



How Federal Coal Reform Could Help Mountain Communities Mitigate the Costs of Climate Change





COMMUNITIES AT RISK

Positioned in rural areas and often surrounded by federal land, our mountain communities are experiencing first hand the impacts and costs of climate change. From reduced snowpack and protracted droughts to increased flood risk and more severe wildfires, our communities and outdoor recreation economies are bearing the growing financial costs of warming temperatures and more extreme weather events.

Unfortunately, however, the federal coal program does not take into account these growing costs. Greenhouse

gas emissions from coal are a major contributor to climate change and failing to account for these costs in the federal coal leases shifts them onto taxpayers, who already receive an exceedingly low return on federal mineral resources. Coal production, transportation, and consumption result in large external financial costs.¹

In order to ensure a fair return to taxpayers and improve economic efficiency, the royalty rate on coal should incorporate costs related to climate impact mitigation and adaptation.

THE FINANCIAL COSTS OF CLIMATE CHANGE

Under a scenario of continued emissions — 700 ppm of CO₂ by 2100 — the snowline in many of our mountain communities could increase by 328 to 1,312 feet and the snow season could become 30% shorter than the typical ski season. To secure the average industry profit margin of 6.5% to 7%, this number indicates that the bottomline for ski resorts is heavily dependent on a total of 100 to 105 days of skiing. As a result of just a 1% annual decrease in the amount of annual tourists visiting Colorado's ski resorts alone, one could expect a total economic loss of over \$375 million by 2017 and over 4,500 jobs lost in that state.² The costs incurred due to a changing climate are on the rise and by increasing the royalty rate for coal even slightly would mean anywhere from \$290 million to \$3 billion in new revenue could be generated for the federal government, states and communities.³

COAL REFORM: SMALL CHANGES FOR A BIG IMPACT

As Federal coal is currently significantly less expensive on average than other coal on the market, data has shown that increases in royalty rates can raise revenue with only minor changes to coal production.⁴ When looking at scenarios that add \$2.50 per ton of coal mined on federal lands, production decreases by less than 1% while raising revenues by an additional \$910 million in the year 2020.⁵ With half of the revenue going to the states where the mining took place this increase in funding has potential for taxpayers to invest back in their communities. Specifically in Colorado revenues could rise by \$20 million in the year 2020.⁶ **This is enough money to hire 400 public school teachers, or 751 construction workers to repair Colorado's roads, bridges, and other aging infrastructure.**



As communities face the costs of adapting to climate change, it would also be beneficial if the increased revenues streams could be used to integrate climate preparedness practices such as hire staff to develop and implement a comprehensive climate adaptation plan, update stormwater infrastructure to prepare for more frequent and intense flooding events as well as update energy infrastructure to promote renewables and a new clean energy economy.

PREPARING FOR AN UNCERTAIN FUTURE

Not only is the winter season in jeopardy, but the summer season is under growing pressure with a rise in catastrophic wildfires. Research has demonstrated a strong link between increased severity and duration of wildfire season to climate change. There is general consensus that climate change is and will continue to be a primary driver of trends in wildland fires. Meaning fires such as the Fort McMurray fire that burned 2,400 structures in Alberta, nearly 10 per cent of the city, this spring are expected to occur more frequently as climate change progresses.

This is evidenced over the last few decades of steadily increased wildfire costs which in turn consume an ever-increasing portion of the Forest Service budget. Between 2014 and 2015, for example, the fire suppression budget grew by \$115 million which mirrors the decrease in non - fire program funding requiring the agency to cease opportunities for restoration work and meet public expectations for services.⁷ Often those non- fire activities improve the health and resilience of forested landscapes in turn mitigating the potential for future fires. Data shows that 38% of response costs could be avoided by investment in healthy functioning ecosystem services.⁸



Projections calculate that in just **10 years, two out of every three dollars the Forest Service receives from Congress will be spent on fire programs, shortchanging budgets for recreation, forest restoration, and other vital Forest Service programs.**⁹

Investment in programs that help prevent fires in the first place — such as forest, watershed, and landscape management restoration projects — can help to ensure the welfare of infrastructure that supports thousands of recreation jobs and billions of dollars of economic activity in rural communities. As it stands, there is relatively limited data on the costs of adaptation and known resources towns will need as we continue to see more impacts from climate change.

The signs of a changing climate are unequivocal and it will be harder to do more with less, so proactive investments in climate adaptation strategies are necessary to reduce risk and cost down the line.

Mountain communities are on the front lines of climate change. It is time to better account for the climate, environmental and public health impacts of coal production, ensure a fair return for the use of taxpayer's resources, and transition our nation's infrastructure and workforce to better cope with climate change.



¹ White House Council of Economic Advisors. “The Economics of Coal Leasing on Federal Lands: Ensuring a Fair Return to Taxpayers”. June 2016. Available at: https://www.whitehouse.gov/sites/default/files/page/files/20160622_cea_coal_leasing.pdf

² Center for Integrative Environmental Research. “Economic Impacts of Climate Change on Colorado”. The University of Maryland. at: <http://cier.umd.edu/climateadaptation/Climate%20change--COLORADO.pdf>

³ White House Council of Economic Advisors. “The Economics of Coal Leasing on Federal Lands: Ensuring a Fair Return to Taxpayers”. June 2016. Available at: https://www.whitehouse.gov/sites/default/files/page/files/20160622_cea_coal_leasing.pdf

⁴ Ibid

⁵ Reeder, S., J. Stock. “Final Report: Federal Coal Leasing Reforms Options: Effects on CO2 Emissions and Energy Markets”. A Vulcan Philanthropy. January 26, 2016. Available at: <http://www.vulcan.com/MediaLibraries/Vulcan/Documents/Federal-Coal-Lease-Model-report-Jan2016.pdf>

⁶ Ibid.

⁷ U.S. Department of Agriculture. “The Rising Cost of Wildfire Operations: Effects on the Forest Service’s Non-Fire Work”. August 4, 2015. Available at: <http://www.fs.fed.us/sites/default/files/2015-Rising-Cost-Wildfire-Operations.pdf>

⁸ Lee, C., C., Schlemme, J. Murrar, R. Unsworth. “The Cost of Climate Change: Ecosystem Services and Wildland Fires”. Industrial Economics Inc. Available at: <http://www.sciencedirect.com/science/article/pii/S0921800915002050>

⁹ U.S. Department of Agriculture. “The Rising Cost of Wildfire Operations: Effects on the Forest Service’s Non-Fire Work”. August 4, 2015. Available at: <http://www.fs.fed.us/sites/default/files/2015-Rising-Cost-Wildfire-Operations.pdf>