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APPENDIX H

EXHIBITS

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Exhibit 1

ORAL ARGUMENT NOT YET SCHEDULED**IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT**

WESTMORELAND MINING
HOLDINGS LLC,

Petitioner,

v.

U.S. ENVIRONMENTAL
PROTECTION AGENCY, and
MICHAEL S. REGAN, Administrator,
U.S. Environmental Protection Agency,

Respondents.

No. 24-1194 (consolidated with No.
24-1119 et al.)

DECLARATION OF DR. PATRICK BARKEY
IN SUPPORT OF PETITIONER'S MOTION TO STAY FINAL RULE

I, Dr. Patrick Barkey, make the following declaration pursuant to 28 U.S.C. § 1746 and state under penalty of perjury that the following is true and correct to the best of my knowledge:

1. I am the Director of the Bureau of Business and Economic Research at the University of Montana. I have held this position since 2008. I have been involved with economic forecasting and policy research for more than 30 years, in both the private and public sectors. Before joining the University of Montana, I served as the Director of the Bureau of Business Research at Ball State University in Indiana for fourteen years. My research has included a focus on the economic impact of energy development. I hold a

- B.A. and a Ph.D. in economics from the University of Michigan. I am over the age of 18, have personal knowledge of the subject matter, and am competent to testify concerning the matters in this declaration.
2. I am submitting this declaration in support of Petitioners' Motions to Stay the Final Rule published by the U.S. Environmental Protection Agency (EPA) on May 7, 2024, entitled "National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units Review of the Residual Risk and Technology Review," 89 Fed. Reg. 38508 (Final Rule).
 3. My study of the economic implications of the Final Rule, detailed in my Final Report attached as Exhibit A to the Declaration, gives me significant concern that the Final Rule will substantially harm the State of Montana's economy if it causes the closure of the Colstrip SES in mid-2027.
 4. My conclusions are based on a comparison of two different futures for Montana's economy: 1) a baseline status quo projection where the Colstrip SES and the adjacent Rosebud coal mine continue to operate as today; 2) a premature retirement of the two facilities, with production ceasing in mid-2027. The latter scenario means the elimination of the economic input from the Colstrip SES, with important and substantial downstream implications for Montana's economy.

5. Specifically, if Colstrip SES closes, almost 600 jobs would be lost at the plant and Rosebud mine, and the downstream costs would cause over 3,000 jobs lost statewide. The average job lost from the closure makes over \$84,000 per year. Further, the State of Montana would suffer a negative economic impact of over \$1 billion per year, directly losing over \$100 million in revenue per year.
6. These projections were made using an economic model that has been constructed and calibrated for this purpose, leased from Regional Economic Models, Inc. (REMI). The REMI model has been extensively documented and utilized in both peer-reviewed and other research studies. The model combines a detailed, 70-sector economic output model, a multi-equation econometric model and a demographic model to serve as a powerful tool to assess policies and events affecting the economy.

Executed in Missoula, Montana, on June 25, 2024.



Dr. Patrick Barkey
Director
Bureau of Business and Economic
Research, University of Montana

Exhibit A

The Economic Implications of MATS Rulemaking in Montana Final Report

On April 25, 2024, the U.S. Environmental Protection Agency released a final rule significantly revising the Mercury Air and Toxics Standards (MATS) for coal-fired electric power plants. That rule would require substantial investment at the Colstrip Steam Electric Station (SES), Montana's largest electric generating facility located in Rosebud County in southeast Montana, to continue operation. Such an investment may not be technically or financially feasible for the facility. This would render the continued operation of the Colstrip SES beyond the date of July 8, 2027, when the applicable provisions of the new MATS go into effect, in doubt.

Should the MATS rulemaking result in the premature closure of the Colstrip SES, it would be a significant economic event. This was demonstrated by a 2018 study published by the University of Montana Bureau of Business and Economic Research (Bureau of Business and Economic Research, 2018), which found that an early closure of the coal-fired generator would have sizable impacts on jobs, incomes, tax revenue and population.

A key factor that contributed to the size and scope of the impacts identified in that study is the close relationship of the generating station to the adjacent Rosebud coal mine, owned and operated by Westmoreland. The Colstrip SES is a mine mouth plant, receiving its coal via a dedicated conveyor from the mine. With no rail access to ship its coal to the broader market, any circumstance that terminates electricity generation at the Colstrip SES would bring about the closure of the mine.

The purpose of this report is to bring those estimates of economic impacts up to date, using the most current operating information and conforming to the specific timetable of the MATS rulemaking. The research question addressed is: what would be the consequences for the Montana economy, in terms of jobs, income, spending, output and population, if the new MATS rulemaking brought about the closure of the Colstrip SES in mid-2027?

The basic approach of this research is to compare two futures for the state economy. The baseline projection is a status quo scenario where the generating station and the adjacent mine continue to operate as today. The alternative scenario is premature retirement of the two facilities, with production ceasing in mid-2027. In the alternative scenario, the economic flows ultimately supported by the production of electricity from the Colstrip SES, are removed from the economy, with important implications for those who receive those flow and spend again in the economy.

The difference between these two projections of the future of the Montana economy is the economic impact of the Colstrip SES closure. We produce these projections with an economic model that has been constructed and calibrated for this purpose, leased from Regional Economic Models, Inc. (REMI). The REMI model, described in more detail in Appendix B of this report, has been extensively documented and utilized in both peer-reviewed and other research studies. The model combines a detailed, 70-sector economic output model, a multi-equation econometric model and a demographic model to serve as a powerful tool to assess policies and events affecting the economy (Cassing & Giaratini, 1992).

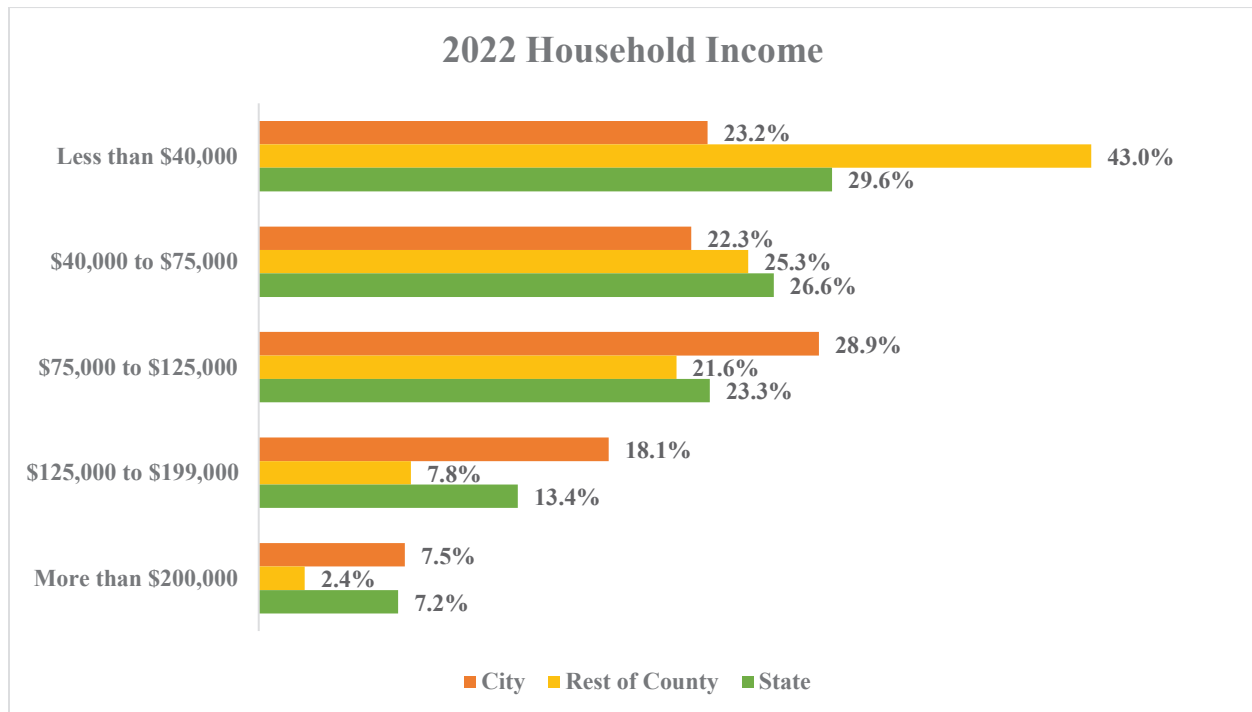
About This Study

This study was produced by Patrick M. Barkey, Ph.D., who has been retained by Baker Botts and Baker & Hostetler LLP. The research was conducted in June of 2024. The study has benefited from operational and financial information on actual operations of both the Colstrip SES and the Rosebud Mine provided by the facilities themselves. All findings of this study, as well as any errors or omissions, are solely the responsibility of Dr. Barkey, who produced all the research findings in this report.

The Colstrip SES and the Rosebud Mine

The city of Colstrip in Rosebud County in southeast Montana is home to two of the largest and highest paying industrial facilities in the entire state – the Colstrip SES and the Rosebud Mine. The economic prosperity that is enjoyed in the community today because of the presence of these major employers is evident from the earnings data from the American Community Survey conducted by the Census Bureau shown in Figure 1.

Figure 1



Compared to the state and especially to the remainder of Rosebud County, household income in the city of Colstrip is tilted to the upper side of the income distribution. Almost 29 percent of Colstrip households earn between \$75,000 and \$125,000 in annual income. All the earnings categories shown in the Figure above those amounts contain higher percentages of Colstrip households than elsewhere as well, which stands in stark contrast to most other communities in the eastern third of Montana.

Summary of Findings

The basic finding of this research is that the premature closure of the Colstrip SES (which also necessitates the closure of the adjacent Rosebud Mine) would be a significant setback for the economy of the state of Montana. Based on a comparison of economic activity that is projected under a status quo, no-closure scenario, the research shows that an economy where the closures take place is smaller by:

- 3,262 permanent, year-round jobs in the year 2028, the first full year of closure for the mine and the generating station. The lost jobs occur across a wide spectrum of industries and occupations.
- \$240.3 million dollars in income received by households during the year 2028, due to the loss of jobs and people in the smaller state economy that results from the closure of the facilities. The loss of \$203.4 million in disposable, after tax, income received by households in 2028 represents a considerable decline in spending power in local economies throughout the state.

- Over a billion dollars in economic output, generally defined as gross receipts of business and non-business organizations. The loss of revenue from sales is felt by every industry in the economy, from health care to retail sales.
- \$102.8 million in selected tax and non-tax revenues to Montana state government in 2028, due not only to the reduction in the size of the overall economy, but also to the loss of specific tax revenue from coal and utility operations in the wake of closures at the Colstrip SES and the Rosebud Mine.
- 1,305 people in 2028, growing to more than 4,100 people in year 2040, who leave the state due to the loss of economic opportunity due to MATS rulemaking-induced closures in Colstrip.

Table 1

**The Economic Implications of MATS Rulemaking in Montana
Impacts Summary**

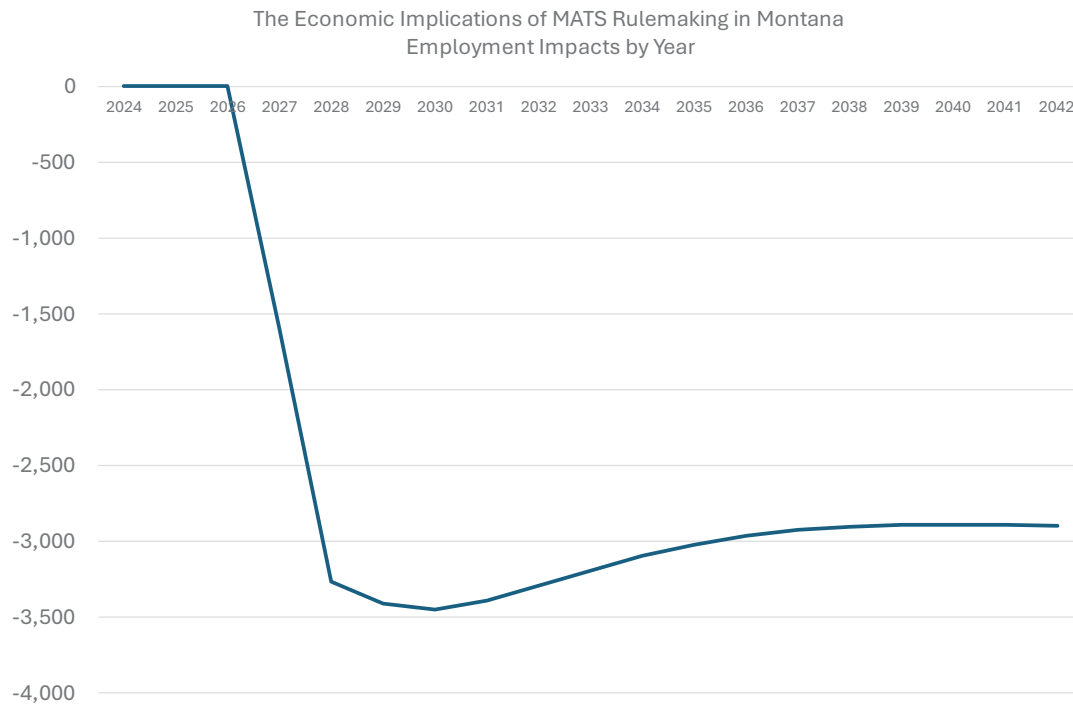
Category	Units	Impacts by Year		
		2028	2035	2040
Total Employment.....	Jobs	-3,262	-3,020	-2,890
Personal Income.....	\$ Millions*	-240.3	-284.8	-310.0
Disposable Personal Income.....	\$ Millions*	-203.4	-244.9	-268.5
Selected State Revenues.....	\$ Millions*	-102.8	-120.4	-126.8
Output.....	\$ Millions*	-1,011.4	-1,006.3	-1,016.8
Population	People	-1,305	-3,647	-4,106

*All dollar amounts are inflation-corrected, expressed in terms of 2024 dollars.

Each of these specific impacts represent the difference in economic activity between a status quo, no closure economy and the economy that is expected to emerge after the closure of the Colstrip SES and the Rosebud Mine.

As shown in Table 1, the impacts of MATS rulemaking are expected to evolve over time over the next 15 years. These changes over time are the product of several different forces. Productivity gains over time slightly reduce the expected employment losses but result in income losses that are larger. The out-migration of Montanans who leave for other states (or those who would move here except for the closures) rises over time, with deleterious effects on everything from income to tax revenues.

The evolution of these impacts is shown graphically in Figure 2 for employment impacts. With the closures assumed to take place at the midpoint of year 2027, the first year with ceased operations at the mine and the generation station is 2028. Employment impacts grow in absolute value beyond that year as industries like construction suffer from the oversupply of structures. The low point is the year 2030, when employment impacts are 3,486 jobs.

Figure 2

As is the case for most situations where jobs are created or lost in a regional economy, the number of jobs ultimately lost in the overall economy shown in Figure 2 exceeds the number of jobs eliminated at the mine and the generating station due to their closure. These knock-on effects in the overall economy occur as the lost revenue of those who previously received the employee and vendor spending of the facilities propagates through their own spending and employment. Nonetheless, the additional job losses that are expected to occur in the wake of MATS rulemaking-induced closures in Colstrip are large.

Three factors account for the magnitude of job losses that occur.

The first is the nature of the jobs at the mine and the generating station. These are capital-intensive, high value-added businesses that compensate their employees very well – average compensation at each facility is more than twice as high as the Montana average earnings per job.

Secondly, the production of coal and electricity involves a high fraction of inputs that are made in Montana. Thus, vendor spending of the facilities is more likely to be directed within the state, instead of being lost to the economy when purchases of goods and services are directed to suppliers located elsewhere.

Finally, there is the special tax treatment of production in natural resources in Montana, especially coal mining. Table 1 shows state revenue losses exceeding \$100 million as a result of closures of the mine and generating station. These revenue losses result in a loss of government spending or possibly higher tax rates on the rest of the economy, which contribute to lower employment as well.

The impacts on the state economy that are caused by the MATS rulemaking-induced closure of the Colstrip SES and the adjacent Rosebud Mine that are summarized in Table 1 are sizable, yet they are likely to understate the losses that actually occur. This is because this analysis does not take into account

other factors and events that would occur in the wake of the loss of the state's largest producer of electricity. These include:

- The implications of the loss of property tax revenues to local governments
- The electricity rate implications of the stranded capital costs borne by the Montana investor-owned utility that is partial owner of the Colstrip SES
- The implications for pricing and reliability of electricity supply as Colstrip generation is lost
- The cost of building replacement generation

None of these factors are considered in the closure analysis presented here.

Detailed Findings

Further insights on how the overall decline in the state economy caused by the MATS rulemaking-induced closures of the Colstrip SES and the Rosebud Mine can be gleaned from an examination of the impacts in greater detail.

Tables 2-7 on the following pages report on impacts for employment by industry, personal income, compensation and earnings, economic output, selected state tax and non-tax revenues, and population, respectively.

The employment impacts in Table 2 clearly show how the losses in utility and mining employment associated directly with the closures in Colstrip propagate to the broader economy.

Table 2

The Economic Implications of MATS Rulemaking in Montana Employment Impacts (Jobs)

Industry	Impacts by Year		
	2028	2035	2040
Construction.....	-592	-362	-254
Manufacturing.....	-44	-27	-23
Mining.....	-328	-323	-319
Utilities.....	-270	-266	-265
Retail Trade.....	-260	-242	-230
Transportation and Warehousing.....	-66	-52	-49
Professional and Technical Services.....	-171	-164	-160
Administrative and Waste Services.....	-163	-147	-141
Health Care and Social Assistance.....	-196	-174	-184
Arts, Entertainment, and Recreation.....	-49	-36	-37
Accommodation and Food Services.....	-169	-199	-212
Other Services, except Public Administration.....	-130	-115	-116
Other.....	-823	-913	-898
Total	-3,262	-3,020	-2,890

Personal income is the income received by households. The detail on the components of the impacts on personal income shown in Table 3 reveals that while most of the losses stem from declines in earnings related to job losses, there are also sizable impacts on non-labor source of income that results from the smaller post-closure economy.

Table 3

**The Economic Implications of MATS Rulemaking in Montana
Personal Income Impacts (Millions of Dollars*)**

Category	Impacts by Year		
	2028	2035	2040
Total Earnings by Place of Work	-275.4	-274.8	-273.2
Total Wage and Salary Disbursements.....	-188.4	-192.1	-192.2
Supplements to Wages and Salaries.....	-49.6	-58.3	-60.5
Employer contributions for employee pension and insurance funds.....	-31.6	-37.2	-38.6
Employer contributions for government social insurance.....	-17.9	-21.1	-21.9
Proprietors' income with inventory valuation and capital consumption adjustments.....	-37.4	-24.4	-20.5
Less:			
Contributions for government social insurance.....	-37.1	-39.9	-40.2
Employee and self-employed contributions for government social insurance.....	-19.1	-18.8	-18.4
Employer contributions for government social insurance.....	-17.9	-21.1	-21.9
Plus:			
Adjustment for residence.....	0.7	0.7	0.6
Gross In.....	0.1	0.3	0.3
Gross Out.....	-0.6	-0.4	-0.4
Equals: Net earnings by place of residence	-237.6	-234.2	-232.3
Plus:			
Property Income.....	-7.9	-31.4	-42.6
Dividends.....	-3.4	-13.7	-18.7
Interest.....	-2.9	-11.5	-15.3
Rent.....	-1.5	-6.3	-8.6
Personal Current Transfer Receipts.....	5.1	-19.1	-35.2
Equals: Personal Income	-240.3	-284.8	-310.0
Less:			
Personal Current Taxes.....	-36.8	-40.0	-41.5
Equals: Disposable Personal Income	-203.4	-244.9	-268.5

*All dollar amounts are inflation-corrected, expressed in terms of 2024 dollars.

The additional detail on wages, compensation and earnings impacts shown in Table 4 show how income losses are borne by both wage and salary workers as well as business proprietors. The average earnings for the total of all jobs lost, as shown in the table, far exceeds the average earnings of jobs overall in Montana.

Table 4

**The Economic Implications of MATS Rulemaking in Montana
Earnings and Compensation Impacts (Millions of Dollars*)**

Category	Units	Impacts by Year		
		2028	2035	2040
Wages and Salaries.....	\$ Millions	-\$188.4	-\$192.1	-\$192.2
Compensation.....	\$ Millions	-\$238.0	-\$250.4	-\$252.7
Earnings.....	\$ Millions	-\$275.4	-\$274.8	-\$273.2
Earnings per Job, Lost Jobs.....	\$ Dollars	\$84,425	\$91,017	\$94,520

*All dollar amounts are inflation-corrected, expressed in terms of 2024 dollars.

Economic output is defined as gross receipts of business and non-business organizations, with the exception of retail and wholesale trade, where markup is used. The output impacts in Table 5 show how the revenues of Montana industries are significantly affected by closures occurring in Colstrip. Including the lost revenues of the mine and generating station, these exceed \$1 billion.

Table 5

**The Economic Implications of MATS Rulemaking in Montana
Output Impacts (Millions of Dollars*)**

Industry	Impacts by Year		
	2028	2035	2040
Construction.....	-95.7	-64.6	-48.1
Manufacturing.....	-30.5	-18.0	-15.7
Utilities.....	-310.9	-324.7	-335.9
Mining.....	-258.5	-254.4	-252.4
Retail Trade.....	-31.2	-35.8	-39.3
Transportation and Warehousing.....	-16.9	-14.1	-14.4
Professional and Technical Services.....	-28.9	-32.4	-34.6
Administrative and Waste Services.....	-18.6	-19.7	-20.7
Health Care and Social Assistance.....	-29.5	-31.0	-35.8
Arts, Entertainment, and Recreation.....	-4.4	-3.6	-3.8
Accommodation and Food Services.....	-16.5	-20.6	-23.2
Other Services, except Public Administration.....	-9.8	-9.8	-10.4
Other Private.....	-94.4	-88.4	-92.1
Government.....	-65.5	-89.2	-90.4
TOTAL.....	-\$1,011.4	-\$1,006.3	-\$1,016.8

*All dollar amounts are inflation-corrected, expressed in terms of 2024 dollars.

The smaller economy that results from the MATS rulemaking-induced closures in Colstrip yields a lower revenue base for the state. Revenues are also affected by the loss of production taxes at the Rosebud Mine and the Colstrip SES, which are categorized as selected sales taxes shown in Table 6. Not all revenue sources shown in the table are general fund revenues subject to the discretion of the legislature. Taken as a whole, they exceed \$100 million per year.

Table 6

***The Economic Implications of MATS Rulemaking in Montana
Selected State Revenue Impacts (Millions of Dollars*)***

Category	Impacts by Year		
	2028	2035	2040
Intergovernmental Revenue.....	-5.3	-14.9	-16.8
Selective Sales Tax.....	-46.9	-47.3	-47.5
License Taxes.....	-1.1	-1.3	-1.4
Individual Income Tax.....	-10.7	-11.6	-12.0
Corporate Income Tax.....	-3.4	-3.4	-3.4
Other Taxes.....	-2.6	-3.0	-3.3
Current Charges.....	-3.5	-4.1	-4.5
Miscellaneous General Revenue.....	-2.8	-3.3	-3.6
Utility Revenue.....	-0.3	-0.3	-0.4
Liquor Store Revenue.....	-0.7	-0.8	-0.8
Insurance Trust Revenue.....	-25.6	-30.3	-33.0
Total	-\$102.8	-\$120.4	-\$126.8

*All dollar amounts are inflation-corrected, expressed in terms of 2024 dollars.

An important factor in all of these detailed impacts is the change in population that is expected to occur due to the closures in Colstrip. This is not a prediction of overall population decline, but a population level that is lower than what would have occurred if the closures did not take place. As shown in Table 7, the population impacts increase substantially over time, and are dominated by those of working age and their children.

Table 7

***The Economic Implications of MATS Rulemaking in Montana
Population Impacts (People)***

Age Cohort	Impacts by Year		
	2028	2035	2040
Ages 0-14.....	-318	-923	-1,014
Ages 15-24.....	-279	-452	-507
Ages 25-64.....	-707	-2,192	-2,421
Ages 65+.....	-2	-81	-164
Total.....	-1,305	-3,647	-4,106

Conclusion

This report has summarized and documented the findings of an analysis of the economic implications of the MATS rulemaking in Montana. Specifically, it addresses how the MATS rulemaking-induced closure of the Colstrip Steam Electric Station (SES) in Rosebud County in southeast Montana due to the physical or economic infeasibility of meeting the reduced mercury emission threshold in the new final MATS rule would affect the economy of the state. The potential for economic harm from the rulemaking is made greater due to the tight coupling between the Colstrip SES and the immediately adjacent Rosebud Mine that serves the generation station with its coal supply via conveyor belt. This is because without substantial new development in rail infrastructure, the continued production of coal with the closure of the generating station would be impossible and its closure would occur as well.

The basic finding of this study is that implementation of the new MATS standard would be a significant negative event for the Montana economy. The loss of the high-paying jobs at the two facilities, and the cessation of the significant vendor spending and tax revenues associated with their operation, would ultimately precipitate a loss of 3,262 jobs in 2028, the first full year of closure after the new standards take effect. This impact represents the difference between what employment in the state would have been in a no-closure scenario and the post-closure job total. This employment impact grows to 3,446 jobs in 2030.

Other dimensions of economic vitality are presented in this report. All underscore the overall conclusion that a Montana economy that is required to meet the final rule of the U.S. Environmental Protection Agency's MATS regulation is smaller, less prosperous, and less populous than would occur if the current rules remained in effect.

References

Bureau of Business and Economic Research. (2018). *The Economic Impact of the Early Retirement of Colstrip Units 3 and 4*. Montana Chamber Foundation.

Cassing, S., & Giaratini, F. (1992). An evaluation of the REMI model for the south coast air quality management district. *Environment and Planning*, 1549-1564.

Appendix A

REMI Model Output

MATS rulemaking impacts - Economic Summary

Category	Units	Year								
		2027	2028	2029	2030	2031	2032	2033	2034	2035
Total Employment	Individuals (Jobs)	+1594.041	+3261.849	+3410.891	+3446.125	+3389.968	+3293.942	+3190.278	+3095.574	+3019.627
Private Non-Farm Employment	Individuals (Jobs)	+1393.358	+2812.036	+2883.827	+2879.690	+2806.039	+2704.940	+2602.380	+2511.644	+2440.535
Residence Adjusted Employment	Individuals	+1571.381	+3213.912	+3360.700	+3398.749	+3346.757	+3255.275	+3155.877	+3064.884	+2991.982
Population	Individuals	+477.798	+1304.930	+1939.678	+2440.929	+2825.319	+3117.124	+3338.788	+3510.243	+3647.479
Labor Force	Individuals	+496.955	+1263.372	+1732.339	+2047.700	+2239.303	+2344.044	+2392.071	+2406.748	+2404.735
Gross Domestic Product	Millions of Fixed (2024) Dollars	+293.755	+598.871	+617.674	+625.960	+624.810	+618.904	+612.264	+605.805	+601.061
Output	Millions of Fixed (2024) Dollars	+497.178	+1011.370	+1040.713	+1051.794	+1047.385	+1036.244	+1024.039	+1013.485	+1006.302
Value-Added	Millions of Fixed (2024) Dollars	+293.755	+598.871	+617.674	+625.960	+624.810	+618.904	+612.264	+605.805	+601.061
Personal Income	Millions of Fixed (2024) Dollars	+119.838	+240.285	+250.333	+264.052	+271.624	+276.149	+279.155	+281.830	+284.805
Disposable Personal Income	Millions of Fixed (2024) Dollars	+101.413	+203.446	+212.042	+224.263	+231.361	+235.993	+239.093	+241.781	+244.851
Real Disposable Personal Income	Millions of Fixed (2017) Dollars	+82.710	+165.926	+172.936	+182.903	+188.692	+192.470	+194.999	+197.191	+199.695
Real Disposable Personal Income per Capita	Thousands of Fixed (2017) Dollars	+0.051	+0.089	+0.070	+0.058	+0.047	+0.038	+0.030	+0.023	+0.018
PCE-Price Index	2017=100 (Nation)	+0.004	+0.035	+0.065	+0.070	+0.073	+0.073	+0.073	+0.072	+0.071

Table A Empty

Comparison Type: Montana - Forecast: Differences - Comparison Forecast: MATS rulemaking impacts

MATS rulemaking impacts - Economic Summary

Category	Units	Year								
		2036	2037	2038	2039	2040	2041	2042	2043	2044
Total Employment	Individuals (Jobs)	+2963.090	+2925.639	+2903.554	+2893.035	+2890.194	+2892.077	+2895.790	+2899.300	+2901.801
Private Non-Farm Employment	Individuals (Jobs)	+2388.557	+2354.860	+2335.845	+2327.745	+2326.908	+2330.537	+2335.892	+2341.091	+2345.424
Residence Adjusted Employment	Individuals	+2937.840	+2902.210	+2881.463	+2871.916	+2869.777	+2872.174	+2876.279	+2880.111	+2882.894
Population	Individuals	+3761.717	+3860.652	+3949.665	+4031.275	+4106.385	+4175.468	+4238.252	+4293.884	+4341.941
Labor Force	Individuals	+2395.987	+2387.183	+2381.338	+2379.340	+2381.361	+2386.388	+2393.607	+2402.356	+2411.168
Gross Domestic Product	Millions of fixed (2024) Dollars	+598.367	+597.631	+598.436	+600.503	+603.306	+606.575	+610.113	+613.626	+616.890
Output	Millions of fixed (2024) Dollars	+1002.551	+1002.198	+1004.923	+1010.001	+1016.793	+1024.776	+1033.363	+1042.124	+1050.881
Value-Added	Millions of fixed (2024) Dollars	+598.367	+597.631	+598.436	+600.503	+603.306	+606.575	+610.113	+613.626	+616.890
Personal Income	Millions of fixed (2024) Dollars	+288.394	+292.810	+298.006	+303.836	+310.033	+316.507	+323.079	+329.599	+335.949
Disposable Personal Income	Millions of fixed (2024) Dollars	+248.403	+252.624	+257.483	+262.860	+268.530	+274.417	+280.373	+286.267	+292.001
Real Disposable Personal Income	Millions of fixed (2017) Dollars	+202.591	+206.034	+209.997	+214.382	+219.006	+223.808	+228.665	+233.472	+238.149
Real Disposable Personal Income per Capita	Thousands of fixed (2017) Dollars	+0.015	+0.011	+0.009	+0.007	+0.005	+0.004	+0.003	+0.002	+0.001
PCE-Price Index	2017=100 (Nation)	+0.070	+0.069	+0.069	+0.069	+0.070	+0.070	+0.071	+0.072	+0.072

Comparison Type: Montana - Forecast: Differences - Comparison Forecast: MATS rulemaking impacts

MATS rulemaking impacts - Industry Profile

Industry	Units	Year									
		2027	2028	2029	2030	2031	2032	2033	2034	2035	
All Industries	Individuals (Jobs)	+1594,041	+3261,849	+3410,891	+3446,125	+3389,968	+3293,942	+3190,278	+3095,574	+3019,627	
Forestry and Logging; Fishing, hunting and trap	Individuals (Jobs)	+0.686	+1.226	+0.960	+0.680	+0.404	+0.167	-0.035	-0.181	-0.278	
Support activities for agriculture and forestry	Individuals (Jobs)	+0.329	+0.474	+0.107	-0.252	-0.575	-0.822	-1.051	-1.202	-1.298	
Oil and gas extraction	Individuals (Jobs)	+0.405	+0.689	+0.504	+0.350	+0.228	+0.149	+0.106	+0.098	+0.109	
Mining (except oil and gas)	Individuals (Jobs)	+164,007	+328,274	+327,594	+326,943	+326,364	+326,019	+324,593	+323,471	+322,512	
Support activities for mining	Individuals (Jobs)	+45,385	+90,342	+89,727	+89,098	+88,471	+87,904	+87,400	+86,965	+86,589	
Utilities	Individuals (Jobs)	+135,242	+269,938	+269,310	+268,778	+268,241	+267,713	+267,241	+266,814	+266,460	
Construction	Individuals (Jobs)	+273,560	+592,224	+656,048	+650,076	+603,458	+539,353	+472,701	+412,014	+361,841	
Wood product manufacturing	Individuals (Jobs)	+4,657	+9,679	+10,141	+9,635	+8,596	+7,395	+6,237	+5,234	+4,437	
Nonmetallic mineral product manufacturing	Individuals (Jobs)	+1,286	+2,644	+2,725	+2,588	+2,330	+2,033	+1,747	+1,497	+1,296	
Primary metal manufacturing	Individuals (Jobs)	+0,284	+0,562	+0,555	+0,536	+0,510	+0,491	+0,461	+0,440	+0,423	
Fabricated metal product manufacturing	Individuals (Jobs)	+3,060	+6,188	+6,281	+6,028	+5,576	+5,087	+4,582	+4,157	+3,816	
Machinery manufacturing	Individuals (Jobs)	+0,570	+1,136	+1,152	+1,103	+1,023	+0,950	+0,817	+0,711	+0,624	
Computer and electronic product manufacturin	Individuals (Jobs)	+0,294	+0,463	+0,202	-0,091	-0,382	-0,641	-0,844	-1,002	-1,118	
Electrical equipment, appliance, and component	Individuals (Jobs)	+0,003	-0,003	-0,020	-0,038	-0,054	-0,067	-0,078	-0,087	-0,093	
Motor vehicles, bodies and trailers, and parts r	Individuals (Jobs)	+0,734	+1,503	+1,599	+1,623	+1,603	+1,570	+1,518	+1,471	+1,430	
Other transportation equipment manufacturing	Individuals (Jobs)	+0,222	+0,443	+0,452	+0,442	+0,421	+0,398	+0,381	+0,367	+0,356	
Furniture and related product manufacturing	Individuals (Jobs)	+1,817	+3,601	+3,611	+3,488	+3,257	+3,003	+2,779	+2,596	+2,461	
Miscellaneous manufacturing	Individuals (Jobs)	+0,646	+1,145	+0,912	+0,679	+0,449	+0,247	+0,084	-0,040	-0,129	
Food manufacturing	Individuals (Jobs)	+2,958	+5,952	+6,143	+6,241	+6,204	+6,134	+6,010	+5,921	+5,867	
Beverage and tobacco manufacturing	Individuals (Jobs)	+2,042	+4,213	+4,619	+4,940	+5,117	+5,210	+5,239	+5,247	+5,247	
Textile mills and textile product mills	Individuals (Jobs)	+0,305	+0,571	+0,516	+0,442	+0,356	+0,274	+0,203	+0,147	+0,108	
Apparel, leather and allied product manufacturi	Individuals (Jobs)	+0,222	+0,323	+0,112	-0,088	-0,273	-0,418	-0,520	-0,588	-0,626	
Paper manufacturing	Individuals (Jobs)	+0,036	+0,071	+0,070	+0,068	+0,065	+0,061	+0,057	+0,054	+0,052	
Printing and related support activities	Individuals (Jobs)	+0,304	+0,568	+0,507	+0,438	+0,368	+0,306	+0,256	+0,218	+0,191	
Petroleum and coal products manufacturing	Individuals (Jobs)	+0,968	+1,820	+1,635	+1,440	+1,251	+1,082	+0,942	+0,835	+0,749	
Chemical manufacturing	Individuals (Jobs)	+0,280	+0,505	+0,415	+0,327	+0,244	+0,171	+0,106	+0,054	+0,013	
Plastics and rubber products manufacturing	Individuals (Jobs)	+1,530	+3,050	+3,073	+2,998	+2,859	+2,717	+2,565	+2,441	+2,339	
Wholesale trade	Individuals (Jobs)	+33,208	+65,057	+64,231	+62,228	+59,172	+55,989	+53,224	+50,988	+49,219	
Retail trade	Individuals (Jobs)	+129,909	+259,946	+267,649	+270,333	+266,420	+259,614	+252,877	+246,710	+241,774	

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Industry	Units	Year									
		2027	2028	2029	2030	2031	2032	2033	2034	2035	
Air transportation	Individuals (Jobs)	+1,423	+2,763	+2,698	+2,590	+2,452	+2,314	+2,207	+2,121	+2,057	
Rail transportation	Individuals (Jobs)	+0,520	+0,773	+0,309	-0,093	-0,423	-0,669	-0,856	-0,975	-1,047	
Water transportation	Individuals (Jobs)	+0,026	+0,052	+0,051	+0,050	+0,049	+0,049	+0,046	+0,045	+0,044	
Truck transportation	Individuals (Jobs)	+11,822	+23,719	+23,949	+23,600	+22,845	+22,072	+21,027	+20,215	+19,555	
Couriers and messengers	Individuals (Jobs)	+3,559	+6,803	+6,228	+5,585	+4,899	+4,279	+3,746	+3,350	+3,077	
Transit and ground passenger transportation	Individuals (Jobs)	+3,767	+7,740	+8,068	+8,158	+8,086	+7,934	+7,776	+7,641	+7,554	
Pipeline transportation	Individuals (Jobs)	+1,530	+2,935	+2,741	+2,568	+2,418	+2,332	+2,234	+2,194	+2,170	
Scenic and sightseeing transportation and supp	Individuals (Jobs)	+8,507	+16,811	+16,489	+16,148	+15,797	+15,533	+15,156	+14,892	+14,675	
Warehousing and storage	Individuals (Jobs)	+1,988	+3,965	+3,952	+3,900	+3,805	+3,696	+3,601	+3,518	+3,456	
Publishing industries, except Internet	Individuals (Jobs)	+0,015	-0,091	-0,322	-0,531	-0,711	-0,854	-0,965	-1,044	-1,096	
Motion picture and sound recording industries	Individuals (Jobs)	+0,441	+0,871	+0,864	+0,837	+0,796	+0,756	+0,723	+0,701	+0,691	
Data processing, hosting, and related services	Individuals (Jobs)	+1,107	+2,263	+2,360	+2,415	+2,428	+2,421	+2,407	+2,386	+2,366	
Radio and television broadcasting, media strea	Individuals (Jobs)	+0,598	+1,208	+1,252	+1,273	+1,272	+1,263	+1,253	+1,245	+1,242	
Telecommunications	Individuals (Jobs)	+0,992	+1,898	+1,774	+1,626	+1,469	+1,325	+1,208	+1,118	+1,056	
Monetary authorities - central bank, credit inst	Individuals (Jobs)	+1,379	+1,809	+0,110	-1,378	-2,647	-3,647	-4,403	-4,937	-5,278	
Securities, commodity contracts, investments,	Individuals (Jobs)	+14,847	+28,911	+27,763	+26,219	+24,539	+23,037	+21,728	+20,763	+20,107	
Insurance carriers and related activities	Individuals (Jobs)	+2,679	+5,144	+4,802	+4,460	+4,124	+3,858	+3,636	+3,510	+3,455	
Real estate	Individuals (Jobs)	+75,528	+149,376	+154,927	+162,115	+163,591	+162,508	+160,463	+158,736	+157,891	
Rental and leasing services; Lessors of nonfin	Individuals (Jobs)	+7,789	+15,374	+15,245	+14,878	+14,320	+13,692	+13,077	+12,527	+12,073	
Professional, scientific, and technical services	Individuals (Jobs)	+83,712	+171,036	+177,688	+179,282	+177,422	+173,753	+170,498	+167,149	+164,466	
Management of companies and enterprises	Individuals (Jobs)	+0,041	-0,010	-0,186	-0,341	-0,471	-0,574	-0,652	-0,707	-0,743	
Administrative and support services	Individuals (Jobs)	+84,109	+167,703	+167,871	+166,866	+164,347	+160,812	+157,713	+154,485	+151,860	
Waste management and remediation services	Individuals (Jobs)	-2,536	-4,911	-4,696	-4,600	-4,594	-4,624	-4,654	-4,672	-4,664	
Educational services; private	Individuals (Jobs)	+4,540	+8,936	+8,887	+8,740	+8,425	+8,072	+7,773	+7,543	+7,399	
Ambulatory health care services	Individuals (Jobs)	+58,956	+111,059	+104,169	+100,515	+96,008	+91,894	+88,948	+86,862	+85,711	
Hospitals	Individuals (Jobs)	+18,429	+37,002	+38,575	+40,012	+40,660	+40,981	+41,217	+41,514	+41,941	
Nursing and residential care facilities	Individuals (Jobs)	+5,893	+11,527	+11,418	+11,313	+11,041	+10,764	+10,545	+10,417	+10,391	
Social assistance	Individuals (Jobs)	+18,637	+36,849	+37,063	+37,247	+36,879	+36,365	+35,963	+35,764	+35,827	
Performing arts, spectator sports, and related	Individuals (Jobs)	+8,230	+15,307	+13,952	+13,031	+12,054	+11,187	+10,492	+9,980	+9,654	
Museums, historical sites, and similar instituti	Individuals (Jobs)	+0,044	+0,033	-0,065	-0,151	-0,224	-0,282	-0,327	-0,359	-0,380	
Amusement, gambling, and recreation industrie	Individuals (Jobs)	+17,998	+33,861	+31,897	+31,010	+29,816	+28,660	+27,734	+27,060	+26,670	

Industry	Units	Year								
		2027	2028	2029	2030	2031	2032	2033	2034	2035
Accommodation	Individuals (Jobs)	+18,283	+34,261	+32,335	+31,864	+31,097	+30,411	+29,952	+29,776	+29,904
Food services and drinking places	Individuals (Jobs)	+66,531	+134,894	+143,631	+152,770	+158,507	+162,150	+164,725	+166,727	+168,631
Repair and maintenance	Individuals (Jobs)	+16,162	+32,536	+33,889	+34,876	+35,055	+34,846	+34,509	+34,184	+33,963
Personal and laundry services	Individuals (Jobs)	+25,537	+48,474	+46,544	+46,451	+45,740	+44,952	+44,302	+43,853	+43,663
Religious, grantmaking, civic, professional, and	Individuals (Jobs)	+22,458	+43,184	+41,793	+40,682	+39,135	+37,576	+36,242	+35,188	+34,451
Private households	Individuals (Jobs)	+2,867	+5,370	+4,971	+4,669	+4,329	+4,008	+3,737	+3,524	+3,369
State and Local Government	Individuals (Jobs)	+200,645	+449,739	+526,989	+566,359	+583,854	+588,927	+587,823	+583,857	+579,019
Federal Civilian	Individuals (Jobs)	+0.024	+0.048	+0.048	+0.048	+0.048	+0.048	+0.047	+0.047	+0.047
Federal Military	Individuals (Jobs)	+0.014	+0.027	+0.027	+0.027	+0.027	+0.027	+0.027	+0.027	+0.027
Farm	Individuals (Jobs)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Category: Montana - Comparison Type: Employment - Forecast: Differences - Comparison Forecast: MATS rulemaking impacts

MATS rulemaking impacts - Industry Profile

Industry	Units	Year								
		2036	2037	2038	2039	2040	2041	2042	2043	2044
All Industries	Individuals (Jobs)	+2963.090	+2925.639	+2903.554	+2893.035	+2890.194	+2892.077	+2895.790	+2899.300	+2901.801
Forestry and Logging; Fishing, hunting and trap	Individuals (Jobs)	-0.334	-0.357	-0.358	-0.343	-0.319	-0.290	-0.259	-0.228	-0.199
Support activities for agriculture and forestry	Individuals (Jobs)	-1.350	-1.370	-1.366	-1.348	-1.320	-1.287	-1.252	-1.218	-1.185
Oil and gas extraction	Individuals (Jobs)	+0.134	+0.169	+0.212	+0.260	+0.312	+0.366	+0.422	+0.478	+0.534
Mining (except oil and gas)	Individuals (Jobs)	+321.685	+320.967	+320.332	+319.763	+319.231	+318.739	+318.275	+317.831	+317.407
Support activities for mining	Individuals (Jobs)	+86.263	+85.984	+85.743	+85.535	+85.350	+85.187	+85.038	+84.902	+84.775
Utilities	Individuals (Jobs)	+266.159	+265.908	+265.695	+265.507	+265.329	+265.162	+264.998	+264.834	+264.669
Construction	Individuals (Jobs)	+322.938	+294.629	+275.151	+262.445	+254.494	+249.726	+246.735	+244.540	+242.590
Wood product manufacturing	Individuals (Jobs)	+3.842	+3.428	+3.162	+3.005	+2.921	+2.887	+2.881	+2.885	+2.891
Nonmetallic mineral product manufacturing	Individuals (Jobs)	+1.143	+1.032	+0.957	+0.907	+0.876	+0.857	+0.844	+0.835	+0.827
Primary metal manufacturing	Individuals (Jobs)	+0.410	+0.401	+0.394	+0.390	+0.386	+0.383	+0.380	+0.378	+0.376
Fabricated metal product manufacturing	Individuals (Jobs)	+3.557	+3.371	+3.246	+3.163	+3.109	+3.073	+3.050	+3.032	+3.016
Machinery manufacturing	Individuals (Jobs)	+0.556	+0.504	+0.464	+0.432	+0.425	+0.422	+0.421	+0.421	+0.422
Computer and electronic product manufacturing	Individuals (Jobs)	-1.200	-1.254	-1.288	-1.306	-1.314	-1.314	-1.310	-1.303	-1.294
Electrical equipment, appliance, and component	Individuals (Jobs)	-0.097	-0.100	-0.102	-0.103	-0.104	-0.104	-0.104	-0.103	-0.103
Motor vehicles, bodies and trailers, and parts r	Individuals (Jobs)	+1.397	+1.372	+1.352	+1.336	+1.323	+1.311	+1.301	+1.291	+1.281
Other transportation equipment manufacturing	Individuals (Jobs)	+0.349	+0.344	+0.342	+0.341	+0.342	+0.343	+0.344	+0.346	+0.347
Furniture and related product manufacturing	Individuals (Jobs)	+2.368	+2.313	+2.288	+2.287	+2.302	+2.328	+2.360	+2.392	+2.424
Miscellaneous manufacturing	Individuals (Jobs)	-0.190	-0.229	-0.250	-0.258	-0.259	-0.253	-0.245	-0.234	-0.223
Food manufacturing	Individuals (Jobs)	+5.842	+5.847	+5.866	+5.896	+5.928	+5.955	+5.973	+5.978	+5.968
Beverage and tobacco manufacturing	Individuals (Jobs)	+5.245	+5.246	+5.253	+5.258	+5.258	+5.253	+5.244	+5.229	+5.209
Textile mills and textile product mills	Individuals (Jobs)	+0.082	+0.068	+0.060	+0.057	+0.058	+0.060	+0.063	+0.066	+0.070
Apparel, leather and allied product manufacturi	Individuals (Jobs)	-0.638	-0.629	-0.605	-0.572	-0.534	-0.495	-0.456	-0.418	-0.383
Paper manufacturing	Individuals (Jobs)	+0.050	+0.049	+0.048	+0.047	+0.047	+0.046	+0.046	+0.046	+0.045
Printing and related support activities	Individuals (Jobs)	+0.174	+0.163	+0.158	+0.156	+0.156	+0.157	+0.158	+0.159	+0.160
Petroleum and coal products manufacturing	Individuals (Jobs)	+0.681	+0.627	+0.583	+0.547	+0.515	+0.488	+0.462	+0.438	+0.415
Chemical manufacturing	Individuals (Jobs)	-0.019	-0.045	-0.066	-0.083	-0.098	-0.110	-0.122	-0.133	-0.144
Plastics and rubber products manufacturing	Individuals (Jobs)	+2.260	+2.201	+2.158	+2.127	+2.101	+2.079	+2.060	+2.042	+2.024
Wholesale trade	Individuals (Jobs)	+47.853	+46.858	+46.166	+45.663	+45.271	+44.958	+44.671	+44.384	+44.096
Retail trade	Individuals (Jobs)	+237.862	+235.045	+232.919	+231.446	+230.376	+229.521	+228.661	+227.679	+226.589

Industry	Units	Year								
		2036	2037	2038	2039	2040	2041	2042	2043	2044
Air transportation	Individuals (Jobs)	+2,010	+1,979	+1,961	+1,952	+1,947	+1,947	+1,948	+1,949	+1,951
Rail transportation	Individuals (Jobs)	-1,082	-1,092	-1,085	-1,065	-1,039	-1,008	-0,974	-0,940	-0,905
Water transportation	Individuals (Jobs)	+0,044	+0,044	+0,043	+0,043	+0,043	+0,043	+0,043	+0,043	+0,043
Truck transportation	Individuals (Jobs)	+19,032	+18,636	+18,335	+18,108	+17,927	+17,780	+17,646	+17,516	+17,389
Couriers and messengers	Individuals (Jobs)	+2,905	+2,818	+2,798	+2,824	+2,881	+2,958	+3,044	+3,133	+3,222
Transit and ground passenger transportation	Individuals (Jobs)	+7,510	+7,509	+7,537	+7,585	+7,649	+7,720	+7,794	+7,866	+7,938
Pipeline transportation	Individuals (Jobs)	+2,157	+2,153	+2,156	+2,164	+2,175	+2,190	+2,205	+2,221	+2,238
Scenic and sightseeing transportation and supp	Individuals (Jobs)	+14,491	+14,337	+14,201	+14,080	+13,968	+13,863	+13,760	+13,657	+13,555
Warehousing and storage	Individuals (Jobs)	+3,412	+3,384	+3,369	+3,364	+3,363	+3,365	+3,368	+3,370	+3,372
Publishing industries, except Internet	Individuals (Jobs)	-1,125	-1,138	-1,140	-1,135	-1,125	-1,112	-1,097	-1,082	-1,066
Motion picture and sound recording industries	Individuals (Jobs)	+0,690	+0,696	+0,710	+0,726	+0,744	+0,762	+0,779	+0,794	+0,808
Data processing, hosting, and related services	Individuals (Jobs)	+2,349	+2,333	+2,330	+2,330	+2,333	+2,337	+2,340	+2,342	+2,343
Radio and television broadcasting, media strea	Individuals (Jobs)	+1,244	+1,250	+1,259	+1,271	+1,283	+1,295	+1,307	+1,317	+1,326
Telecommunications	Individuals (Jobs)	+1,015	+0,993	+0,985	+0,987	+0,994	+1,005	+1,018	+1,030	+1,043
Monetary authorities - central bank, credit inte	Individuals (Jobs)	-5,472	-5,557	-5,559	-5,506	-5,417	-5,305	-5,181	-5,051	-4,918
Securities, commodity contracts, investments,	Individuals (Jobs)	+19,697	+19,500	+19,450	+19,501	+19,604	+19,742	+19,889	+20,027	+20,150
Insurance carriers and related activities	Individuals (Jobs)	+3,456	+3,505	+3,589	+3,696	+3,816	+3,944	+4,074	+4,203	+4,328
Real estate	Individuals (Jobs)	+157,957	+158,986	+160,767	+163,071	+165,674	+168,381	+171,014	+173,419	+175,545
Rental and leasing services; Lessors of nonfin	Individuals (Jobs)	+11,704	+11,416	+11,179	+10,986	+10,819	+10,673	+10,539	+10,411	+10,287
Professional, scientific, and technical services	Individuals (Jobs)	+162,500	+161,229	+160,585	+160,374	+160,379	+160,519	+160,688	+160,806	+160,840
Management of companies and enterprises	Individuals (Jobs)	-0,766	-0,779	-0,784	-0,784	-0,781	-0,776	-0,770	-0,764	-0,757
Administrative and support services	Individuals (Jobs)	+149,805	+148,289	+147,152	+146,282	+145,545	+144,894	+144,268	+143,617	+142,919
Waste management and remediation services	Individuals (Jobs)	-4,633	-4,582	-4,512	-4,430	-4,340	-4,244	-4,147	-4,051	-3,958
Educational services; private	Individuals (Jobs)	+7,330	+7,330	+7,394	+7,473	+7,589	+7,719	+7,853	+7,983	+8,111
Ambulatory health care services	Individuals (Jobs)	+85,210	+85,303	+85,859	+86,755	+87,957	+89,326	+90,719	+92,071	+93,387
Hospitals	Individuals (Jobs)	+42,494	+43,176	+43,964	+44,822	+45,704	+46,573	+47,402	+48,149	+48,795
Nursing and residential care facilities	Individuals (Jobs)	+10,453	+10,593	+10,788	+11,022	+11,273	+11,524	+11,768	+11,995	+12,208
Social assistance	Individuals (Jobs)	+36,089	+36,563	+37,226	+37,996	+38,840	+39,725	+40,603	+41,450	+42,264
Performing arts, spectator sports, and related	Individuals (Jobs)	+9,471	+9,411	+9,441	+9,529	+9,648	+9,782	+9,913	+10,028	+10,125
Museums, historical sites, and similar instituti	Individuals (Jobs)	-0,392	-0,399	-0,400	-0,399	-0,396	-0,391	-0,385	-0,379	-0,373
Amusement, gambling, and recreation industrie	Individuals (Jobs)	+26,490	+26,510	+26,682	+26,941	+27,253	+27,584	+27,898	+28,167	+28,387

Industry	Units	Year								
		2036	2037	2038	2039	2040	2041	2042	2043	2044
Accommodation	Individuals (Jobs)	+30,265	+30,840	+31,571	+32,388	+33,251	+34,119	+34,960	+35,747	+36,478
Food services and drinking places	Individuals (Jobs)	+170,501	+172,492	+174,557	+176,651	+178,727	+180,732	+182,610	+184,296	+185,799
Repair and maintenance	Individuals (Jobs)	+33,854	+33,868	+33,974	+34,140	+34,331	+34,528	+34,711	+34,864	+34,980
Personal and laundry services	Individuals (Jobs)	+43,659	+43,846	+44,159	+44,592	+45,131	+45,705	+46,267	+46,793	+47,285
Religious, grantmaking, civic, professional, and Private households	Individuals (Jobs)	+33,957	+33,695	+33,667	+33,755	+33,914	+34,115	+34,317	+34,496	+34,643
State and Local Government	Individuals (Jobs)	+574,460	+570,706	+567,638	+565,219	+563,215	+561,470	+559,829	+558,141	+556,308
Federal Civilian	Individuals (Jobs)	+0.046	+0.046	+0.046	+0.045	+0.045	+0.045	+0.044	+0.044	+0.043
Federal Military	Individuals (Jobs)	+0.026	+0.026	+0.026	+0.026	+0.026	+0.026	+0.025	+0.025	+0.025
Farm	Individuals (Jobs)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Category: Montana - Comparison Type: Employment - Forecast: Differences - Comparison Forecast: MATS rulemaking impacts

MATS rulemaking impacts - Income Profile

Category	Units	Year								
		2027	2028	2029	2030	2031	2032	2033	2034	2035
Total Earnings by Place of Work	Millions of fixed (2024) Dollars	+136.280	+275.380	+284.758	+291.746	+291.612	+288.028	+283.222	+278.545	+274.837
Total Wages and Salaries	Millions of fixed (2024) Dollars	+93.310	+188.418	+194.859	+200.071	+200.726	+199.099	+196.597	+194.066	+192.125
Supplements to Wages and Salaries	Millions of fixed (2024) Dollars	+23.984	+49.596	+52.868	+55.552	+56.940	+57.614	+57.937	+58.128	+58.279
Employer contributions for employee pers	Millions of fixed (2024) Dollars	+15.304	+31.648	+33.736	+35.449	+36.335	+36.764	+36.971	+37.092	+37.189
Employer contributions for government s	Millions of fixed (2024) Dollars	+8.679	+17.948	+19.132	+20.103	+20.606	+20.849	+20.966	+21.036	+21.090
Proprietors' income with inventory valuati	Millions of fixed (2024) Dollars	+18.986	+37.367	+37.031	+36.123	+33.946	+31.314	+28.688	+26.350	+24.433
Less: Contributions for Government Social Ins	Millions of fixed (2024) Dollars	+18.214	+37.082	+38.815	+40.219	+40.695	+40.671	+40.419	+40.110	+39.875
Employee and Self-Employed Contributions	Millions of fixed (2024) Dollars	+9.535	+19.134	+19.683	+20.116	+20.089	+19.822	+19.453	+19.075	+18.785
Employer contributions for government so	Millions of fixed (2024) Dollars	+8.679	+17.948	+19.132	+20.103	+20.606	+20.849	+20.966	+21.036	+21.090
Plus: Adjustment for Residence	Millions of fixed (2024) Dollars	-0.301	-0.741	-0.893	-0.897	-0.873	-0.833	-0.789	-0.748	-0.712
Gross Inflow	Millions of fixed (2024) Dollars	-0.014	-0.137	-0.257	-0.276	-0.285	-0.286	-0.284	-0.279	-0.274
Gross Outflow	Millions of fixed (2024) Dollars	+0.287	+0.605	+0.636	+0.621	+0.588	+0.547	+0.506	+0.469	+0.438
Equals: Net Earnings by Place of Residence	Millions of fixed (2024) Dollars	+117.765	+237.557	+245.049	+250.630	+250.045	+246.523	+242.014	+237.687	+234.250
Plus: Property Income	Millions of fixed (2024) Dollars	+4.060	+7.854	+10.106	+14.852	+19.040	+22.801	+26.041	+28.882	+31.422
Personal Dividend Income	Millions of fixed (2024) Dollars	+1.801	+3.437	+4.415	+6.467	+8.263	+9.867	+11.272	+12.525	+13.652
Personal Interest Income	Millions of fixed (2024) Dollars	+1.466	+2.878	+3.691	+5.426	+6.976	+8.392	+9.580	+10.591	+11.486
Rental Income of Persons	Millions of fixed (2024) Dollars	+0.793	+1.539	+2.000	+2.959	+3.801	+4.542	+5.188	+5.765	+6.284
Plus: Personal Current Transfer Receipts	Millions of fixed (2024) Dollars	-1.986	-5.126	-4.822	-1.430	+2.539	+6.824	+11.100	+15.262	+19.133
Equals: Personal Income	Millions of fixed (2024) Dollars	+119.838	+240.285	+250.333	+264.052	+271.624	+276.149	+279.155	+281.830	+284.805
Less: Personal current taxes	Millions of fixed (2024) Dollars	+18.426	+36.839	+38.292	+39.789	+40.264	+40.156	+40.061	+40.049	+39.954
Equals: Disposable personal income	Millions of fixed (2024) Dollars	+101.413	+203.446	+212.042	+224.263	+231.361	+235.993	+239.093	+241.781	+244.851

Comparison Type: Montana - Forecast: Differences - Comparison Forecast: MATS rulemaking impacts

MATS rulemaking impacts - Income Profile

Category	Units	Year								
		2036	2037	2038	2039	2040	2041	2042	2043	2044
Total Earnings by Place of Work	Millions of fixed (2024) Dollars	+272.327	+271.092	+270.981	+271.757	+273.181	+275.060	+277.197	+279.431	+281.682
Total Wages and Salaries	Millions of fixed (2024) Dollars	+190.889	+190.408	+190.565	+191.211	+192.201	+193.446	+194.828	+196.265	+197.713
Supplements to Wages and Salaries	Millions of fixed (2024) Dollars	+58.478	+58.782	+59.223	+59.798	+60.475	+61.212	+61.988	+62.764	+63.523
Employer contributions for employee pers	Millions of fixed (2024) Dollars	+37.316	+37.510	+37.791	+38.158	+38.590	+39.061	+39.555	+40.051	+40.535
Employer contributions for government se	Millions of fixed (2024) Dollars	+21.162	+21.272	+21.432	+21.640	+21.885	+22.152	+22.432	+22.713	+22.988
Proprietors' income with inventory valuati	Millions of fixed (2024) Dollars	+22.961	+21.902	+21.193	+20.748	+20.505	+20.402	+20.381	+20.402	+20.445
Less: Contributions for Government Social Ins	Millions of fixed (2024) Dollars	+39.746	+39.738	+39.834	+40.010	+40.241	+40.517	+40.814	+41.122	+41.431
Employee and Self-Employed Contributions	Millions of fixed (2024) Dollars	+18.584	+18.466	+18.402	+18.370	+18.356	+18.365	+18.382	+18.408	+18.443
Employer contributions for government so	Millions of fixed (2024) Dollars	+21.162	+21.272	+21.432	+21.640	+21.885	+22.152	+22.432	+22.713	+22.988
Plus: Adjustment for Residence	Millions of fixed (2024) Dollars	-0.684	-0.663	-0.649	-0.640	-0.635	-0.633	-0.633	-0.634	-0.636
Gross Inflow	Millions of fixed (2024) Dollars	-0.270	-0.268	-0.266	-0.266	-0.266	-0.268	-0.270	-0.272	-0.274
Gross Outflow	Millions of fixed (2024) Dollars	+0.414	+0.395	+0.383	+0.374	+0.368	+0.365	+0.363	+0.362	+0.362
Equals: Net Earnings by Place of Residence	Millions of fixed (2024) Dollars	+231.898	+230.692	+230.498	+231.108	+232.305	+233.911	+235.750	+237.675	+239.616
Plus: Property Income	Millions of fixed (2024) Dollars	+33.745	+35.991	+38.206	+40.402	+42.562	+44.728	+46.858	+48.968	+51.047
Personal Dividend Income	Millions of fixed (2024) Dollars	+14.688	+15.694	+16.690	+17.680	+18.658	+19.643	+20.614	+21.580	+22.536
Personal Interest Income	Millions of fixed (2024) Dollars	+12.296	+13.073	+13.834	+14.583	+15.314	+16.042	+16.753	+17.452	+18.136
Rental Income of Persons	Millions of fixed (2024) Dollars	+6.761	+7.224	+7.683	+8.139	+8.590	+9.043	+9.490	+9.935	+10.376
Plus: Personal Current Transfer Receipts	Millions of fixed (2024) Dollars	+22.752	+26.127	+29.302	+32.326	+35.167	+37.867	+40.471	+42.956	+45.286
Equals: Personal Income	Millions of fixed (2024) Dollars	+288.394	+292.810	+298.006	+303.836	+310.033	+316.507	+323.079	+329.599	+335.949
Less: Personal current taxes	Millions of fixed (2024) Dollars	+39.991	+40.186	+40.522	+40.975	+41.504	+42.089	+42.706	+43.332	+43.948
Equals: Disposable personal income	Millions of fixed (2024) Dollars	+248.403	+252.624	+257.483	+262.860	+268.530	+274.417	+280.373	+286.267	+292.001

MATS rulemaking impacts - Output

Industry	Units	Year							
		2027	2028	2029	2030	2031	2032	2033	2034
All Industries	Millions of Fixed (2024) Dollars	+497.178	+1011.370	+1040.713	+1051.794	+1047.385	+1036.244	+1024.039	+1013.485
Forestry and Logging; Fishing, hunting and trap	Millions of fixed (2024) Dollars	+0.157	+0.286	+0.229	+0.165	+0.099	+0.039	-0.014	-0.057
Support activities for agriculture and forestry	Millions of fixed (2024) Dollars	+0.010	+0.016	+0.009	+0.002	-0.005	-0.011	-0.016	-0.020
Oil and gas extraction	Millions of fixed (2024) Dollars	+0.452	+0.764	+0.496	+0.244	+0.014	-0.174	-0.322	-0.428
Mining (except oil and gas)	Millions of fixed (2024) Dollars	+129.533	+258.525	+257.920	+257.243	+256.558	+255.877	+255.350	+254.853
Support activities for mining	Millions of fixed (2024) Dollars	+7.057	+14.260	+14.413	+14.554	+14.681	+14.811	+14.946	+15.090
Utilities	Millions of fixed (2024) Dollars	+154.968	+310.943	+312.477	+314.395	+316.324	+318.305	+320.397	+322.509
Construction	Millions of fixed (2024) Dollars	+43.723	+95.722	+107.506	+108.032	+101.700	+92.214	+82.016	+72.552
Wood product manufacturing	Millions of fixed (2024) Dollars	+1.442	+3.035	+3.231	+3.121	+2.832	+2.479	+2.129	+1.819
Nonmetallic mineral product manufacturing	Millions of fixed (2024) Dollars	+0.417	+0.869	+0.913	+0.884	+0.813	+0.726	+0.639	+0.562
Primary metal manufacturing	Millions of fixed (2024) Dollars	+0.238	+0.477	+0.480	+0.471	+0.455	+0.444	+0.424	+0.410
Fabricated metal product manufacturing	Millions of fixed (2024) Dollars	+0.730	+1.502	+1.561	+1.533	+1.452	+1.356	+1.251	+1.161
Machinery manufacturing	Millions of fixed (2024) Dollars	+0.166	+0.338	+0.354	+0.349	+0.334	+0.319	+0.285	+0.257
Computer and electronic product manufacturing	Millions of fixed (2024) Dollars	+0.084	+0.138	+0.071	-0.009	-0.091	-0.167	-0.229	-0.280
Electrical equipment, appliance, and component	Millions of fixed (2024) Dollars	+0.001	+0.001	-0.002	-0.005	-0.008	-0.010	-0.013	-0.015
Motor vehicles, bodies and trailers, and parts n	Millions of fixed (2024) Dollars	+0.344	+0.724	+0.792	+0.827	+0.839	+0.845	+0.838	+0.832
Other transportation equipment manufacturing	Millions of fixed (2024) Dollars	+0.056	+0.116	+0.123	+0.125	+0.124	+0.122	+0.121	+0.120
Furniture and related product manufacturing	Millions of fixed (2024) Dollars	+0.230	+0.463	+0.472	+0.464	+0.440	+0.412	+0.387	+0.367
Miscellaneous manufacturing	Millions of fixed (2024) Dollars	+0.128	+0.238	+0.207	+0.173	+0.136	+0.102	+0.074	+0.052
Food manufacturing	Millions of fixed (2024) Dollars	+0.871	+1.774	+1.859	+1.915	+1.927	+1.927	+1.908	+1.897
Beverage and tobacco manufacturing	Millions of fixed (2024) Dollars	+0.460	+0.955	+1.054	+1.134	+1.182	+1.210	+1.224	+1.234
Textile mills and textile product mills	Millions of fixed (2024) Dollars	+0.038	+0.071	+0.066	+0.057	+0.047	+0.038	+0.029	+0.022
Apparel, leather and allied product manufactur	Millions of fixed (2024) Dollars	+0.013	+0.020	+0.008	-0.003	-0.014	-0.023	-0.029	-0.033
Paper manufacturing	Millions of fixed (2024) Dollars	+0.005	+0.009	+0.009	+0.009	+0.009	+0.008	+0.008	+0.008
Printing and related support activities	Millions of fixed (2024) Dollars	+0.064	+0.123	+0.114	+0.102	+0.088	+0.076	+0.065	+0.057
Petroleum and coal products manufacturing	Millions of fixed (2024) Dollars	+9.783	+18.595	+16.974	+15.248	+13.559	+12.059	+10.849	+9.953
Chemical manufacturing	Millions of fixed (2024) Dollars	+0.135	+0.249	+0.216	+0.184	+0.152	+0.125	+0.101	+0.083
Plastics and rubber products manufacturing	Millions of fixed (2024) Dollars	+0.400	+0.807	+0.826	+0.818	+0.792	+0.763	+0.730	+0.704
Wholesale trade	Millions of fixed (2024) Dollars	+12.679	+25.495	+25.898	+25.800	+25.205	+24.489	+23.888	+23.466
Retail trade	Millions of fixed (2024) Dollars	+15.141	+31.247	+33.213	+34.606	+35.147	+35.275	+35.370	+35.508

MATS rulemaking impacts - Output

Industry	Units	Year								
		2025	2026	2027	2028	2029	2040	2041	2042	
All Industries	Millions of Fixed (2024) Dollars	+1006.302	+1002.551	+1002.198	+1004.923	+1010.001	+1016.793	+1024.776	+1033.363	
Forestry and Logging; Fishing, hunting and trap	Millions of Fixed (2024) Dollars	-0.088	-0.109	-0.122	-0.129	-0.132	-0.133	-0.131	-0.129	
Support activities for agriculture and forestry	Millions of Fixed (2024) Dollars	-0.023	-0.025	-0.026	-0.027	-0.027	-0.027	-0.026	-0.026	
Oil and gas extraction	Millions of Fixed (2024) Dollars	-0.508	-0.568	-0.612	-0.642	-0.662	-0.674	-0.681	-0.684	
Mining (except oil and gas)	Millions of Fixed (2024) Dollars	+254.386	+253.951	+253.549	+253.155	+252.771	+252.388	+252.004	+251.618	
Support activities for mining	Millions of Fixed (2024) Dollars	+15.244	+15.406	+15.573	+15.751	+15.938	+16.133	+16.337	+16.548	
Utilities	Millions of Fixed (2024) Dollars	+324.685	+326.866	+329.029	+331.270	+333.560	+335.919	+338.348	+340.829	
Construction	Millions of Fixed (2024) Dollars	+64.649	+58.490	+54.018	+51.006	+49.134	+48.003	+47.595	+47.431	
Wood product manufacturing	Millions of Fixed (2024) Dollars	+1.568	+1.378	+1.245	+1.159	+1.109	+1.084	+1.076	+1.078	
Nonmetallic mineral product manufacturing	Millions of Fixed (2024) Dollars	+0.500	+0.452	+0.418	+0.395	+0.381	+0.374	+0.370	+0.369	
Primary metal manufacturing	Millions of Fixed (2024) Dollars	+0.400	+0.393	+0.390	+0.388	+0.389	+0.390	+0.392	+0.394	
Fabricated metal product manufacturing	Millions of Fixed (2024) Dollars	+1.089	+1.035	+0.998	+0.975	+0.963	+0.958	+0.958	+0.961	
Machinery manufacturing	Millions of Fixed (2024) Dollars	+0.235	+0.217	+0.203	+0.192	+0.184	+0.183	+0.184	+0.186	
Computer and electronic product manufacturin	Millions of Fixed (2024) Dollars	-0.320	-0.351	-0.374	-0.391	-0.404	-0.414	-0.421	-0.428	
Electrical equipment, appliance, and component	Millions of Fixed (2024) Dollars	-0.016	-0.017	-0.018	-0.019	-0.019	-0.020	-0.020	-0.020	
Motor vehicles, bodies and trailers, and parts n	Millions of Fixed (2024) Dollars	+0.828	+0.828	+0.831	+0.838	+0.847	+0.857	+0.869	+0.881	
Other transportation equipment manufacturing	Millions of Fixed (2024) Dollars	+0.121	+0.121	+0.123	+0.125	+0.128	+0.131	+0.135	+0.139	
Furniture and related product manufacturing	Millions of Fixed (2024) Dollars	+0.352	+0.343	+0.339	+0.338	+0.341	+0.346	+0.353	+0.360	
Miscellaneous manufacturing	Millions of Fixed (2024) Dollars	+0.036	+0.024	+0.017	+0.013	+0.012	+0.013	+0.015	+0.017	
Food manufacturing	Millions of Fixed (2024) Dollars	+1.896	+1.903	+1.919	+1.939	+1.963	+1.988	+2.013	+2.034	
Beverage and tobacco manufacturing	Millions of Fixed (2024) Dollars	+1.241	+1.248	+1.256	+1.266	+1.275	+1.283	+1.291	+1.298	
Textile mills and textile product mills	Millions of Fixed (2024) Dollars	+0.017	+0.014	+0.012	+0.011	+0.010	+0.010	+0.011	+0.011	
Apparel, leather and allied product manufacturi	Millions of Fixed (2024) Dollars	-0.036	-0.037	-0.037	-0.036	-0.034	-0.032	-0.030	-0.027	
Paper manufacturing	Millions of Fixed (2024) Dollars	+0.007	+0.007	+0.007	+0.007	+0.007	+0.007	+0.007	+0.007	
Printing and related support activities	Millions of Fixed (2024) Dollars	+0.051	+0.046	+0.044	+0.042	+0.041	+0.041	+0.041	+0.041	
Petroleum and coal products manufacturing	Millions of Fixed (2024) Dollars	+9.282	+8.781	+8.415	+8.158	+7.976	+7.843	+7.746	+7.667	
Chemical manufacturing	Millions of Fixed (2024) Dollars	+0.070	+0.060	+0.054	+0.049	+0.047	+0.045	+0.044	+0.044	
Plastics and rubber products manufacturing	Millions of Fixed (2024) Dollars	+0.683	+0.668	+0.658	+0.653	+0.650	+0.649	+0.650	+0.651	
Wholesale trade	Millions of Fixed (2024) Dollars	+23.218	+23.124	+23.183	+23.382	+23.674	+24.028	+24.431	+24.856	
Retail trade	Millions of Fixed (2024) Dollars	+35.800	+36.225	+36.806	+37.509	+38.333	+39.251	+40.237	+41.253	

MATS rulemaking impacts - By Age

Age	Units	Year								
		2027	2028	2029	2030	2031	2032	2033	2034	2035
All Ages (0-100)	Individuals	+477,798	+1304,930	+1939,678	+2440,929	+2825,319	+3117,124	+3338,788	+3510,243	+3647,479
Ages 0-4	Individuals	+48,782	+132,680	+195,930	+244,700	+281,046	+303,413	+315,601	+324,460	+330,517
Ages 5-9	Individuals	+37,323	+102,959	+155,311	+198,400	+232,772	+263,912	+291,507	+311,761	+326,801
Ages 10-14	Individuals	+29,739	+82,160	+124,247	+159,317	+188,144	+211,970	+232,086	+249,665	+265,438
Ages 15-19	Individuals	+31,186	+80,948	+112,861	+135,841	+154,243	+170,951	+186,234	+200,032	+213,026
Ages 20-24	Individuals	+75,320	+197,616	+273,714	+313,070	+320,743	+306,793	+283,134	+258,859	+238,780
Ages 25-29	Individuals	+68,886	+190,243	+286,964	+365,786	+426,212	+467,322	+486,890	+484,519	+462,466
Ages 30-34	Individuals	+50,312	+140,072	+214,357	+278,601	+333,557	+380,159	+419,903	+454,296	+484,061
Ages 35-39	Individuals	+37,475	+103,620	+157,157	+202,680	+241,445	+275,204	+305,804	+334,896	+363,577
Ages 40-44	Individuals	+32,781	+89,958	+134,483	+169,886	+197,289	+218,856	+237,068	+253,975	+270,779
Ages 45-49	Individuals	+23,849	+66,353	+101,443	+131,716	+157,580	+179,601	+197,896	+212,720	+224,763
Ages 50-54	Individuals	+17,691	+49,024	+74,501	+96,083	+114,281	+129,943	+144,031	+157,396	+170,555
Ages 55-59	Individuals	+13,068	+35,960	+54,267	+69,819	+83,131	+94,780	+105,134	+114,568	+123,502
Ages 60-64	Individuals	+11,388	+31,537	+47,603	+60,392	+69,926	+76,759	+82,038	+86,863	+91,823
Ages 65-69	Individuals	+0.000	+1,800	+6,840	+14,637	+24,950	+37,460	+49,785	+59,870	+67,794
Ages 70-74	Individuals	+0.000	+0.000	+0.000	+0.000	+0.000	+0.000	+1,677	+6,363	+13,595
Ages 75-79	Individuals	+0.000	+0.000	+0.000	+0.000	+0.000	+0.000	+0.000	+0.000	0.000
Ages 80-84	Individuals	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Ages 85+	Individuals	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Category: Montana - Race: Population - Gender: All Races - Comparison Type: Total - Forecast: Differences - Comparison Forecast: MATS rulemaking impacts

MATS rulemaking impacts - By Age

Age	Units	Year								
		2036	2037	2038	2039	2040	2041	2042	2043	2044
All Ages (0-100)	Individuals	+3761.717	+3860.652	+3949.665	+4031.275	+4106.385	+4175.468	+4238.252	+4293.884	+4341.941
Ages 0-4	Individuals	+334.326	+336.155	+336.132	+334.221	+330.291	+324.305	+316.250	+306.210	+294.485
Ages 5-9	Individuals	+338.182	+342.842	+343.019	+343.982	+344.892	+345.324	+344.816	+342.919	+339.298
Ages 10-14	Individuals	+279.579	+296.349	+314.185	+328.019	+338.870	+347.500	+350.259	+348.914	+348.488
Ages 15-19	Individuals	+225.572	+237.876	+250.191	+262.640	+275.049	+286.966	+302.168	+318.711	+331.349
Ages 20-24	Individuals	+225.872	+220.707	+221.341	+225.569	+232.288	+240.612	+249.845	+259.546	+269.490
Ages 25-29	Individuals	+424.819	+378.817	+333.478	+294.996	+265.674	+246.704	+237.312	+234.520	+235.591
Ages 30-34	Individuals	+508.109	+523.400	+525.479	+511.685	+482.306	+439.961	+390.824	+343.025	+302.288
Ages 35-39	Individuals	+392.130	+419.943	+446.903	+472.853	+497.101	+517.533	+530.351	+530.522	+515.074
Ages 40-44	Individuals	+288.286	+306.933	+327.244	+349.527	+373.706	+399.251	+424.931	+450.148	+474.507
Ages 45-49	Individuals	+234.845	+244.086	+253.908	+265.253	+278.391	+293.433	+310.336	+329.216	+350.165
Ages 50-54	Individuals	+183.693	+196.633	+208.718	+219.434	+228.779	+237.077	+245.085	+253.883	+264.265
Ages 55-59	Individuals	+132.280	+141.190	+150.627	+160.849	+171.876	+183.531	+195.372	+206.559	+216.472
Ages 60-64	Individuals	+97.248	+103.240	+109.678	+116.454	+123.570	+131.062	+138.996	+147.583	+156.985
Ages 65-69	Individuals	+73.649	+77.834	+81.277	+84.836	+88.895	+93.651	+99.096	+105.045	+111.354
Ages 70-74	Individuals	+23.127	+34.648	+45.976	+55.245	+62.534	+67.933	+71.826	+75.057	+78.407
Ages 75-79	Individuals	0.000	0.000	+1.509	+5.712	+12.164	+20.624	+30.784	+40.748	+48.903
Ages 80-84	Individuals	0.000	0.000	0.000	0.000	0.000	0.000	0.000	+1.277	+4.819
Ages 85+	Individuals	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

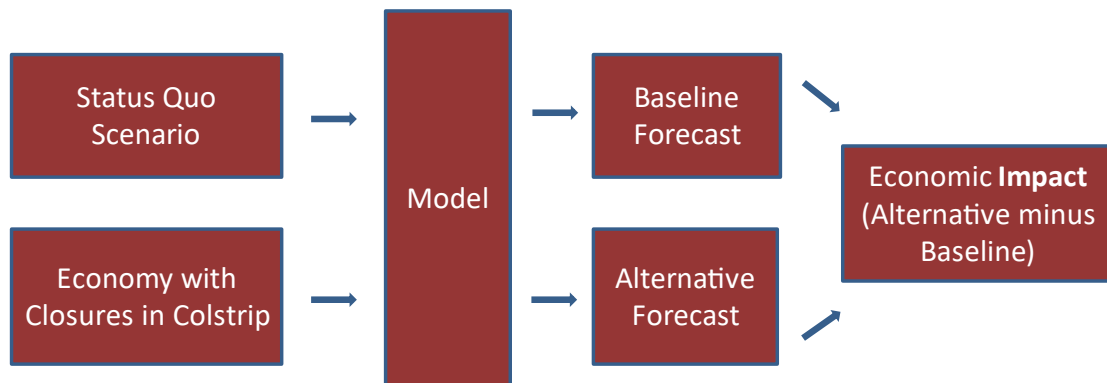
Category: Montana - Race: Population - Gender: All Races - Comparison Type: Total - Forecast: Differences - Comparison Forecast: MATS rulemaking impacts

Appendix B Description of the REMI Model

The REMI Modeling Methodology

The basic approach of using the REMI model to produce the results for this study is illustrated in Figure B.3, below. The analysis started with a baseline projection for the Montana economy, where the Colstrip SES and Rosebud Mine are present. Next, the analysis employed the REMI model a second time, simulating an alternative scenario where the two facilities are closed and their associated economic activity are absent from the Montana economy.

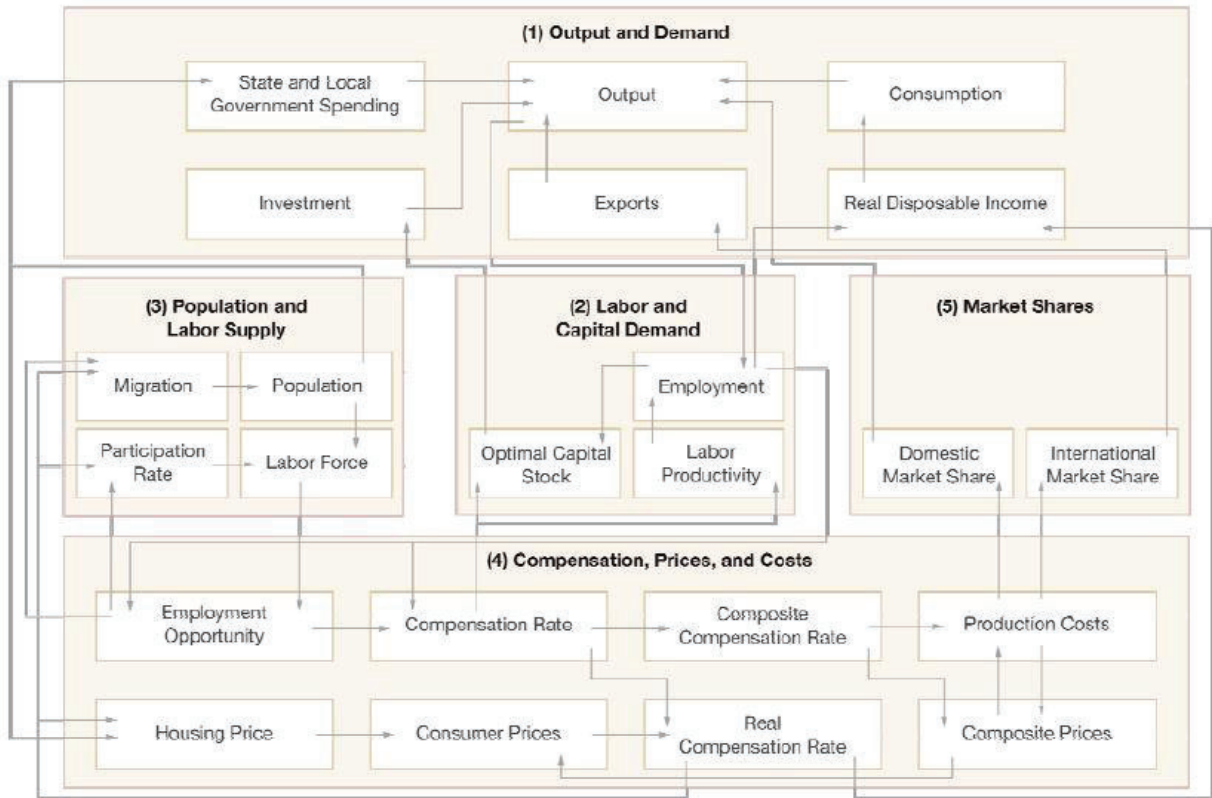
Figure B.3. Policy Analysis Using the REMI Model



The difference between the two economic projections represents the economic impact of MATS-induced rulemaking in Montana.

The REMI model utilizes historical data on production, prices, trade flows, migration, and technological advances to calibrate the relationship between five basic blocks of the state economy: 1) Output and Demand; 2) Labor and Capital Demand; 3) Population and Labor Supply; 4) Compensation, Prices and Costs; and 5) Market Shares. These linkages are shown in Figure B.4, below.

Figure B.4. Schematic Model of REMI Linkages



The differences in production, labor demand, and intermediate demand associated with the closure of the Colstrip SES and the Rosebud Mine impact these blocks, causing them to react to the changes and adjust to a new equilibrium. This new equilibrium constitutes the alternative scenario referred to above—the closure of the facilities.

The underlying philosophy of the REMI model is that regions throughout the country compete for investments, jobs, and people. When events occur in one region, they set off a chain reaction of events across the country that causes dollars to flow toward better investment and production opportunities, followed over time by workers and households toward better employment opportunities and higher wages.

The REMI model consists of an 70-sector input/output matrix that models the technological interdependence of production sectors of the economy, as well as extensive trade and capital flow data. Together, these components enable the estimates of the shares of each sector’s demand that can be met by local production. Simplified illustrations of the schematic model in Figure B.4 are provided on the following pages, in figures B.3 through B.7.

Figure B.5. Output Linkages

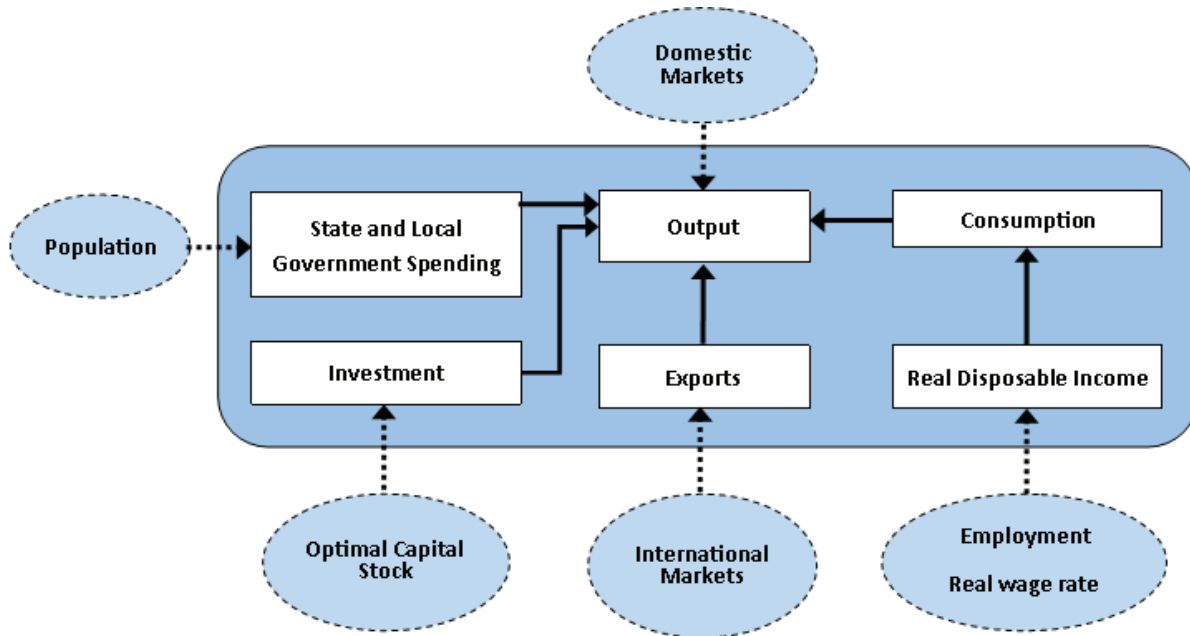


Figure B.6. Labor and Capital Demand Linkages

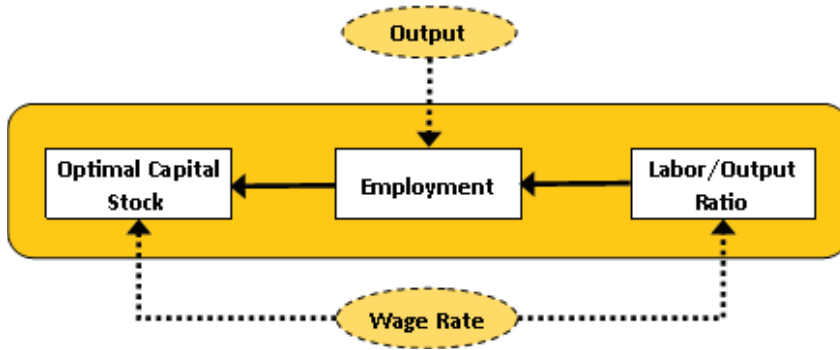


Figure B.7. Demographic Linkages

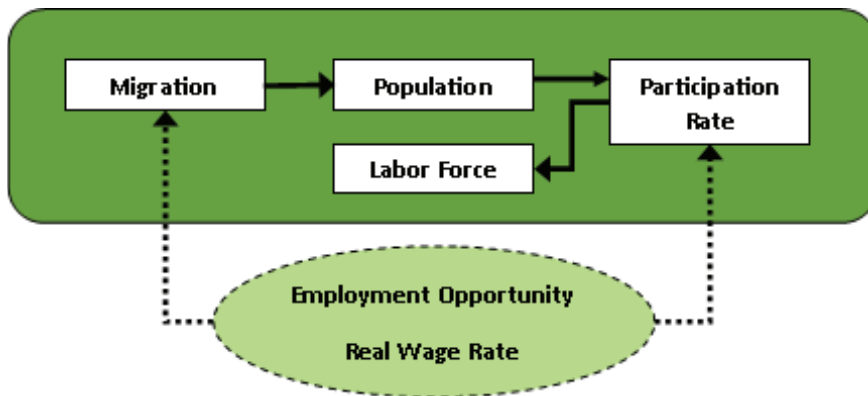
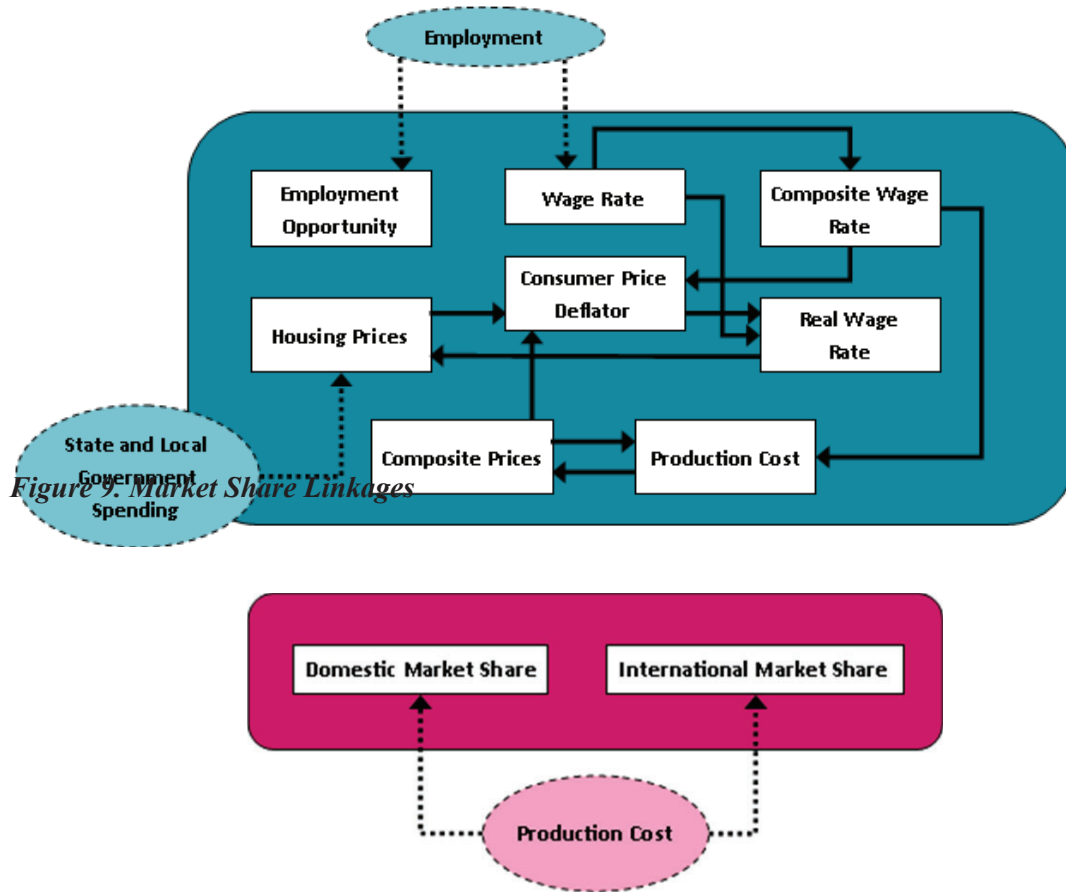


Figure B.8. Wages, Prices and Production Costs Linkages



As powerful and flexible as this tool is, the output it provides is only as good as the inputs provided. The majority of the work for this study was to carefully craft the inputs used to construct a scenario for the economy that faithfully represents all of the events, income flows, and the direct and indirect activity that would occur in the event that the Colstrip SES and the Rosebud Mine were closed in mid-2027.

Exhibit 2

No. 24-1194 (and consolidated cases)

**IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT**

**WESTMORELAND MINING HOLDINGS LLC et al.,
Petitioner,**

v.

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY,
and MICHAEL S. REGAN, Administrator, U.S. Environmental
Protection Agency,
Respondents.**

**DECLARATION OF JEREMY D. COTTRELL IN SUPPORT OF
WESTMORELAND'S MOTION TO STAY THE UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY'S FINAL AGENCY
ACTION**

I, Jeremy D. Cottrell, am over 18 years of age and make the following declaration pursuant to 18 U.S.C. § 1746:

1. I am employed by Petitioners Westmoreland Mining Holdings LLC, Westmoreland Mining LLC, and Westmoreland Rosebud Mining LLC (collectively "Westmoreland") as General Counsel and Secretary. I have been employed by Westmoreland and its predecessors in this capacity since 2019. Prior to this role, I have worked in several

different capacities at Westmoreland and its predecessors over approximately 9 total years, including as Associate General Counsel and Corporate Counsel. In my current role, I am responsible for management of the legal department, legislative department, and land department in the United States and Canada, Board of Directors support and related corporate governance, litigation management, M&A, regulatory and permitting coordination, and internal cross departmental legal support. I am therefore familiar with Westmoreland's business and the status of its operations at the Rosebud Mine in Colstrip, Montana.

2. I am providing this declaration in support of Westmoreland's Motion to Stay the United States Environmental Protection Agency's ("EPA" or "the Agency") Final Agency Action entitled *National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units Review of the Residual Risk and Technology Review*, 89 Fed. Reg. 38508 (May 7, 2024). EPA's issuance of this final rule will result in imminent, irreparable harm to Westmoreland and its operations at the Rosebud Mine.

3. This declaration is based on my personal knowledge of facts and information pertaining to Westmoreland's business and the implication of EPA's Final Agency Action. My knowledge is based on my personal history with Westmoreland, as well as recent analyses conducted together with my staff, reviewing documents filed by Westmoreland opposing EPA's rulemaking, and evaluating Westmoreland's strategy should the Colstrip Steam Electric Station ("Colstrip Power Plant") be required to comply with the Rulemaking. I reserve the right to revise or update the information provided herein should new, relevant information become available.

WESTMORELAND'S OPERATIONS IN COLSTRIP, MONTANA

4. Westmoreland mines and markets coal primarily as fuel for power generation and provides earth restoration services.
5. Westmoreland is one of Montana's largest producing mine operators, with approximately 9 million tons of coal produced at three mines in the state in 2023.
6. Westmoreland owns the Rosebud Mine that supplies all coal required by the Colstrip Power Plant located in Colstrip, Montana.

7. The Colstrip Power Plant is referenced as a “mine-mouth” power plant. In this instance, the term “mine-mouth” is used to describe where a coal-fired power plant has been built close to a dedicated coal supply source.
8. The Rosebud Mine delivers coal via conveyor to generating Unit 3 and Unit 4 at the Colstrip Power Plant.
9. The Rosebud Mine and the Colstrip Power Plant have been exclusively reliant on each other for over five decades, with production in each facility tied to the other.
10. These “mine-mouth” types of operations are developed to: (i) minimize the delivered cost of coal by locating the plant near the coal supply; (ii) provide a dedicated coal supply to support the plant fuel requirements, which are often developed to specifically optimize the available fuel quality and volume adjacent to the plant; (iii) supply consistent coal quality to minimize the plant design costs and optimize plant operations; (iv) improve the reliability of coal delivery by avoiding transportation disruptions; (iv) minimize the disruptions and pollution from long-haul rail or truck transportation; and (v) remove the construction of these large industrial facilities and the

associated pollution from populous locations near the load centers (cities) to remote areas near the coal fields.

11. This operation has been mutually beneficial to both Westmoreland and to the owners and operators of the Colstrip Power Plant.

OPERATIONS OF THE ROSEBUD MINE

12. The Colstrip Power Plant consists of four units—Units 1 and 2 with 333 MW capacity each and Units 3 and 4 with 805 MW capacity each.
13. Units 1 and 2 were shuttered in 2019 due to age and the improved operational benefits and technology of Units 3 and 4.
14. The closure of Units 1 and 2 had a negative economic impact on the Rosebud Mine due to the termination of the cost-plus agreement, associated layoffs, fixed costs to be covered by sales of fewer tons, and bringing forward final reclamation work obligations, amongst other detriments.
15. Units 3 and 4 currently are permitted to burn coal from Areas A through G of the Rosebud Mine, which lies adjacent to and generally west of Colstrip Power Plant.

16. The Rosebud Mine is and has always been the exclusive provider of coal to Units 3 and 4 at the Colstrip Power Plant.
17. Coal is delivered by a single conveyor belt from the Rosebud Mine to the Colstrip Power Plant. This delivery system is a low CO₂ and minimal emission process, especially when compared to rail or truck transportation.

**THE ROSEBUD MINE IS WHOLLY RELIANT UPON THE
COLSTRIP POWER PLANT FOR COAL DEMAND**

18. There is no other market for the Rosebud mine coal other than the Colstrip Power Plant at a price which would allow the mine to continue to operate economically. Further, there is no operable rail network to transport the coal.
19. The market for Montana coal is limited by its location relative to the customers and the competitive coal supplies. Traditionally, Montana coal is competitive where it has a transportation advantage over competitors. For the Rosebud Mine, that transportation advantage comes from it being part of a mine-mouth operation with Colstrip Power Plant.
20. The sales of coal from the Rosebud Mine to Colstrip Power Plant Units 3 and 4 are typically around 6.5 – 7.0 million tons per year. It

would be impossible to replace these sales with sales to other customers.

21. Coal from the Rosebud Mine would not be competitive in the large export market to Asia largely because of energy content of the coal. Because of the lack of operable rail infrastructure coupled with the long distance to ship coal to U.S. ports and the high cost of transportation, the delivered energy content of Rosebud coal would be more expensive on a delivered cost per million Btu than the coals from other mining regions and operations.

**THE CLOSURE OF THE COLSTRIP POWER PLANT WOULD
RESULT IN A SHUTTERING OF OPERATIONS AT THE
ROSEBUD MINE**

22. According to the materials in the administrative record of the Rule, EPA's rule will initially impose hundreds of millions of dollars of capital and tens of millions of dollars of ongoing operating and maintenance expense on the Colstrip Power Plant per year and require temporary shutdown to design and retrofit additional emission controls. The high costs associated with installing, testing, and implementing new controls, coupled with limited time and electric generation for the recovery of such costs, create a substantial

risk that the owners will prematurely shut down Colstrip Power Plant. In addition, the current owner-operator of the Colstrip Power Plant is a merchant utility which lacks the ability to pass through costs to its customer base.

23. Should the Colstrip Power Plant be required to retire Units 3 and 4, the loss of demand for coal from the Rosebud Mine would be economically catastrophic and would require the mine's closure.

24. The purpose of the Rosebud Mine is to support, and to provide a fuel source for the Colstrip Power Plant. Thus, if the Colstrip Power Plant closes, the Rosebud Mine would close as well.

25. Closure of the Rosebud Mine would result in the loss of 337 jobs at the mine & approximately 28 additional indirect Rosebud supporting jobs and the loss of 6.5 – 7.0 million tons of coal produced annually.

26. The closure of the Rosebud Mine would result in the layoff of 17% of Westmoreland's total workforce based on Westmoreland's 2023 employee total. The Rosebud mine would be forced out of production and the local community and the State of Montana would be deprived of the valuable attendant benefits, employee wages, and

taxes and royalties described in the report of Dr. Patrick Barkey, which is filed along with this declaration.

27. To develop the Rosebud Mine in compliance with its contractual obligations and regulatory requirements, sufficient area was purchased or leased large enough to supply coal for the anticipated life of the Colstrip Power Plant. In doing so, Westmoreland spent over \$33M to permit the necessary acreage needed. If the Colstrip Power Plant and the Rosebud Mine close in 2027, only approximately 30% of the permitted areas will have been mined and Rosebud will lose over \$23.5M in related permitting costs spent to permit lands that will never be mined. Additionally, the shift from production to reclamation along with the length of time associated with building up reclamation funds over a longer period of time will be substantially abbreviated.

28. In addition to permitting and mine development costs, Westmoreland incurred equipment costs of around \$96,551,704 to support mine startup and operation through the life of the mine. These costs are being amortized over the life of the mine, and if the mine is forced to close early, nearly \$34,813,441 of those costs will be

lost because full amortization cannot be realized. The equipment will likely have very low resale value because of mine closures in the recent past, the likelihood of closure of other mines at the same time, and the specificity of use for coal mining equipment.

29. The Rosebud Mine currently has about \$38,898,636 worth of property, plant, and equipment which would require accelerated depreciation if the mine is closed early as a consequence of the MATS rule. In addition, Westmoreland has approximately \$5,078,128 of obligations committed to hedged fuel, equipment purchases, and lease payoff liabilities that would be unrealized, along with approximately \$12,030,738 in warehouse inventory that would have little to no value if the mine were closed early. Finally, a shutdown of the Rosebud Mine would result in lost payroll of over \$32,377,587.19 annually, not including benefits for these union and salaried roles.

30. Even if the parties prevail in litigation efforts and the MATS rule does not ultimately go into effect, it has already immediately impacted the operation of the mine to the detriment of the local community. At the Rosebud Mine, hiring decisions must be made with a long-term vision in mind, and the decision to fill open

positions or hire for new positions cannot be made with the current uncertainty the MATS rule creates. In addition, the uncertainty created by the MATS rule makes it difficult to attract and retain employees who are concerned they may not have a job in a few years. These difficulties are real and locations like the Rosebud Mine are experiencing them right now and will continue to experience them during the litigation of the MATS rule if stay is not granted.

31. Decisions regarding large capital expenditures for equipment must be made years in advance due to the amount of time it takes to finance, acquire, transport assemble and test equipment. Decisions must be made well ahead of time as to whether to purchase additional equipment, lease equipment, repair equipment, or defer certain equipment maintenance, along with fleet management strategy related to requirements to align with the needs of the Colstrip Power Plant to the attendant mining operations and reclamation obligations.

32. The Rosebud Mine makes up 26.4% of Westmoreland's gross revenue. Should the Rosebud Mine close, Westmoreland does not have a way to make-up that significant loss. As a result,

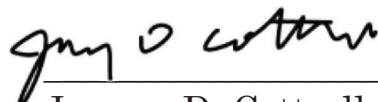
Westmoreland would eliminate the majority of its remaining active mine operations jobs, as well as a significant number of support functions in the United States. It is expected that this would result in the loss of approximately 365 high paying jobs, comprised of 337 direct Rosebud employee jobs & approximately 28 indirect Rosebud supporting jobs.

33. Closure of the Colstrip Power Plant would by extension result in the closure of the Rosebud Mine and the 50+ year continuous operation of the Rosebud Mine which has reliably delivered approximately 528,056,462M tons of coal over its lifespan. It would certainly end, almost immediately, the designation of Colstrip Montana as the highest median family income city in Montana,¹ it would increase the existing energy deficiency in Montana and adversely impact base load grid stability for Montana and the adjacent states and markets served by the Mid-Columbia energy market. Closure of the Colstrip Power Plan would also result in even higher energy costs for all existing Colstrip served customers.

¹ Source: US Census Bureau's American Community Survey for 2022 Colstrip, Montana indicating an annual median family income of \$110,110 and median Household annual income of \$87,321.

34. I, Jeremy D. Cottrell, declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge.

Executed in Douglas County, Colorado, on this 26th day of June 2024.



Jeremy D. Cottrell