GOVERNOR
BRIAN SCHWEITZER

STATE OF MONTANA

NATURAL RESOURCE REVENUE SECTION 4

OBPP Staff:

Eric Dale	444-3191
Ryan Evans	444-3163
Ralph Franklin	444-1337
Nancy Hall	444-4899

GOVERNOR'S OFFICE OF
BUDGET AND PROGRAM PLANNING

Oil and Natural Gas Severance Tax

2013 Biennium

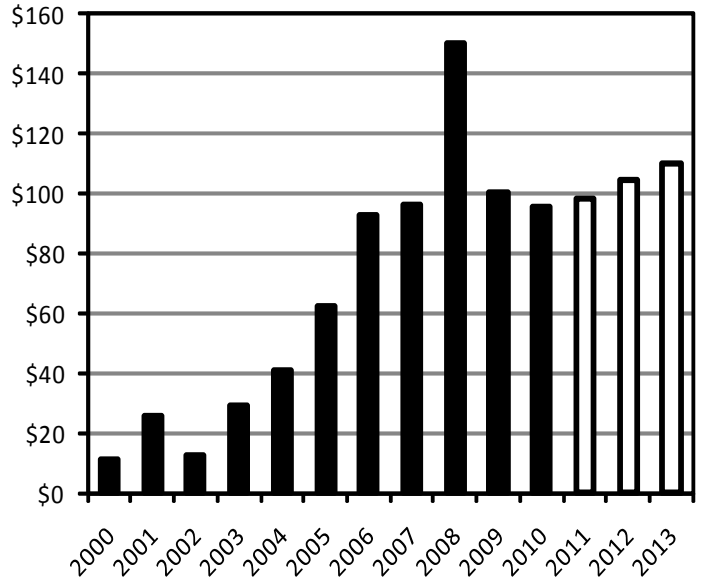
Revenue Description

In accordance with 15-36-304, MCA, Montana taxes the gross value of oil and natural gas production. The tax rates can vary depending on the product being produced, the method of production, the age of the well, the previous year's production, and the price of oil. Working interest owners, who share in a well's costs, pay lower rates than royalty recipients who do not share in a well's costs. Revenues are distributed to a variety of state, county, and school accounts. In FY 2010, approximately 46% of revenue from the oil and natural gas production tax was deposited in the general fund.

Table 1 shows actual general fund revenue from the oil and natural gas severance tax for FY 2000 through FY 2010 and projected revenues for FY 2011 through FY 2013.

Table 1
Oil and Gas Production Taxes
($ millions)

Fiscal Year	General Fund	Percent Change
A 2000	$11.363	51.39%
A 2001	$25.792	126.99%
A 2002	$12.902	-49.97%
A 2003	$29.086	125.43%
A 2004	$41.324	42.07%
A 2005	$62.626	51.55%
A 2006	$92.563	47.80%
A 2007	$96.335	4.08%
A 2008	$149.994	55.70%
A 2009	$100.491	-33.00%
A 2010	$95.491	-4.98%
F 2011	**$98.223**	**2.86%**
F 2012	**$104.910**	**6.81%**
F 2013	**$110.297**	**5.13%**



The increases in general fund revenue beginning in FY 2003 are attributable to two factors. There has been a large increase in the volume of oil and natural gas being produced, mainly in the Richland County area, and at the same time, oil and natural gas prices rose to historic highs in the spring and summer of 2008, before falling substantially in late 2008 and early 2009.

The varying tax rates for oil and natural gas production established in 15-36-331, MCA, are listed in table 2.

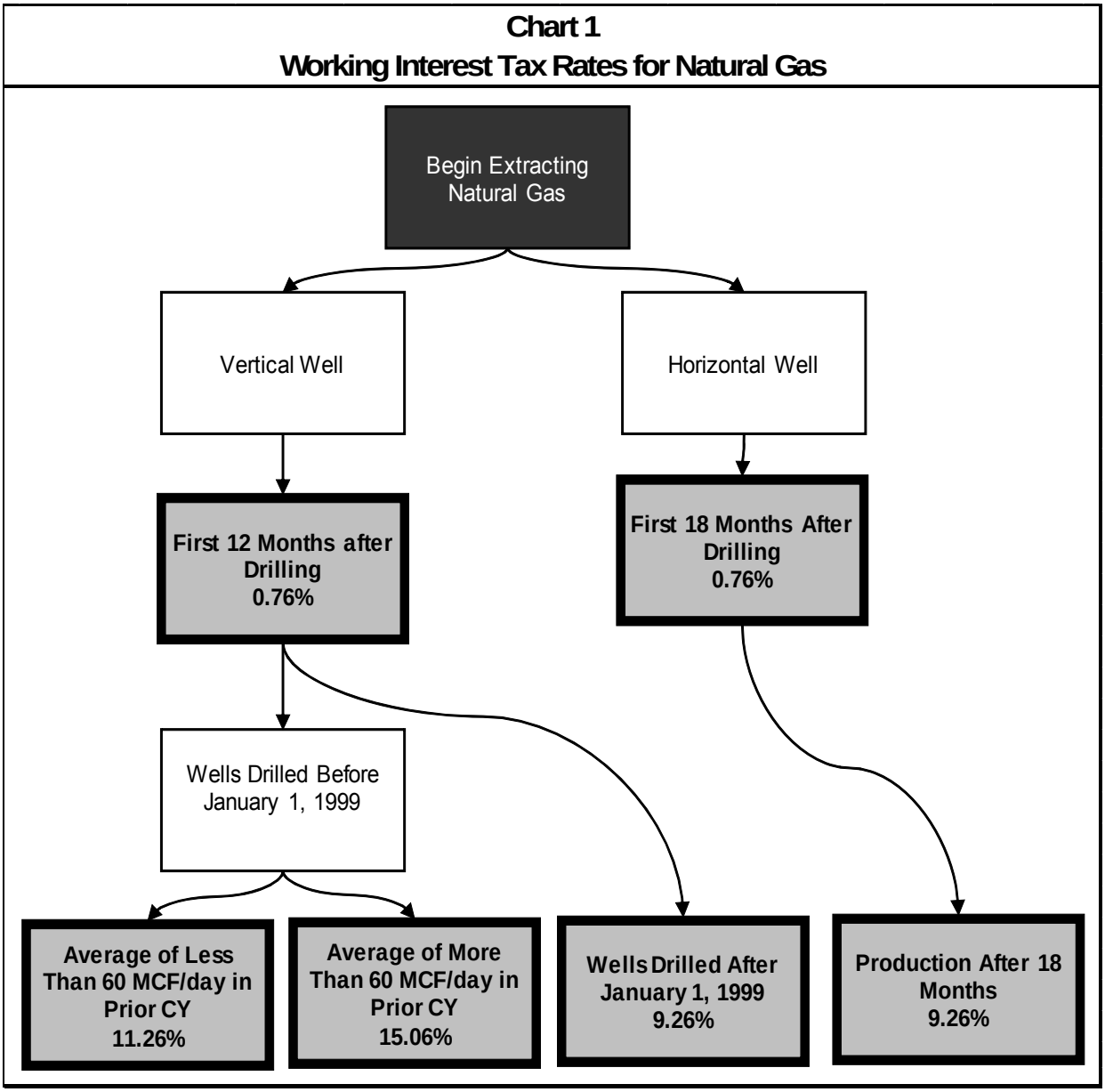
Table 2
Oil and Natural Gas Tax Rates by Well Category and Interest

		Working Interest		Royalty Interest	
Product	Well Category	Production Tax	Total Tax	Production Tax	Total Tax
Gas	New Horizontal 0-18 Months	0.50%	0.76%	14.80%	15.06%
	After 18 Months	9.00%	9.26%	14.80%	15.06%
	New Vertical 0-12 Months	0.50%	0.76%	14.80%	15.06%
	Vertical Post-1999	9.00%	9.26%	14.80%	15.06%
	Vertical Pre-1999 Stripper	11.00%	11.26%	14.80%	15.06%
	Vertical Pre-1999 Regular	14.80%	15.06%	14.80%	15.06%
Oil	New Vertical 0-12 Months	0.50%	0.76%	14.80%	15.06%
	New Horizontal 0-18 Months	0.50%	0.76%	14.80%	15.06%
	Horizontal Recompletion 0-18 Months	5.50%	5.76%	14.80%	15.06%
	Post-1999 Regular	9.00%	9.26%	14.80%	15.06%
	Pre-1999 Regular	12.50%	12.76%	14.80%	15.06%
	Stripper Exemption (WTI < $38/bbl)	0.50%	0.76%	14.80%	15.06%
	Stripper Exemption (WTI > $38/bbl)	6.00%	6.26%	14.80%	15.06%
	Stripper[1]	5.50%	5.76%	14.80%	15.06%
	Stripper[1] 10-15 Bbl/Day	9.00%	9.26%	14.80%	15.06%
	Incremental Secondary[1&2]	8.50%	8.76%	14.80%	15.06%
	Incremental Tertiary[1&2]	5.80%	6.06%	14.80%	15.06%

1 Applies only when average price of WTI < $30/bbl
2 Applies only to increment of increased production

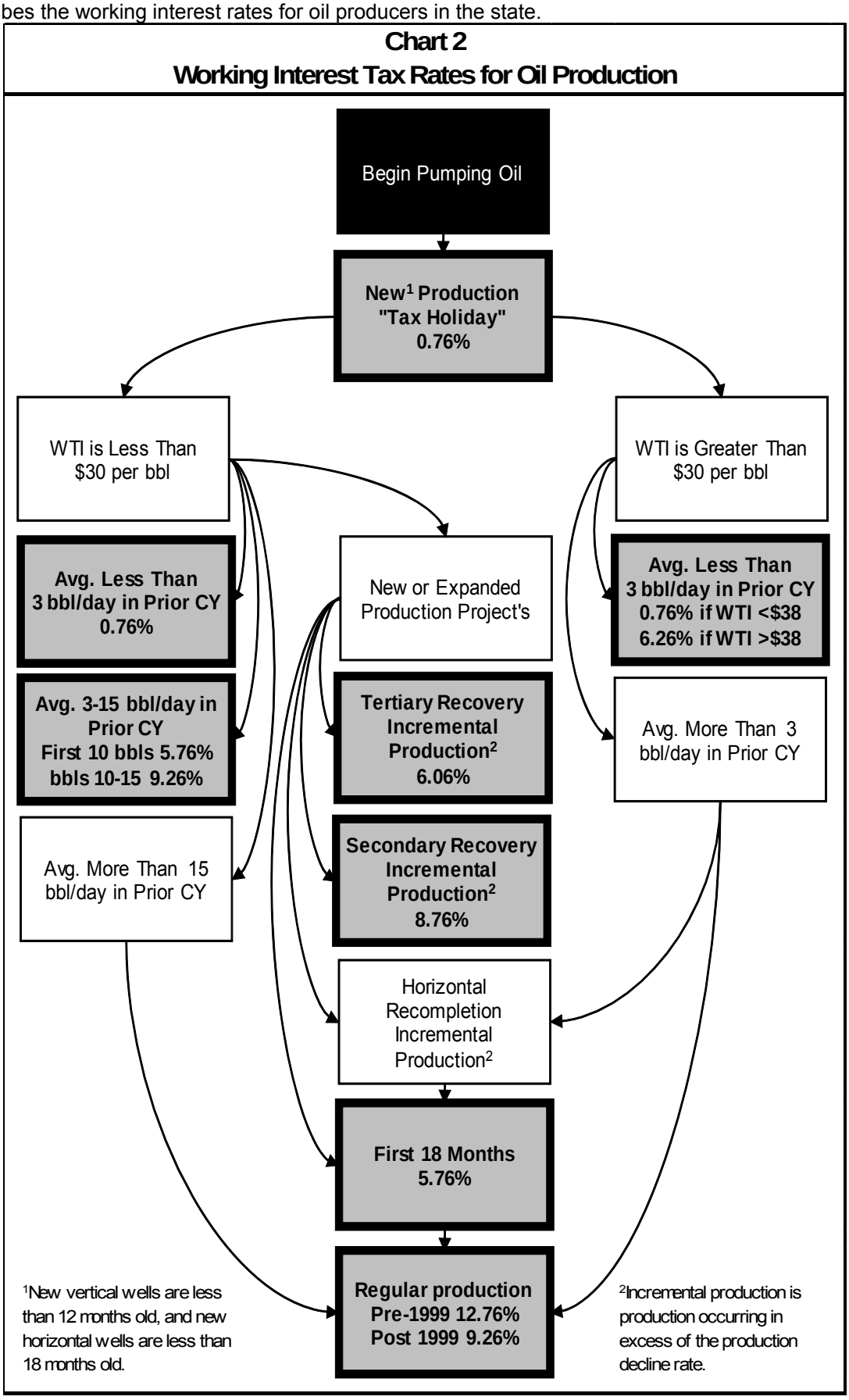
Table 2 shows the original tax rate as well as the combined tax rate when the Board of Oil and Gas Conservation's (BOGC) privilege and license tax of 0.09% and the tax of 0.17% distributed to the Oil & Gas Natural Resource Account are added. The tax rate on royalties is constant regardless of any of the stipulation in the working interest tax rate. The working interest tax rates, however, have many stipulations that can affect the actual tax rate. The following charts illustrate the needed circumstances that would allow each of the working interest tax rates for both oil and natural gas.

Chart 1 illustrates the different tax rates for working interest natural gas extraction.



The grey boxes indicate a tax rate, while the white boxes represent criteria that must be achieved in order to reach the varying tax rates.

Chart 2 describes the working interest rates for oil producers in the state.



Risks and Significant Factors

- Price
  - The prices received by Montana oil producers are not the same as the national or international prices, however, the prices are related and move together. Oil prices have been very volatile, and continued variation will have a direct effect on the revenues seen by the state.
  - Prices of both oil and natural gas on global markets have fluctuated in the past; with oil being priced worldwide in dollars, supply-demand fluctuations will not fully account for severance tax revenues.
- Production
  - Oil production increased over 110% from FY 2003 to FY 2007.
  - Production has flattened since FY 2007, mostly due to the maturity of the Elm Coulee field, which lies within the Bakken formation.
  - New technologies, both in discoveries and in recovery methods have made Elm Coulee very productive.
  - In April of 2008, the United States Geological Service (USGS) released an updated estimate of the Bakken formation located in North Dakota and Montana which raised the potentially recoverable oil 25 fold to over 3 billion barrels, with over 1 billion barrels in Montana
  - The analysis uses conservative short-term production rates that account for the maturing nature of the Elm Coulee field; but the potential for increased revenue, as presented in the USGA's findings, could be substantial over the long run.
- Pipeline Constraints
  - Beginning around FY 2006, the increased production in the Bakken formation led to overcrowded pipelines in the area, and as a result, a sizable differential in the prices received by Montana producers versus national benchmark prices grew to a high of $13 per barrel. While extensive work has expanded pipeline capacity in the Montana-North Dakota region, there remains the possibility that a significant price differential could occur again.

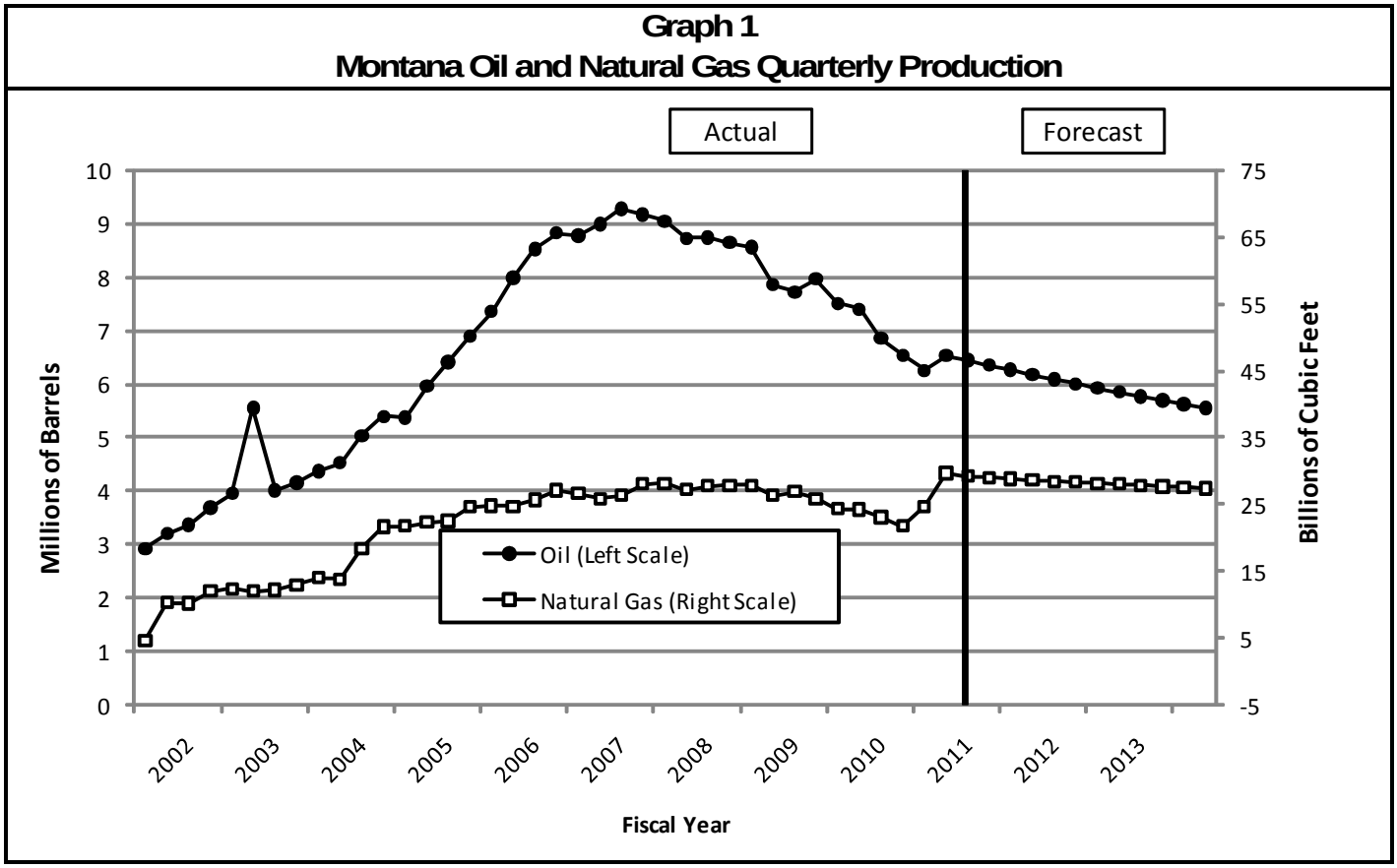
Forecast Methodology

The oil and natural gas tax revenue is forecast in three main steps:

Step 1. Estimate production by tax type

- Estimate the production for Richland County (the Elm Coulee formation lies exclusively in Richland County) and classify each producer in that area into the appropriate tax category.
- Estimate oil production for the rest of the state by tax category.
- Estimate natural gas production for the state as a whole.

Graph 1 shows the actual and projected quarterly production levels of oil and natural gas in Montana from FY 2002 through FY 2013.



As Graph 1 shows, oil production has been leveling off since mid-2006 with the maturation of the Elm Coulee field. While this flattening trend is expected to continue through FY 2013 this forecast does not take into account large production increases that are possible given such a large increase in the estimated recoverable oil by the USGS.

Step 2. Estimate price of oil and natural gas.

There are many factors that are applicable to the price received by oil producers. Oil prices vary across the state as the quality and access to infrastructure are not uniform statewide. Oil prices were estimated in phases. Richland County oil prices where estimated separately, and then all other counties oil price was estimated based on the respective relationship to West Texas Intermediate (WTI) price. Table 3 shows the actual weighted average price received by Montana oil producers for FY 2002 through FY 2010 and forecast prices for FY 2011 through FY 2013. The table also shows the average WTI price for the same period and the Global Insight's forecast values for FY 2011 through FY 2013.

Oil

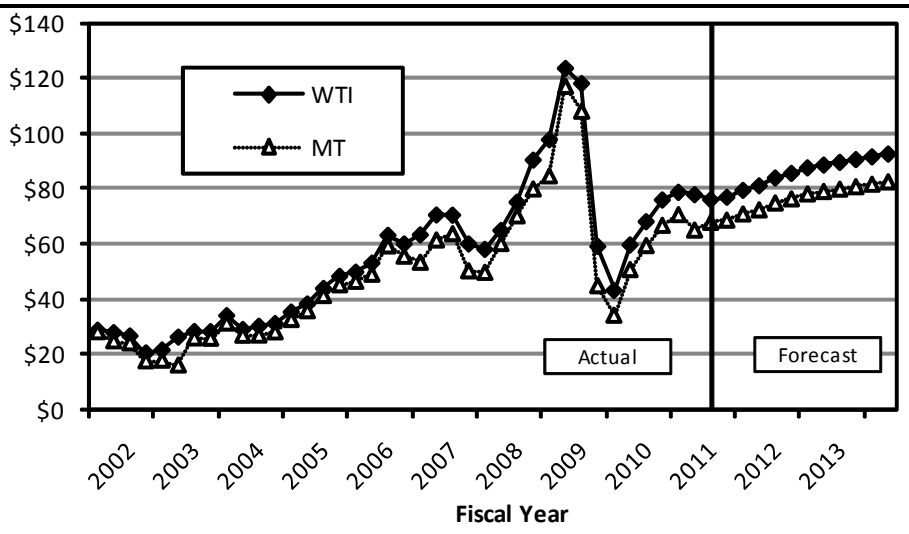
- Estimate the relationship between prices received in Montana and the WTI price, and then assume the relationship will remain the same
- Apply the price derived from the Global Insight forecast of the WTI price to the oil production to calculate gross value.

Natural Gas

- Estimate the relationship between prices received in Montana and the price received by national producers of natural gas and assume the relationship will continue in the future.
- Apply the price derived from the Global Insight forecast of the price received by national natural gas producers to calculate gross value.

Table 3
Montana and West Texas Intermediate Oil Prices
(Dollars per Barrel)

Fiscal Year	Montana Price	WTI Price
A 2002	$18.23	$23.77
A 2003	$27.32	$29.91
A 2004	$30.84	$33.76
A 2005	$45.56	$48.80
A 2006	$57.33	$64.30
A 2007	$55.84	$63.40
A 2008	$87.30	$96.84
A 2009	$59.55	$70.07
A 2010	$65.26	$75.22
F 2011	**$69.86**	**$78.44**
F 2012	**$77.06**	**$86.50**
F 2013	**$81.19**	**$91.16**

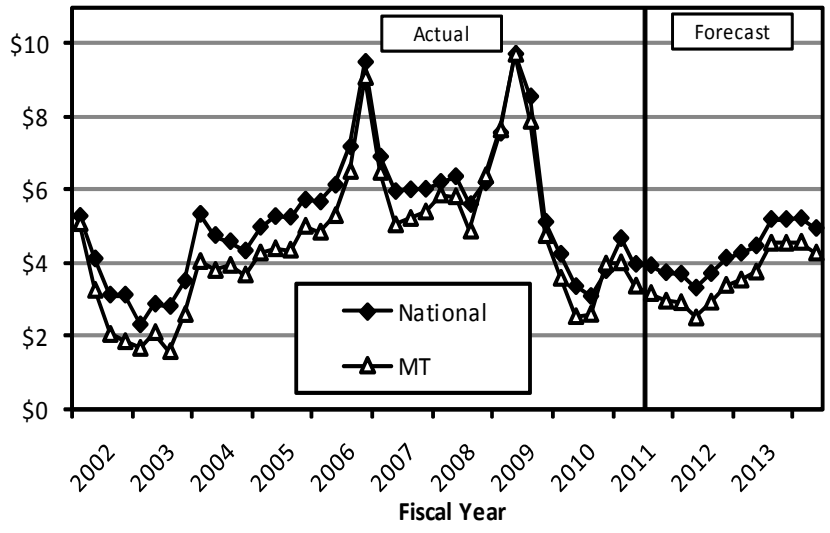


The graph on the right in Table 3 shows the quarterly relationship between Montana oil prices and the WTI price.

Table 4 shows the actual weighted average price per thousand cubic feet (MCF) received by Montana natural gas producers for FY 2002 through FY 2010, and forecast values for FY 2011 through FY 2013. Table 4 also shows the national price per MCF, as well as Global Insight's forecast for FY 2011 through FY 2013.

Table 4
Montana and National Natural Gas Prices
(Dollars per MCF)

Fiscal Year	Montana Price	National Price
A 2002	$1.91	$2.85
A 2003	$3.06	$4.10
A 2004	$4.07	$4.79
A 2005	$4.88	$5.69
A 2006	$6.79	$7.38
A 2007	$5.57	$6.15
A 2008	$7.11	$7.27
A 2009	$4.76	$5.31
A 2010	$3.48	$3.87
F 2011	**$2.89**	**$3.66**
F 2012	**$3.40**	**$4.14**
F 2013	**$4.48**	**$5.14**



Step 3. Determine tax revenue by category.

- Estimate the percentages of the gross value that will be working interest and the percentage that will be taxable royalty value.
- Apply the appropriate tax rate to yield total tax revenue.

Table 5 through Table 7 shows the forecast and actual production of oil and natural gas; the gross value of that production; the average tax rate; and the total revenue generated from the combined oil and natural gas severance tax for FY 2002 through FY 2013.

Table 5
Montana Oil Revenue
($ millions)

Fiscal Year	Millions of Barrels of Oil [1]	Gross Value		Average Tax Rate		Tax Revenue
A 2002	16.577	$291.019	X	9.78%	=	$28.463
A 2003	17.072	$449.772	X	9.63%	=	$43.321
A 2004	21.755	$649.382	X	9.01%	=	$58.480
A 2005	28.649	$1,270.369	X	7.87%	=	$100.032
A 2006	35.104	$1,961.437	X	7.44%	=	$145.955
A 2007	36.207	$1,970.524	X	8.22%	=	$161.923
A 2008	33.800	$2,875.868	X	9.13%	=	$262.637
A 2009	30.591	$1,773.945	X	9.75%	=	$172.962
A 2010	26.172	$1,661.058	X	10.37%	=	$172.187
F 2011	**25.240**	**$1,703.976**	**X**	**10.58%**	**=**	**$180.337**
F 2012	**23.873**	**$1,776.320**	**X**	**10.71%**	**=**	**$190.245**
F 2013	**22.636**	**$1,772.995**	**X**	**10.81%**	**=**	**$191.715**

Table 6
Natural Gas Production Revenue
($ millions)

Fiscal Year	Billions of cubic Feet of Gas[1]	Gross Value		Average Tax Rate		Tax Revenue
A 2002	46.727	$85.725	X	9.36%	=	$8.025
A 2003	53.099	$154.743	X	9.73%	=	$15.062
A 2004	84.251	$326.870	X	9.37%	=	$30.613
A 2005	96.663	$448.915	X	8.91%	=	$39.995
A 2006	105.239	$680.440	X	8.68%	=	$59.044
A 2007	109.660	$583.074	X	8.34%	=	$48.626
A 2008	109.879	$748.689	X	8.12%	=	$60.783
A 2009	101.389	$460.485	X	9.14%	=	$42.093
A 2010	99.226	$328.613	X	9.92%	=	$32.609
F 2011	**115.634**	**$318.129**	X	**9.81%**	**=**	**$31.205**
F 2012	**113.019**	**$366.152**	X	**9.77%**	**=**	**$35.781**
F 2013	**110.627**	**$472.159**	X	**9.74%**	**=**	**$45.975**

[1] Includes non-taxable royalty production such as production from federal leases.

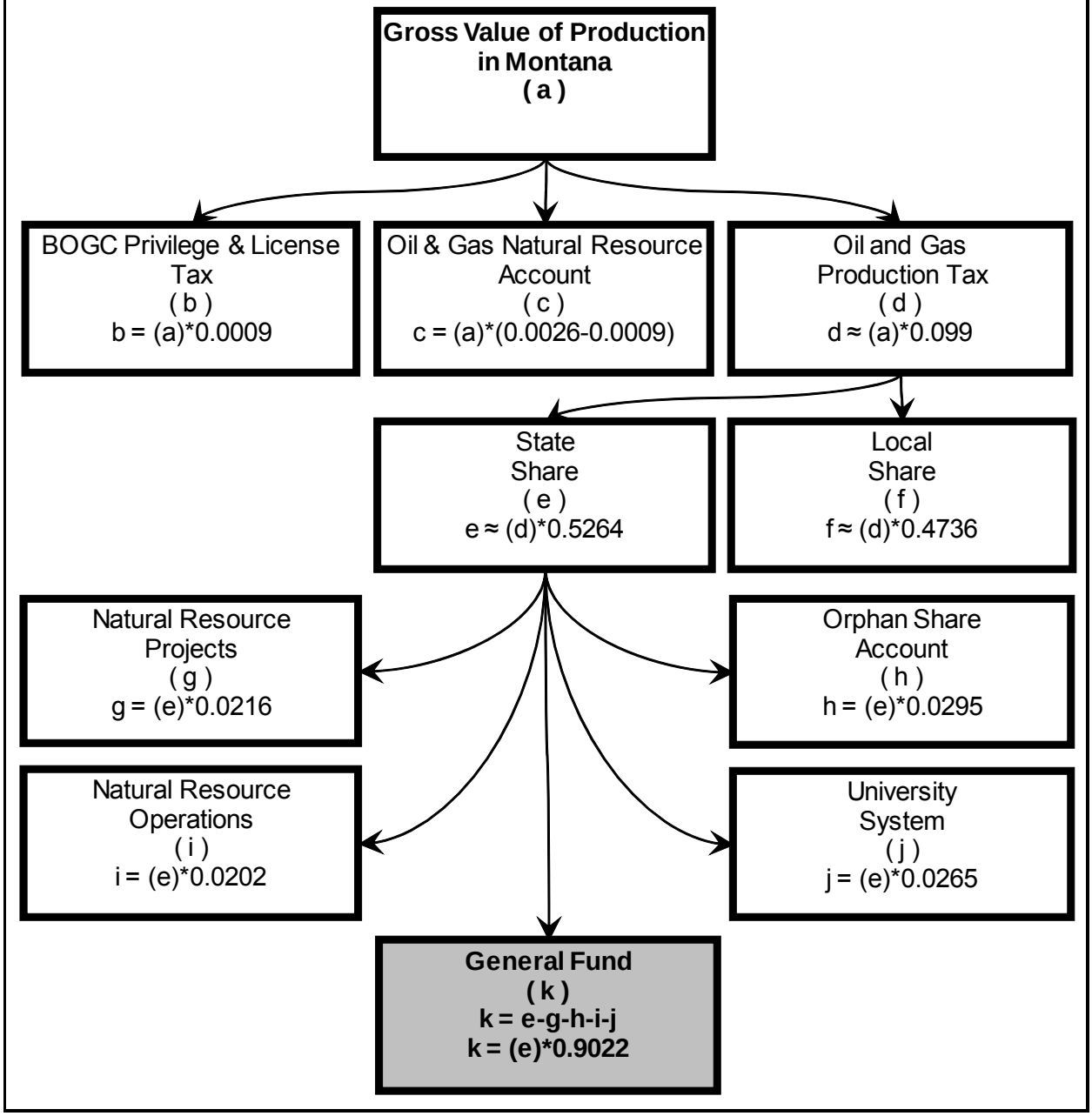
Table 7
Montana Oil and Gas Tax Revenue
($ millions)

Fiscal Year	Oil Revenue		Natural Gas Revenue		Audits, Penalties, & Interest		Total Revenue
A 2002	$28.463	+	$8.025	+	$0.221	=	$36.709
A 2003	$43.321	+	$15.062	+	$2.436	=	$60.819
A 2004	$58.480	+	$30.613	+	$1.688	=	$90.780
A 2005	$100.032	+	$39.995	+	$1.127	=	$141.155
A 2006	$145.955	+	$59.044	+	$1.429	=	$206.428
A 2007	$161.923	+	$48.626	+	$1.242	=	$211.791
A 2008	$262.637	+	$60.783	+	$3.168	=	$326.588
A 2009	$172.962	+	$42.093	+	$5.221	=	$220.276
A 2010	$172.187	+	$32.609	+	$1.395	=	$206.191
F 2011	**$180.337**	**+**	**$31.205**	**+**	**$1.500**	**=**	**$213.042**
F 2012	**$190.245**	**+**	**$35.781**	**+**	**$1.500**	**=**	**$227.526**
F 2013	**$191.715**	**+**	**$45.975**	**+**	**$1.500**	**=**	**$239.190**

Distribution

Oil and natural gas revenue is distributed in accordance with 15-36-331, MCA. Chart 3 is a graphic illustration of how the revenues are distributed.

Chart 3
Oil and Gas Severance Tax Revenue Distribution



The Board of Oil and Gas Conservation (BOGC) Privilege and License tax is currently set at 0.09% of the gross value of oil and natural gas production. The tax rate for the tax revenue that goes to the Oil & Gas Natural Resource Account is equal to the difference between 0.26% and the rate set by the BOGC, or in this case 0.17%. The tax revenue that goes to the state depends on the type of tax rate applied to the production. In FY 2010 the average severance tax rate (excluding the revenue for the BOCG and the Oil and Gas Natural Resource) was 9.12% for working interest owners and 14.08% for royalty owners. The weighted average tax rate for both working interest owners and royalty owners was approximately 9.9% in FY 2010. The revenue is then divided between the state and the counties of production.

Prior to HB 748 (2003 Session) the distribution was based primarily on property tax mill levies. After HB 748 the counties and schools were each assigned a percentage of the severance tax revenue generated in their county they would receive. In FY 2010 the counties and schools received 47.36% of the remaining revenue and the state received 52.64%. In FY 2012 through FY 2013, the State share is then divided as follows:

- 2.16% to the Natural Resource Projects State Special Revenue Account
- 2.02% to the Natural Resource Operations State Special Revenue Account
- 2.95% to the Orphan Share Account
- 2.65% to the University System
- The remainder, 90.22%, is to be distributed to the general fund.

Table 8 shows the actual distribution of the oil and natural gas severance tax revenues for FY 2010, and forecast distributions for FY 2011 through FY 2013. In FY 2012, the distributions will change to the distributions mentioned above. In FY 2011 however, the state distribution is as follows:

- 1.23% to the Coal bed Methane Project Account
- 1.45% to the Natural Resource Projects State Special Revenue Account
- 1.45% to the Natural Resource Operations State Special Revenue Account
- 2.99% to the Orphan Share Account
- 2.65% to the University System
- and 90.23% to the State General Fund

Table 8
Oil and Gas Tax Revenue Distribution
($ millions)

Entity	Fiscal Year 2010[1]	Fiscal Year 2011	Fiscal Year 2012	Fiscal Year 2013
Tax Revenue	**$206.286**	**$213.042**	**$227.526**	**$239.190**
BOGC	$1.811	$1.820	$1.928	$2.021
Oil & Gas Natural Resource Acct.	$3.414	$3.438	$3.642	$3.817
Local Share	$95.231	$98.926	$105.673	$111.099
State Share	$105.830	$108.858	$116.283	$122.254
Coal Bed Methane Protection Acct. (0.0%)	$1.302	$1.339	$0.000	$0.000
Natural Resource Projects Acct. (2.16%)	$1.535	$1.578	$2.512	$2.641
Natural Resource Operations Acct. (2.02%)	$1.535	$1.578	$2.349	$2.470
Orphan Share Acct. (2.95%)	$3.164	$3.255	$3.430	$3.606
University System (2.65%)	$2.805	$2.885	$3.081	$3.240
General Fund Share (90.22%)	**$95.491**	**$98.223**	**$104.910**	**$110.297**

[1]Total revenue for FY 2010 does not match table 5 due to accrual reversals and amended tax returns.

Data Sources

Montana oil and natural gas tax data was supplied by the Montana Department of Revenue's GENTAX system. Historic and forecast WTI prices, as well as historic and projected wellhead prices for natural gas are from Global Insight's November National Forecast. Supplemental data was obtained from the Board of Oil and Gas Conservation's website at http://bogc.dnrc.mt.gov/default.asp.

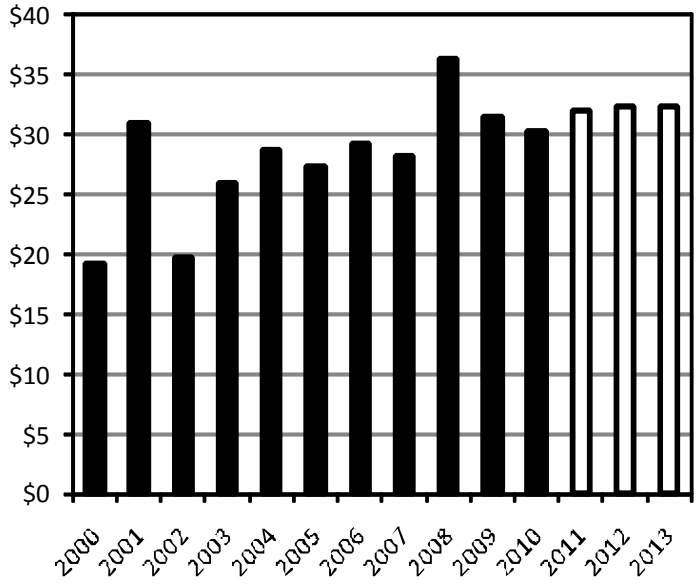
Revenue Description

In accordance with 30 USC, Sections 191, a portion of the revenue from minerals produced in Montana on federal land must be shared with the State of Montana. When the U.S. Government leases public lands for mineral production, it pays part of the income to the state where the leased land is located. In the past, Montana received 50% of the royalty revenue from coal, oil, and natural gas production on federal lands within the state. With the passage of the federal budget for FY 2009, the federal government increased their share to 52% and effectively decreased the state share to 48%. From the state share, 75% is deposited in the general fund and 25% is deposited in a state special revenue fund for mineral impacts in accordance with 17-3-240, MCA.

Table 1 shows revenue to the general fund from U.S. mineral royalties.

Table 1
U.S. Mineral Royalties
($ millions)

	Fiscal Year	General Fund	Percent Change
A	2000	$19.243	9.02%
A	2001	$31.008	61.14%
A	2002	$19.772	-36.23%
A	2003	$25.990	31.45%
A	2004	$28.736	10.57%
A	2005	$27.294	-5.02%
A	2006	$29.304	7.36%
A	2007	$28.221	-3.70%
A	2008	$36.389	28.94%
A	2009	$31.573	-13.23%
A	2010	$30.288	-4.07%
F	**2011**	**$31.964**	**5.53%**
F	**2012**	**$32.353**	**1.22%**
F	**2013**	**$32.366**	**0.04%**



Receipts in FY 2001 include approximately $8 million in payments for production in previous years that was collected due to audits. Without these audit collections, receipts would have been approximately $23 million. Receipts in FY 2002 should have been higher, but $1.7 million in royalties was paid late. This amount was recorded as an adjustment to the general fund ending fund balance rather than as revenue. There was also an abnormally large audit in FY 2010, which is anticipated to be a one-time event and not repeat into the future.

Prior to FY 2005, 12.5% of U.S. mineral royalty revenue was allocated to counties. Currently, 25% of the U.S. mineral royalty revenue is allocated to counties. General fund revenue from U.S. mineral royalties fluctuates as mineral prices and production levels change. Changes in revenue in recent years are primarily attributable to price changes.

Risks and Significant Factors

- Most royalty revenue is calculated as a percentage of the gross value of the minerals produced. As the price fluctuates, so will royalty revenue.

- As was seen with the passage of the FY 2009 federal budget, the congress can affect the amount of revenue that gets distributed to the state. Also changes in the federal Mineral Management Service may affect the timing of some of the revenues flows from year to year.

Forecast Methodology

U.S. mineral royalty revenue is calculated in four steps.

Step 1. The gross value of production on federal land is forecast using the growth rates from other natural resource tax estimates.

The income generated from coal revenue is estimated using the growth rate of the gross coal income from the *Coal Severance Tax* revenue estimate. The oil and natural gas income is also estimated using the growth rate estimated for oil and natural gas gross income in the *Oil and Gas Severance Tax* revenue estimate. Rental and bonus income is estimated using the average of FY 2004 though FY 2007. FY 2008 and FY 2009 were not used as they saw unusually high levels of revenue that are not expected to continue. Other income includes royalty income from sulfur and other types of mineral extraction. It is estimated using the average of FY 2005 through FY 2007 excluding FY 2008 due to its abnormally high level.

Step 2. The average royalty rate for each type of mineral production is then estimated. Multiplying the gross value by the estimated royalty rate yields the total royalty revenue from federal lands.

Step 3. The average percent remitted to the state is then estimated for each type of commodity. Although the requirement is for the federal government to remit 48% of the revenue to the state in FY 2009, the actual percentages are not equal to 48%. This is primarily due to the way federal leases are not all disbursed in the same manner. For example, a federal lease could be on General Services Administration (GSA), a federal agency of the US Government land, in which case the revenue would be distributed 100% to the U.S. Treasury. Federal leases on Indian reservations and timing issues between fiscal years can also contribute to variation. The average percentage over the last five years was used to estimate revenue for FY 2011 through FY 2013.

Step 4. The total royalty revenue is then multiplied by the state's share to yield total state revenue.

Table 2 shows the actual and forecast revenues, royalty rates, and state revenue from federal mineral royalties for FY2001 through FY 2013. Due to the federal fiscal year, FY 2010 data is not available; therefore FY 2010 is also estimated.

Table 2
U.S. Mineral Royalty Revenue
($ millions)

Fiscal Year[1]	Coal Income	Royalty Rate	Royalty Revenue	State Percentage	State Revenue	Oil Income	Royalty Rate	Royalty Revenue	State Percentage	State Revenue
A 2008	$281.414	12.15%	$34.201	50.85%	$17.393	$354.921	10.62%	$37.685	44.99%	$16.955
A 2009	$262.330	11.96%	$31.366	62.23%	$19.518	$180.710	10.87%	$19.648	51.67%	$10.153
A 2010	$358.895	11.61%	$41.675	49.80%	$20.754	$223.490	10.59%	$23.657	46.72%	$11.053
F 2011	**$395.286**	**11.61%**	**$45.900**	**49.80%**	**$22.859**	**$229.104**	**10.59%**	**$24.252**	**46.72%**	**$11.331**
F 2012	**$386.645**	**11.61%**	**$44.897**	**49.80%**	**$22.359**	**$237.148**	**10.59%**	**$25.103**	**46.72%**	**$11.729**
F 2013	**$367.352**	**11.61%**	**$42.657**	**49.80%**	**$21.243**	**$235.666**	**10.59%**	**$24.946**	**46.72%**	**$11.656**

Fiscal Year[1]	Natural Gas Income	Royalty Rate	Royalty Revenue	State Percentage	State Revenue	Rentals and Bonuses	Royalty Rate	Revenue	State Percentage	State Revenue
A 2008	$186.180	10.96%	$20.414	51.23%	$10.458	$8.786	100%	$8.786	44.72%	3.929
A 2009	$120.850	10.94%	$13.226	47.95%	$6.342	$8.906	100%	$8.906	45.11%	$4.018
A 2010	$91.138	11.76%	$10.721	44.85%	$4.808	$14.046	100%	$14.046	48.18%	$6.767
F 2011	**$78.422**	**11.76%**	**$9.225**	**44.85%**	**$4.137**	**$6.057**	**100%**	**$6.057**	**48.18%**	**$2.918**
F 2012	**$103.108**	**11.76%**	**$12.129**	**44.85%**	**$5.439**	**$6.057**	**100%**	**$6.057**	**48.18%**	**$2.918**
F 2013	**$118.526**	**11.76%**	**$13.943**	**44.85%**	**$6.253**	**$6.057**	**100%**	**$6.057**	**48.18%**	**$2.918**

Fiscal Year[1]	Other Revenue	Royalty Rate	Other Revenue	State Percentage	State Revenue	**State Coal Revenue**	**State Oil Revenue**	**State Gas Revenue**	**Rents, Bonuses, & Other**		**Total State Revenue**
A 2008	$2.154	NA	$2.154	9.71%	$0.209	$17.393 +	$16.955 +	$10.458 +	$4.138	=	$48.944
A 2009	$14.798	NA	$14.798	44.11%	$6.527	$19.518 +	$10.153 +	$6.342 +	$10.545	=	$46.559
A 2010	$1.994	NA	$1.994	19.19%	$0.383	$20.754 +	$11.053 +	$4.808 +	$7.149	=	$43.765
F 2011	**$2.610**	**NA**	**$2.610**	**37.99%**	**$0.991**	**$22.859 +**	**$11.331 +**	**$4.137 +**	**$3.910**	**=**	**$42.237**
F 2012	**$2.610**	**NA**	**$2.610**	**37.99%**	**$0.991**	**$22.359 +**	**$11.729 +**	**$5.439 +**	**$3.910**	**=**	**$43.437**
F 2013	**$2.610**	**NA**	**$2.610**	**37.99%**	**$0.991**	**$21.243 +**	**$11.656 +**	**$6.253 +**	**$3.910**	**=**	**$43.061**

[1]Fiscal year refers to the federal fiscal year from Oct. 1 to Sep. 30 of the following year.

The bottom right corner shows the actual summation of state revenue from the five sources for FY 2001 through FY 2009 and forecast values for FY 2010 through FY 2013.

Distribution

U.S. mineral royalties are distributed to the general fund and the Mineral Impact Account in accordance with 17-3-240, MCA. Table 3 shows the estimated distribution of U.S. mineral royalty revenue to the state of Montana for FY 2011 through FY 2013.

Table 3
U.S. Mineral Royalty Revenue Distribution
($ millions)

Fiscal Year	General Fund (75%)	Mineral Impact (25%)	Total
F 2011	$31.964	$10.655	**$42.619**
F 2012	$32.353	$10.784	**$43.137**
F 2013	$32.366	$10.789	**$43.155**

Data Sources

Historic general fund and Mineral Impact Account amounts are from SABHRS. Federal mineral statistics are available at http://www.mrm.mms.gov/MRMWebStats/Home.aspx.

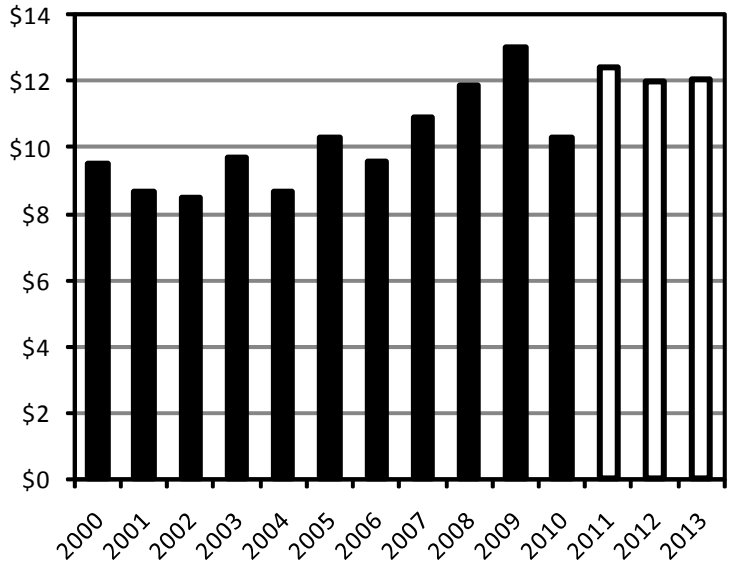
Revenue Description

In accordance with 15-35-103, MCA, Montana levies a tax on the value of coal produced in Montana. The tax rate on coal varies with heat content of the coal and the type of mine (open pit or underground). Each producer is exempt from tax on 20,000 tons per year, and mines producing less than 50,000 tons per year are exempt from the tax.

Table 1 shows actual coal severance tax revenue to the general fund for FY 2000 through FY 2010, and forecast revenue for FY 2010 through FY 2013.

Table 1
Coal Severance Tax
($ millions)

Fiscal Year	General Fund	Percent Change
A 2000	$9.502	2.35%
A 2001	$8.663	-8.83%
A 2002	$8.469	-2.24%
A 2003	$9.722	14.78%
A 2004	$8.643	-11.09%
A 2005	$10.312	19.31%
A 2006	$9.597	-6.94%
A 2007	$10.919	13.78%
A 2008	$11.894	8.93%
A 2009	$13.028	9.53%
A 2010	$10.322	-20.77%
F 2011	**$12.409**	**20.22%**
F 2012	**$12.011**	**-3.21%**
F 2013	**$12.025**	**0.12%**



In FY 2000 through FY 2002, the general fund received 26.79% of the tax. Under the provisions of HB 10 (2002 special session) the general fund received 33.04% of the tax revenue. In FY 2004 and FY 2005, the general fund allocation changed to 27.4% under HB 18 (2002 special session). HB 688 (2007 Session) established that beginning in FY 2008, $250,000 will be allocated to the coal and uranium mine permitting and reclamation program. Starting in FY 2010 through the first quarter of FY 2014, SB 100 (2008 Session) increased the percentage to the Coal Natural Resource Account from 2.9% to 5.8%. After the first quarter of FY 2014, the percentage reverts to 2.9%

Risks and Significant Factors

- In FY 2010, Arch Coal Company purchased the leasing rights to the Otter Creek coal tracks near Ashland, Montana, with the intent to develop a new coal mine. It is estimated that the new coal mine will pay over $2 billion in severance taxes over the life of the mine. However, it is not anticipated that the mine will be producing coal in the forecast period, and as a result it is not included in the revenue estimate. If the mine is developed sooner than anticipated, this could significantly increase revenues.
- One of the largest uses for coal is in the production of electricity from coal fired power plants. If the federal government were to pass cap and trade legislation, this could negatively impact the price of coal, and thus negatively impact severance tax revenue. This scenario was not incorporated into the current revenue estimate.

Forecast Methodology

There are four main steps in forecasting coal severance tax revenue:

Step 1. The quarterly prices are estimated using Global Insight's forecast for determining the rate at which coal prices will increase. The heating quality of coal produced in Montana varies by mine. Coal with higher heating qualities receives a higher price and thus may pay more in taxes and vice versa.

Step 2. Coal production is then estimated using responses from a coal survey sent to coal producers currently paying the severance tax.

Step 3. The deductions and exemptions are then estimated to yield taxable coal production. Deductions and exemptions include the first 20,000 tons produced in a year as well as the deductions for other state and federal tax liabilities related to coal production, such as the Black Lung Tax, the Coal Gross Proceeds tax, and others.

Step 4. The appropriate tax rate is then applied to yield total coal severance tax revenue. The tax rate varies depending on the properties of the coal and the type of production. If the average tax rate goes down, then this could have a negative effect on tax revenue and vice versa.

Table 2 shows the actual coal production, the average price per ton, total deductions, taxable revenue, the average tax rate, and total tax revenue for FY 2008 and FY 2010, and estimated values for FY 2011 through FY 2013.

Table 2
Coal Severance Tax
(millions)

	FY 2008	FY 2009	FY2010	**FY 2011**	**FY 2012**	**FY 2013**
Tons Produced	37.504	35.902	34.809	**40.270**	**41.760**	**42.249**
Average FOB Price	x $11.47	x $12.45	x $13.61	x **$13.69**	x **$13.24**	x **$13.32**
Gross Revenue	$430.303	$447.124	$473.872	**$551.217**	**$552.852**	**$562.836**
Exemptions	- $128.627	- $132.891	- $134.499	- **$153.043**	- **$149.242**	- **$151.290**
Taxable Revenue	$301.676	$314.233	$339.373	**$398.174**	**$403.610**	**$411.546**
Average Tax Rate	x 14.92%	x 14.86%	x 14.08%	x **13.31%**	x **12.72%**	x **12.49%**
Tax Revenue	$45.022	$46.683	$47.791	**$52.989**	**$51.323**	**$51.383**

Distribution

Coal Severance tax is distributed in accordance with 15-35-108, MCA. Table 3 shows the distribution of actual and estimated coal severance tax revenue for FY 2010 through FY 2013.

Table 3
Coal Severance Tax Revenue Allocation by Fund
($ millions)

Entity	FY 2010 Actual[1]	FY 2011 Projected	FY 2012 Projected	FY 2013 Projected
Coal Tax Trust Fund (50%)	$22.089	**$26.494**	**$25.662**	**$25.691**
Long Range Building Program Account (12%)	$5.301	**$6.359**	**$6.159**	**$6.166**
Local Impacts (Shared Account) (5.46%)	$2.412	**$2.893**	**$2.802**	**$2.806**
Coal Natural Resource Account (5.80%)	$2.544	**$3.073**	**$2.977**	**$2.980**
Parks Trust Fund (1.27%)	$0.561	**$0.673**	**$0.652**	**$0.653**
Renewable Resource Loan Debt Service Fund (0.95%)	$0.420	**$0.503**	**$0.488**	**$0.488**
Capitol Art Protection Trust Fund (0.63%)	$0.278	**$0.334**	**$0.323**	**$0.324**
DEQ Mine Permitting and Restoration ($0.250)	$0.250	**$0.250**	**$0.250**	**$0.250**
General Fund	**$10.322**	**$12.409**	**$12.011**	**$12.025**
Total Coal Severance Tax	**$44.177**	**$52.989**	**$51.323**	**$51.383**

[1]Total revenue does not match table 2 due to accrual adjustments

Data Sources

Historical coal statistics were obtained for the Department of Revenue coal severance tax returns. Forecast production levels are from survey responses from the coal companies which pay the coal severance tax. Forecast coal inflation factors were obtained from Global Insight.

Metalliferous Mines License Tax

2013 Biennium

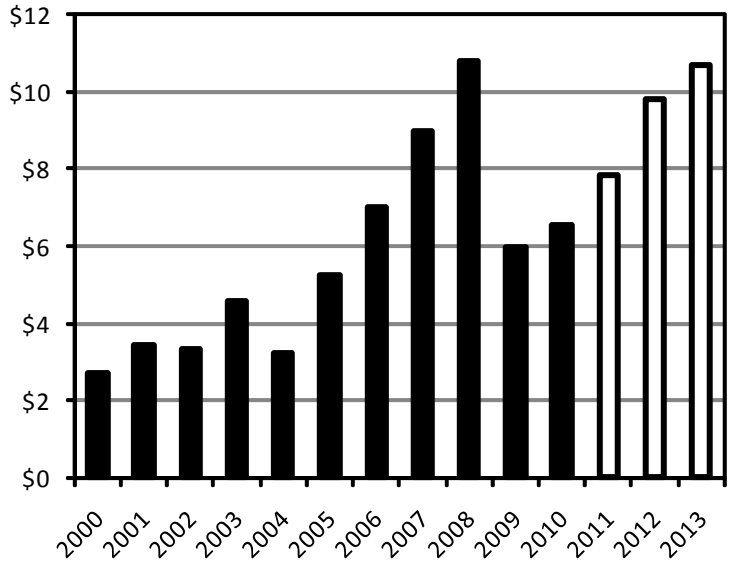
Revenue Description

Montana levies a tax on the gross value of metals mined in the state under 15-37-101, MCA. Gross value, as defined in 15-23-801, MCA, is the market value of the refined product, less the costs of transporting the unrefined product and refining it. The first $250,000 of gross value is exempt from the tax, which exempts small mines from the tax. The tax rate for production beyond $250,000 depends on the mineral and the amount of processing at the mine. Concentrate, which is non-smelted ore that may have undergone mechanical processing, has a tax rate of 1.81%. Metals that have been partially or completely separated from impurities by smelting, but may not have had the individual metals separated, have a tax rate of 1.6% (15-37-103, MCA).

Revenues from the metalliferous mines license tax are divided between the state and counties that have fiscal or economic impacts from large-scale mining. The state general fund currently receives 57% of the revenue. Table 1 shows general fund revenue or FY 2000 through FY 2010, and projected revenue for FY 2011 through FY 2013.

Table 1
Metalliferous Mines Tax
($ millions)

	Fiscal Year	General Fund	Percent Change
A	2000	$2.703	-18.24%
A	2001	$3.417	26.43%
A	2002	$3.329	-2.58%
A	2003	$4.586	37.76%
A	2004	$3.232	-29.53%
A	2005	$5.264	62.89%
A	2006	$7.028	33.51%
A	2007	$8.991	27.93%
A	2008	$10.774	19.83%
A	2009	$5.993	-44.38%
A	2010	$6.541	9.15%
F	**2011**	**$7.864**	**20.23%**
F	**2012**	**$9.825**	**24.93%**
F	**2013**	**$10.689**	**8.80%**



Prior to FY 2006 the general fund received 58%, except for FY 2003 when the general fund received 65% of the tax revenue.

Revenue from the metal mines tax has varied because of changes in the tax payment due date, changes in production, and price variation. Through December 31, 2002, the tax was paid annually. Beginning January 1, 2003, the tax is paid semiannually. This resulted in taxes on eighteen months of production being recorded as revenue in FY 2003. Revenue increased from FY 2004 through FY 2008 due to production increases with significant price increases in FY 2006 through FY 2008, price declines and mine closures during FY 2009 and FY 2010 period significantly reduced revenues. Price recovery and mine re-openings are anticipated to increase tax revenues during the forecast period.

Risks and Significant Factors

- The price of metals and other natural resources has varied substantially in recent years. Price increases will generate greater revenues and price decreases will result in less revenue.

- Production by the major companies that pay the tax has varied over the years. New discoveries, new mining ventures, and management decisions by currently producing firms, all influence production levels with corresponding impacts on tax revenues.
- The operating permit of an existing mine has been extended, and production is anticipated to return to prior levels.
- There are significant financing deals going on that would rehabilitate or expand existing mines. If these deals were to close they would bring production online within the forecast period. This new production is not contemplated in the forecast period.
- There are four main factors in determining the revenue from metal mines.
  1) The relative proportion of the share of each type of metal in the gross value of production will have an impact on overall revenue. Currently, most Montana producers concentrate their production on gold, silver, platinum, palladium, rhodium, copper, and molybdenum.
  2) The price of each of these metals is positively related to the total tax revenue.
  3) The amount of each metal produced is also positively related to total tax revenue.
  4) Allowable deductions reduce total tax revenue. Metal producers are allowed to deduct transportation, treatment, and refining costs from the gross value of production to yield taxable value of production. As deductions rise, tax revenue will go down, and vice versa.

Forecast Methodology

There are five steps in estimating metal mines tax revenue:

Step 1. An inflation factor for each of the different types of metals is calculated based on changes in New York Mercantile Exchange (NYMEX) futures contracts and forecast metal and metal products inflation factors from Global Insight.

Step 2. The amount of production is estimated based on survey responses of the major metal producers in the state of Montana.

Step 3. The transportation, and refining and treatment costs deductions are estimated for each of the producing mines. These are deducted from the gross value of the minerals.

Step 4. The estimated average tax rate is then applied to each company to yield tax liability.

Step 5. The tax liability of the companies is then added together for each fiscal year to yield total tax revenue.

Table 2 shows the projected average fiscal year Montana prices for each type of metal for FY 2011 through FY 2013.

Table 2
Montana Average Metal Prices

	Price Per Ounce					Price Per Pound		
Fiscal Year	Rhodium	Platnium	Gold	Palladium	Silver	Molybdenum	Nickle	Copper
F 2011	**$2,788**	**$1,531**	**$1,263**	$515	$20.17	$16.30	$9.15	$3.18
F 2012	**$2,762**	**$1,520**	**$1,278**	$509	$21.95	$17.78	$9.92	$3.47
F 2013	**$2,832**	**$1,558**	**$1,282**	$538	$22.97	$18.51	$10.22	$3.61

The prices on the left side of the table are listed in dollars per ounce, while the prices listed on the right side of the table are in dollars per pound. The London Metals Exchange future (cash) prices, quoted in dollars, as of November 5, 2010 and reported on www.kitco.com were used to calculate price changes for copper, nickel, gold, platinum, palladium, palladium, silver, and copper through CY 2011. These were then extended using the Global Insight forecast producer price index for metals and metal products to further extend the projected prices. As a platinum group metal, rhodium was assumed to move with the average projected change in platinum and palladium prices. Molybdenum was

assumed to move in concert with projected copper prices. Prices for lead and zinc were omitted as no anticipated production data was available. If lead and zinc production were to materialize, these estimates would be under stated. of all other types of metals produced in Montana.

Table 3 shows the gross value of all metal products in Montana, deductions taken by the metal producers, the average tax rate, and the total tax revenue generated for the metal mines license tax.

Table 3
Metal Mines Production Forecast
($ millions)

Fiscal Year	Gross Value		Deductions			Average Tax Rate		Tax Revenue
A 2004	($408.701	-	$24.820	)	X	1.65%	=	$6.342
A 2005	($654.962	-	$27.963	)	X	1.70%	=	$10.687
A 2006	($793.024	-	$29.043	)	X	1.71%	=	$13.102
A 2007	($1,033.514	-	$93.890	)	X	1.71%	=	$16.057
A 2008	($1,303.294	-	$96.893	)	X	1.71%	=	$20.688
A 2009	($677.558	-	$77.392	)	X	1.69%	=	$10.121
A 2010	($770.797	-	$70.930	)	X	1.71%	=	$11.971
F 2011	**($883.188**	**-**	**$66.275**	**)**	**X**	**1.69%**	**=**	**$13.797**
F 2012	**($1,099.050**	**-**	**$80.854**	**)**	**X**	**1.69%**	**=**	**$17.236**
F 2013	**($1,192.170**	**-**	**$86.079**	**)**	**X**	**1.70%**	**=**	**$18.753**

Distribution

Table 4 shows the distribution of the metal mines tax to the various entities in accordance with 15-37-117, MCA.

Table 4
Total Collections and Allocation of Metal Mines Tax
($ millions)

Entity	Allocation Percentage	Actual FY 2008	Actual FY 2009[1]	Actual FY 2010[1]	**Projected FY 2011**	**Projected FY 2012**	**Projected FY 2013**
General Fund (57%)	57.0%	$10.774	$5.993	$6.541	$7.864	$9.825	$10.689
Hard-Rock Mining Impact Trust (2.5%)	2.5%	$0.473	$0.263	$0.287	$0.345	$0.431	$0.469
Impacted Counties (25.0%)	25.0%	$4.726	$2.628	$2.869	$3.449	$4.309	$4.688
Natural Resource Operations (7.0%)	7.0%	$1.323	$0.736	$0.803	$0.966	$1.207	$1.313
Hard-Rock Mining Reclamation Debt Service (8.5%)	8.5%	$1.607	$0.894	$0.975	$1.173	$1.465	$1.594
Total Collections	100.0%	**$18.902**	**$10.514**	**$11.476**	**$13.797**	**$17.236**	**$18.753**

[1] Totals do not match Table 3 due to accruals and amended returns

Data Sources

Historic Montana production, value, and deduction data was obtained from Department of Revenue tax records. Future production and deduction estimates were obtained from a survey of tax-paying metal mines producers. Price forecasts are based on Global Insight's metal and metal products inflation factors and futures contract prices from http://www.kitco.com/ind/matlack/nov082010.html

Electrical Energy Producer's License Tax

2013 Biennium

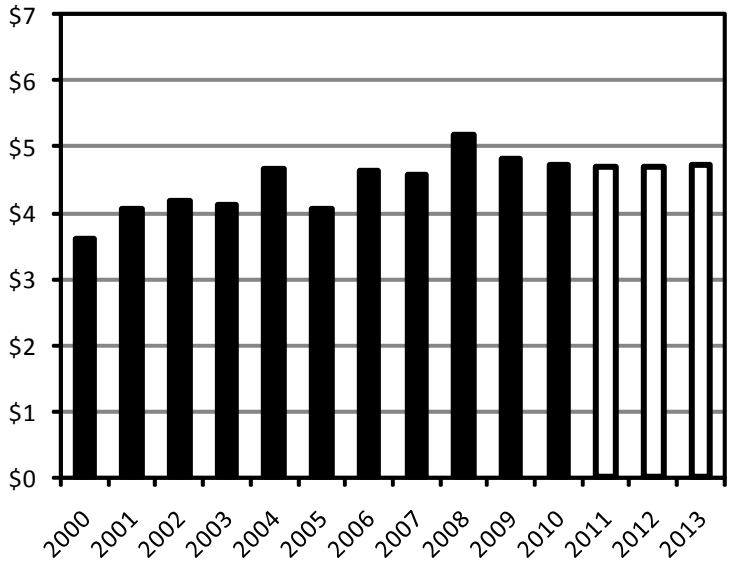
Revenue Description

In accordance with 15-51-101, MCA, Montana levies an electrical energy producer's license tax at a rate of $0.0002 per kilowatt-hour (kWh). The tax applies to all electricity generated, manufactured, or produced in Montana for barter, sale, or exchange. Electricity generated for plant use is excluded from the tax. All electrical energy producer's license tax revenue is allocated to the general fund.

Table 1 shows actual general fund revenue collections from the electrical energy producer's license tax for FY 2000 through FY 2010, and the forecast for FY 2011 through FY 2013.

Table 1
Electrical EnergyTax
($ millions)

	Fiscal Year	General Fund	Percent Change
A	2000	$3.609	-21.85%
A	2001	$4.058	12.43%
A	2002	$4.197	3.44%
A	2003	$4.130	-1.61%
A	2004	$4.661	12.85%
A	2005	$4.074	-12.59%
A	2006	$4.645	14.00%
A	2007	$4.564	-1.72%
A	2008	$5.179	13.47%
A	2009	$4.825	-6.84%
A	2010	$4.713	-2.31%
F	**2011**	**$4.688**	**-0.55%**
F	**2012**	**$4.697**	**0.19%**
F	**2013**	**$4.729**	**0.68%**



Risk and Significant Factors

- The greater the amount of electricity produced in the state, the greater the tax revenue, and vise versa.
- Accrual adjustments made at the end of the fiscal year have the potential to skew revenues. In FY 2002 accruals understated revenues by $0.131 million. In FY 2004, accruals overstated revenues by $0.198 million.
- There is significant new capacity coming online with three natural gas power plants under construction, significant wind power capacity being installed, and transmission lines to carry the new production under construction or in the planning stages. While the basis for increases in collections is well established, the challenge is specific timing. This estimate does not include this newly installed capacity explicitly. The estimated value of any one year's anticipated new production does not exceed $0.170 million in tax collections.
- Electrical production increases with increases in economic activity.

Forecast Methodology

The electrical energy tax is forecast in two steps:

Step 1. Total taxable electricity production base is estimated from Department of Revenue tax records and projected based on the change in the Global Insight estimate of the industrial production sub-index for utilities in Montana.

Step 2. The tax rate of $0.0002 per KWH is multiplied by the estimated amount of taxable electricity produced in the state to yield total tax revenue.

Table 2 shows the actual electricity production and tax revenue for FY 2005 through FY 2010, and forecast values for FY 2011 through FY 2013.

Table 2
Electricity Production Tax Revenue
($ millions)

Fiscal Year	kWh (millions)		Tax Rate		Tax Revenue[1]
A 2005	23,065.262	X	$0.0002	=	$4.613
A 2006	23,156.213	X	$0.0002	=	$4.631
A 2007	23,160.458	X	$0.0002	=	$4.631
A 2008	23,489.093	X	$0.0002	=	$4.698
A 2009	23,139.847	X	$0.0002	=	$4.628
A 2010	22,308.588	X	$0.0002	=	$4.462
F 2011	**23,438.697**	**X**	**$0.0002**	**=**	**$4.688**
F 2012	**23,483.624**	**X**	**$0.0002**	**=**	**$4.697**
F 2013	**23,644.150**	**X**	**$0.0002**	**=**	**$4.729**

[1]Total revenue does not match Table 1 due to accrual adjustments and amended returns.

Distribution

The general fund receives 100% of the Electricity Production Tax.

Data Sources

Historical electricity data was provided by the Department of Revenue. Global Insight's October 2010 forecast of industrial production (sub-) index for utilities is used to forecast electricity production in the state.

Wholesale Energy Transaction Tax

2013 Biennium

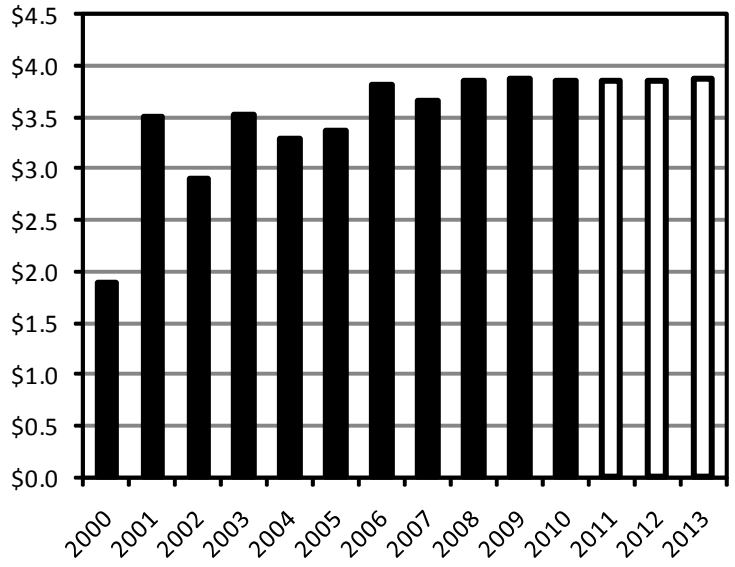
Revenue Description

In accordance with 15-72-104, MCA, Montana levies a wholesale energy transaction (WET) tax at a rate of $0.00015 per kilowatt-hour (kWh) on electricity transmitted by a transmission service provider in the state. This became effective January 1, 2000.

Table 1 shows actual general fund collections from the WET tax for FY 2000 through FY 2010 and the projected values for FY 2011 through FY 2013.

Table 1
Wholesale Energy Transaction Tax
($ millions)

Fiscal Year	General Fund	Percent Change
A 2000	$1.895	-
A 2001	$3.503	84.91%
A 2002	$2.906	-17.05%
A 2003	$3.532	21.53%
A 2004	$3.293	-6.78%
A 2005	$3.370	2.35%
A 2006	$3.813	13.16%
A 2007	$3.651	-4.26%
A 2008	$3.856	5.62%
A 2009	$3.865	0.22%
A 2010	$3.847	-0.47%
F 2011	**$3.847**	**0.00%**
F 2012	**$3.854**	**0.19%**
F 2013	**$3.880**	**0.68%**



HB 174 (1999 Legislative Session) enacted the tax, and it took effect on January 1, 2000. In FY 2000, the tax was only collected for half of the fiscal year.

Risks and Significant Factors

- There has been an increased investment in electricity transmission infrastructure in Montana. Currently the Montana Alberta Tie Ltd. (MATL) is under construction. MATL will link Montana to Canadian electricity markets and provide a conduit for wind generation infrastructure.
- New transmission projects and generation capacity being developed should increase electricity transmission and tax revenue.

Forecast Methodology

The WET tax revenue is forecast in two major steps:

Step 1: Total taxable electricity production base is estimated from Department of Revenue tax records and projected based on the change in the Global Insight estimate of the industrial production sub-index for utilities in Montana.

Step 2: The tax rate of $0.00015 per KWH is multiplied by the estimated amount of taxable electricity transmitted in the state to yield total tax revenue.

Table 2 shows actual taxable electricity produced and the tax revenue generated for FY 2001 through FY 2010 and forecast for FY 2011, FY 2012, and FY 2013.

Table 2
Taxable kWh for Wholesale Energy Tax
($ millions)

Fiscal Year	Taxable KWH (million)		Tax Rate		Tax Revenue[1]
A 2001	21,930.454	x	0.00015	=	$3.290
A 2002	22,077.361	x	0.00015	=	$3.312
A 2003	22,474.593	x	0.00015	=	$3.371
A 2004	23,235.939	x	0.00015	=	$3.485
A 2005	23,576.673	x	0.00015	=	$3.537
A 2006	24,112.351	x	0.00015	=	$3.617
A 2007	24,609.110	x	0.00015	=	$3.691
A 2008	25,396.158	x	0.00015	=	$3.809
A 2009	25,221.633	x	0.00015	=	$3.783
A 2010	24,772.237	x	0.00015	=	$3.716
F 2011	**25,644.742**	**x**	**0.00015**	**=**	**$3.847**
F 2012	**25,693.898**	**x**	**0.00015**	**=**	**$3.854**
F 2013	**25,869.533**	**x**	**0.00015**	**=**	**$3.880**

[1] Historical revenues do not match Table 1 due to accrual adjustments and amended returns.

Distribution

The general fund receives 100% of the WET tax.

Data Sources

Historical electricity data was provided by the Department of Revenue. Global Insight's October 2010 Montana forecast of the industrial production (sub) index for utilities is used to project electricity transmission in the state.