

THE CHANGING COAL INDUSTRY:

REGIONAL ECONOMIC IMPACTS-WORKFORCE ANALYSIS-TRANSITION STRATEGIES

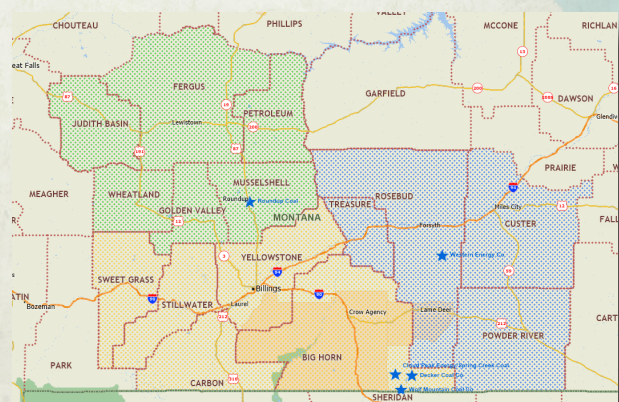
EXECUTIVE SUMMARY

MOVING FORWARD

Coal production has long been a cornerstone of the Montana economy. According to Montana Coal: Economic Impact of Anticipated Expanded Production prepared in December 2012, “Montana has produced coal for more than a century. In its early years, coal was used for residential and commercial use in heating and system power. Then, in the 1950’s, Montana sanctioned its first coal-fired plant to supply electrical energy to Montana commercial, residential and industrial consumers. As of 2011, Montana produced roughly 42M million/tons (M/T) per year for domestic and international (Asia) use, predominantly from the Fort Union Formation of the Powder River Basin (PRB), but also from other Montana sources.”

Coal mining and coal generated power are currently subject to a variety of fiscal and regulatory constraints which have significantly influenced operating costs and the ability to compete with production from other states. Environmental requirements and regulations govern the successful development and operation of coal mines and coal generated power facilities. Of concern to the future of Montana’s coal mining industry is the hindering effect of these requirements on the economies of communities. Layoffs at the Bull Mountain coal mine outside of Roundup in 2007 were an ominous sign given that this mine had been singled out as the site for Governor Schweitzer’s coal-to-liquid demonstration project, and owners had been promising dramatically increased production. Other warning signs included the demise of the proposed Highwood coal-fired electric generating facility near Great Falls and, the catalyst for the development of this study, the closure of the J.E. Corette power plant in Billings in 2015 due to costly operating expenses under new EPA emission reduction requirements. Now, Montana is faced with the pending closure of Colstrip Units 1 and 2, further challenging the coal industry and Montana’s ability to provide affordable, reliable power for expanding industry.

Nearly three years ago, economic development professionals working in Montana’s coal producing counties (a 15-county region) began to collaborate specifically to leverage limited resources while developing strategies to address the changing coal economy. A Coal Country Coalition (CCC) was created to secure professional assistance in analyzing the impact of coal production and generation on the economy of Montana, assessing workforce skills through an in-depth analysis



and developing strategies to combat negative outcomes of a potential downturn in the coal economy. Through an extensive community planning process and economic analysis, utilizing consultants with vast experience in communities impacted by an evolving energy industry, a list of transition strategies was identified.

“The process was a good way to understand coal country concerns while proactively looking for solutions.”

Kathie Bailey, Executive Director of Snowy Mountain Development Corporation

Taimerica Management Company, a consulting firm specializing in economics, economic development, and fossil fuel impact studies was tasked with 1) Evaluating the Economic Impact of the Coal Industry in Montana; 2) Analyzing Workforce Skills in Coal Country; and 3) Developing Strategies to Address Potential Changes in the Coal Economy.

Assessing the Economic Impact of the Coal Industry provides an analysis of the current and potential future economic impact of the Coal Industry in Montana. This includes an overview of the coal industry, analysis of production, generation, and markets; challenges facing the coal industry; profile of the industry, including workforce; economic impacts; and economic forecasting.

Analyzing Montana’s Coal Industry Workforce identifies workforce competencies, skill gaps, and occupation transferability opportunities. The study explores issues that affect the ability of the workforce system to efficiently meet the needs of a regional economic restructuring. A comprehensive analysis of driver industries provides a overview of regional occupation employment, worker demographics and industry trends. The knowledge and skills competency data provides a roadmap to knowledge and skills transferability to compatible occupations or industries.

Developing Strategies to Diversify and Strengthen the Regional Economy through an economic and workforce development system that addresses the changing coal economy and stabilizes the region/state economy. A defined set of strategies guides diversifying the economy of the coal country region and addresses the economic uncertainties of this area.

Taimerica and their collaborating consultants have provided a thorough and comprehensive look at the Coal Industry today. Transition strategies and action steps are well addressed throughout the report and

“This study is the result of our concerns over an important industry, not only in our 15-county region, but also to the entire State of Montana. We feel our efforts were an effective response to leverage scarce resources of time, effort, and funding. This proactive collaboration with four economic development groups to hire an independent third party and to evaluate and identify the past and present conditions are an effort to move forward to maximize present and future opportunities. I feel these opportunities are mutually beneficial to our region and the entire State.”

Jim Atchison, Executive Director of the Southeastern Montana Development Corporation

focus on the coal industry as well as impediments to regional economic competitiveness. The study confirms some of the challenges economic development practitioners regularly face when recruiting business to the region. The lack of broadband availability outside Montana's population centers, the nature of Montana's business climate (both actual and perceived), and concern about providing a reliable and affordable power supply to industrial users are most notable. Although difficult and complicated topics to address, the Coalition feels strongly these concerns cannot be ignored and are paramount to the strength and economic diversity of our regions and to Montana.

The coal industry in Montana is challenged by shifts in the domestic market and in environmental regulations. **The related decline in employment in the region could range from 800 to 4,300 jobs.**

Montana mines are more vulnerable to shifts in the domestic market as they are the marginal producers of western coal. Gross proceeds and severance taxes are the largest component of mine operating costs (exceeding payroll costs), higher than

the neighboring state of Wyoming, which means Montana mines will be the first to close and the last to reopen if demand continues to decline. Most of the industry's dislocated workers could find employment opportunities in pipeline construction, heavy construction, and transportation, albeit at reduced wages. For the 10 percent of workers that lack ample employment opportunities in those directly related fields, the region has significant numbers of job openings in refining and manufacturing that are highly compatible with existing worker skills, provided these workers receive retraining.

The Coal Country Coalition is dedicated to maintaining the regional partnership that was originally formed to facilitate completion of this study. The Economic Development agencies

"As economic development professionals, we recognize that part of our job is to assess and understand the underlying factors that may be preventing us from growing the economy in a way that benefits our respective regions. This study is an important source of learning more about those factors and, while the findings and recommendations may represent different ideas and perspectives, they are based on solid research and presented by a neutral third party group of consultants."

Sue Taylor, Beartooth Resource Conservation & Development

"Concerns about workforce retraining, broadband capabilities, lack of research on clean energy technology, and the perception of unfavorable labor laws were all reinforced through community discussions during this study."

Kathie Bailey, Executive Director of Snowy Mountain Development Corporation

who comprise the Coalition membership will continue to collaborate, spur discussion, and build those relationships needed to do what we can to ensure Montana's coal impacted communities remain economically viable, prepare for the ongoing changes in workforce demands, and are positioned well for present and future economic growth and job-creating opportunities. We believe this study will be a valuable tool in educating and mobilizing local governments, chambers of commerce, towns, and cities in coal country to develop localized strategies moving forward.

To that end, the Coalition is committed to the following initial actions:

1. In June of 2017, creation of a formal MOU between the Coal Country Coalition partners that will outline strategies, next steps and lead agencies believed to be critical in moving forward with identified goals.
2. Continue in the success of the initial Power Summit held in 2016 by bringing together economic development leaders, board chairs, and related partners annually to continue the collaborative discussion and related work outlined in the report.
3. Strengthening our regional partnership through the addition of other allies at the local, regional and state level who aid in identification of resources and solutions.

The future of the Montana coal industry is not pre-determined. The industry currently plays a key role in Montana's economy in tax revenues used to fund projects throughout Montana, high-paying jobs, and community partnerships. Montana leaders in business and government have options for ensuring that the coal industry remains a viable part of the Montana economy. The transition strategies proposed aid in providing the industry with broader markets and stable employment in the future. We encourage you to review the entire impact study and related strategies which can be found at www.bigskyeconomicdevelopment.org.

"We can no longer afford to lean on the status quo economic development tools and policies to provide the catalyst for economic growth. Conditions are changing in our regional economy and we must change as well. The transition strategies provide us a starting place for critical decision making that can help us shape our economic future – a future that needs to be focused on our shared interests in the regional economy."

Steve Arveschoug, Executive Director, Big Sky Economic Development

Thank you!

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GOALS AND STRATEGIES

GOAL 1: MAINTAIN SHIPMENTS, EMPLOYMENT, AND TAX REVENUES FROM COAL PRODUCTION AT 2015 LEVELS

Montana needs to develop a consensus on the future of coal and electric power. A significant share of industry in Montana is vulnerable to higher prices and lower reliability of electric power should Colstrip Units 3 and 4 close.

Strategy 1: Development of a state strategy for assuring affordable and reliable energy

The pending closure of Colstrip Units 1 and 2 will have significant impact on the availability and price of electricity currently used in the process industries. Montana needs to adopt a statewide transition strategy for ensuring continued affordable and reliable energy and to address new tax revenues to replace coal severance and gross proceeds taxes.

Strategy 2: Increase coal exports via Pacific coast ports

The strategy of offsetting declines in domestic coal with exports has succeeded for Montana mines since 2010. It keeps Montana companies operating while new technologies are developed to reduce carbon emissions and raise the conversion efficiency of coal generation.

Strategy 3: Influence the EPA to modify or eliminate the clean power plan

Continued use of Colstrip Units 3 and 4 is vital to ensuring continued affordable and reliable energy for Montana industry. Modifying or eliminating the Clean Power Plan is the only measure that will allow continued use of Colstrip Units 3 and 4, ensuring large power users can purchase firm power in the Western grid from reliable in-state sources over the next decade.

WHY THE MONTANA COAL IMPACT STUDY?

- > **Assess the regional impact of the closure of Colstrip Units 1-2**
- > **Highlight the loss of severance and gross proceeds tax revenue**
- > **Investigate regional economic impacts related to the downturn in the coal industry**
- > **Discuss how to continue to provide reliable and affordable power for Montana**
- > **Address workforce challenges**
- > **Outline the need for enhanced regional competitiveness**

GOAL 2: PROVIDE INCENTIVES FOR MONTANA COMPANIES AND INVESTORS TO COMMERCIALIZE TECHNOLOGIES THAT LOWER CARBON EMISSIONS AND RAISE THERMAL EFFICIENCY OF COAL-FIRED GENERATORS USING STATE TAX REVENUES GENERATED BY THE COAL INDUSTRY

Strategy 4: Provide financial assistance (grants) for the commercialization of these technologies

This provides a long-term approach for the continued mining of coal in Montana and offers an opportunity to become a center to produce technology solutions for carbon capture, improve thermal efficiency of coal generation, gasification, and coal to liquids technologies that open coal to petrochemical and polymer uses.

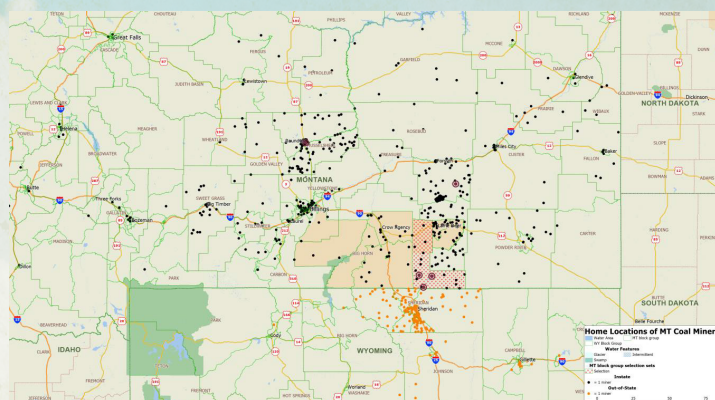
GOAL 3: DIVERSIFY THE ECONOMIES OF COMMUNITIES IN COAL COUNTRY

Strategy 5: Improve the business climate for mining and non-mining companies

Improving the business climate should begin with evaluation of Montana's level of competitiveness for business with surrounding states and those attracting most of the nation's new investment (Colorado, Texas, and Georgia). Montana should then consider policy and legislation changes that influence investment by out-of-state companies such as severance tax rates, Right-to-Work laws, employment at-will law, business taxation, regulatory burdens, and incentives.

Strategy 6: Develop formal economic diversification strategies for those coal communities that are currently coal industry employment centers

The success of transition strategies will be strengthened by having a state program for diversification and local communities that are ready for economic development. This requires individual communities to plan and prioritize resources in preparation for new and diversified businesses.



Strategy 7: Invest in infrastructure that extends internet broadband services to most Montana residents

Public information sources such as www.broadbandmap.gov and www.broadbandnow.com are the principal means by which companies outside Montana use to screen investment locations. According to these websites, Montana ranks last of the 50 states in broadband connectivity. While Montana has 104 broadband providers, almost 800,000 people lack access to a wired connection capable of 25 mbps download speeds. Eastern Montana in particular lacks broadband service. The percent of population in eastern Montana with access to high speed wired connection (greater than 25 mbps download) is 28 percent in Big Horn County, 25 percent in Yellowstone county, and zero percent in Rosebud or Musselshell County, as reported by the same sources.

GOAL 4: SOLIDIFY A STATEWIDE PARTNERSHIP WITH THE COMMUNITY COLLEGES AND UNIVERSITIES

Strengthening the statewide partnership between colleges, universities and the State provides more mechanisms for ensuring adequate funding to meet training and retraining needs of coal workers in transition. Additionally, this can provide workers needed to fill positions opening due to attrition and a graying workforce.

Strategy 8: Provide additional resources to support post-secondary educational and training systems

The graying workforce in Montana and the general requirements for more training and retraining in modern business operations mandates that Montana reshape the current post high-school training infrastructure. Montana ranks 41st of the 50 states in terms of state spending per student in community colleges and post-secondary vocational programs. To maintain global competitiveness, Montana must provide additional funds to train workers. States that limit public resources for professional and craft training have talent pools that are unprepared for future jobs.

Strategy 9: Retrain coal miners for comparable occupations in related industries

In addition to sharing information provided by the Trent Lott National Center regarding workforce analysis and training, economic development stakeholders will need to coordinate opportunities for employers and workforce training institutes to connect displaced workers and employers, and to develop curricula and programs that retrain workers in the coal industry to function in other industries.

ACTIONS NEEDED BY THE MONTANA LEGISLATURE

- » Appoint an interim committee to work with the Governor and business leaders on a statewide strategy to support coal and reliable, affordable in-state electric generation.
- > Empower the interim committee to serve on the Western Coal Coalition (coal stakeholders from Montana and Wyoming).
- > Empower the interim committee to serve on a steering committee to evaluate the competitiveness of the Montana economy for mining, tourism, health care, manufacturing, pipeline and office activities.

- » Form and fund the Montana Commercialization Fund for commercialization of technologies to reduce carbon emissions from coal-fired generators.

- » Pass a surcharge on unemployment insurance to provide a dedicated fund to support worker training and retraining at community colleges and vocational schools in Montana.

- » Budget funds to retrain 150 coal cluster workers that lack job opportunities in Montana.

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Regional Partnership for Economic Diversity in Coal Country