Energy Industries

A Real Boom?

Terry Johnson, Director, Natural Resource and Energy Development,
Bureau of Business and Economic Research

Montana entered 2012 with its energy sector constantly in the news. Huge increases in oil production next door in North Dakota were impacting the labor market and supplier companies. There were expectations for similar increases on the Montana side of the border. Significant new coal capacity was deep into the planning state. Electric power lines, grid updates, and wind-energy generation were moving ahead. Bio-fuels and biomass were being researched in western Montana. And exciting new investments in technologies such as carbon storage and large capacity battery development were coming closer to reality.

So, where are we? And more importantly, how do these possibilities influence the outlook for the Montana economy?

Montana's energy industry consists of many components – we start by looking at coal, oil, and state energy taxation.

Coal

Despite all the talk about new coal mines, the production of coal has remained relatively stable over the past decade, with only a modest increase in 2010 (Figure 1). But one of the major Montana mines has recently announced reduced production and likely layoffs. This apparent contradiction is explained by the fact that there are really two markets for Montana coal – domestic and foreign.

The domestic markets for coal have recently been depressed as electric utilities have switched to abundant, cheap, and environmentally preferable natural gas.

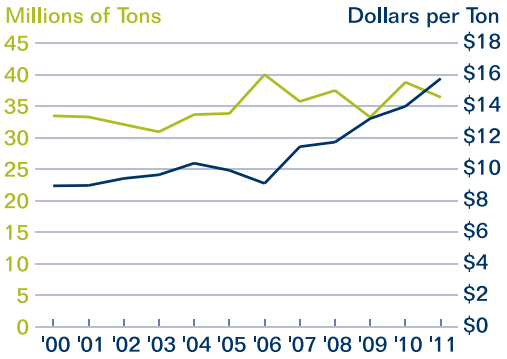
Additional negative factors include a stagnant U.S. economy and unseasonably warm weather. Foreign markets, on the other hand, are just beginning to develop and are expected to grow rapidly as industrializing countries such as China and India build new coal-fired generating plants to meet the demands of their citizens. We are going to have to wait and see how trends in these divergent markets balance out and impact total coal production in Montana in coming years.

Oil

As with coal, the frenzy and hype associated with the Bakken field is not necessarily mirrored in the data. Oil production in Montana actually peaked in 2007 and has declined each year since (Figure 2). But, recent production trends are not a good predictor of what will happen in the future.

Current oil production is strongly influenced by prior drilling and exploration activity. An oil well's production is greatest when it is first drilled and declines steadily thereafter. This means that new wells will constantly have to be brought on line just to keep production stable. Figure 3 reports that the number of drilling rigs in Montana declined from 2006 to 2009 but turned sharply upward since

Figure 1
Montana Coal Production



Source: Montana Department of Revenue.

The energy industries are directly and indirectly responsible for sizable amounts of revenue to state and local governments.

then. This easily explains the decline in production and strongly suggests a reversal in the future. Since the time profile of the rig counts closely parallels the U.S. business cycle (peak in late 2007 and trough in mid-2009), the most likely cause of the decline in Montana was the decreased demand, price weakness, and economic uncertainty associated with the Great Recession.

Comparing Montana and North Dakota

- North Dakota's oil production is more than four times greater than Montana's.
- The U.S. business cycle caused only a deceleration in the growth of North Dakota's production.
- Oil producers in both states face sizable price discounts due to the difficulty of transporting their crude to refineries.

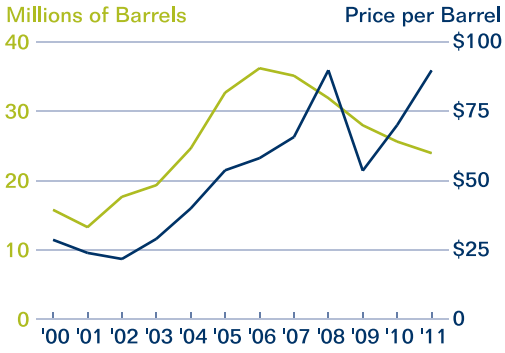
Government Revenue

The energy industries are directly and indirectly responsible for sizable amounts of revenue to state and local governments. The energy industries contribute three direct payments to state government: coal production taxes, oil production taxes, and royalty/rent/bonus payments.

All three energy-related sources of state government revenue have experienced an upward trend during the past decade despite the declines in coal and oil production during certain years. These revenues are based on the value of production – not just the volume – and energy prices have increased. The significant one-time increase in royalties/rents/bonus in FY 2010 was due to the $85 million bonus payment for the state coal in the Otter Creek area.

These three sources of revenue increased at an average annual rate of 8.5 percent per year between FY 2000 and FY 2012. To put this in perspective, total state government tax revenues increased an average of 4.2 percent per year during the same period.

Figure 2
Montana Oil Production and Price



Source: Montana Department of Revenue.

Figure 3
Montana Oil Rig Counts By Month

Source: Montana Department of Revenue.

Table 1
Summary of Governmental Revenue (Figures in Millions)

Fiscal Year	Coal Production Taxes	Oil & Gas Production Taxes	Federal / State Royalty, Rent, Bonus	Total Revenue
2000	$46.341	$43.773	$72.029	$162.143
2001	43.836	92.396	90.948	227.180
2002	42.249	50.304	65.475	158.028
2003	39.867	73.389	77.144	190.400
2004	42.113	92.676	78.386	213.175
2005	48.133	137.754	100.304	286.191
2006	48.042	203.681	123.443	375.166
2007	52.450	209.946	115.283	377.679
2008	58.191	324.311	146.112	528.614
2009	64.023	218.425	134.357	416.805
2010	59.791	206.286	212.320	478.397
2011	70.757	215.130	137.139	423.026
2012	72.567	210.644	148.000	431.211

Source: State Accounting System, Mineral Management Service.

Summary

Both coal and oil production have experienced ups and downs during the past decade. Even so, generally rising prices have meant that the contributions from the energy industries have been a growing contributor to state government revenues.