actions implemented in this decade will have impacts now and for thousands of years (*high confidence*)."
>
> 101. Dr. Byron provided expert testimony that climate change and the air pollution associated with it are negatively affecting children in Montana, including Youth Plaintiffs, with a strong likelihood that those impacts will worsen in the absence of aggressive actions to mitigate climate change. Dr. Byron outlined ways in which climate change is already creating conditions that are harming the health and well-being of the Youth Plaintiffs. Dr. Byron testified that reducing fossil fuel production and use, and mitigating climate change now, will benefit the health of the Youth Plaintiffs now and for the rest of their lives.
>
> 104. Children are uniquely vulnerable to the consequences of climate change, which harms their physical and psychological health and safety, interferes with family and cultural foundations and integrity, and causes economic deprivations.
>
> 108. The physical and psychological harms are both acute and chronic and accrue from impacts to the climate such as heat waves, droughts, wildfires, air pollution, extreme weather events, the loss of wildlife, watching glaciers melt, and the loss of familial and cultural practices and traditions.
>
> 138. The unrefuted testimony at trial established that climate change is a critical threat to public health.
>
> 139. Actions taken by the State to prevent further contributions to climate change will have significant health benefits to Plaintiffs.
>
> 140. Anthropogenic climate change is impacting, degrading, and depleting Montana's environment and natural resources, including through increasing temperatures, changing precipitation patterns, increasing droughts and

> aridification, increasing extreme weather events, increasing severity and intensity of wildfires, and increasing glacial melt and loss.
>
> 141. Climate change impacts result in hardship to every sector of Montana's economy, including recreation, agriculture, and tourism.
>
> 193. The science is clear that there are catastrophic harms to the natural environment of Montana and Plaintiffs and future generations of the State due to anthropogenic climate change. . . . The degradation to Montana's environment, and the resulting harm to Plaintiffs, will worsen if the State continues ignoring GHG emissions and climate change.

Based on the compelling factual record presented by Plaintiffs and their experts, the District Court held, as a conclusion of law, that:

> 6. Every additional ton of GHG emissions exacerbates Plaintiffs' injuries and risks locking in irreversible climate injuries.
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> 7. Plaintiffs' injuries will grow increasingly severe and irreversible without science-based actions to address climate change.
>
> 8. Plaintiffs have proven that as children and youth, they are disproportionately harmed by fossil fuel pollution and climate impacts.
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> 49. Based on the plain language of the implicated constitutional provisions, the intent of the Framers, and Montana Supreme Court precedent, climate is included in the "clean and healthful environment" and "environmental life support system" Mont. Const. Art. II, Sec. 3; Art. IX, Sec. 1.
>
> 50. Montana's climate, environment, and natural resources are unconstitutionally degraded and depleted due to the current atmospheric concentration of GHGs and climate change.

The Montana Supreme Court affirmed the District Court's Order in full, finding that:

> Montana is heating faster than the global average and the rate of warming is increasing. Overwhelming scientific evidence and consensus shows that this warming is the direct result of greenhouse gas (GHG) emissions that trap heat from the sun in the atmosphere, primarily from carbon dioxide (CO2) released from human extraction and burning of fossil fuels such as coal, oil, and natural gas.
>
> These emissions result in extreme weather events that are increasing in frequency and severity, including droughts, heatwaves, forest fires, and flooding. These extreme weather events will only be exacerbated as the atmospheric concentration of GHGs continues to rise. Projections indicate that under a business-as-usual emissions scenario, Montana will see almost ten additional degrees of warming by

> 2100 compared to temperatures in 2000. By 2050, Montana will have 11–30 additional days per year with temperatures exceeding 90 degrees and a similar loss of days below freezing. Montana has already seen (and will increasingly see) adverse impacts to its economy, including to recreation, agriculture, and tourism caused by a variety of factors including decreased snowpack and water levels in summer and fall, extreme spring flooding events, accelerating forest mortality, and increased drought, wildfire, water temperatures, and heat waves.
>
> We reject the argument that the delegates—intending the strongest, all-encompassing environmental protections in the nation, both anticipatory and preventative, for present and future generations—would grant the State a free pass to pollute the Montana environment just because the rest of the world insisted on doing so. The District Court's conclusion of law is affirmed: Montana's right to a clean and healthful environment and environmental life support system includes a stable climate system, which is clearly within the object and true principles of the Framers inclusion of the right to a clean and healthful environment.

Held v. State of Montana, 2024 MT 312, ¶¶ 3-4, 30.

Despite being a defendant in the *Held* case and being deeply familiar with both the District Court and Supreme Court orders, the Draft Second Supplemental EA fails to acknowledge the scope and magnitude of climate disruptions in Montana occurring *right now*, including those listed above, and completely ignores impacts to Montanan's health and safety, and especially the health and safety of Montana's children, who are most harmed by fossil fuel projects such as the YCGS and the ensuing air pollution. Ignoring these significant and well-known harms to Montana's environment, natural resources, citizens, and especially Montana's children renders the Draft Second Supplemental EA legally deficient and demonstrates the need for further review of these significant and cumulative harms, which are both direct and indirect.

III. DEQ's Draft Supplemental Draft EA Fails to Consider Alternative Sources of Energy, such as Renewable Energy, to Meet Montanans' Current and Future Energy Needs

As we have previously noted in comments to DEQ, fossil fuel energy sources, such as the gas-fired YCGS, are the least cost-effective and least efficient means of providing affordable and reliable energy sources for Montanans, in addition to the myriad of climate and public health harms associated with fossil fuel use (as detailed in part above). Fossil fuel projects, such as the YCGS, *increase* energy costs for Montana electricity users, exacerbate costly extreme weather events, and increase health care costs associated with air pollution from fossil fuels. Renewable energy, on the other hand, is cheaper, safer, reliable, readily available, and will not exacerbate extreme climate events in Montana. The Draft Second Supplemental EA is legally deficient because it fails to adequately consider alternative means, such as renewable energy, to meet Montanans' current and future energy needs.

As the District Court found in *Held*:

271. Non-fossil fuel electricity-based energy systems across all sectors, including electricity, transportation, heating/cooling, and industry, are currently economically feasible and technologically available to employ in Montana. Experts have already prepared a roadmap for the transition of Montana's all purpose energy systems (for electricity, transportation, heating/cooling, and industry) to a 100% renewable portfolio by 2050, which, in addition to direct climate benefits, will create jobs, reduce air pollution, and save lives and costs associated with air pollution.

272. It is technically and economically feasible for Montana to replace 80% of existing fossil fuel energy by 2030 and 100% by no later than 2050, but as early as 2035.

275. Converting from fossil fuel energy to renewable energy would eliminate another $21 billion in climate costs in 2050 to Montana and the world. Most noticeable to those in Montana, converting to wind, water, and solar energy would reduce annual total energy costs for Montanans from $9.1 to $2.8 billion per year, or by $6.3 billion per year (69.6% savings). The total energy, health, plus climate cost savings, therefore, will be a combined $29 billion per year (decreasing from $32 to $2.8 billion per year), or by 91%.

276. Wind, water, and solar are the cheapest and most efficient form of energy. Cost per unit of energy in a 100% WWS [wind, water, solar] system in Montana would be about 15% lower than a business-as-usual case by 2050, even when including increased costs for energy storage. New wind and solar are the lowest cost new forms of electric power in the United States, on the order of about half the cost of natural gas and even cheaper compared to coal.

281. Transitioning to WWS will keep Montana's lights on while saving money, lives, and cleaning up the air and the environment, and ultimately using less of Montana's land resources.

283. Montana has abundant renewable energy resources that can provide enough energy to power Montana's energy needs for all purposes in 2050.

None of these findings are considered in the Draft Second Supplemental Draft. Accordingly, further review is required by DEQ to adequately consider renewable energy as an alternative means to meet Montanan's energy needs, especially when considering the already unconstitutional concentration of GHGs in the atmosphere.

IV. The Draft Second Supplemental EA, Yet Again, Fails to Present Evidence of a Compelling Government Need in YCGS

The *Held* rulings made clear that Plaintiffs' constitutional rights are being violated due to the *current* atmospheric concentration of GHGs and the resulting climate harms. Therefore, it is incumbent upon DEQ before issuing new permits that will result in additional GHG emissions, to

establish that the proposed project will not further violate Plaintiffs' constitutional rights and will lead to the reduction in GHG emissions necessary to restore a clean and healthful environment. For projects that will *increase* Montana's GHG emissions, such as the YCGS, the DEQ must: first, demonstrate a compelling government need for the project, and second, prove the project is the least burdensome means of meeting the demonstrated government need. Only then can a project that increases Montana's GHG emissions be approved and deemed constitutionally compliant.

Here, DEQ has failed to present evidence of any need for the YCGS. In addition to not demonstrating any need for the YCGS, DEQ has not demonstrated that a gas-fired power plant is the least burdensome means of meeting any purported energy needs.

The DEQ, of course, has the authority to deny permits, as the District Court in *Held v. State of Montana* made clear, holding as conclusions of law that:

> 18. Defendants can alleviate the harmful environmental effects of Montana's fossil fuel activities through the lawful exercise of their authority if they are allowed to consider GHG emissions and climate change during MEPA review, which would provide the clear information needed to conform their decision-making to the best science and their constitutional duties and constraints, and give them the necessary information to deny permits for fossil fuel activities when inconsistent with protecting Plaintiffs' constitutional rights.
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> 22. Permitting statutes give the State and its agents discretion to deny permits for fossil fuel activities.
>
> 24. [T]his Court clarifies that Defendants do have discretion to deny permits for fossil fuel activities that would result in unconstitutional levels of GHG emissions, unconstitutional degradation and depletion of Montana's environment and natural resources, or infringement of the constitutional rights of Montanans and Youth Plaintiffs.

The constitutional rights of Montana's youth, including the *Held* Plaintiffs, are currently being violated, in part, due to DEQ's historic and ongoing permitting of fossil fuel activities. *Held* requires a change in DEQ's longstanding permitting practices. The State, and DEQ in particular, have an affirmative constitutional obligation to maintain *and improve* a clean and healthful environment in Montana for present and future generations. Accordingly, the State and DEQ must take actions to reduce Montana's GHG emissions and not approve permits for fossil fuel projects that increase Montana's GHG emissions. Permits that increase GHG emissions must be denied unless DEQ proves there is a compelling need for the project and the project is the least burdensome means to meet the need. The Draft Second Supplemental EA fails to prove a need for the YCGS or that is it the least burdensome way to provide energy for Montanans.

V. Conclusion

Every new fossil fuel permit approved by DEQ that causes an increase in Montana's GHG emissions is a violation of Montana Constitution. Every additional ton of GHG emissions

exacerbates the injuries and constitutional violations the Plaintiffs are already suffering. Fortunately, as the undisputed facts in *Held* established, Montana can transition to 100% clean renewable energy—thereby mitigating the enormous harms caused to Montana's youth and saving Montanans billions of dollars in avoidable costs caused by reliance on fossil fuels.

Despite significant shifts in the law since the DEQ approved MAQP 5261-00 over five years ago, and a profoundly worsening climate crisis with grave impacts in Montana that disproportionately harm children and youth, DEQ has failed to conform its MEPA analysis and subsequent permitting decisions to the legal and scientific realities. Accordingly, for the reasons outlined herein, DEQ must substantially revise its Draft Second Supplemental EA to comply with the District Court and Supreme Court Orders in *Held v. State of Montana* and correct the other legal and scientific flaws described herein. In the meantime, DEQ should immediately suspend or revoke the air quality permit for YCGS.

Sincerely,

Nathan Bellinger
Counsel for Plaintiffs in *Held v. State of Montana*
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EXHIBIT 1

October 30, 2025

Submitted via email only

Montana Department of Environmental Quality
Attn: Craig Jones
PO Box 200901
Helena, MT 59620-0901

Re: Our Children's Trust Comments on DEQ's Draft Greenhouse Gas Guidance

To Montana Department of Environmental Quality ("DEQ"):

On behalf of the 16 youth Plaintiffs in the constitutional climate case *Held v. State of Montana*, Our Children's Trust respectfully submits this comment letter on DEQ's Draft Greenhouse Gas ("GHG") Guidance.[1] The *Held* Plaintiffs appreciate this opportunity for public comment and appreciate DEQ's efforts to develop a detailed, science-based guidance document for Montana's state agencies to follow when evaluating the GHG and climate impacts of a proposed state action in an Environmental Assessment or Environmental Impact Statement conducted under the Montana Environmental Policy Act ("MEPA").

While DEQ's Draft GHG Guidance acknowledges some of the credible climate science climate impacts that are occurring in Montana *now*, the Draft Guidance suffers from several key flaws that impede it from satisfying MEPA's requirements and, more importantly, prevent DEQ and other agencies from meeting their affirmative constitutional obligations. The undersigned respectfully provide the following constructive feedback and suggested changes to the Draft Guidance.

First, although the Draft Guidance discusses *Held*, it nevertheless ignores the factual findings of *Held* establishing that every additional ton of GHG emissions from fossil fuel activities in Montana contributes to global warming and exacerbates local harms in Montana. This factual finding was undisputed by Defendants, including the DEQ. The Draft Guidance overlooks the fact that Montana's constitutionally-protected environmental life support system—which includes Montana's climate—is *already unconstitutionally degraded due to the current atmospheric concentration of GHGs and climate change*, and that each additional ton of GHG emissions exacerbates that constitutional violation. Montana's youth, including the *Held* Plaintiffs, are already suffering constitutional harms. DEQ must update the Draft Guidance to reflect this scientific reality, which should be the starting point for future environmental reviews and the subsequent permitting decisions. As a consequence, agencies should use their GHG reviews to determine whether there is a compelling state interest in projects that would increase GHG emissions, and if so, whether that interest can be met through alternatives means with fewer, or no, GHG emissions.

[1] https://deq.mt.gov/News/publiccomment-folder/ghg-guidance-10-01-25.

Second, in the context of fossil fuel activities or other projects that require a MEPA GHG analysis, Montana's agencies cannot make fully-informed (let alone constitutionally compliant) permitting decisions without considering the full scope of emissions—both up- and down-stream—associated with the project under consideration. To the extent that DEQ believes that recent amendments to MEPA enacted during the 2025 Montana Legislative Session prevent it and other state agencies from considering up- and down-stream GHG emissions in MEPA analyses,[2] DEQ should amend the Draft Guidance to articulate what it and other agencies will do to otherwise gather the necessary information to enable fully-informed decision making. The Draft Guidance should explain how its MEPA reviews are constitutionally compliant, especially given the *Held* decision, and should provide agencies with tools to determine the up- and down-stream emissions associated with a proposed project so that the agency can inform itself of the full impact of its contemplated action as required by the Constitution's mandate that "[t]he state and each person shall maintain and improve a clean and healthful environment in Montana for present and future generations."

Third, the Draft Guidance errs in curtailing the scope of MEPA reviews through its flawed use of the Model for the Assessment of Greenhouse Gas Induced Climate Change ("MAGICC") to calculate a project's climate impacts and its misunderstanding of how individual projects fit into the Shared Socioeconomic Pathways ("SSPs") of projected future climate warming scenarios. While there is nothing inherently wrong with MAGICC and the SSPs, they are tools to reflect global societal actions, not the incremental contributions of specific GHG-emitting projects in Montana, and the use of these ill-fitted tools to determine an individual project's contribution to future global temperature change effectively ensures that even the largest projects are deemed to cause no significant harm to Montana's environment. This concern is already playing out exactly as feared. For example, DEQ's Draft Supplemental Environmental Assessment for Rosebud Area B[3] uses MAGICC to arrive at the erroneous conclusion that the GHG emissions from the contemplated coal mine expansion are not significant, when in reality, the GHG emissions and impact on global temperature (not to mention the other adverse impacts that will ensure) are *massive* for a single project, especially when considering there is already unconstitutional depletion and degradation of Montana's environment and natural resources.

Fourth, the Draft Guidance should require an economic tool like the Social Cost of Greenhouse Gases ("SC-GHG") so that DEQ and other agencies have a metric to understand real-world costs to Montana communities, public health, and environment from proposed projects. The Draft Guidance's discussion of uncertainty and the discount rate in Appendix D is flawed as there is no "correct" discount rate in an objective sense—here, DEQ's and other agencies' constitutional obligations to future generations indicate that the Draft Guidance should employ a *non-discounted* SC-GHGs so that the costs analysis does not inappropriately minimize the value current generations assign to the harms that will be suffered by Montana's youth and future generations.

Our Children's Trust respectfully request that DEQ revises the Draft Guidance in light of these comments so that DEQ and Montana's agencies can: (1) fully assess the GHG emissions and

[2] *See, e.g.*, Draft Guidance at 3 (referencing SB 221).
[3] https://deq.mt.gov/Files/Land/CoalUranium/Rosebud%20AM5%20Supplemental%20Environmental%20Assessment.pdf

climate impacts of proposed projects; (2) conduct such an assessment from a factually-sound and scientifically-grounded perspective that recognizes the harms already inflicted on Montana's environment and citizens and adequately considers harms to future generations; (3) use this GHG analysis to evaluate whether there is a compelling state interest in any project that will increase GHG emissions and if so, whether there is an alternative means to achieve that state interest with fewer or no GHG emissions; and (4) ensure that it is meeting its constitutional obligations to maintain and improve and clean and healthful environment for present and future generations.

DEQ and Montana's agencies cannot meet their affirmative constitutional obligations to *maintain and improve* a clean and healthful environment in Montana for present and future generations by simply acknowledging that each project's GHG emissions adds incrementally to a global total, and then conclude the project is, by itself, not a significant contribution to global temperature increase and thus environmental degradation in Montana. Such a framework is effectively designed to minimize and downplay a project's significance and to ensure that even the largest GHG-emitting projects will be deemed to have a negligible environmental impact in Montana (*see, e.g.,* the Rosebud mine example, *supra*). This flawed approach ignores the science-based factual findings of *Held* that make clear climate change is *already* causing dire harm to Montana's environment and youth and that such constitutional injuries worsen with each additional ton of GHG emissions.

I. The Draft Guidance Ignores *Held*'s Factual Findings

While the Draft Guidance and its Appendices succinctly summarize some of the key findings from accepted, credible climate science sources and acknowledge Montana will experience worsening climate impacts over the coming decades including increasing temperatures, declining snowpack and melting glaciers, increasing wildfire season, and worsening drought, the Draft Guidance ignores key aspects of climate science reality—Montana's climate is *already* dangerously destabilized by the *current* atmospheric concentration of GHGs and that *every ton of GHG emissions from fossil fuel combustion contributes to further warming and local harms*. As DEQ is aware, this scientific reality is set forth in the detailed Findings of Fact the Montana First Judicial District Court found in *Held*, which were not disputed by Defendants (including DEQ) and were upheld by the Montana Supreme Court.[4]

Based on the uncontested evidence presented at trial, the District Court found, in part, that:

> 89. Until atmospheric GHG concentrations are reduced, extreme weather events and other climactic events such as drought and heatwaves will occur more frequently and in greater magnitude, and Plaintiffs will be unable to live clean and healthy lives in Montana.
>
> 92. Every ton of fossil fuel emissions contributes to global warming and impacts to the climate and thus increases the exposure of Youth Plaintiffs to harms now and additional harms in the future.

[4] *Held v. State of Montana*, No. CDV-2020-307, Findings of Fact, Conclusions of Law, and Order, FOF #90-92 (Mont. 1st Jud. Dist. Ct., Lewis and Clark County, Aug. 14, 2023) (hereinafter "*Held District Court Order*"); *Held v. State*, 2024 MT 312, ¶¶ 3 n.1, 18, 29.

> 104. Children are uniquely vulnerable to the consequences of climate change, which harms their physical and psychological health and safety, interferes with family and cultural foundations and integrity, and causes economic deprivations.
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> 108. The physical and psychological harms are both acute and chronic and accrue from impacts to the climate such as heat waves, droughts, wildfires, air pollution, extreme weather events, the loss of wildlife, watching glaciers melt, and the loss of familial and cultural practices and traditions.
>
> 140. Anthropogenic climate change is impacting, degrading, and depleting Montana's environment and natural resources, including through increasing temperatures, changing precipitation patterns, increasing droughts and aridification, increasing extreme weather events, increasing severity and intensity of wildfires, and increasing glacial melt and loss.
>
> 193. The science is clear that there are catastrophic harms to the natural environment of Montana and Plaintiffs and future generations of the State due to anthropogenic climate change. . . . The degradation to Montana's environment, and the resulting harm to Plaintiffs, will worsen if the State continues ignoring GHG emissions and climate change.[5]

Based on the compelling factual record presented by Plaintiffs and their experts, the District Court held, as a conclusion of law, that:

> 6. Every additional ton of GHG emissions exacerbates Plaintiffs' injuries and risks locking in irreversible climate injuries.
>
> 7. Plaintiffs' injuries will grow increasingly severe and irreversible without science-based actions to address climate change.
>
> 8. Plaintiffs have proven that as children and youth, they are disproportionately harmed by fossil fuel pollution and climate impacts.
>
> 49. Based on the plain language of the implicated constitutional provisions, the intent of the Framers, and Montana Supreme Court precedent, climate is included in the "clean and healthful environment" and "environmental life support system" Mont. Const. Art. II, Sec. 3; Art. IX, Sec. 1.
>
> 50. Montana's climate, environment, and natural resources are unconstitutionally degraded and depleted due to the current atmospheric concentration of GHGs and climate change.[6]

The Montana Supreme Court affirmed the District Court's Order in full, finding that:

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[5] *Held District Court Order* at 24, 28-29, 35, 46.
[6] *Id*. at 87, 97-98.

> Montana is heating faster than the global average and the rate of warming is increasing. Overwhelming scientific evidence and consensus shows that this warming is the direct result of greenhouse gas (GHG) emissions that trap heat from the sun in the atmosphere, primarily from carbon dioxide (CO2) released from human extraction and burning of fossil fuels such as coal, oil, and natural gas.
>
> These emissions result in extreme weather events that are increasing in frequency and severity, including droughts, heatwaves, forest fires, and flooding. These extreme weather events will only be exacerbated as the atmospheric concentration of GHGs continues to rise. Projections indicate that under a business-as-usual emissions scenario, Montana will see almost ten additional degrees of warming by 2100 compared to temperatures in 2000. By 2050, Montana will have 11–30 additional days per year with temperatures exceeding 90 degrees and a similar loss of days below freezing. Montana has already seen (and will increasingly see) adverse impacts to its economy, including to recreation, agriculture, and tourism caused by a variety of factors including decreased snowpack and water levels in summer and fall, extreme spring flooding events, accelerating forest mortality, and increased drought, wildfire, water temperatures, and heat waves.
>
> We reject the argument that the delegates—intending the strongest, all-encompassing environmental protections in the nation, both anticipatory and preventative, for present and future generations—would grant the State a free pass to pollute the Montana environment just because the rest of the world insisted on doing so. The District Court's conclusion of law is affirmed: Montana's right to a clean and healthful environment and environmental life support system includes a stable climate system, which is clearly within the object and true principles of the Framers inclusion of the right to a clean and healthful environment.[7]

Accordingly, the *Held* factual findings should be incorporated and made central to the Draft Guidance. It is not enough to say that "every project's GHG emissions incrementally add to global GHGs and, thus, to cumulative climate impacts"[8] as the key fact is not, to use an analogy, that each water droplet contributes to the water level in a tub but rather that the tub is already overflowing and the faucet continues to run. Divorced from the crucial context that each additional ton of fossil fuel GHG emissions contributes to an already unconstitutional level of environmental degradation in Montana, this statement is just a rephrasing of the fact that "the cumulative effect of GHG emissions causes the impacts to the climate being experienced today,"[9] and does little to inform Montana's agencies about how to assess the severity of *further* GHG pollution in the context of an ongoing overshoot scenario where each additional ton of GHG emissions exacerbates ongoing constitutional harms.

The Montana Constitution's environmental provisions are the strongest found in any state constitution and are both anticipatory and preventative, requiring the State and its agencies take

[7] *Held v. State of Montana,* 2024 MT 312, ¶¶ 3-4, 30.
[8] Draft Guidance at 13.
[9] *Held District Court Order* at FOF #72.

affirmative steps realize the right.[10] The intent of the framers was to allow for no degradation of Montana's environmental life support system from the state it existed in 1972 and to "affirmatively require enhancement of what we have now."[11] In failing to acknowledge the full weight and import of the *Held* factual findings and legal holdings, the Draft Guidance fails to sufficiently aid both DEQ and other agencies in meeting their affirmative constitutional obligations under the substantive statutes they administer that permit or authorize fossil fuel projects and which a MEPA review informs.[12] DEQ and other state agencies cannot meet their affirmative constitutional obligations to prevent further unconstitutional degradation to Montana's environment, natural resources, and climate (let alone remedy the existing damage) by simply acknowledging that each project's GHG emissions adds incrementally to a global total, comparing the project's GHG emissions to the global total, and concluding the project is not a significant source of harm to Montana's environment.

Starting from the proper scientific and legal framework that there is already a dangerous and unconstitutional amount of GHG emissions in the atmosphere, in part due to Montana's significant historic and ongoing fossil fuel activities and GHG emissions, the GHG Guidance should require agencies to use the GHG review to establish: (1) whether there is a compelling government interest in any proposed projects that would increase Montana's GHG emissions; and (2) whether the project is narrowly tailored and the least burdensome means to achieve the compelling interest. As part of this inquiry, tied to the alternatives analysis required by MEPA, agencies should consider whether there are alternative means to accomplish the purpose of the project in a manner that would result in fewer, or no, GHG emissions. By way of example, if a gas-fired power plant was proposed to be constructed on the basis of need for energy to power Montanans' homes or businesses, but that project would result in the burning of gas and release significant GHG emissions, the GHG review should consider whether there is an alternative means to generate the power for Montanans' homes that would not result in GHG emissions. Such a review would reveal that indeed there is, through renewable energy projects. As the Court found in *Held* (again, these facts were undisputed by Defendants, including DEQ)*:*

> 272. It is technically and economically feasible for Montana to replace 80% of existing fossil fuel energy by 2030 and 100% by no later than 2050, but as early as 2035.
>
> 275. Converting from fossil fuel energy to renewable energy would eliminate another $21 billion in climate costs in 2050 to Montana and the world. Most noticeable to those in Montana, converting to wind, water, and solar energy would reduce annual total energy costs for Montanans from $9.1 to $2.8 billion per year, or $6.3 billion per year (69.6% savings).
>
> 276. Wind, water, and solar are the cheapest and most efficient form of energy. Cost per unit of energy in a 100% WWS system in Montana would be about 15%

[10] *Held*, ¶¶ 23-24, 28, 30, 36, 49.
[11] *Held*, ¶ 24 (internal quotation marks and citation omitted).
[12] *See* § 75-2-102, MCA; § 82-4-102, MCA; *see also Park Cnty. Env't Council v. Mont. Dep't of Env't Quality*, 2020 MT 303, ¶ 70 (MEPA necessary to bring Montana Constitution's lofty goals into reality by "enabling fully informed and considered decision making"); *Held*, ¶ 60.

> lower than a business-as-usual case by 2050, even when including increased costs for energy storage. New wind and solar are the lowest cost new forms of electric power in the United States, on the order of about half the cost of natural gas and even cheaper compared to coal.
>
> 280. Montana's energy needs in 2050 under a 100% WWS roadmap would decline significantly (over fifty percent) compared to a business-as-usual energy system due to a mix of gains in energy efficiency in vehicles and appliances, and through eliminating the significant amounts of energy required to extract, transport, and refine fossil fuels.
>
> 281. Transitioning to WWS will keep Montana's lights on while saving money, lives, and cleaning up the air and environment, and ultimately using less of Montana's land resources.[13]

Because Montana's life support system is unconstitutional degraded due to *current* levels of GHG emissions, agencies must demonstrate a compelling government interest in projects that will increase GHG emissions and show that the project is narrowly tailored and the least burdensome means to achieve that interest. Agencies should use their GHG assessment to provide this analysis and justification as to why a projects' GHG emissions are either justified, or not justified, using the appropriate constitutional framework and scientific starting point.

II. The Draft Guidance Should Provide Agencies With Resources for Determining a Project's Up- and Down-Stream GHG Emissions

During the 2025 Legislative Session, the Montana Legislature amended MEPA to confine the scope of an agency's MEPA analysis to a project's "proximate" impacts, which are defined as excluding the upstream or downstream GHG emissions that result from a project.[14] The Draft Guidance appears to concede that SB 221's amendments will control future MEPA GHG analyses.[15]

MEPA's "ability to avert potential environmental harms through informed decision making" makes it "unique" among other environmental statutes and renders MEPA "complementary to, rather than duplicative of, them."[16] The Legislature has a "duty to use MEPA as a source of information when substantive statutes are not fulfilling constitutional obligations."[17] The Legislature's amendment of § 75-1-201, MCA, to limit the scope of MEPA reviews to the "proximate" impacts of a project improperly constrict the scope of MEPA reviews and impose a blinder upon state agencies akin to the "blindfold[]" imposed by the MEPA Limitation found

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[13] *Held District Court Order* at 81-84.
[14] 2025 Mont. Laws Ch. 348, § 2 (SB 221 – amending § 75-1-201(1)(a)(iv)(A)-(B), MCA); Draft Guidance at 2-3.
[15] It is worth noting that in addition to the passage of SB 221, the Montana Legislature passed other bills during the 2025 legislative session, including SB 285 and HB 291, that seek to further undermine MEPA's purpose, block DEQ's ability to regulate GHG emissions under Montana's Clean Air Act, and thwart compliance with Montana's Constitution.
[16] *Held*, ¶ 60.
[17] *Held*, ¶ 47.

unconstitutional in *Held*.[18] SB 221's new "proximate" limitation constricts the scope of MEPA reviews and ensures a project's true GHG and climate impacts will be unexamined and unknown to both the agency and the Montana public.

By un-scientifically constricting the scope of agencies' GHG analysis to a project's "proximate" impacts (i.e., excluding upstream and downstream emissions), the Montana Legislature is attempting to ensure that agencies cannot make adequately informed decisions.[19] For example, a MEPA analysis for a coal mine expansion that excluded the GHG emissions that would result from the ultimate combustion of the coal would be ignoring a central component of the project's environmental harm. This curtailment of a MEPA analysis' scope, in turn, impedes Montana's agencies from using the information garnered "to inform and strengthen substantive permitting or regulatory decisions or any mutual mitigation measures or alternatives that might be considered when the environmental harms of the project are fully understood."[20]

DEQ should amend the Draft Guidance to provide Montana agencies with a list of well-vetted and trusted resources for calculating a project's up- and down-stream GHG emissions. Only by documenting and considering the full scope of a project's anticipated GHG emissions can DEQ and other state agencies make the sort of fully informed decisions that both MEPA and the Montana Constitution require. Regardless of legislative constraints, ultimately, DEQ's GHG analysis, and subsequent permitting decisions, must be constitutionally compliant.

III. The Draft Guidance's Use of MAGICC and SSPs is Flawed

a. MAGICC is an Ill-Suited Tool to Determine a Project's Impacts

On page 13 of the Draft Guidance, the following guidance is given for determining "secondary impacts" and "cumulative climate impacts". "To provide a quantitative perspective on potential climate impacts from projects with large GHG emissions, DEQ recommends MAGICC. MAGICC is a reduced-complexity climate model that reproduces key Earth-system processes while remaining computationally efficient and freely accessible online (https://live.magicc.org/)."

MAGICC is not designed to be used for determining cumulative climate impacts. MAGICC is designed to rapidly determine the global temperature response to say a global fossil fuel heavy future versus a clean, renewable energy future versus a future in between these (see below for more on these potential futures). These are *collective* global behaviors and not focused on a *single* project in a single state within one nation of the globe. From these global collective actions, MAGICC calculates the global mean temperature response to the radiative forcing that is in response to GHG emissions that are processed through the carbon cycle module.[21] In addition to global mean temperature, MAGICC also calculates hemispheric land temperature, hemispheric ocean temperature, ocean heat content, and global mean sea level.[22] All of these are important

[18] *See Held*, ¶ 44.
[19] *Held*, ¶ 67 ("Obviously, a clean and healthful environment cannot occur unless the State and its agencies can make adequately informed decisions" and MEPA Limitation made it impossible for the state to "consider an entire area of significant environmental consequences").
[20] *Held*, ¶ 68.
[21] https://acp.copernicus.org/articles/11/1417/2011/; https://gmd.copernicus.org/articles/13/3571/2020/
[22] https://acp.copernicus.org/articles/11/1417/2011/; https://gmd.copernicus.org/articles/13/3571/2020/

global climate metrics, but these are not the cumulative climate impacts experienced by people, including Montanans. The impacts of direct human relevance are wildfires and their smoke, droughts, heatwaves, loss of snowpack, extreme rains and floods, glacier disappearance, etc. The increase in these climate harms to Montanans is discussed below. These climate harms need to be determined by fully coupled Earth System Models, which are the appropriate tool to determine cumulative climate impacts. Note that such fully coupled Earth System Models can now directly attribute fractions of a given extreme weather event, like a heatwave, to an individual emitting entity, like an individual fossil fuel company.[23]

How then should the cumulative impacts of a given project in Montana be assessed if MAGICC is not applicable? The Intergovernmental Panel on Climate Change ("IPCC") 6th Assessment Report Longer Synthesis provided a clear directive in stating that "Every ton of CO_2 adds to global warming".[24] That is, every ton of CO_2 emitted will make the climate crisis worse and will cause further harms to Montana children and youth. Montanans are currently being harmed by climate change, as has clearly been documented by the U.S. 5th National Climate Assessment[25], the 2017 Montana Climate Assessment[26], the 2021 Climate Change and Human Health in Montana Report[27], and *Held v. Montana*, then every additional ton of CO_2 that is permitted to be emitted will make these harms worse. It is very simple. (see *supra* I for the analysis that agencies should apply in deciding whether additional GHG emissions are constitutionally permissible).

A key thing that is only partly discussed in the Draft Guidance is that agencies should differentiate between an emission of CO_2 or methane ("CH_4") from a fossil source and a land-use emission of CO_2 or CH_4. In the case of the former, the C atom added to the atmosphere is a new atom that had been stored deep in the earth for at least a minimum of many tens of millions of years. To remove a fossil C atom and mitigate the resultant climate change it causes requires storage in geological reservoirs with a lifespan of at least 1,000 years.[28] This means that the growth of trees, grasslands, crops, and soil preservation, just as examples, cannot be used to mitigate fossil C emissions. This is because these C pools hold onto the C atom for too short a period. Forests burn and re-release the C atom and that fossil C atom is no longer mitigated.

Conversely, the latter land-use emission of a C atom is an atom that was in the atmosphere a few years to decades ago, with the upper limit being an old growth tree or deep soil layer, for instance. Here, a land-use C atom's climate impacts are easily mitigated by planting a new tree, for instance. At the simplest level, we do not consider the CO_2 emissions that result from one mowing their lawn. The dead blades of grass release CO_2 into the atmosphere but those emissions are mitigated by the lawn's continued growth. The same applies to forests, pastures and fields, if the regrowth is planned and completed.

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[23] https://www.nature.com/articles/s41586-025-09450-9
[24] https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_LongerReport.pdf
[25] https://toolkit.climate.gov/NCA5
[26] https://montanaclimate.org/chapter/title-page
[27] https://www.emountainworks.com/docs/2021_C2H2inMT_final.pdf
[28] https://www.nature.com/articles/s43247-024-01808-7; https://www.nature.com/articles/s41586-024-08326-8

Indeed, since 1850, global land-use CO_2 emissions have been balanced by the terrestrial biosphere.[29] This means the C atoms in the atmosphere driving global warming and climate change are the fossil C atoms that mostly come from fossil fuels as well as limestone for cement and the use of coal in steel. Accordingly, fossil C emissions in the form of CO_2 and CH_4 must be considered separately and with more scrutiny than C emissions from land use and associated animal husbandry, farming and other practices like timber harvesting.

b. SSPs Reflect Global Societal Actions and Are an Inappropriate Tool to Assess Individual Project Decisions

In this vein of using MAGICC to determine cumulative climate impacts, the authors of the Draft Guidance make another key error. On page 13 of the Draft Guidance, the following statement fully misunderstands what "emissions scenarios" are. "MAGICC has been used by the IPCC and EPA to analyze emissions scenarios and temperature outcomes. The approach involves (1) running MAGICC with an unmodified global emissions pathway; (2) creating a second simulation in which the project's annual emissions are subtracted from that pathway; and (3) calculating the difference in projected global mean surface temperature between the two runs. The resulting temperature difference offers a physically based estimate of the project's marginal contribution to future global temperature change."

The Shared Socioeconomic Pathways ("SSPs") represent potential *global* socioeconomic futures that result in a range future greenhouse gas emissions.[30] They reflect *global* actions in aggregate. They are not a future pathway from which one individual project can be subtracted. This is just fundamentally wrong. Rather, the different SSPs reflect the collective action of a pattern of approving or denying fossil fuel and clean, renewable energy projects. The collective approval or rejection of projects determines the SSP.

To be clear, SSPs were not developed by the IPCC. Rather they were developed by a group of scientists and economists as a suite of potential futures under different socioeconomic systems and what their resulting GHG emissions would be. These emissions were implemented in the Coupled Model Intercomparison Project ("CMIP") Phase 6 to determine the climate response to the SSPs.[31] The IPCC then assessed these CMIP6 results along with all other climate science to produce the most recent IPCC report.[32] The SSPs or the resultant climate model simulations are not IPCC products.

The five main SSPs used in CMIP6 are shown in the figure below. Here, these five SSPs are delineated on ease or resistance to reducing GHG emissions (mitigation) and ease or resistance to paying for and reducing climate harms (adaptation). Note that SSP5 with low mitigation/high fossil fuel usage combined with high funding of adaptation is not considered a real potential future.[33] This is because the world cannot increase its fossil fuel usage and end clean, renewable energy and all the while help communities to adapt to the high amount of global warming. The

[29] https://essd.copernicus.org/articles/17/965/2025/essd-17-965-2025.html
[30] https://link.springer.com/content/pdf/10.1007/s10584-013-0905-2.pdf
[31] https://wcrp-cmip.org/cmip-phases/cmip6/
[32] https://www.ipcc.ch/assessment-report/ar6/
[33] https://www.nature.com/articles/d41586-020-00177-3

non-GHG pollution alone from the extraction, storage, transport, refinement and combustion of U.S. fossil fuels today kills 91,000 Americans, causes 10,350 preterm births, onsets 216,000 case of childhood asthma, and initiates 1,610 lifetime cancers each year[34]; this pollution would increase with more fossil fuels. Killing Americans, causing early births and cancer, and inflicting asthma on children are giant barriers to adaptation and thus SSP5 is a non-tenable future.

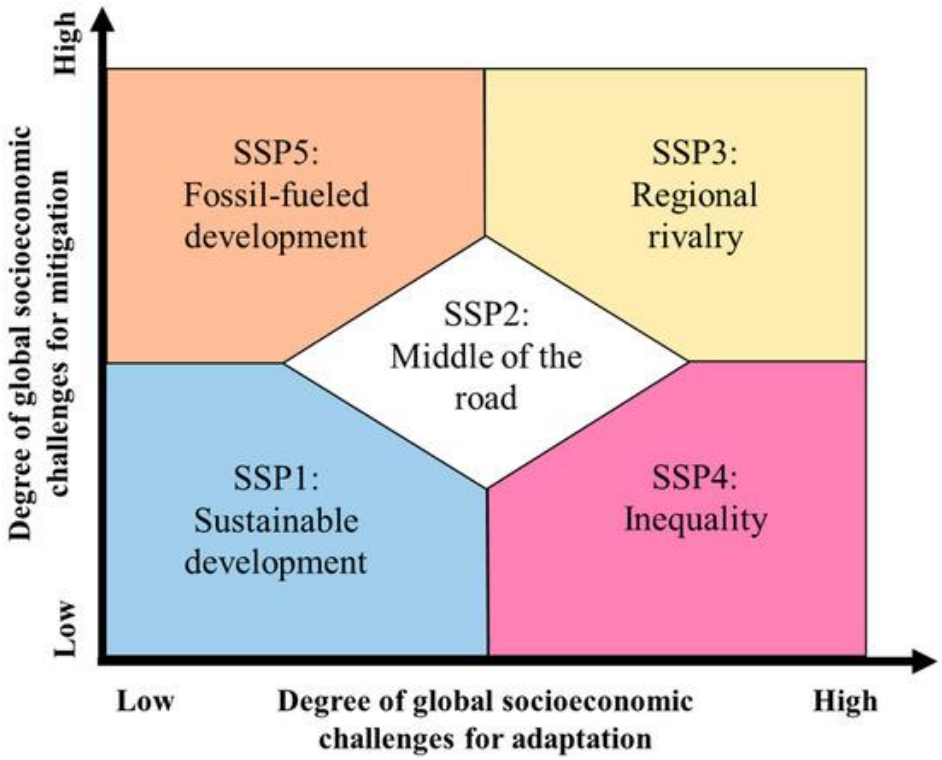


Figure showing the different SSPs as pertains to underlying economic pattern and resistance to addressing climate change impacts (adaptation) and resistance to ending fossil fuels and deploying clean, renewable energy sources (mitigation).[35]

The closest SSP to current global emissions, socioeconomic behavior on climate change and current policies is SSP2: Middle of the road.[36] SSP2 is defined as: "*The world follows a path in which social, economic, and technological trends do not shift markedly from historical patterns. Development and income growth proceeds unevenly, with some countries making relatively good progress while others fall short of expectations. Global and national institutions work toward but make slow progress in achieving sustainable development goals. Environmental systems experience degradation, although there are some improvements and overall the intensity of resource and energy use declines. Global population growth is moderate and levels off in the second half of the century. Income inequality persists or improves only slowly and challenges to reducing vulnerability to societal and environmental changes remain.*"[37] SSP2 can thus be seen as the future emissions that would result from a continuation of global actions where fossil fuels

[34] https://www.science.org/doi/10.1126/sciadv.adu2241
[35] https://www.sciencedirect.com/science/article/abs/pii/S0959378015000060
[36] https://www.nature.com/articles/d41586-020-00177-3;
https://journals.sagepub.com/doi/10.1177/29768659241304854
[37] https://www.sciencedirect.com/science/article/pii/S0959378016300681

persist and compete with clean, renewable energy. In the case of Montana, this would be continued approval of fossil fuel permits and their GHG emissions, with each additional ton of CO_2 emitted causing further climate harms to Montanans.

If Montana rapidly increased their approval of fossil fuel permits all the while working towards eliminating clean, renewable energy and fighting other adaptation measures, with the world following the same path, then SSP3, Regional rivalry, becomes a more likely future. That is, there is a promotion of fossil fuels with minimal effort for mitigation or adaptation. SSP3 is defined as follows. "*A resurgent nationalism, concerns about competitiveness and security, and regional conflicts push countries to increasingly focus on domestic or, at most, regional issues. Policies shift over time to become increasingly oriented toward national and regional security issues. Countries focus on achieving energy and food security goals within their own regions at the expense of broader-based development. Investments in education and technological development decline. Economic development is slow, consumption is material-intensive, and inequalities persist or worsen over time. Population growth is low in industrialized and high in developing countries. A low international priority for addressing environmental concerns leads to strong environmental degradation in some regions.*"[38]

Conversely, if Montana and the globe moved towards denying fossil fuel permits and attendant GHG emissions while increasing clean, renewable energy, then SSP1, Sustainable development, becomes a more likely analogous pathway. This can be seen in the figure below from a recent assessment on global action on climate mitigation by the World Resources Institute.[39] Global action is reducing the use of fossil fuels for energy, but at a rate 7-10 times too slow to achieve SSP1, hence why SSP2 is the closest analogous current path.

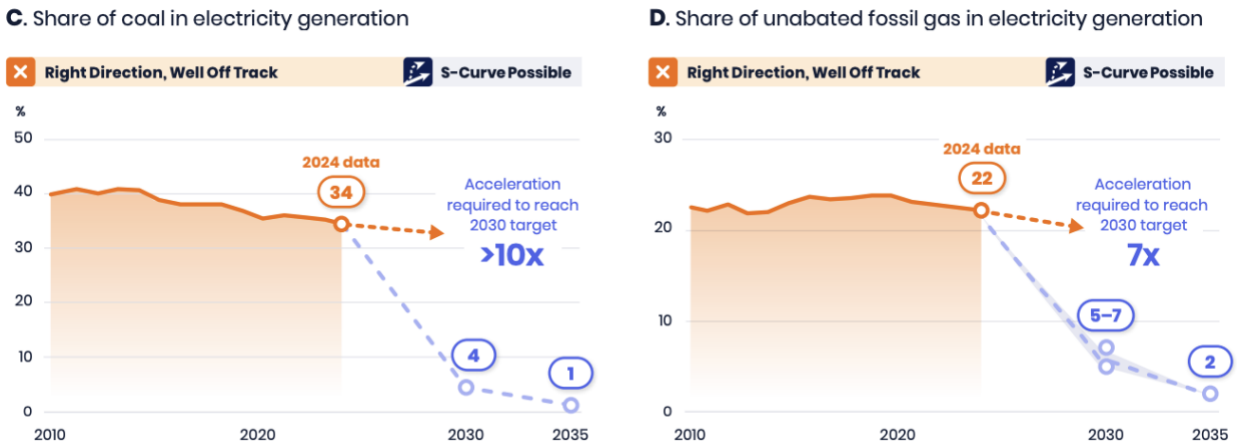


Figure shows the global trajectory of coal and fossil gas in electricity generation.[40] To achieve SSP1, coal has to be reduced 10 times faster (c) while fossil gas has to be reduced 7 times faster (d) than is occurring. This slow pace means we are in SSP2. Increasing coal and fossil gas beyond current actions without also increasing paying for climate damages (adaptation) would shift the globe towards SSP3.

[38] https://www.sciencedirect.com/science/article/pii/S0959378016300681
[39] https://www.wri.org/research/state-climate-action-2025
[40] https://www.wri.org/research/state-climate-action-2025

SSP1 is defined as follows. "*The world shifts gradually, but pervasively, toward a more sustainable path, emphasizing more inclusive development that respects perceived environmental boundaries. Management of the global commons slowly improves, educational and health investments accelerate the demographic transition, and the emphasis on economic growth shifts toward a broader emphasis on human well-being. Driven by an increasing commitment to achieving development goals, inequality is reduced both across and within countries. Consumption is oriented toward low material growth and lower resource and energy intensity.*"[41]

Now, what does one permit in Montana have to do with SSPs and why cannot its emissions not just be subtracted from say SSP2 to be employed in MAGICC? Well, first MAGICC is the wrong tool (see above) and every ton of CO_2 emitted makes climate harms worse, including in Montana. Second, an individual permit approval or denial does not happen in an isolated vacuum. One approval begets more approvals. It is a pattern. That pattern for one entity, say Montana, influences nearby entities, say Idaho, Wyoming, Oregon, etc. This is called the spillover effect and is well documented in the case of using carbon pricing[42], but applies just as well to permitting actions. Here, reductions in GHG emissions in one nation led to emission reductions in neighboring nations through policy diffusion. In fact, the emission reductions through diffusion to neighboring nations was larger than the emission reduction in the initiating nation. Basically, countries and states copy each other.

What does that have to do then with this Draft Guidance? At the most basic level, a given permit's GHG emissions cannot be subtracted from an SSP. Rather, the *aggregate pattern* of permitting or denying fossil fuel projects creates the future and determines how much it aligns with a given SSP. This can be seen in the description of mitigation (the focus of Draft Guidance) for each SSP.[43] SSP1 and SSP4 have rapidly established global collaboration on mitigation, which means fossil fuels are reduced. SSP2 has some delays in establishing global action, with transitions to global cooperation on reducing fossil fuels between 2020 and 2040. SSP3 has a fragmented approach, with higher income countries joining a global mitigation plan between 2020 and 2040 while lower income countries delay such actions until 2050, meaning fossil fuel use continues at a higher level than would occur in SSP2. This sort of "choose your own adventure" setting is shown in the figure below. The aggregate choices today determine our future and how much it may align with a given SSP, noting that each SSP is itself only one potential future and almost all potential futures lie in between the SSPs.

[41] https://www.sciencedirect.com/science/article/pii/S0959378016300681
[42] https://www.nature.com/articles/s41558-023-01710-8
[43] https://www.sciencedirect.com/science/article/pii/S0959378016300681?via%3Dihub

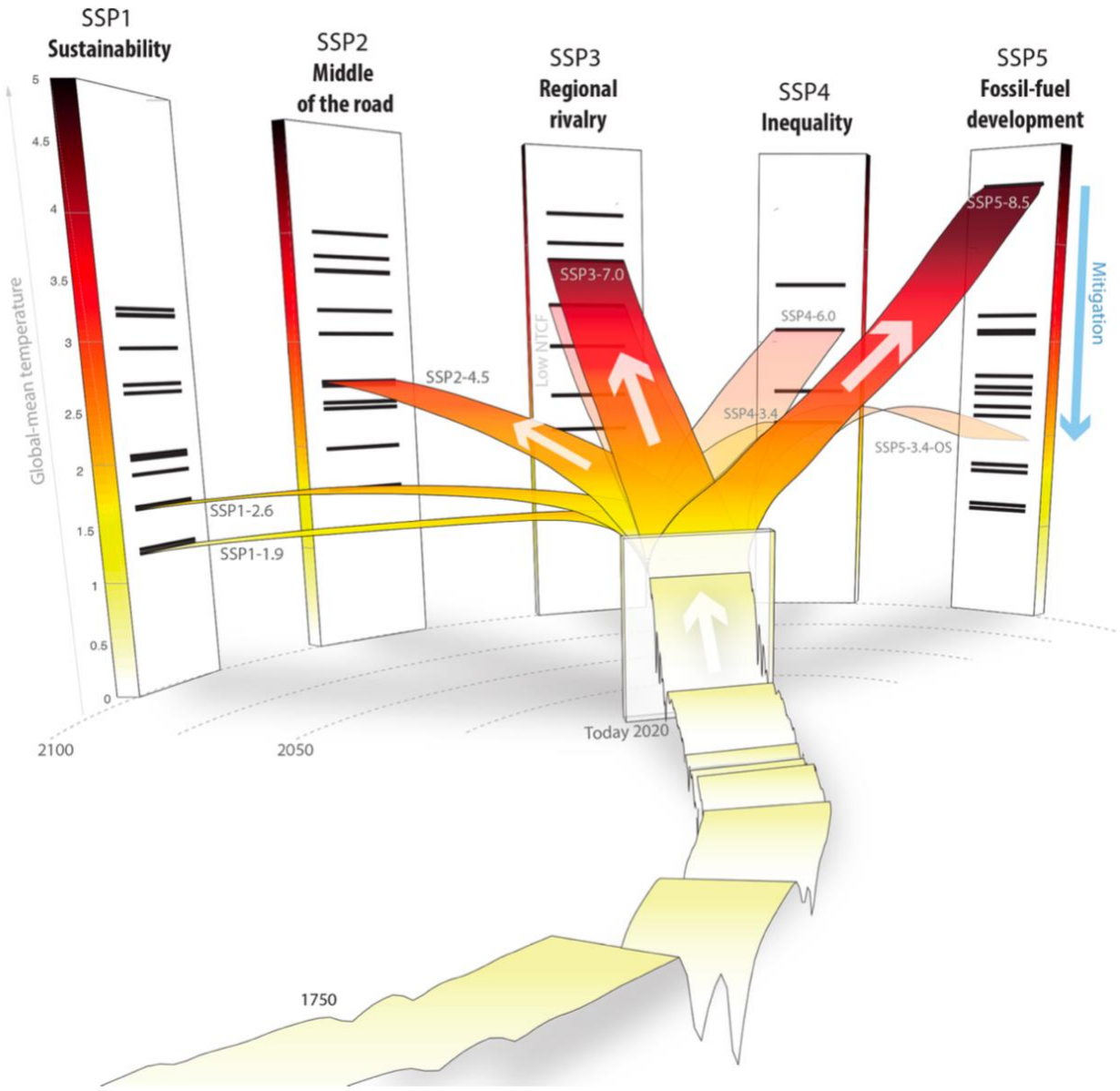


Figure showing how the choices of global society today dictate potential futures like the SSPs.[44] *Note that several other SSPs are shown than discussed in text and the number of futures is a spectrum between these few SSPs. But the clear message of this picture is that what choice is made now creates the SSP. The number after the dash is the radiative forcing of the SSP in 2100.*

Thus, it is very clear that the global actions in aggregate make the SSP because the SSP is defined by how the globe behaves. The proposed Draft Guidance actions have the whole system backwards. Approving permits makes SSP2 more likely, approving a lot of permits makes SSP3 more likely, while denying permits will make SSP1 more likely. You cannot subtract the permitted emissions from a future that is unknown. The permitting decisions themselves define the future.

[44] https://gmd.copernicus.org/articles/13/3571/2020/

As established in *Held v. Montana*, even though Montana cannot control what happens in the rest of the world, Montana still has a constitutional duty to reduce its fossil fuel activities and resulting GHG emissions, which are proven to be harming Montanans and unconstitutionally degrading Montana's life support system. It was also established that Montana's GHG emissions nationally and globally significant. As the District Court found:

> 218. Accounting for overlap among fossil fuels extracted, consumed, processed, and transported in Montana, the total CO_2 emissions due to Montana's fossil fuel-based economy is about 166 million tons CO_2. This is a conservative estimate and does not include all the GHG emissions, including methane, for which Montana is responsible.
>
> 219. The 166 million tons CO_2 due to Montana's fossil fuel-based economy is equivalent to the emissions from Argentia (with forty-seven million residents), the Netherlands (with eighteen million residents), or Pakistan (with 248 million residents).
>
> 222. Montana is a major emitter of GHG emissions in the world in absolute terms, in per person terms, and historically.
>
> 230. Montana's land contains a significant quantity of fossil fuels yet to be extracted.
>
> 231. Montana's GHG emissions have grown significantly since the passage of the 1972 Montana Constitution.
>
> 233. Defendants have authorized fossil fuel extraction, transportation, and combustion resulting in high levels of GHG emissions that contribute to climate change.
>
> 237. What happens in Montana has a real impact on fossil fuel energy systems, CO_2 emissions, and global warming.[45]

And as the Montana Supreme Court cogently summed up: "global GHG emissions do not insulate the State from its affirmative constitutional duties with regards to projects that it permits. The fact that climate change impacts extend beyond Montana's borders, as does selenium pollution and other environmental harms, does not allow the state to disregard its contributions to environmental degradation within Montana."[46] Constrained by their affirmative constitutional obligations, DEQ and other state agencies, thankfully, need not (and legally cannot) follow other states and countries in jumping off the bridge[47] and wantonly permit additional new fossil fuel projects amidst an already degraded climate system.

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[45] *Held District Court Order* at 67-70.
[46] *Held*, ¶ 66 (internal citation omitted).
[47] *See Held*, ¶ 49.

IV. The Draft Guidance Should Employ a Non-Discounted Social Cost of Carbon

Appendix 3 to the Draft Guidance provides a discussion of how GHG emission impacts can be quantified for Montana using a social cost of greenhouse gases (SC-GHG) but ultimately does not recommend having agencies apply SC-GHG. The SC-GHG to Montanans must be considered during MEPA reviews because climate harms are already being felt by Montanans caused by past GHG emissions, including those from Montana and the SC-GHG provides a metric to calculate the harms and evaluate the benefits of the proposed project in light of the harms.[48]

The question is, then, will this project make the climate better or worse for Montana? Will it incrementally make droughts, fires, smoke, heatwaves, low-snow-winters, low-stream-flows, rain-on-snow floods, and so on, increase or decrease? If every ton of CO_2 emitted to the atmosphere adds to global warming and therefore climate harms, then every ton of CO_2 emitted will have a negative economic impact on Montana.

While the potential positive impact of higher CO_2 on plant growth, called fertilization, has garnered recent discussion in policy circles, this one purported benefit is outweighed by all the negative impacts of CO_2, such as droughts, heatwaves, harms to public health, and many more. Below is a figure showing the projected change in wheat growth for the planet under SSP2 emissions, including the influence of CO_2 fertilization.[49] Despite CO_2 fertilization, wheat production in Montana declines of 10-20%. How does a future like SSP2 come about? By continuing to approve fossil fuel permits in Montana at a rate consistent with historical practices. How is this decline in Montana's most important crop avoided? By rejecting fossil fuel permits in Montana, shifting the future towards SSP1. Should the economic impact from reduced wheat production and other economic losses to Montanans be considered in assessing a GHG-emitting permit? Yes.

[48] https://montanaclimate.org/chapter/title-page; https://toolkit.climate.gov/NCA5; https://www.emountainworks.com/docs/2021_C2H2inMT_final.pdf

[49] https://www.nature.com/articles/s41586-025-09085-w

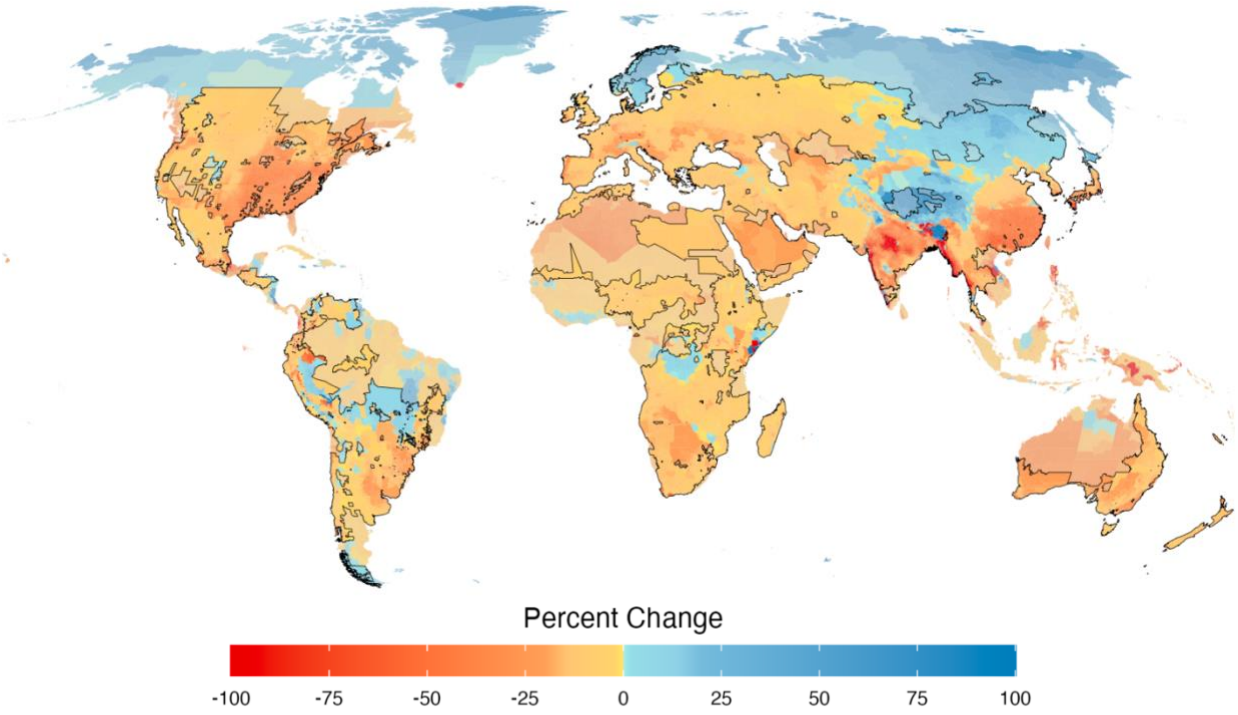


Figure showing the change in wheat production under SSP2.[50]

Appendix 3 shows in Tables 1 and 2 discount rates of 1.5% to 5.0% to be applied to future climate costs for calculating their value today. This is wrong as it then preferentially values older people over younger people.[51] That is, a person born in 1960 who will die in 2040 will experience far less climate harms than a person born in 2020 who will die in 2080. Conversely, the person born in 1960 can advocate today to not reduce GHG emissions while the person born in 2020 cannot advocate today for reducing GHG emissions but will experience much more of the climate harms from those emissions caused by the advocacy of the person born in 1960. There is already intergenerational inequity when it comes to bearing the burden of climate change. Applying a discount rate to future climate damages only increases this inequity, because not only are the climate damages in the future greater than today but also the discount rate makes their value less than if that same damage occurred today. Accordingly, no discount rate can be applied to future climate damages as a person born in 2020 has the exact same rights as a person born in 1960 (some economists even propose applying a negative discount rate).

This intergenerational inequity is shown below in the series of bar graphs. These graphs show how many times more climate harms will be experienced by a person born in 1980, 2000 and 2020 relative to a person born in 1960. The region is the United States (including Montana) and Canada. The harms are wildfire, river floods, droughts and heatwaves, all climate harms that cannot be determined by MAGICC, as a side note. The calculations follow Thiery et al.[52] and are from www.myclimatefuture.info[53] for global warming levels of 1.5°C, 2.4°C, and 3.5°C.

[50] https://www.nature.com/articles/s41586-025-09085-w
[51] https://www.science.org/doi/10.1126/science.abi7339; https://www.nature.com/articles/s41586-025-08907-1
[52] https://www.science.org/doi/10.1126/science.abi7339
[53] https://myclimatefuture.info/

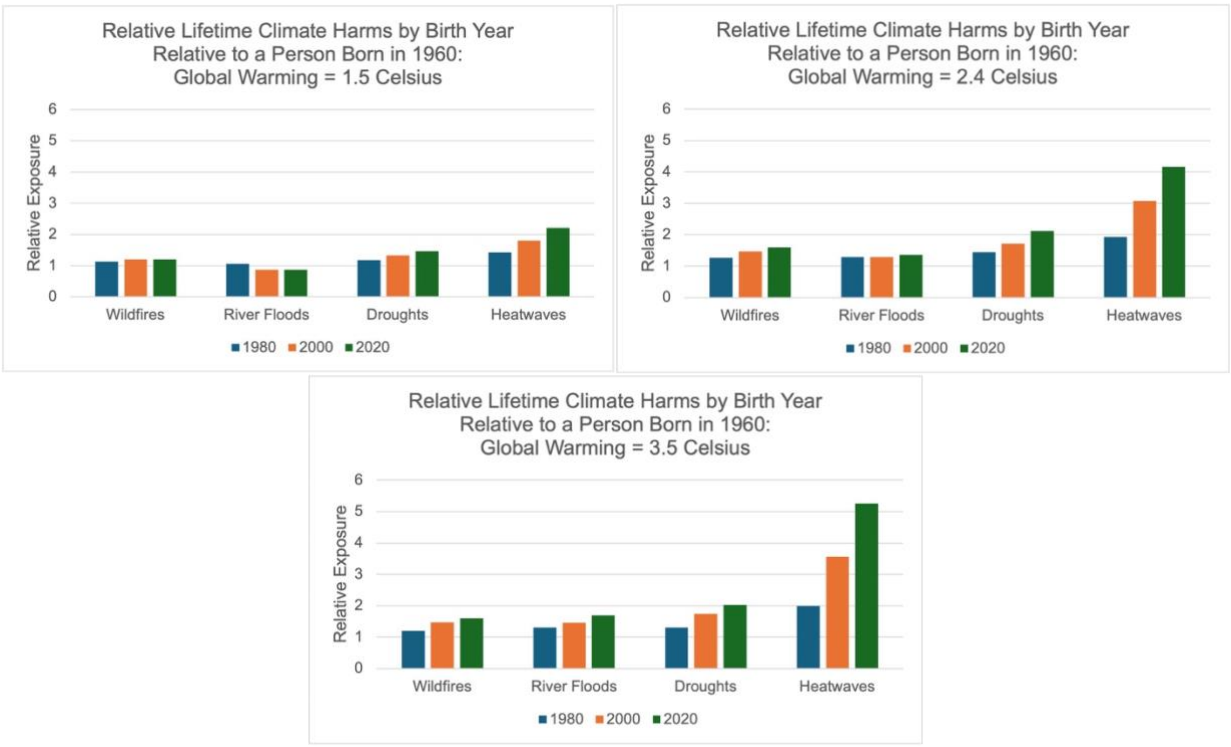


Figure showing three bar graphs of the disproportionate lifetime climate harms by birth year relative to a person born in 1960. [54]

What these results highlight is the fact that the younger one is and warmer the climate becomes, the greater the climate harms that person experiences, particularly relative to a person that is 65 years old today (i.e., born in 1960). How warm the climate becomes depends on the collective action of continuing fossil fuel permitting at current rate and resulting in SSP2 (about 2.4°C of global warming), increasing fossil fuel permitting and resulting in SSP3 (about 3.5°C of global warming), or reducing fossil fuel permitting and resulting in SSP1 (about 1.5°C of global warming). Montana's actions, given its significant fossil fuel reserves, will play a significant role in determining which future comes to pass.

Consequently, the costs of these future, greater climate harms that will result from permitting decisions today must be considered in whether a GHG-emitting project is approved or not. Approval increases these harms, and those harms fall disproportionally on younger Montanans. Furthermore, these future damages cannot be discounted when in determining their current monetary value as that further discriminates against younger Montanans.[55] Indeed, the World Bank also put forward a similar series of reasons why a zero discount rate is the only rate that can be used for calculating the climate damages from projects that emit GHGs.[56] Specifically, a zero discount rate avoids the assumption that economic growth will always continue, it avoids philosophical questions about basic human rights, it properly treats climate change as a global

[54] https://myclimatefuture.info/
[55] https://www.sciencedirect.com/science/article/abs/pii/S0921800914001694
[56] https://blogs.worldbank.org/en/governance/using-zero-discount-rate-could-help-choose-better-projects-and-help-get-net-zero-carbon

threat to a finite planet rather than a marginal threat, it avoids moral conundrums where there is no actual scientific basis for a given discount rate with the rate reflecting a values judgement, and it would lastly create a level playing field for conducting cost-benefit analyses.

In short, Montana agencies should be required to use the SC-GHG emissions as part of its GHG analysis under MEPA.

V. Conclusion

A stable climate system is an integral component of Montanans' right to a clean and healthful environment. DEQ has an affirmative constitutional obligation to refrain from conduct that causes an increase in Montana's GHG emissions and further degradation and diminution to Montana's climate and environmental life support system. Every additional ton of GHG emissions exacerbates the ongoing damage to Montana's environment and constitutional violations the *Held* Plaintiffs and young Montanans are already suffering. For the reasons outlined herein, DEQ should substantively revise the Draft GHG Guidance.

Sincerely,



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