

**Written Testimony of Natasha Léger, Executive Director, Citizens for a Healthy  
Community regarding local warming and local climate impacts before the House  
Natural Resources Committee, Subcommittee on Energy and Minerals  
Wednesday, October 25, 2023**

The Honorable Pete Stauber  
Chair, Subcommittee on Energy and Mineral Resources House Natural Resources  
Committee  
1324 Longworth House Office Building  
Washington, D.C. 20515

Chairman Stauber, Ranking Member Ocasio-Cortez, thank you for the opportunity to provide this written testimony.

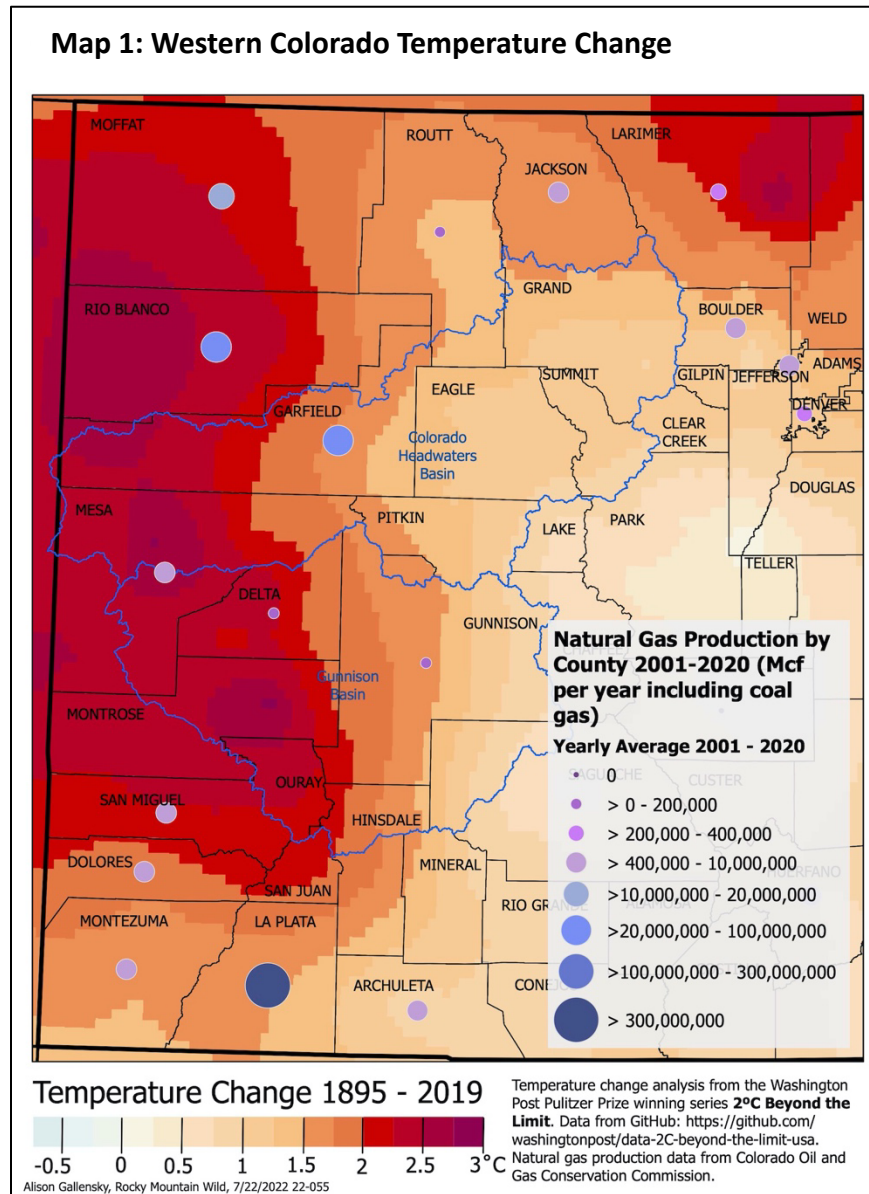
My name is Natasha Léger. I am the Executive Director of Citizens for a Healthy Community (CHC). CHC is a grassroots nonprofit organization based in Paonia, Colorado, with more than 500 members formed in 2010, that is dedicated to protecting the air, water, and foodsheds of the North Fork Valley region from the impacts of oil and gas development. CHC's members and supporters include organic farmers, ranchers, vineyard and winery owners, sportsmen, realtors, and other concerned citizens impacted by oil and gas development. We are a frontline community. We are on the frontlines of climate change, having warmed disproportionately compared to the state, the nation, and the world. We are also on the frontlines of current and proposed oil and gas development in our watershed, on public lands. CHC members have been actively involved in commenting on oil and gas activities on public lands for over a decade.

The bill you are considering, H.R. 6009 the "Restoring American Energy Dominance Act", should be considered within the context of administrative and legislative action necessary to arrest the local impacts of climate change and community impacts from oil and gas development.

The purpose of this testimony is to provide the committee with information that is often overlooked or ignored on local warming and local climate impacts.

The ecological, economic, and public health impacts of climate are already being felt in Colorado, often to a disproportionate degree. Western Colorado has been disproportionately impacted by climate change and is the nation's climate hotspot, having warmed more than 2 degrees Celsius (nearly 4 degrees Fahrenheit), double the global average. See Map 1 below. Rio Blanco County has warmed the most at 2.4°C, along with

Montrose County.<sup>1</sup> The Western Slope has seen some of the most extreme warming in State and the country, and is the source of the majority of the State’s water, with 60% of the Front Range’s water coming from headwaters located on the Western Slope.

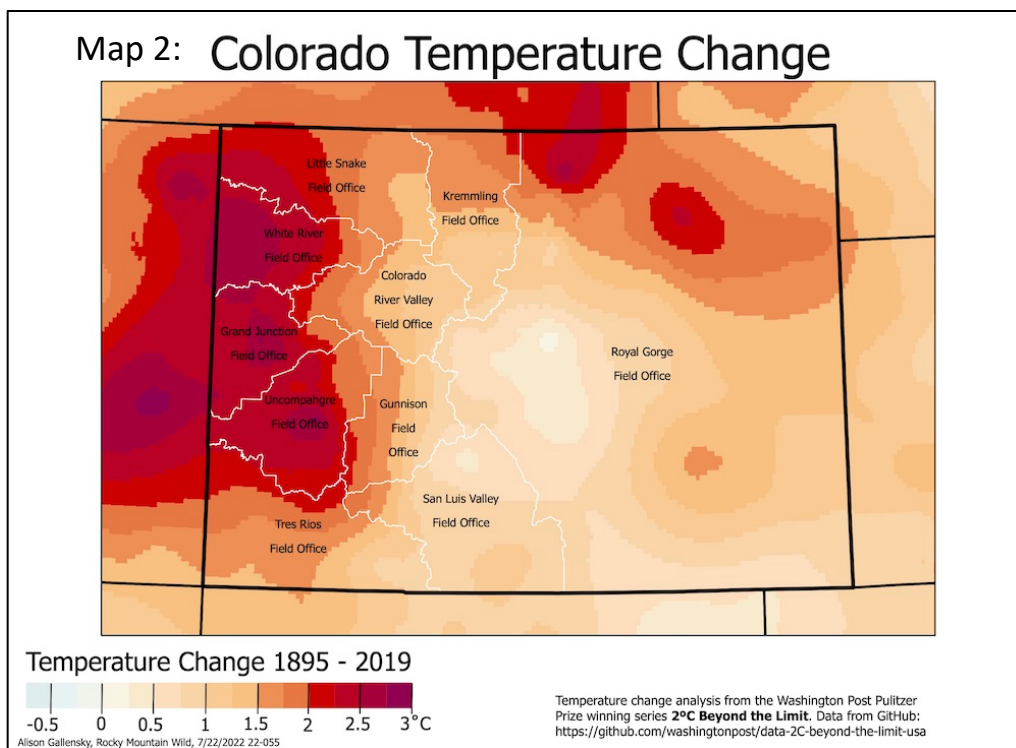


The North Fork Valley in western Colorado, which is surrounded by National Forest and Bureau of Land Management (BLM) lands, is home to the largest concentration of organic farms in the State, prime recreational landscapes offering unparalleled hunting, camping,

<sup>1</sup> Eilperin, Juliet, “2°C Beyond the Limit: This giant climate hot spot is robbing the West of its water,” The Washington Post, August 7, 2020 available at: <https://www.washingtonpost.com/graphics/2020/national/climate-environment/climate-change-colorado-utah-hot-spot/>

fishing, hiking, and Nordic skiing, and are the headwaters to the Gunnison River and Colorado River Basin. Our economy –in particular, agriculture, recreation, tourism, and health and wellness –unequivocally depends on water and a thriving and resilient ecological ecosystem. All of which are at risk due to disproportionate warming caused by climate change and fossil fuel emissions.

We are ground zero for climate change impacts on the Western Slope. The Grand Mesa Uncompahgre and Gunnison National Forest, and the BLM Uncompahgre Field Office are experiencing disproportionate warming, having already warmed 1.9 degrees Celsius, nearly double the national and global average as can be seen in the map 2 below.



In February 2023, the Colorado Farm and Food Alliance published *Gunnison River Basin: Ground Zero In The Climate Emergency*.<sup>2</sup> The report describes the signs of climate change in the Gunnison River Basin, including temperature changes and rising atmospheric carbon dioxide. It also highlights the impacts on the region of climate change including, loss in water quantity and quality, extreme weather, wildfire, flooding, human health and impacts to plant, animal and land health. The report finds that the indicators for the

<sup>2</sup> The Gunnison River Basin: Ground-Zero In The Climate Emergency, Lauren Traylor and Pete Kolbenschlag, The Colorado Farm and Food Alliance, (February 2023), available at: <https://www.colofarmfood.org/groundzero>

Gunnison River Basin are all flashing red, and are ground-zero for climate change impacts on the Western Slope of Colorado.

Greenhouse gas emissions are directly related to Colorado's increasing temperatures.<sup>3</sup> Seventy-six percent of oil and gas producing counties in Colorado (19 of 24 counties) have warmed 1.5°C or more. See Table 1 below. Half of the oil and gas producing counties in western Colorado have warmed more than 2°C, and the remaining half has already warmed more than 1.5°C.<sup>4</sup> Four of the eight counties that make up the Colorado River Basin have warmed more than 1.5°C. The Colorado River Basin is a climate hotspot in the Western United States, having warmed an average of 2.1 degrees Celsius, faster than the global average, resulting in extreme drought, threatening water supplies for seven states. The viability of Lake Mead and Lake Powell, which provide the water necessary to power the Glen Canyon and Hoover hydroelectric dams all depend on the Colorado River. For every degree of Celsius warming, the Colorado River declines nearly 10%.<sup>5</sup> The Colorado River has lost 32 million acre-feet—a 19 percent decline-- in the last 22 years, as a result of climate change.<sup>6</sup> Globally, warming greater than 1.5°C will result in irreparable harm to ecosystems around the world.<sup>7</sup> Warming of 2°C or more is considered a point of no return. From a micro-climate perspective, the North Fork Valley and Western Slope already exceed these thresholds.

The Gunnison River Basin, which is the largest tributary to the Colorado River has warmed an average of 2.1°C. Six of the seven counties that make up the Gunnison River Basin have warmed over 1.6°C. With the region's snowpack shrinking and melting earlier, the ground absorbs more heat. In addition, early snowmelt results in more water evaporation and less water availability for agriculture and wildlife later in the season. The impacts of these changes are widespread across forests, wildlife, and human communities, threatening the area's resilience in the face of continued warming. These impacts also have significant impact to local economies that are reliant on consistent snowfall, not only for recreational pursuits, but also for agricultural and residential water supplies. Forty million people downstream of the Colorado River's headwaters rely on the River's water. The Draft 2023 Colorado Water Plan clearly and unequivocally states Colorado's dire water situation due to climate change.<sup>8</sup>

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<sup>3</sup> NOAA National Centers for Environmental Information | State Climate Summaries 2022, available at: [HTTPS://STATESUMMARIES.NCICS.ORG/CHAPTER/CO/](https://statesummaries.ncics.org/chapter/co/)

<sup>4</sup> *Colorado Warming and Gas Production Map* available at: [tinyurl.com/COWarming](http://tinyurl.com/COWarming)

<sup>5</sup> Udall, B. and J. Overpeck. The twenty-first century Colorado River hot drought and implications for the future, *Water Resour. Res.*, 53, 2404– 2418, (2017). <https://doi.org/10.1002/2016WR019638>

<sup>6</sup> Brad Udall presentation, October 1, 2021 at the Colorado River District 2021 Annual Seminar. <https://www.youtube.com/watch?v=JAqFegDhXs4&t=2899s/>

<sup>7</sup> IPCC, 2021: Summary for Policymakers. In: *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [Masson-Delmotte, V., P. Zhai, A. Pirani, S. L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M. I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T. K. Maycock, T. Waterfield, O. Yelekçi, R. Yu and B. Zhou (eds.)]. Cambridge University Press. In Press.

<sup>8</sup> 2023 Draft Colorado Water Plan, available at: <https://engagecwcb.org/colorado-water-plan>

**Table 1: Colorado Counties That Have Warmed 1.5°C (2.7°F) or More Over 125-year period, 1895-2019**

Annual Warming (Celsius)	Annual Warming (Fahrenheit)	County
1.5	2.7	<b>Kit Carson County</b>
1.5	2.7	<b>Gunnison County</b>
1.6	2.9	<b>Routt County</b>
1.6	2.9	<b>La Plata County</b>
1.6	2.9	<b>Logan County</b>
1.6	2.9	<b>Adams County</b>
1.6	2.9	<b>Montezuma County</b>
1.6	2.9	<b>Jackson County</b>
1.7	3.1	Hinsdale County
1.7	3.1	<b>Yuma County</b>
1.8	3.2	<b>Washington County</b>
1.9	3.4	<b>Weld County</b>
1.9	3.4	<b>Dolores County</b>
2	3.6	<b>Garfield County</b>
2	3.6	<b>Larimer County</b>
2	3.6	San Juan County
2.1	3.8	<b>Delta County</b>
2.1	3.8	<b>Morgan County</b>
2.1	3.8	<b>Moffat County</b>
2.2	3.8	<b>San Miguel County</b>
2.3	4.1	Ouray County
2.3	4.1	<b>Mesa County</b>
2.4	4.3	<b>Rio Blanco County</b>
2.4	4.3	Montrose County

**Red text indicates oil and gas producing counties**

19 of 24 counties (79%) that have warmed 1.5 C or more are oil and gas producing counties

Source 2°C: *Beyond the Limit*, Washington Post Pulitzer Prize winning series, which analyzed warming between 1895 and 2019. Data available at: <https://github.com/washingtonpost/data-2C-beyond-the-limit-usa>

A recent peer-reviewed study in the journal *Nature Climate Change* found that 42% of the 22-year megadrought we are experiencing in the West is attributed to human-caused climate change.<sup>9</sup> Without human-caused climate change, the megadrought *would have ended early* on because 2005 and 2006 would have been wet enough to break it, according to the study's authors<sup>10</sup>. Human-caused climate change is changing the baseline conditions. The current drought is the worst in 1200 years.

Not only are baseline conditions changing, but Western Colorado is warming faster than Colorado's hazard mitigation modeling assumptions. Colorado's Hazard Mitigation Plan modeled the impact of climate change on key hazards including flood, wildfire, drought, heat exhaustion. Climate change impacts were modelled by location, extent/intensity, frequency, and duration.<sup>11</sup> Colorado's model is based on 30-year warming of 2 degrees Fahrenheit (1.1 degrees Celsius), and 50-year warming of 2.5 degrees Fahrenheit (1.4° Celsius).<sup>12</sup> While, on average the State has warmed 1.4°C over a 125-year period, the Western Slope has warmed disproportionately, as mentioned above.<sup>13</sup> Colorado has developed the Future Avoided Cost Explorer: Colorado Hazards, which is an interactive model of projected economic damage by sector due to climate change. The climate scenarios, are current (1.4°C), average state warming of 2.1°C (Moderate) and 2.3°C (More Severe). Hazards modeled are drought, wildfire and flood, and sectors include agriculture, infrastructure, recreation. The model time period is 2050, and estimated annual damage costs for counties that have warmed 1.4°C or more are between \$228.6 million and \$555.1 million. See Table 2 below.

A recent example of infrastructure vulnerability is two road collapses in the Spring of 2023 in the North Fork Valley. A 10-foot-wide section of Highway 133 collapsed at Bear Creek Road, between Paonia and Somerset, on May 3, 2023 when high water pushed a failed culvert down the hillside.<sup>14</sup> While the rusty culvert was identified as needing repair in 2020, it was the rapid runoff resulting from climate change, including abnormally high snowfall and rapid melt from early high temperatures that forced rushing water to destroy the roadway. The main access road into the North Fork Valley was closed for six weeks, devastating local businesses at the beginning of the tourist season. Sometime in the spring an oil and gas access road collapsed on US Forest land preventing access to remote wellpads for inspection and maintenance.<sup>15</sup> Neither federal land management agency, state regulatory agency for oil and gas, nor the operator were aware of the road collapse until CHC notified them after

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<sup>9</sup> Williams, A.P., Cook, B.I. & Smerdon, J.E. Rapid intensification of the emerging southwestern North American megadrought in 2020–2021. *Nat. Clim. Chang.* (2022). <https://doi.org/10.1038/s41558-022-01290-z>

<sup>10</sup> Borenstein, Seth, “West megadrought worsens to driest in at least 1,200 years”, AP News, February 14, 2022, available at: <https://apnews.com/article/climate-science-west-megadrought-f02449c2db4f0eb1557bb39504c62d>

<sup>11</sup> 2018-2023 Colorado Hazard Mitigation Plan, at 160.

<sup>12</sup> Id. at 48

<sup>13</sup> 2°C: *Beyond the Limit*

<sup>14</sup> Dave Marston, *Rushing water closes a highway in Western Colorado*, Writers on the Range, (June 5, 2023), available at: <https://writersontherange.org/rushing-water-closes-a-highway-in-western-colorado/>; Exhibit 1: photos of Highway 133 collapse.

<sup>15</sup> Exhibit 2: photos of oil and gas access road collapse



conducting field work in the area. In addition, according to a Delta County official, a landslide occurred in late April on Hubbard Creek Road, covering the road and closing it indefinitely. According to the US Geological Survey, with climate change and speed of the spring runoff, like we just experienced in 2023, landslide activity will increase.<sup>16</sup>

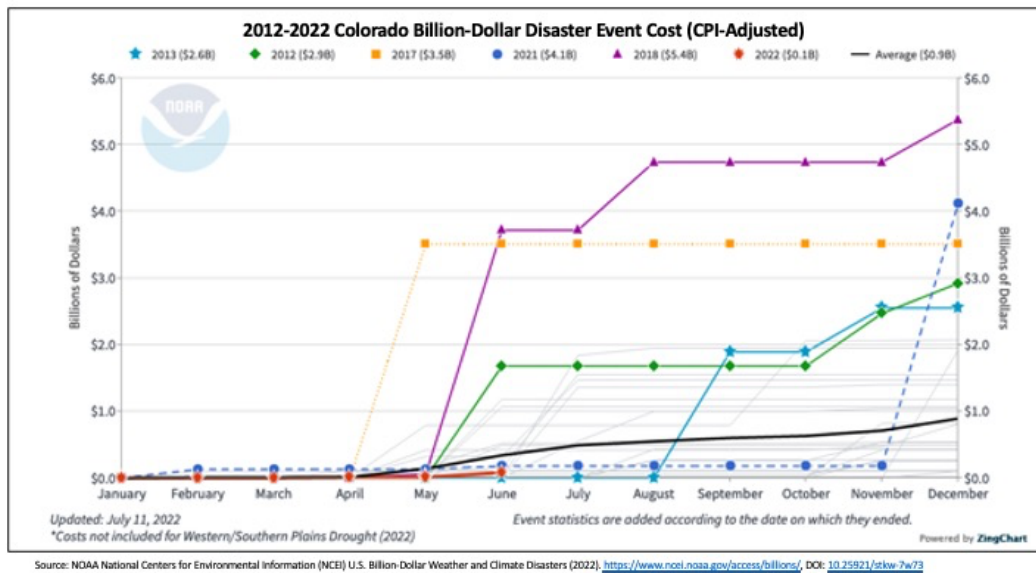
<b>Table 2: Colorado Future Avoided Cost Estimate*</b>				
<b>Hazards: Drought, Flood, Wildfire</b>	<b>Temperature Scenario</b>			<b>Actual warming in Celsius (1895-2019)</b>
	<b>Current (1.4° C)</b>	<b>Moderate (2.1° C) in 2050</b>	<b>More Severe (2.3°C) in 2050</b>	
<b>Adams County</b>	\$ 25,000,000	\$ 27,000,000	\$ 48,000,000	<b>1.5</b>
<b>Delta County</b>	\$ 2,900,000	\$ 6,000,000	\$ 10,000,000	<b>1.5</b>
<b>Dolores County</b>	\$ 1,100,000	\$ 1,900,000	\$ 1,900,000	<b>1.6</b>
<b>Garfield County</b>	\$ 17,000,000	\$ 42,000,000	\$ 53,000,000	<b>1.6</b>
<b>Gunnison County</b>	\$ 5,500,000	\$ 16,000,000	\$ 22,000,000	<b>1.6</b>
Hinsdale County	\$ 350,000	\$ 420,000	\$ 1,300,000	<b>1.6</b>
<b>Jackson County</b>	\$ 1,100,000	\$ 1,600,000	\$ 3,400,000	<b>1.6</b>
<b>Kit Carson County</b>	\$ 12,000,000	\$ 22,000,000	\$ 24,000,000	<b>1.6</b>
<b>La Plata County</b>	\$ 19,000,000	\$ 40,000,000	\$ 61,000,000	<b>1.7</b>
<b>Larimer County</b>	\$ 22,000,000	\$ 30,000,000	\$ 45,000,000	<b>1.7</b>
<b>Logan County</b>	\$ 11,000,000	\$ 17,000,000	\$ 20,000,000	<b>1.8</b>
<b>Mesa County</b>	\$ 19,000,000	\$ 39,000,000	\$ 43,000,000	<b>1.9</b>
<b>Moffat County</b>	\$ 4,200,000	\$ 5,800,000	\$ 8,400,000	<b>1.9</b>
<b>Montezuma County</b>	\$ 8,300,000	\$ 13,000,000	\$ 15,000,000	<b>2</b>
Montrose County	\$ 5,200,000	\$ 12,000,000	\$ 14,000,000	<b>2</b>
<b>Morgan County</b>	\$ 12,000,000	\$ 19,000,000	\$ 26,000,000	<b>2</b>
Ouray County	\$ 1,100,000	\$ 2,300,000	\$ 4,000,000	<b>2.1</b>
<b>Rio Blanco County</b>	\$ 4,400,000	\$ 7,200,000	\$ 8,700,000	<b>2.1</b>
<b>Routt County</b>	\$ 6,600,000	\$ 16,000,000	\$ 19,000,000	<b>2.1</b>
San Juan County	\$ 150,000	\$ 320,000	\$ 1,400,000	<b>2.2</b>
San Miguel County	\$ 3,700,000	\$ 13,000,000	\$ 13,000,000	<b>2.3</b>
<b>Washington County</b>	\$ 10,000,000	\$ 12,000,000	\$ 16,000,000	<b>2.3</b>
<b>Weld County</b>	\$ 27,000,000	\$ 36,000,000	\$ 52,000,000	<b>2.4</b>
<b>Yuma County</b>	\$ 10,000,000	\$ 32,000,000	\$ 45,000,000	<b>2.4</b>
	<b>\$ 228,600,000</b>	<b>\$ 411,540,000</b>	<b>\$ 555,100,000</b>	
<b>Red text indicates oil and gas producing counties</b>				
* Cost estimate is expected annual damage based on equal distribution of damage per year over time and in 1995 dollars.				
Source: <a href="https://storymaps.arcgis.com/stories/4e653ffb2b654ebe95848c9ba8ff316e">Future Avoided Cost Explorer: Colorado Hazards</a> , available at: <a href="https://storymaps.arcgis.com/stories/4e653ffb2b654ebe95848c9ba8ff316e">https://storymaps.arcgis.com/stories/4e653ffb2b654ebe95848c9ba8ff316e</a>				

The highway closure resulted in a significant drop in patronage of local, small businesses in the North Fork Valley at a critical time for tourism to stimulate the local economy. The road closure had a devastating effect on small, family-owned businesses including ranchers, agricultural and retail businesses at the start of the tourism and

<sup>16</sup> Dennis Webb, “Speed of spring runoff can affect risk of seasonal landslides,” *Grand Junction Sentinel*, June 1, 2023, available at: [https://www.gjsentinel.com/news/speed-of-spring-runoff-can-affect-risk-of-seasonal-landslides/article\\_7c42e7f4-ff2a-11ed-a662-b3ea2ab9db78.html](https://www.gjsentinel.com/news/speed-of-spring-runoff-can-affect-risk-of-seasonal-landslides/article_7c42e7f4-ff2a-11ed-a662-b3ea2ab9db78.html)

agricultural season.<sup>17</sup> For example, the trip between Paonia and Somerset and points between went from a 10-mile drive to a nearly 200-mile drive—detour through Grand Junction.<sup>18</sup> Estimated travel time for the detour through Grand Junction was approximately three hours, more than double the distance of a normal passage along Highway 133. Retailers saw business from tourism drop 50%. Cattle ranchers were forced to choose between moving cow-calf operations on foot, which takes days, and impact the weight of the cattle, or incur the significant cost of hauling them by truck via a 200-mile detour.<sup>19</sup> Normally, the trip costs \$350 to \$450 per load, but if the haulers have to drive to Grand Junction, Carbondale, over the pass and down to ranches, it could cost \$1,500. In addition to the economic impacts, added emissions impacts result from these types of climate change-induced road closures.

Today, in 2022, Western Slope warming has dangerously exceeded the State’s moderate, and more severe climate models, to the point that the cost estimates, let alone the human toll, are now likely severely under-estimated. Eleven of the top 20 largest wildfires in Colorado have occurred in the last 7 years (since 2016).<sup>20</sup> Over the last decade, Colorado has experienced billions of dollars in damages due to wildfire, flood and drought.<sup>21</sup> Between 2012 and 2022, Colorado was affected by a number of billion-dollar disaster events totaling \$18.6 billion.<sup>22</sup> See Figure 1.



<sup>17</sup> North Fork Valley Creative Coalition, Action Alert, May 26, 2023.

<sup>18</sup> Katharhynn Heidelberg, *Temp fix slated for sinkhole on CO133 as North Fork ag, business worry*, (May 5, 2023), available at: [https://www.montrosepress.com/news/temp-fix-slated-for-sinkhole-on-co133-as-north-fork-ag-business-worry/article\\_347af7c2-eb93-11ed-aa89-4b706880e794.html](https://www.montrosepress.com/news/temp-fix-slated-for-sinkhole-on-co133-as-north-fork-ag-business-worry/article_347af7c2-eb93-11ed-aa89-4b706880e794.html)

<sup>19</sup> Id.

<sup>20</sup> <https://dfpc.colorado.gov/wildfire-information-center/historical-wildfire-information>

<sup>21</sup> Hazards, Colorado Water Conservation Board, available at: <https://cwcb.colorado.gov/focus-areas/hazards> accessed July 22, 2022. Roberts, Michael, *Marshall Fire Update by the Awful Numbers*, Westword, January 7, 2022, <https://www.westword.com/news/marshall-fire-damage-and-cost-boulder-update-13177208>

<sup>22</sup> NOAA National Centers for Environmental Information (NCEI) U.S. Billion-Dollar Weather and Climate Disasters (2022). <https://www.ncei.noaa.gov/access/billions/>, DOI: 10.25921/stkw-7w73



Local warming has already surpassed the modeling assumptions behind the mitigation plans, and the mitigation plans do not include climate change prevention. Cumulative emissions from oil and gas operations, especially in areas that have already exceeded warming thresholds would further stress Colorado's resources and ability to respond to climate change impacts.

Based on the Delta County Greenhouse Gas Emissions Inventory for the baseline year 2019<sup>23</sup>, the total social cost of greenhouse gases is \$436,298,617. The social cost of GHG emissions for natural gas production is \$42,486,716, or 10% of the total social cost of GHG emissions for the county. The social cost was calculated based on Colorado's social cost of carbon dioxide and methane at \$68 and \$1756, respectively, and the federal cost of nitrous oxide at \$27,000, and on Colorado's discount rate of 2.5%.<sup>24</sup> Importantly, these social costs are not outweighed by oil and gas revenues.

A new report by the Colorado Fiscal Institute challenges the long-standing industry and policy narrative that the oil and gas sector has a significant impact on the Colorado economy.<sup>25</sup> The report finds that the oil and gas extraction industry, along with the pipeline construction and transportation industries and support industries for oil and gas make up less than 1% of total State employment, 3.3% of State GDP, 1.7% of Colorado State Revenue (from severance tax) and 5.2% of overall property taxes from property taxes on oil and gas property. Specifically, county property tax revenue in 2021 for Delta and Gunnison County in the North Fork Valley from oil and gas were \$91,768 and \$617,696, respectively.<sup>26</sup> That's less than 1% of Delta County property tax revenue, more specifically, .4%, and 1.2% of Gunnison County property tax revenue.

## Conclusion

Frontline communities like ours are suffering from the impacts of local warming. The science is clear that climate change is a cumulative problem resulting from fossil fuel emissions. One quarter of US emissions comes from oil and gas development on public lands and the economic benefits do not outweigh the climate and community impacts. We

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<sup>23</sup> Greenhouse Gas Emissions Inventory for Delta County, Colorado 2019, Citizens for a Healthy Community, Jill Hepp, September 2021-Revised, available at: <https://www.chc4you.org/delta-ghg-inventory>

<sup>24</sup> Social Cost of Carbon Dioxide is \$68 per short ton as stated in C.R.S. 10-3.2-106(4). 1 metric ton = 1.10231131 short tons. The metric tons for CO<sub>2</sub> and CH<sub>4</sub> are adjusted to short tons in the social cost calculations. Social Cost of Methane is \$1756 per short ton as stated in C.R.S. 40-3.2-107(2)(a). 1 metric ton = 1.10231131 short tons. The metric tons for CO<sub>2</sub> and CH<sub>4</sub> are adjusted to short tons in the social cost calculations. Social Cost of Nitrous Oxide is \$27,000 per metric ton based on the Interagency Working Group On Social Cost of Greenhouse Gases Interim Estimates under Executive Order 13990. Colorado has not established a social cost of nitrous oxide. Available at: [https://www.whitehouse.gov/wp-content/uploads/2021/02/TechnicalSupportDocument\\_SocialCostofCarbonMethaneNitrousOxide.pdf](https://www.whitehouse.gov/wp-content/uploads/2021/02/TechnicalSupportDocument_SocialCostofCarbonMethaneNitrousOxide.pdf)

<sup>25</sup> *Clearing the Air: The Real Costs and Benefits of Oil and Gas for Colorado*, Colorado Fiscal Institute, Chris Stiffler and Pegah Jalali, (January 2023), available at: <https://www.coloradofiscal.org/costs-benefits-oil-and-gas-colorado/library/reports/>

<sup>26</sup> Id. at 19.

urge this committee to seriously consider local warming and local community impacts in considering this bill that would strip the Bureau of Land Management of its rulemaking authority that can be used to respond to local community impacts and prevent the permanent impairment, and undue and unnecessary degradation of lands from oil and gas leasing and development.