

Taxation of Coal and Other Energy Resources



N.M. Taxation and Revenue Department

July 2009

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Introduction

This Report provides background information on the taxation of coal and other energy resources in New Mexico and other producing states. The Report compares effective tax rates on coal, oil and natural gas in New Mexico, effective tax rates on coal in New Mexico and in other western coal producing states and the effective tax rates on oil and natural gas in New Mexico and in the other major oil and gas producing states.

The Report is organized as follows. Section I discusses coal industry basics, Section II provides an in-depth profile of the coal industry in New Mexico and Section III discusses coal production, prices, revenues and taxes paid in New Mexico. Section IV discusses the environmental impacts from natural resource production and consumption, Section V compares production and non-production taxes on coal, oil and natural gas in New Mexico and Section VI provides an interstate comparison of taxes on coal. Section VII discusses the structure of taxes on oil and natural gas in New Mexico and Section VIII provides an interstate comparison of taxes on oil and natural gas.

I. Coal Industry Basics

Types of Coal¹

Coal is classified into four main types, depending on the amounts and types of carbon it contains and on the amount of heat energy it can produce. For the most part, the higher ranks of coal contain more heat-producing energy.

Lignite - Lignite is the lowest rank of coal with the lowest energy content. It typically contains 25 – 35 percent carbon and 4,000 - 8,300 heat value in British Thermal Units (BTU)/lb. It is found in relatively young deposits that were not subjected to extreme heat or pressure. It is crumbly and has high moisture content. There are twenty lignite mines in the United States, producing about seven percent of U.S. coal. Most lignite is mined in Texas and North Dakota. Lignite is mainly burned at power plants to generate electricity. (None is produced in New Mexico.)

Subbituminous - Subbituminous coal has higher heating value than lignite. It typically contains 35 – 45 percent carbon and 8,300 - 13,000 heat value in BTUs/lb. About 44 percent of all coal in the United States is subbituminous. Wyoming has the largest deposits and is the largest producer. Montana is the second largest producer, followed by New Mexico.

Bituminous - Bituminous coal contains 45 – 86 percent carbon and 10,500 to 15,500 heat value in BTUs/lb. - two to three times the heating value of lignite. It is the most abundant rank of coal found in the United States, accounting for about half of U.S. production. It is used to generate electricity and is an important fuel and raw material for the steel and iron industries. West Virginia, Kentucky and Pennsylvania are the largest producers. New Mexico ranks 12th among the 19 states that produce bituminous coal and second among the nine states that produce less than 10 million short tons annually.

Anthracite - Anthracite coal contains 86 – 97 percent carbon and over 15,000 heat value in BTUs/lb. - a heating value slightly lower than some bituminous coal. There is very little anthracite coal in the United States. It accounts for less than one-half of one percent of all coal mined. All anthracite mines in the United States are in northeastern Pennsylvania.

¹ <http://www.eia.doe.gov/kids/energyfacts/sources/non-renewable/coal.html>

Coal Uses²

About 92 percent of coal used in the United States is for generating electricity. Except for a small amount of net exports, the rest is used as a basic energy source in many industries. There are four major uses:

Electric Power – Approximately 50 percent of all electricity produced in the United States is produced with coal. Besides electric utility companies, industries and businesses with their own power plants generate electricity.

Industry - A variety of industries use coal's heat and by-products. Separated ingredients of coal (such as methanol and ethylene) are used in making plastics, tar, synthetic fibers, fertilizers and medicines. Concrete and paper industries also burn large amounts.

Steel - Coal is baked in hot furnaces to make coke, which is used to smelt iron ore into iron needed for making steel. It is the very high temperatures created from the use of coke that gives steel the strength and flexibility for products such as bridges, buildings and automobiles.

International Trade³ – The United States exports metallurgical and steam coal and coke. International demand for coal in 2008 helped to push U.S. coal exports to levels not seen in over a decade, increasing by 37.8 percent to 81.5 million short tons. Demand from Europe and Asia was exceptionally strong due to supply disruptions in other coal exporting countries. Heavy rains caused production problems for Australia while increased domestic demand for coal in South Africa, Indonesia, Vietnam and Russia cut into their exports to world markets. Prices for all U.S. coal exports increased by 39.0 percent to an average of \$97.68.

Metallurgical coal exports increased 32.2 percent to 42.5 million short tons. Export prices rose 51.3 percent to \$134.62 per short ton as a result of increasing world demand combined with production and transportation issues in other metallurgical coal exporting countries. Europe is and has been the main destination of U.S. metallurgical coal, accounting for almost 60 percent of total metallurgical exports in 2008 or 25.5 million short tons, an increase of 38.8 percent from 2007. The Netherlands was the primary destination, but some of the coal exported to the Netherlands is shipped from there to other destinations. Italy, France and the United Kingdom were also major European destinations. Turkey, Belgium, Poland, Romania, Croatia, Spain and Germany were other European destinations with each receiving over one million short tons of coal. Total U.S. metallurgical coal exports to countries in North America increased while shipments to South America decreased, the primary destinations being Canada and Brazil. The Asian market received almost ten percent of U.S. metallurgical coal exports, an increase of 311.2 percent to 4.2 million short tons in 2008. India was the major destination, receiving 1.6 million short tons, an increase of 79.9 percent. Japan, which did not import coal from the United States in 2007, received 1.4 million short tons. South Korea received 1.1 million short tons, almost 650

² <http://www.eia.doe.gov/kids/energyfacts/sources/non-renewable/coal.html>

³ <http://www.eia.doe.gov/cneaf/coal/page/special/fig7.html>

percent higher than the 143 thousand short tons it received in 2007. Metallurgical coal exports to Africa decreased slightly from 2.1 to 2.0 million short tons, with the majority going to Egypt.

In 2008 total U.S. steam exports increased for the sixth consecutive year, rising by 44.5 percent to 39.0 million short tons, while the average price increased by 19.7 percent to \$57.35 per short ton. Canada is the largest market for all U.S. coal and steam coal, receiving 19.4 million short tons of steam coal exports, accounting for 49.7 percent of all steam coal exports in 2008. There are presently no major coal exporting facilities on the U.S. west coast, so some of the coal that is shipped by rail to coal export terminals in British Columbia is loaded on ships for further transport to Asian buyers. Europe is the second largest market for U.S. steam coal exports due to declining coal production in many of the countries combined with the proximity of the major eastern U.S. coal ports. Total steam coal exports to Europe increased by 69.2 percent to 14.8 million short tons. One third of these exports went to the United Kingdom. Although the total amount of steam coal exports to South America (the primary source of coal imports for the United States) increased dramatically in 2008 to 1.3 million short tons, it still accounted for only 3.2 percent of all U.S. steam coal exports, with the majority going to Chile. Steam coal exports to Asia increased by 496.5 percent to 1.1 million short tons. Japan was the primary destination, receiving 337 thousand short tons, up from 5 thousand short tons in 2007. South Korea and China were the other primary Asian destinations.

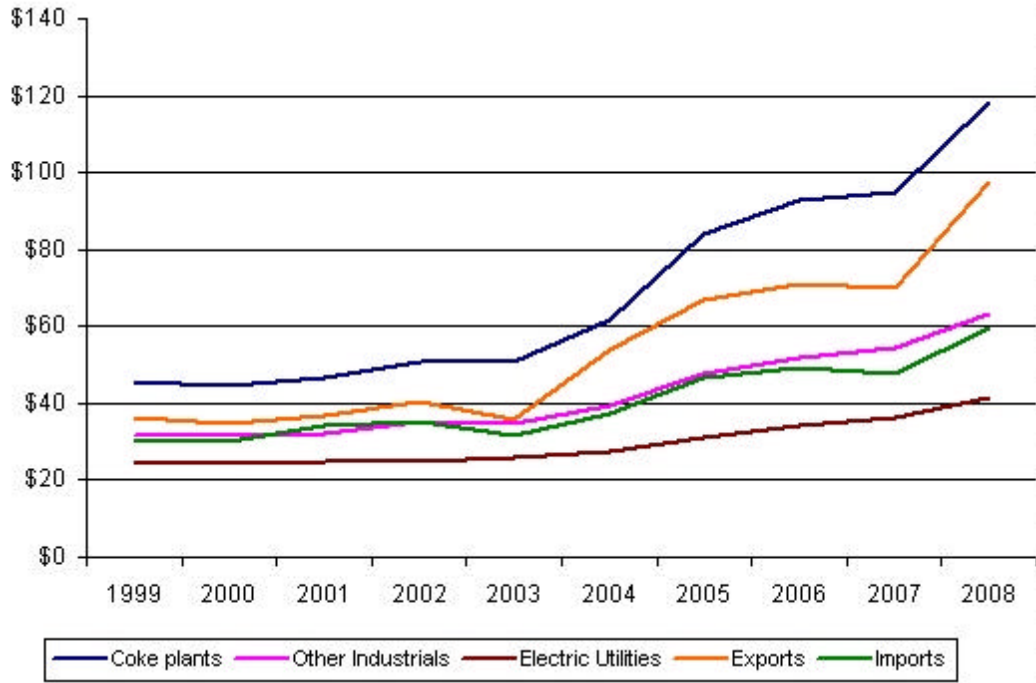
In 2008 U.S. coke exports increased by 35.7 percent to 2.0 million short tons. Most went to Canada, which accounted for 38.7 percent of all U.S. coke exports.

In 2008 U.S. coal imports declined for the first time in six years. A total of 34.2 million short tons were imported, a decline of 5.9 percent. Coal imports represent about three percent of total U.S. coal consumption. Colombia accounted for over 75 percent of all 2008 coal imports. Indonesia is the second largest supplier, accounting for 3.4 million short tons. Imports from Venezuela declined by 32.5 percent to 2.3 million short tons. Imports from Canada remained unchanged at two million short tons. These four countries accounted for over 99 percent of total U.S. coal imports, remaining unchanged from 2007. Although most coal imports are used for electric generation, metallurgical coal imports were 1.7 million short tons, all from Canada.

U.S. coke imports increased by 46.5 percent to 3.6 million short tons. Most of the increase came from China.

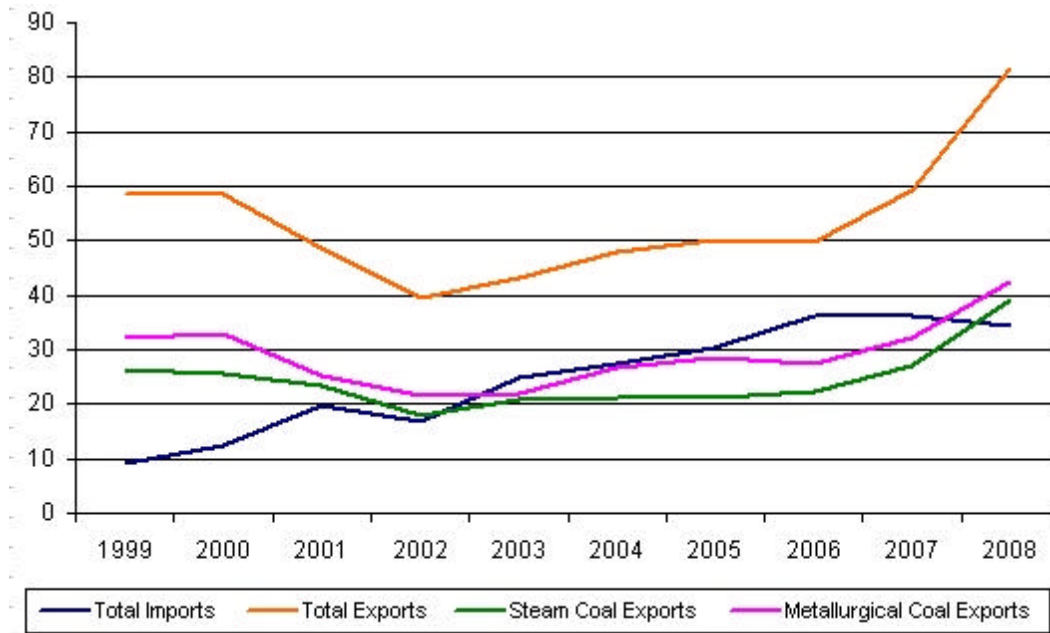
Prices, exports and imports from 1999-2008 are summarized in Figures 1 and 2.

Figure 1. Delivered Coal Prices, 1999-2008
(nominal dollars)



Source: <http://www.eia.doe.gov/cneaf/coal/page/special/fig7.html>

Figure 2. U.S. Coal Exports and Imports, 1999-2008
(million short tons)



Source: <http://www.eia.doe.gov/cneaf/coal/page/special/fig8.html>

Coal Producing Regions^{4,5}

Appalachian Region

Most of the coal produced in Appalachia is used for steam generation for electricity, metal production and for export. In 2008 coal production in the Appalachian region reversed a two-year declining trend and ended the year at 389.8 million short tons, an increase of 3.2 percent. The growth was primarily driven by exports of metallurgical coal.

Interior Coal Region

In 2008 total production in the region was basically unchanged, but in Texas, which is the largest producer in this region, production declined by 2.9 million short tons to end the year at 39.0 million short tons, a level not seen since 1983. Texas coal is lignite, the lowest rank of coal with the lowest amount of energy and the vast majority of the coal is used in the electric power sector at mine-mouth facilities. The amount of Texas-produced lignite used in the electric power sector declined by 7.9 percent while the amount of subbituminous coal used in the sector increased by 4.3 percent.

Western Coal Region

In 2008 coal production in the western region rose by 2.0 percent to reach a total of 633.6 million short tons, 54 percent of all U.S. production. The 12.6 million short ton increase resulted in another record level for the region, the fifth year in a row. All subbituminous coal is produced in the western region. The western region is broken down into two sub-regions:

Northern Great Plains

North Dakota (Dakota Lignite)
Western Montana
Wyoming, Northern Powder River Basin
Wyoming, Southern Powder River Basin
Western Wyoming

For the past two decades Wyoming has been the largest regional and national producer, accounting for 73.8 percent of the western region total and almost 40 percent of the U.S. total. In 2008 Wyoming produced significantly more than the next six largest coal producing states combined. Peabody's North Antelope Rochelle mine was again the largest coal mine in Wyoming and in the United States, producing a total of 97.6 million short tons, an increase of 6.6 percent.

⁴ <http://www.eia.doe.gov/kids/energyfacts/sources/non-renewable/coal.html>

⁵ http://www.eia.doe.gov/cneaf/coal/page/special/article_dc.pdf

Other West

Rocky Mountain (Colorado and Utah)

Southwest (New Mexico and Arizona)

Alaska

In 2008 Colorado's production declined by 12 percent to 32.0 million short tons. The decline was due to production problems relating to geologic faults, requiring the relocation of the longwall mining system at two mines. Utah's production increased by 0.2 percent to 24.4 million short tons. New Mexico's production increased 4.9 percent or 1.2 million short tons to a level of 25.6 million short tons. Arizona's production increased 0.5 percent to 8.0 million short tons. Alaska's production increased 11.6 percent to 1.5 million short tons.

Coal Production and Prices by State, Region and Type of Coal or Mine

Table 1 shows coal production by region and state from Calendar Years 2004-2008 and the percentage change from 2007 to 2008. Wyoming and West Virginia are the two largest producing states, together accounting for over one-half of total U.S. production.

Table 1. U.S. Coal Production by Coal Producing Region and State, 2004-2008
(million short tons)

Coal producint Region and State	2004	2005	2006	2007	2008	Percent Change
						2007 - 2008
Appalachia Total	389.9	396.7	391.2	377.8	389.8	3.2
Alabama	22.3	21.3	18.8	19.3	20.6	6.6
Kentucky, Eastern	90.9	93.3	93.6	87.1	89.9	3.2
Maryland	5.2	5.2	5.1	2.3	2.8	22.0
Ohio	23.2	24.7	22.7	22.6	26.3	16.3
Pennsylvania Total	66.0	67.5	66.0	65.0	65.3	0.4
Anthracite	1.7	1.6	1.5	1.6	1.7	8.7
Bituminous	64.3	65.8	64.5	63.5	63.6	0.2
Tennessee	2.9	3.2	2.8	2.7	2.3	-12.0
Virginia	31.4	27.7	29.7	25.3	24.6	-3.0
West Virginia Total	148.0	153.6	152.4	153.5	158.0	2.9
Northern	40.6	42.6	42.4	42.2	40.9	-3.1
Southern	107.3	111.0	110.0	111.3	117.1	5.2
Interior Total	146.0	149.2	151.4	146.7	146.7	0.0
Arkansas	*	*	*	0.1	0.1	-16.3
Illinois	31.9	32.0	32.7	32.4	33.0	1.6
Indiana	35.1	34.5	35.1	35.0	36.2	3.3
Kansas	0.1	0.2	0.4	0.4	0.2	-45.5
Kentucky, Western	23.4	26.4	27.2	28.2	30.0	6.3
Louisiana	3.8	4.2	4.1	3.1	3.8	22.9
Mississippi	3.6	3.6	3.8	3.5	2.8	-19.9
Missouri	0.6	0.6	0.4	0.2	0.2	4.6
Oklahoma	1.8	1.9	2.0	1.6	1.4	-17.7
Texas	45.9	45.9	45.5	41.9	39.0	-7.0
Western Total	575.2	585.0	619.4	621.0	633.6	2.0
Alaska	1.5	1.5	1.4	1.3	1.5	11.6
Arizona	12.7	12.1	8.2	8.0	8.0	0.5
Colorado	39.9	38.5	36.3	36.4	32.0	-12.0
Montana	40.0	40.4	41.8	43.4	44.8	3.2
New Mexico	27.2	28.5	25.9	24.5	25.6	4.9
North Dakota	29.9	30.0	30.4	29.6	29.6	0.1
Utah	21.7	24.5	26.0	24.3	24.4	0.2
Washington	5.7	5.3	2.6	-	-	0.0
Wyoming	396.5	404.3	446.7	453.6	467.6	3.1
Refuse Recovery	1.0	0.7	0.8	1.2	1.4	17.9
U.S. Total	1,112.1	1,131.5	1,162.7	1,146.6	1,171.5	2.2

* Less than 50 thousand short tons.

Source: <http://www.eia.doe.gov/cneaf/coal/page/special/tbl2.html>

Table 2 shows coal production and number of mines by state, region and type of coal in calendar year 2007. About one-half of U.S. production is bituminous (West Virginia is the largest producer) and most of the remainder sub-bituminous (primarily from Wyoming, with Montana the second largest producer followed by New Mexico).

Table 2. Coal Production and Number of Mines by State, Region and Coal Rank, 2007
(production in thousands of short tons)

Coal Producing State and Region	Bituminous		Subbituminous		Lignite		Anthracite		Total	
	Number of Mines	Production	Number of Mines	Production	Number of Mines	Production	Number of Mines	Production	Number of Mines	Production
Alabama	49	19,327	-	-	-	-	-	-	49	19,327
Alaska	-	-	1	1,324	-	-	-	-	1	1,324
Arizona	1	7,983	-	-	-	-	-	-	1	7,983
Arkansas	2	83	-	-	-	-	-	-	2	83
Colorado	9	28,016	3	8,368	-	-	-	-	12	36,384
Illinois	21	32,445	-	-	-	-	-	-	21	32,445
Indiana	27	35,003	-	-	-	-	-	-	27	35,003
Kansas	2	420	-	-	-	-	-	-	2	420
Kentucky Total	417	115,280	-	-	-	-	-	-	417	115,280
Eastern	394	87,068	-	-	-	-	-	-	394	87,068
Western	23	28,212	-	-	-	-	-	-	23	28,212
Louisiana	-	-	-	-	2	3,127	-	-	2	3,127
Maryland	19	2,301	-	-	-	-	-	-	19	2,301
Mississippi	-	-	-	-	1	3,545	-	-	1	3,545
Missouri	2	236	-	-	-	-	-	-	2	236
Montana	-	-	5	43,031	1	358	-	-	6	43,390
New Mexico*	1	6,898	3	17,553	-	-	-	-	4	24,451
North Dakota	-	-	-	-	4	29,606	-	-	4	29,606
Ohio	57	22,575	-	-	-	-	-	-	57	22,575
Oklahoma	9	1,648	-	-	-	-	-	-	9	1,648
Pennsylvania Total	192	63,484	-	-	-	-	72	1,564	264	65,048
Anthracite	-	-	-	-	-	-	72	1,564	72	1,564
Bituminous	192	63,484	-	-	-	-	-	-	192	63,484
Tennessee	17	2,654	-	-	-	-	-	-	17	2,654
Texas	-	-	-	-	11	41,948	-	-	11	41,948
Utah	10	24,307	-	-	-	-	-	-	10	24,307
Virginia	118	25,346	-	-	-	-	-	-	118	25,346
West Virginia Total	282	153,480	-	-	-	-	-	-	282	153,480
Northern	43	42,219	-	-	-	-	-	-	43	42,219
Southern	239	111,260	-	-	-	-	-	-	239	111,260
Wyoming	1	120	19	453,448	-	-	-	-	20	453,568
Appalachian Total	1,128	376,236	-	-	-	-	72	1,564	1,200	377,800
Northern	311	130,580	-	-	-	-	72	1,564	383	132,144
Central	768	226,329	-	-	-	-	-	-	768	226,329
Southern	49	19,327	-	-	-	-	-	-	49	19,327
Interior Total	86	98,047	-	-	14	48,620	-	-	100	146,668
Illinois Basin	71	95,660	-	-	-	-	-	-	71	95,660
Western Total	23	67,323	30	523,724	5	29,965	-	-	58	621,012
Powder River Basin	-	-	17	479,496	-	-	-	-	17	479,496
Uinta Region	16	51,446	3	8,368	-	-	-	-	19	59,815
East of Miss. River	1,199	471,897	-	-	1	3,545	72	1,564	1,272	477,006
West of Miss. River	38	69,710	30	523,724	18	75,040	-	-	86	668,474
U.S. Subtotal	1,237	541,607	30	523,724	19	78,585	72	1,564	1,358	1,145,480
Refuse Recovery	15	1,151	-	-	-	-	1	4	16	1,156
U.S. Total	1,252	542,758	30	523,724	19	78,585	73	1,568	1,374	1,146,635

*One mine in New Mexico periodically produces both bituminous and subbituminous coal. When this occurs, it is double counted as a subbituminous and bituminous mine, but is not double counted in the total.

- = No data are reported.

Source: <http://www.eia.doe.gov/cneaf/coal/page/acr/table6.xls>

Table 3 shows the average open market sales price of coal by state and mine type (surface and underground) in Calendar Year 2007. The low prices for surface mined coal in Wyoming and North Dakota make the average for surfaced mined coal far below the average for underground mined coal. Wyoming receives lower prices for its subbituminous coal than North Dakota receives for its lignite even though subbituminous coal is higher in heat value. Note that lignite coal tends to sell for a higher price than subbituminous in spite of its lower heat value. The inconsistency in this relative pricing began in 1990.

Table 3. Average Open Market Sales Price of Coal by State and Mine Type, 2007

Coal-Producing State	2007		
	Underground	Surface	Total
Alabama	\$53.93	\$57.92	\$55.56
Alaska	-	W	W
Arizona	-	W	W
Arkansas	W	-	W
Colorado	W	W	\$24.91
Illinois	\$33.44	\$34.37	\$33.60
Indiana	\$33.84	\$26.79	\$28.79
Kansas	-	W	W
Kentucky Total	\$43.80	\$43.36	\$43.62
Eastern	\$49.80	\$44.67	\$47.27
Western	\$33.27	\$28.75	\$32.67
Louisiana	-	W	W
Maryland	W	W	\$33.02
Mississippi	-	W	W
Missouri	-	W	W
Montana	W	W	\$11.79
New Mexico	W	W	\$29.91
North Dakota	-	\$11.56	\$11.56
Ohio	\$28.32	\$30.17	\$28.79
Oklahoma	W	W	\$34.98
Pennsylvania Total	\$39.34	\$39.15	\$39.30
Anthracite	W	W	\$52.24
Bituminous	W	W	\$39.04
Tennessee	\$45.73	\$40.89	\$42.53
Texas	-	\$19.47	\$19.47
Utah	\$25.69	-	\$25.69
Virginia	\$53.91	\$51.45	\$52.89
West Virginia Total	\$48.44	\$46.65	\$47.63
Northern	\$37.77	\$37.05	\$37.67
Southern	\$56.86	\$47.53	\$51.50
Wyoming	-	\$9.67	\$9.67
U.S. Total	\$40.29	\$19.41	\$26.20

- = No data are reported.

W = Data withheld to avoid disclosure.

Note: Open market includes all coal sold on the open market to other coal companies or consumers. An average open market sales price is calculated by dividing the total free on board (f.o.b.) rail/barge value of the open market coal sold by the total open market coal sold. Data excludes mines producing less than 10,000 short tons, which are not required to provide data. Excludes silt, culm, refuse bank, slurry dam and dredge operations.

Source: <http://www.eia.doe.gov/cneaf/coal/page/acr/table28.xls>

Table 4 shows nominal and real prices by coal rank from Calendar Years 1979-2008. Since 2003, nominal and real prices have steadily increased for the bituminous and subbituminous coal produced in New Mexico.

Table 4. Nominal and Real Prices by Coal Rank, 1979-2008
(dollars per short ton)

Year	Bituminous Coal		Subbituminous Coal		Lignite		Anthracite		Total	
	Nominal	Real ¹	Nominal	Real ¹	Nominal	Real ¹	Nominal	Real ¹	Nominal	Real ¹
1979	\$ 27.31	\$ 55.12	\$ 9.55	\$ 19.27	\$ 6.48	\$ 13.08	\$ 41.06	\$ 82.87	\$ 23.75	\$ 47.93
1980	\$ 29.17	\$ 53.98	\$ 11.08	\$ 20.50	\$ 7.60	\$ 14.06	\$ 42.51	\$ 78.66	\$ 24.65	\$ 45.61
1981	\$ 31.51	\$ 53.30	\$ 12.18	\$ 20.60	\$ 8.85	\$ 14.97	\$ 44.28	\$ 74.90	\$ 26.40	\$ 44.66
1982	\$ 32.15	\$ 51.25	\$ 13.37	\$ 21.31	\$ 9.79	\$ 15.61	\$ 49.85	\$ 79.47	\$ 27.25	\$ 43.44
1983	\$ 31.11	\$ 47.71	\$ 13.03	\$ 19.98	\$ 9.91	\$ 15.20	\$ 52.29	\$ 80.19	\$ 25.98	\$ 39.84
1984	\$ 30.63	\$ 45.27	\$ 12.41	\$ 18.34	\$ 10.45	\$ 15.45	\$ 48.22	\$ 71.27	\$ 25.61	\$ 37.85
1985	\$ 30.78	\$ 44.15	\$ 12.57	\$ 18.03	\$ 10.68	\$ 15.32	\$ 45.80	\$ 65.70	\$ 25.20	\$ 36.15
1986	\$ 28.84	\$ 40.48	\$ 12.26	\$ 17.21	\$ 10.64	\$ 14.93	\$ 44.12	\$ 61.92	\$ 23.79	\$ 33.39
1987	\$ 28.19	\$ 38.51	\$ 11.32	\$ 15.47	\$ 10.85	\$ 14.82	\$ 43.65	\$ 59.63	\$ 23.07	\$ 31.52
1988	\$ 27.66	\$ 36.54	\$ 10.45	\$ 13.81	\$ 10.06	\$ 13.29	\$ 44.16	\$ 58.34	\$ 22.07	\$ 29.16
1989	\$ 27.40	\$ 34.88	\$ 10.16	\$ 12.93	\$ 9.91	\$ 12.62	\$ 42.93	\$ 54.65	\$ 21.82	\$ 27.78
1990	\$ 27.43	\$ 33.62	\$ 9.70	\$ 11.89	\$ 10.13	\$ 12.42	\$ 39.40	\$ 48.29	\$ 21.76	\$ 26.67
1991	\$ 27.49	\$ 32.55	\$ 9.68	\$ 11.46	\$ 10.89	\$ 12.90	\$ 36.34	\$ 43.03	\$ 21.49	\$ 25.45
1992	\$ 26.78	\$ 31.00	\$ 9.68	\$ 11.21	\$ 10.81	\$ 12.51	\$ 34.24	\$ 39.64	\$ 21.03	\$ 24.34
1993	\$ 26.15	\$ 29.59	\$ 9.33	\$ 10.56	\$ 11.11	\$ 12.57	\$ 32.94	\$ 37.27	\$ 19.85	\$ 22.46
1994	\$ 25.68	\$ 28.45	\$ 8.37	\$ 9.27	\$ 10.77	\$ 11.93	\$ 36.07	\$ 39.96	\$ 19.41	\$ 21.50
1995	\$ 25.56	\$ 27.75	\$ 8.10	\$ 8.79	\$ 10.83	\$ 11.76	\$ 39.78	\$ 43.19	\$ 18.83	\$ 20.44
1996	\$ 25.17	\$ 26.82	\$ 7.87	\$ 8.39	\$ 10.92	\$ 11.64	\$ 36.78	\$ 39.19	\$ 18.50	\$ 19.71
1997	\$ 24.64	\$ 25.82	\$ 7.42	\$ 7.78	\$ 10.91	\$ 11.43	\$ 35.12	\$ 36.81	\$ 18.14	\$ 19.01
1998	\$ 24.87	\$ 25.78	\$ 6.96	\$ 7.21	\$ 11.08	\$ 11.49	\$ 42.91	\$ 44.48	\$ 17.67	\$ 18.32
1999	\$ 23.92	\$ 24.44	\$ 6.87	\$ 7.02	\$ 11.04	\$ 11.28	\$ 35.13	\$ 35.90	\$ 16.63	\$ 16.99
2000	\$ 24.15	\$ 24.15	\$ 7.12	\$ 7.12	\$ 11.41	\$ 11.41	\$ 40.90	\$ 40.90	\$ 16.78	\$ 16.78
2001	\$ 25.36	\$ 24.77	\$ 6.67	\$ 6.51	\$ 11.52	\$ 11.25	\$ 47.67	\$ 46.55	\$ 17.38	\$ 16.97
2002	\$ 26.57	\$ 25.50	\$ 7.34	\$ 7.05	\$ 11.07	\$ 10.63	\$ 47.78	\$ 45.86	\$ 17.98	\$ 17.26
2003	\$ 26.73	\$ 25.12	\$ 7.73	\$ 7.26	\$ 11.20	\$ 10.53	\$ 49.87	\$ 46.87	\$ 17.85	\$ 16.78
2004	\$ 30.56	\$ 27.92	\$ 8.12	\$ 7.42	\$ 12.27	\$ 11.21	\$ 39.77	\$ 36.33	\$ 19.93	\$ 18.21
2005	\$ 36.80	\$ 32.56	\$ 8.68	\$ 7.68	\$ 13.49	\$ 11.93	\$ 41.00	\$ 36.27	\$ 23.59	\$ 20.87
2006	\$ 39.32	\$ 33.70	\$ 9.95	\$ 8.53	\$ 14.00	\$ 12.00	\$ 43.61	\$ 37.38	\$ 25.16	\$ 21.56
2007	\$ 40.80	\$ 34.05	\$ 10.69	\$ 8.92	\$ 14.89	\$ 12.43	\$ 52.24	\$ 43.60	\$ 26.20	\$ 21.87
2008 ^E	\$ 51.45	\$ 42.03	\$ 11.74	\$ 9.59	\$ 16.40	\$ 13.40	\$ 51.02	\$ 41.68	\$ 32.59	\$ 26.62

¹In chained (2000) dollars, calculated by using gross domestic product implicit price deflators.

E=Estimate

Note: Prices are free-on-board (F.O.B.) rail/barge prices, which are the F.O.B. prices of coal at the point of first sale, excluding freight or shipping and insurance costs.

Source: <http://www.eia.doe.gov/emeu/aer/txt/stb0708.xls>

II. The Coal Industry in New Mexico

Industry Profile

The main coal-bearing strata are the Mesa Verde and Fruitland Formations in the San Juan Basin and the Raton and Vermejo Formations in the Raton area. Presently, coal is only being produced in the San Juan Basin. San Juan Basin coal generally ranges from subbituminous A to high volatile bituminous C.⁶

Table 5 summarizes the quality of New Mexico coal by mine. BHP Navajo and BHP San Juan are owned by BHP Billiton Marketing, Inc. Peabody El Segundo and Peabody Lee Ranch are owned by Peabody Natural Resources. Peabody El Segundo commenced operations in June 2008. Chevron operated two mines, McKinley North and South until 2007. The South mine was closed in 2007. The North mine, which is on the Navajo Reservation, was expected to close in 2008⁷ but is still producing significant quantities. Peabody El Segundo and Peabody Lee Ranch are reported to have picked up some of Chevron's contracts.⁸ During the first ten months of Fiscal Year 2009, Peabody El Segundo has produced approximately 4.1 million short tons compared to approximately 2.5 million by Chevron McKinley and 1.7 million by Peabody Lee Ranch.

Overall coal quality is primarily determined by heat value and sulfur content. The BHP Navajo and BHP San Juan mines have relatively thicker coalbeds. Coal mined by BHP San Juan and Chevron McKinley tends to be relatively higher in heat value. Higher sulfur content makes emissions produced when coal is burned dirtier. The national average percent of sulfur content is one to two percent, whereas New Mexico content is generally less than one percent. Ash content is also an important determinant of overall quality. Ash becomes a byproduct that must be disposed of after coal combustion. Ash is also corrosive to the combustion chamber, requiring periodic removal for safe and efficient operations.

Table 5. Characteristics of New Mexico Coal
(weighted averages for all categories)

Company and Mine	Coalbed Thickness	BTU/Lb.	Carbon %	Ash %	Sulfur %
BHP Navajo	18	8,714	47.68	19.26	0.71
BHP San Juan	16	10,375	57.31	16.94	0.87
Peabody El Segundo	15	9,441	52.56	13.35	1.08
Peabody Lee Ranch	14	9,895	56.37	13.05	0.94
Chevron McKinley	13	10,497	61.16	11.25	0.47

Source: Gretchen Hoffman, Senior Coal Geologist, New Mexico Bureau of Geology and Mineral Resources.

Electric Profile

The majority of New Mexico coal is used for electrical generation. Exceptions include the consumption of 79,000 short tons by the industrial sector in 2006 and the consumption of 3,797 short tons by the residential/commercial sector within New Mexico in 2007. From January –

⁶ <http://www.emnrd.state.nm.us/MMD/Coal>

⁷ New Mexico Energy, Minerals and Natural Resources Department, 2007 Annual Report.

⁸ Personal Interview with Jim O'Hara, New Mexico Energy, Minerals and Natural Resources Department.

September 2008, 68.9 percent of all New Mexico coal used for electrical generation was sent to power stations in New Mexico, with the remaining 31.1 percent transported by rail to Arizona.⁹

All of the coal produced by Peabody's El Segundo mine during this period was transported to the Springerville Generating Station in east-central Arizona which is operated by Tucson Electric Power Co. According to Peabody spokeswoman Beth Sutton, Tucson Electric Power Co. will take three million tons per year for 20 years for its Springerville Generating Station and Arizona Public Service Co. will take as much as four million tons of coal a year for 19 years for its Cholla Generating Station in eastern Arizona. Peabody's Lee Ranch mine also supplies the Cholla and Springerville Generating Stations, as well as the Escalante Generating Station near Prewitt, New Mexico. Until the McKinley mine shuts down, it will continue to supply the Cholla Generating Station.¹⁰

All of the coal produced in the BHP Navajo mine goes to the Four Corners power plant, which is a mine-mouth power plant, so no transportation costs are incurred. It is the largest power producing plant by generation capacity in New Mexico and transmits electricity to other parts of New Mexico, Arizona and California. The plant is operated by the Arizona Public Service Co., which owns 100 percent of generating units 1, 2 and 3. Units 4 and 5 are owned by other utilities¹¹:

- Southern California Edison: 48 percent
- Arizona Public Service Co.: 15 percent
- El Paso Electric: seven percent
- Public Service Company of New Mexico (PNM): 13 percent
- Salt River Project: ten percent
- Tucson Electric Power: seven percent

All of the coal produced by San Juan Coal Company goes to the San Juan Generating Station, which is also a mine-mouth power plant owned by BHP. It is the second largest power plant in New Mexico and the seventh-largest coal-fired station in the West. The plant is operated by PNM and has four operating units with ownership as follows:

Units 1 and 2

- PNM: 50 percent
- Tucson Electric Power: 50 percent

Unit 3

- PNM: 50 percent
- Southern California Public Power Authority: 41.8 percent
- Tri-State Generation and Transmission Association: 8.2 percent

Unit 4

- PNM: 38.5 percent
- MSR Public Power Agency: 28.8 percent
- City of Anaheim, California: ten percent
- City of Farmington: 8.5 percent
- Los Alamos County: 7.2 percent
- Utah Associated Municipal Power Systems: seven percent.

⁹ <http://www.eia.doe.gov/cneaf/electricity/page/data.html>

¹⁰ <http://www.tristategt.org/Aboutus/baseload-resources.cfm>

¹¹ <http://www.pnm.com/systems/plants.htm>

Table 6 shows the ten largest power plants by generating capacity in New Mexico in 2007. The Four Corners and San Juan power plants are the only coal fired power plants on the list and are by far the largest. Both are supplied by BHP.

Table 6. Ten Largest Plants by Generation Capacity in New Mexico, 2007

Plant	Primary Energy Source or Technology	Operating Company	Net Summer Capacity (MW)
1. Four Corners	Coal	Arizona Public Service Co	2,060
2. San Juan	Coal	Public Service Co of NM	1,643
3. Luna Energy Facility	Gas	Public Service Co of NM	559
4. Cunningham	Gas	Southwestern Public Service Co	485
5. Escalante	Coal	Tri-State G & T Assn, Inc	247
6. Rio Grande	Gas	El Paso Electric Co	236
7. Afton Generating Station	Gas	Public Service Co of NM	236
8. New Mexico Wind Energy Center	Other Renewables	FPL Energy New Mexico Wind LLC	204
9. Maddox	Gas	Southwestern Public Service Co	179
10. Pyramid	Gas	Tri-State G & T Assn, Inc	158

Source: http://www.eia.doe.gov/cneaf/electricity/st_profiles/sept02nm.xls

Table 7 shows the top five retailers of electricity, with end use sectors in 2007. The Public Service Co. of New Mexico, which operates the San Juan power plant, is by far the largest retailer, supplying more than twice as many megawatthours as the second largest retailer. The plant is powered by both coal and natural gas. The Southwestern Public Service Co. is the second largest retailer and uses natural gas as its primary energy source.

Table 7. Top Five Retailers of Electricity in New Mexico, with End Use Sectors, 2007
(megawatthours)

Entity	Type of Provider	All Sectors	Residential	Commercial	Industrial	Transportation
1. Public Service Co of NM	Investor-Owned	9,371,704	3,210,651	4,240,967	1,920,086	-
2. Southwestern Public Service Co	Investor-Owned	4,106,037	979,448	1,448,641	1,677,948	-
3. El Paso Electric Co	Investor-Owned	1,593,747	592,148	898,561	103,038	-
4. City of Farmington	Public	1,243,706	254,659	446,629	542,418	-
5. Central Valley Elec Coop, Inc	Cooperative	719,746	58,747	89,849	571,150	-
Total Sales, Top Five Providers		17,034,940	5,095,653	7,124,647	4,814,640	-
Percent of Total State Sales		77	80	80	69	-

- (dash) = Data not available.

Source: http://www.eia.doe.gov/cneaf/electricity/st_profiles/sept03nm.xls

Table 8 shows electric power industry generation by primary energy source. In 2007 76.7 percent of all electricity was generated by coal, compared to 86.1 percent in 1997. Natural gas generated 18.5 percent of all electricity compared to 13.0 percent in 1997. Other renewables generated 3.9 percent, hydroelectric 0.7 percent and petroleum 0.1 percent.

Table 8. Electric Power Industry Generation by Primary Energy Source in New Mexico
(megawatthours)

Energy Source	1997	2007	Percentage Share	
			1997	2007
Electric Utilities	30,568,142	34,033,374	97.2	94.6
Coal	27,078,660	27,603,647	86.1	76.7
Petroleum	21,075	42,969	0.1	0.1
Natural Gas	3,209,597	6,118,780	10.2	17.0
Hydroelectric	258,810	267,978	0.8	0.7
Independent Power Producers and Combined Heat and Power	894,215	1,951,959	2.8	5.4
Petroleum	1,923	1,502	*	*
Natural Gas	886,080	541,224	2.8	1.5
Other Renewables ¹	6,212	1,409,233	*	3.9
Total Electric Industry	31,462,357	35,985,333	100.0	100.0
Coal	27,078,660	27,603,647	86.1	76.7
Petroleum	22,998	44,471	0.1	0.1
Natural Gas	4,095,677	6,660,004	13.0	18.5
Hydroelectric	258,810	267,978	0.8	0.7
Other Renewables ¹	6,212	1,409,233	*	3.9

¹Other Renewables includes biogenic municipal solid waste, wood, black liquor, other wood waste, landfill gas, sludge

* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is 1 and values under 0.5 are shown as *).

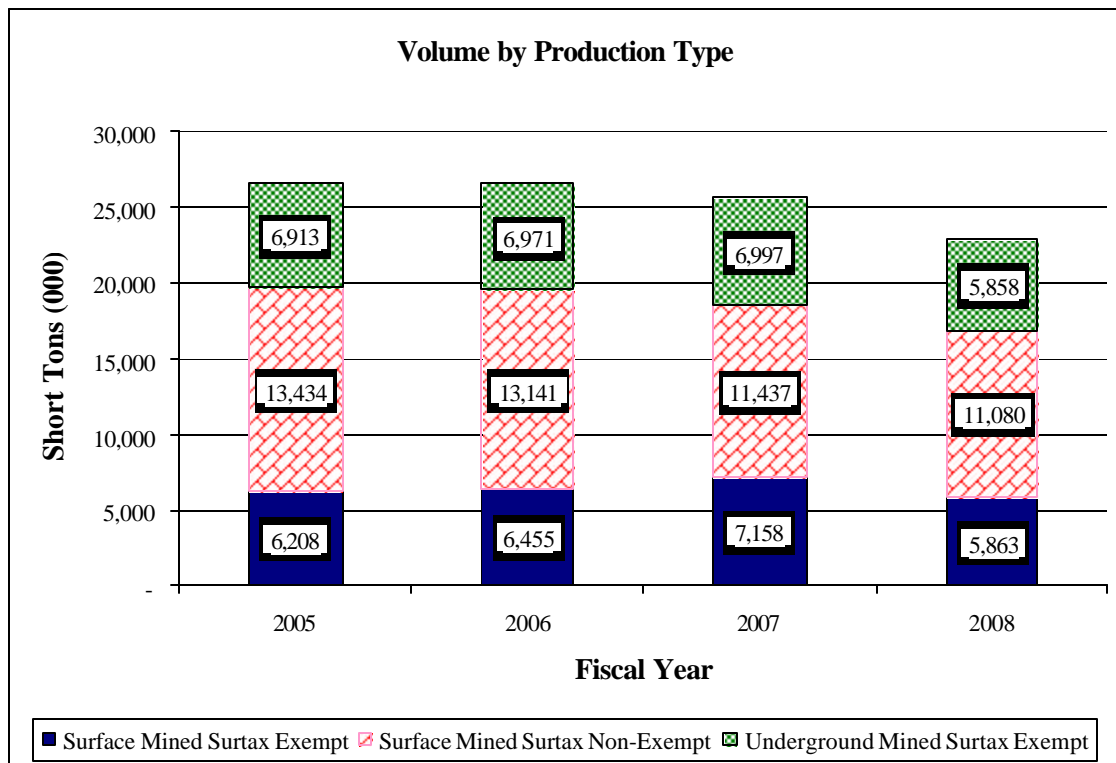
Source: http://www.eia.doe.gov/cneaf/electricity/st_profiles/sept05nm.xls

III. Coal Production, Prices, Revenues and Taxes Paid in New Mexico, FY2005-FY2008

Coal Production, Prices and Revenues in New Mexico

Figure 3 shows volume by production type in New Mexico from Fiscal Years 2005-2008. Surface mined coal not exempt from the surtax continues to comprise the largest share of all coal production. Although this graph shows total declining production in Fiscal Years 2007 and 2008, data from the Energy Information Administration shows a 4.9% increase in calendar year 2008.

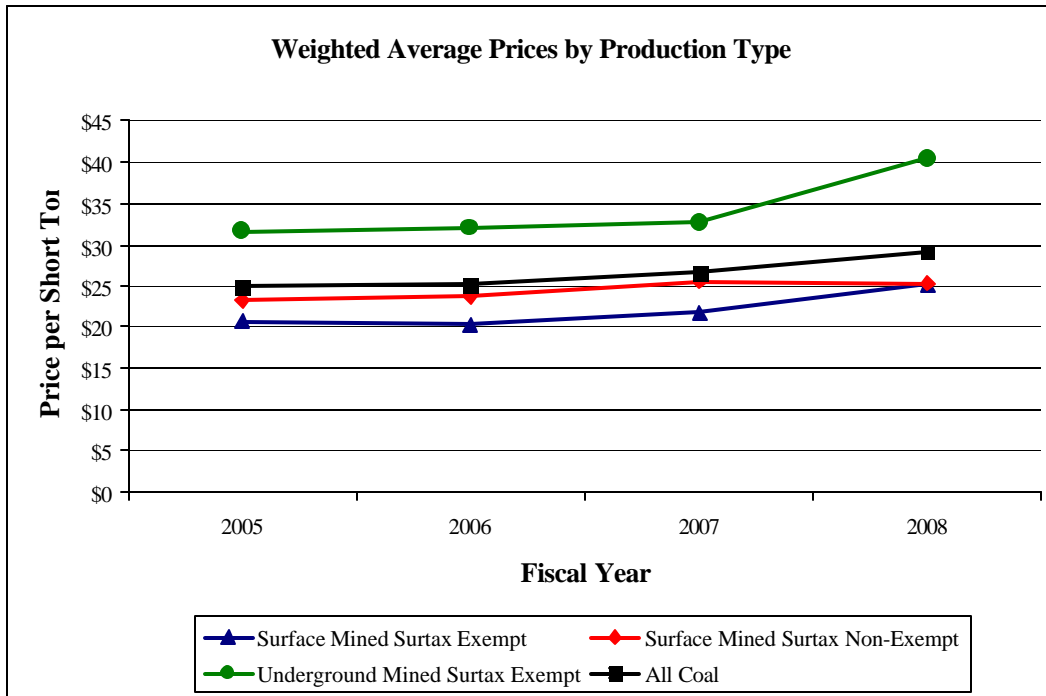
Figure 3. Volume by Production Type, FY2005-FY2008



Source: Tax Analysis, Research and Statistics Office, New Mexico Taxation and Revenue Department.

Figure 4 shows weighted average prices by production type from Fiscal Years 2005-2008. Underground mined coal has consistently sold for significantly higher prices. Prices for underground mined coal rose significantly in Fiscal Year 2008, reflecting the higher rank of coal mined underground. Prices for surface mined coal exempt from the surtax also rose significantly from Fiscal Year 2007 to Fiscal Year 2008. Prices for surface mined coal not exempt from the surtax stayed relatively flat from Fiscal Year 2007 to Fiscal Year 2008.

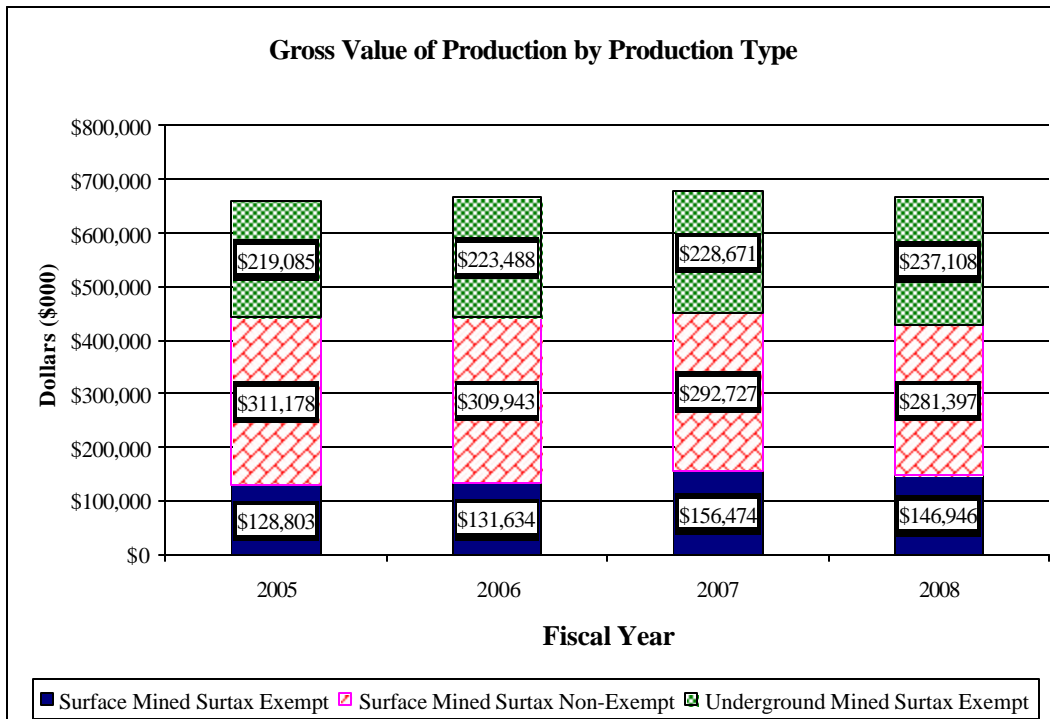
Figure 4. Weighted Average Prices by Production Type, FY2005-FY2008



Source: Tax Analysis, Research and Statistics Office, New Mexico Taxation and Revenue Department.

Figure 5 graphs gross value of production by production type from Fiscal Years 2005-2008. The revenue share of underground mined coal is larger than its share of volume, reflecting the higher prices received.

Figure 5. Gross Value of Production by Production Type, FY2005-FY2008



Source: Tax Analysis, Research and Statistics Office, New Mexico Taxation and Revenue Department.

New Mexico Production Taxes on Coal

Severance Tax - A severance tax is imposed for the privilege of severing coal. The taxable event is the sale, transportation out of New Mexico or consumption of the coal. The base is the quantity of coal severed and saved. The severance tax rate is \$.57 per short ton (2,000 pounds) for surface coal and \$.55 per short ton for underground coal. Payment is due on or before the 25th day of the month following the month in which the taxable event occurs. All revenues are initially deposited in the extraction taxes suspense fund. Identified receipts, after necessary refunds, are transferred monthly to the severance tax bonding fund. Money in the severance tax bonding fund is pledged for the payment of principal and interest on all bonds that have been issued under the Severance Tax Bonding Act. Money not needed for bonds is transferred semiannually to the severance tax permanent fund. Unidentified receipts over 60 days old are transferred monthly to the general fund.

Severance Tax Surtax - A severance tax surtax is also imposed on coal. The taxable event, tax base and payment due date are the same as for the severance tax. Receipts from the severance surtax are distributed in the same manner as the severance tax. The surtax rate has varied since it was imposed in 1977. From Fiscal Year 1990-1993, the surtax was \$0.60 per short ton for surface coal and \$0.58 for underground coal. Beginning in Fiscal Year 1994, the surtax rate was increased each fiscal year by multiplying the rate in effect in Fiscal Year 1993 by the percentage increase in the Producer Price Index for coal from 1991 to the calendar year prior to the fiscal year. Beginning in 1990, various exemptions have been provided to the coal surtax. Pursuant to the 1999 Legislature, the following exemptions are currently in effect: (1) coal sold and delivered pursuant to genuinely new contracts entered into on or after July 1, 1990; (2) coal sold and delivered pursuant to contracts already in effect on July 1, 1990, that exceeds the annualized average calendar year deliveries under the contract during production years 1987, 1988 and 1989, unless the deliveries are reduced due to causes beyond the reasonable control of either party to the contract; and (3) if a contract existing on July 1, 1990, and renegotiated after May 20, 1992, requires the purchaser to take annual coal deliveries in excess of the greater of the average calendar year deliveries from 1987-1989 or the highest annual contract minimum from 1987-1989, the surtax does not apply to such excess deliveries for the remaining term of the renegotiated contract. The surtax in effect in Fiscal Year 2009 was \$0.83 per short ton for surface coal and \$0.80 for underground coal. For Fiscal Year 2010, the rates are \$1.02 per short ton for surface coal and \$0.99 for underground coal.

Resources Excise Tax - A resources excise tax is also imposed on coal. It is actually three taxes: the "resources tax," imposed for the privilege of severing natural resources; the "processors tax," imposed for the privilege of processing natural resources; and the "service tax," imposed for severing or processing in New Mexico natural resources that are owned by another person and are not otherwise taxed under the "resource" or "processors" tax. Only the resources tax is currently in effect.

For the resources tax, taxable value is defined as the value after severing or processing, without deduction of any kind, except certain sales to federal, state or local governments or other tax-exempt organizations or service charges on which the service tax has been imposed, and except for state, federal and Indian royalties. Exempted from this tax is the taxable value of any natural resource that is processed in New Mexico and on whose taxable value the processors tax is paid.

For the processors tax, taxable value is defined identically to that for the resources tax. The service tax is imposed on any person severing or processing natural resources that are owned by another person at the same rate that would be imposed on an owner of natural resources for performing the same function. No deductions were taken for sales to tax-exempt organizations during Fiscal Years 2005-2008. Royalty deductions in Fiscal Year 2008 averaged 8.88 percent of total sales revenue.

All taxes imposed by the Resources Excise Tax Act are due on or before the 25th day of the month following the month in which the first of the following occurs: sale, transportation out of New Mexico or consumption. They are deposited in the extraction taxes suspense fund. After necessary refunds, monthly distributions of identified receipts are transferred from the extraction taxes suspense fund to the general fund. Unidentified receipts that have been in the extraction taxes suspense fund for over 60 days are also transferred monthly to the general fund.

Conservation Tax - A conservation tax is levied on the sale of all coal severed from the soil of the State. Taxable value is defined as the value after severing or processing, without deduction of any kind, except certain sales to federal, state or local governments or other tax-exempt organizations or service charges on which the service tax has been imposed, and except for state, federal and Indian royalties. The current rate is 19/100ths of one percent of the taxable value, except that if the unencumbered balance in the oil and gas reclamation fund equals or exceeds \$1,000,000 for any one-month period computed after payment of the tax for that month, the tax shall be reduced by 1/100ths of one percent, and, when the unencumbered balance in the oil and gas reclamation fund is less than or equal to \$500,000, the tax shall be increased by 1/100ths of one percent. No deductions were taken for sales to tax-exempt organizations during Fiscal Years 2005-2008. Royalty deductions in Fiscal Year 2008 averaged 8.88 percent of total sales revenue.

Payment is due by the 25th day of the month after the calendar month in which products are sold or purchased. Conservation taxes collected are deposited in the extraction tax suspense fund, from which refunds may be made. During periods in which the tax rate is .19 percent, 1/19th (or 5.26%) of total collections is deposited in the oil and gas reclamation fund. The remaining 18/19ths (94.74%) of identified receipts is transferred monthly to the general fund. Unidentified receipts that have been in the extraction taxes suspense fund for over 60 days are also transferred monthly to the general fund.

Data on Coal Production, Prices, Revenues and Taxes Paid in New Mexico, FY2005-FY2008

Table 9 summarizes coal production, prices, revenues and taxes paid in New Mexico by mine type from Fiscal Years 2005-2008. Note that the effective combined severance tax and severance surtax rates for surface-mined coal reflect a mix of old and new contract sales, some of which are exempt from the severance surtax. Weighted average prices have steadily increased for surface and underground mined surtax exempt coal but not for non-exempt surface coal. Volumes and sales revenues spiked in Fiscal Year 2007. All intergovernmental tax credits (ITC) are taken by BHP Navajo and Chevron Mining, Inc., which produce only surface coal, and are deducted from the severance tax and severance surtax liability. The per unit tax and higher prices received for

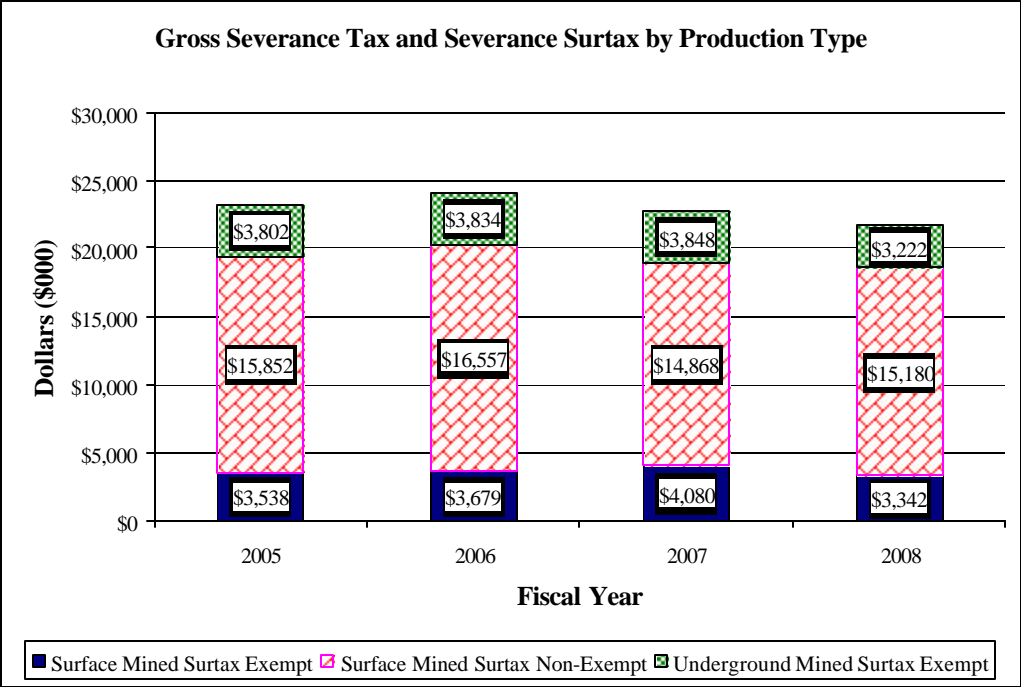
underground coal result in much lower effective tax rates for underground coal. This is also reflected in Figure 6, which shows gross severance tax and severance surtax by production type. Figure 6 also shows that most revenues are collected from surface mined non-exempt coal. Figure 7 shows per unit severance tax and severance surtax and effective tax rates from Fiscal Years 2005-2008. Effective Tax rates peaked in 2006 but have since declined. During the first ten months of Fiscal Year 2009, the weighted average price per ton was \$31.20.

**Table 9. Coal Production, Prices, Revenues, Severance Taxes and Severance Surtaxes
FY2005-FY2008**

Production (000 short tons):	FY2005	FY2006	FY2007	FY2008
Total Sales Volume	26,555	26,567	25,592	22,801
Surface Mined Surtax Exempt	6,208	6,455	7,158	5,863
Surface Mined Surtax Non-Exempt	13,434	13,141	11,437	11,080
Underground Mined Surtax Exempt	6,913	6,971	6,997	5,858
Prices (\$/short ton):				
Weighted Average Price per Ton for all Coal	\$24.82	\$25.03	\$26.49	\$29.18
Surface Mined Surtax Exempt	\$20.75	\$20.39	\$21.86	\$25.06
Surface Mined Surtax Non-Exempt	\$23.16	\$23.59	\$25.59	\$25.40
Underground Mined Surtax Exempt	\$31.69	\$32.06	\$32.68	\$40.47
Sales Revenue (\$000):				
Total Sales Revenue	\$659,066	\$665,065	\$677,872	\$665,450
Surface Mined Surtax Exempt	\$128,803	\$131,634	\$156,474	\$146,946
Surface Mined Surtax Non-Exempt	\$311,178	\$309,943	\$292,727	\$281,397
Underground Mined Surtax Exempt	\$219,085	\$223,488	\$228,671	\$237,108
Taxes Collected and Intergovernmental Tax Credits (ITC) (\$000):				
Total Gross Severance Tax	\$14,998	\$15,004	\$14,447	\$12,880
Surface Mined Surtax Exempt	\$3,538	\$3,679	\$4,080	\$3,342
Surface Mined Surtax Non-Exempt	\$7,658	\$7,490	\$6,519	\$6,316
Underground Mined Surtax Exempt	\$3,802	\$3,834	\$3,848	\$3,222
Total Gross Severance Surtax	\$8,195	\$9,067	\$8,349	\$8,864
Surface Mined Surtax Exempt	\$0	\$0	\$0	\$0
Surface Mined Surtax Non-Exempt	\$8,195	\$9,067	\$8,349	\$8,864
Underground Mined Surtax Exempt	\$0	\$0	\$0	\$0
Total Gross Severance and Severance Surtax	\$23,193	\$24,071	\$22,797	\$21,744
Surface Mined Surtax Exempt	\$3,538	\$3,679	\$4,080	\$3,342
Surface Mined Surtax Non-Exempt	\$15,852	\$16,557	\$14,868	\$15,180
Underground Mined Surtax Exempt	\$3,802	\$3,834	\$3,848	\$3,222
Total ITC	\$5,702	\$5,886	\$5,479	\$4,534
Surface Mined Coal	\$5,702	\$5,886	\$5,479	\$4,534
Underground Mined Coal	\$0	\$0	\$0	\$0
Net Severance Tax and Severance Surtax Liability	\$17,491	\$18,185	\$17,318	\$17,210
Surface Mined Coal	\$13,689	\$14,351	\$13,469	\$13,988
Underground Mined Coal	\$3,802	\$3,834	\$3,848	\$3,222
Effective Tax Rates (Tax as percent of sales revenue):				
Gross Effective Severance Tax Rate for all Coal	2.28%	2.26%	2.13%	1.94%
Surface Mined Surtax Exempt	2.75%	2.80%	2.61%	2.27%
Surface Mined Surtax Non-Exempt	2.46%	2.42%	2.23%	2.24%
Underground Coal	1.74%	1.72%	1.68%	1.36%
Gross Effective Severance and Severance Surtax Rate for all Coal	3.52%	3.62%	3.36%	3.27%
Surface Mined Surtax Exempt	2.75%	2.80%	2.61%	2.27%
Surface Mined Surtax Non-Exempt	5.09%	5.34%	5.08%	5.39%
Underground Coal	1.74%	1.72%	1.68%	1.36%
Effective Tax Rate for all Coal (Net of ITC)	2.65%	2.73%	2.55%	2.59%
Surface Coal	3.11%	3.25%	3.00%	3.27%
Underground Coal	1.74%	1.72%	1.68%	1.36%
Tax per Ton of Coal (Tax divided by production):				
Gross Effective Severance Tax and Surtax per Ton for all Coal	\$0.87	\$0.91	\$0.89	\$0.95
Surface Mined Surtax Exempt	\$0.57	\$0.57	\$0.57	\$0.57
Surface Mined Surtax Non-Exempt	\$1.18	\$1.26	\$1.30	\$1.37
Underground Coal	\$0.55	\$0.55	\$0.55	\$0.55
Effective Tax per Ton for all Coal (Net of ITC)	\$0.66	\$0.68	\$0.68	\$0.75
Surface Coal	\$0.70	\$0.73	\$0.72	\$0.83
Underground Coal	\$0.55	\$0.55	\$0.55	\$0.55

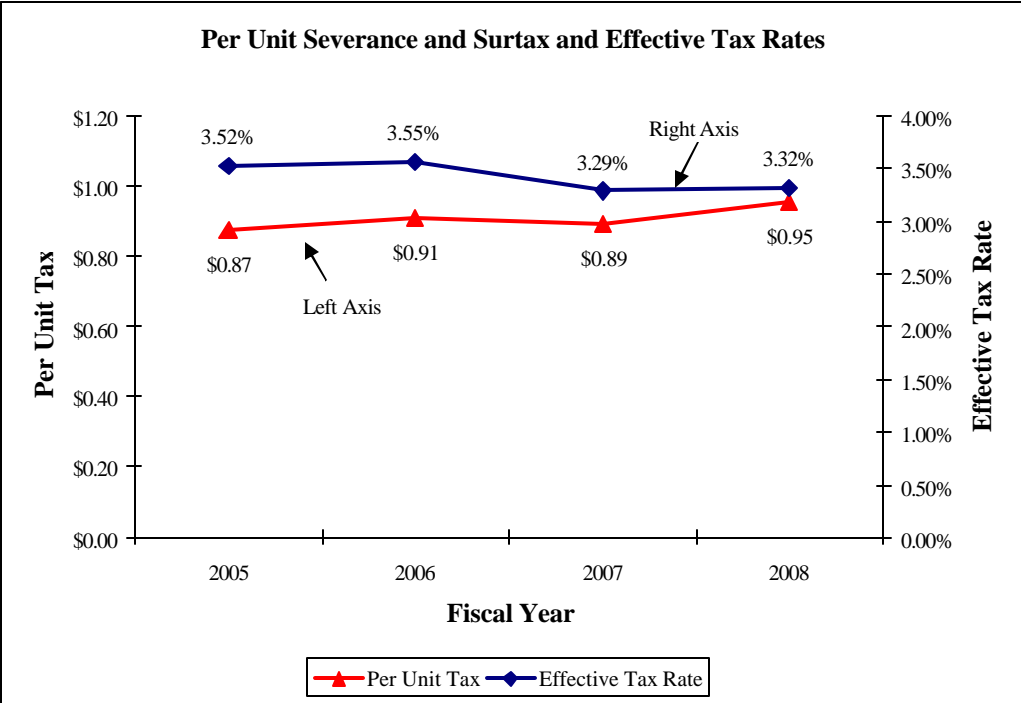
Source: Tax Analysis, Research and Statistics Office, New Mexico Taxation and Revenue Department.

Figure 6. Gross Severance Tax and Severance Surtax by Production Type, FY2005-FY2008



Source: Tax Analysis, Research and Statistics Office, New Mexico Taxation and Revenue Department.

Figure 7. Per Unit Severance Tax and Severance Surtax and Effective Tax Rates, FY2005-FY2008



Source: Tax Analysis, Research and Statistics Office, New Mexico Taxation and Revenue Department.

Table 10 shows revenue losses from the surtax exemption from Fiscal Years 2005-2008 by type of mine. Total losses in Fiscal Year 2008 were approximately \$9.2 million.

Table 10. Revenue Losses from Severance Surtax Exemption, FY2005-FY2008

Fiscal Years 2005-2008				
Fiscal Year	2005	2006	2007	2008
Surface Mined Surtax Exempt (000 short tons)	6,208	6,455	7,158	5,863
Surface Surtax per Ton	\$0.63	\$0.69	\$0.73	\$0.80
Revenue Loss from Surtax Exempt Surface Production (\$000)	\$3,911	\$4,454	\$5,225	\$4,690
Underground Mined Surtax Exempt (000 short tons)	6,913	6,971	6,997	5,858
Underground Surtax per Ton	\$0.61	\$0.67	\$0.71	\$0.77
Revenue Loss from Surtax Exempt Underground Production (\$000)	\$4,217	\$4,670	\$4,968	\$4,511
Total Revenue Loss from Surtax Exemption (\$000)	\$8,128	\$9,125	\$10,193	\$9,201

Source: Tax Analysis, Research and Statistics Office, New Mexico Taxation and Revenue Department.

Table 11 shows production and non-production taxes and effective tax rates. In addition to production taxes, the State collects property tax on coal properties and gross receipts tax on the sale of coal. These taxes are generally imposed on properties and sales in the State and are not specific to coal. In Fiscal Year 2008, 94 percent of all coal produced in the State was subject to the gross receipts tax. Regular property taxes apply to coal properties; no ad valorem production or ad valorem production equipment taxes are collected on coal production.

Table 11. Total Taxes on Coal, Taxes per Short Ton and Effective Tax Rates, FY2008

Type of Tax	Tax Collected (\$000)	Tax per Ton	Effective Tax Rate
Production Taxes			
Severance Tax (Gross of ITC)	\$12,880	\$0.56	1.94%
Surtax (Gross of ITC)	\$8,864	\$0.39	1.33%
Resource Excise Tax	\$4,471	\$0.20	0.67%
Conservation Tax	\$1,133	\$0.05	0.17%
Total Production Taxes	\$27,348	\$1.20	4.11%
Non-Production General Taxes			
Property Tax	\$6,071	\$0.27	0.91%
Gross Receipts Tax	\$35,369	\$1.55	5.32%
Total Non-Production General Taxes	\$41,440	\$1.82	6.23%
All Taxes on Coal			
Total	\$68,788	\$3.02	10.34%

Source: Tax Analysis, Research and Statistics Office, New Mexico Taxation and Revenue Department.

IV. Environmental Impacts from Natural Resource Production and Consumption

Impacts Common to all Fossil Fuel Production and Consumption

There are environmental impacts associated with every stage in the production and consumption of all fossil fuels, including exploration, production, transportation for refining/processing, refining/processing, transportation for marketing, and combustion in vehicles or power plants.¹² There is potential for spillage along every step in this process. The production and consumption of all three fossil fuels (coal, oil and natural gas) liberates numerous contaminants into the air, water and land that cannot be put back. Concentration of these contaminants increases with exposure to air and water.

Emissions from all fossil fuel production and combustion produce carbon dioxide (CO₂), which contributes to depletion of the ozone layer and global warming; however, the amount varies among coal, oil and natural gas. Carbon content is highly correlated with heat value and CO₂ emissions. Coal has the highest carbon content per unit of energy, while petroleum generally has about 25 percent less, and natural gas about 45 percent less.

On March 12, 2008, the Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard for ground-level ozone. It was lowered from 0.08 parts per million (ppm) to 0.075 ppm. Three-year averages in San Juan County indicate that the new standards are not being attained. A nonattainment designation by the EPA may result in stricter air quality permitting requirements, offsets for new sources, requirements for transportation analysis and a formal program and air quality control plan for re-establishing attainment, called a nonattainment plan. If New Mexico does not develop such a plan, the EPA will develop a Federal Implementation Plan for New Mexico. The federal government can also withhold state and local funding, including highway funds.¹³

In April 2009 a coalition of environmental groups filed suit in the U.S. District Court of New Mexico against the Bureau of Land Management (BLM) and the U.S. Forest Service, claiming that actions the two agencies took in 2008 failed to provide adequate protection against increased ozone levels due to additional drilling in the San Juan Basin. In preparing environmental assessments for three lease sales held in 2008, the BLM used the EPA standard set in 1997 for the allowable amount of ozone in the air over an eight-hour period, even though EPA had established a more stringent standard in 2008. The suit claims that the agencies' actions violated the National Environmental Policy Act, the Federal Land Policy and Management Act and the Administrative Procedure Act. The suit demands that the court overturn the three BLM lease sales and the issuance of a final record of decision by the Forest Service of an environmental impact statement for gas leasing in the Jicarilla Ranger District of the Carson National Forest. The suit cites an August 2007 study by the New Mexico Department of Health on the effects of high ozone levels in San Juan County, which found that increased levels of ozone led to increased levels of asthma-related medical visits. The study also found that ozone concentrations in San Juan County were among the highest in EPA regional sites in the Southwest including Arizona, Utah, Colorado, New Mexico and Texas.¹⁴

¹² Telephone interview with Chris Shuey, Environmental Health Specialist, Oil and Gas Accountability Project.

¹³ http://www.nmenv.state.nm.us/aqb/control_strat/documents/Dec2_2008_Ozone_MUhl.pdf.

¹⁴ "Environmentalists Sue over San Juan Basin Air Quality," *Gas Daily*, May 5, 2009.

The San Juan Basin is an arid region receiving less than 10 inches of precipitation a year. Therefore, surface water is scarce and most water users depend on ground water supplies. The San Juan Basin contains a thick sequence of sedimentary rocks, which contain coal, oil, natural gas and uranium. Most of the strata containing these resources are below the water table. Ground water in most of the region is very old and the water recharge rate is very low - only .02 inches/year. Water plays a key but varying role in the development of each of these energy resources.

Sulfur dioxide (SO₂) is also emitted from fossil fuel combustion. It is a major contributor to acid rain and respiratory illnesses.

Impacts Specific to Coal

The process of digging coal out of the ground creates vast land disturbances. Coal seams in New Mexico occur in thin elongated layers many miles long. Reclamation is very difficult in New Mexico because there is not enough precipitation to support vegetation. Contaminants released from coal mining include everything that is in the ground, including uranium, which coexists with coal. Contaminants specific to coal include oxides of nitrogen (NO_x), CO₂ and SO₂, particulates, ozone, and polycyclic aromatic hydrocarbons (PAHs), which are extremely toxic to humans. The ash byproduct of coal combustion must be stored, and if released are also extremely toxic to humans. Mercury emissions into the air are also a byproduct of coal combustion.¹⁵

The New Mexico Environment Department (NMED) has completed an inventory of mercury emissions in New Mexico and has determined that 5,854 pounds of mercury from all sources was released into New Mexico's air, land and water (time period not specified). Coal fired power plants in New Mexico emitted approximately 3,220 pounds of mercury and coal mining operations emitted approximately 995 pounds. Secretary Ron Curry explains that "Mercury pollution from coal-fired power plants causes grave consequences for babies and children, including developmental problems, cerebral palsy and learning disabilities... Mercury emitted when coal is burned is a dangerous neurotoxin proven to cause a variety of developmental neurological abnormalities in babies and young children, including delayed developmental milestones, reduced neurological test scores and delays and deficits in learning abilities. It can damage the brain, kidneys, and lungs... Mercury released into the atmospheres is eventually deposited into surface waters or onto land where it may be washed into surface waters... Biological processes in water and soil convert elemental and inorganic mercury into methylmercury, which is taken up by small organisms at the bottom of the food chain. Methylmercury is then concentrated in the bodies of fish and shellfish... The Environment Department plans to add another mercury monitor to its monitoring network at Navajo Lake to determine mercury concentrations in northwest New Mexico, near Public Service Co. of New Mexico's Four Corners Power Plant and San Juan Generating Station."¹⁶

Impacts Specific to Oil and Natural Gas

Oil and natural gas are basically composed of the same chemicals and hydrocarbons, but oil is more viscous. Oil, natural gas and ground water coexist in layers. All production of oil and natural gas is

¹⁵ Telephone interview with Chris Shuey, Environmental Health Specialist, Oil and Gas Accountability Project.

¹⁶ http://www.nmenv.state.nm.us/OOTS/documents/PR-MercuryInventoryFinal-9-15-08_2_.pdf.

accompanied by “produced water,” which results when individual compounds in the oil and natural gas dissolve into the water. Produced water is a toxic soup that ranges from brackish to super-saturated brine consisting of salty materials, benzene and numerous hydrocarbons, basically everything that is in the ground. The hydrocarbons range from innocuous to extremely toxic and negatively impact human health when inhaled or ingested. Produced water is the largest category of waste associated with oil and natural gas production. It presents the greatest management problem and is very damaging to the environment.¹⁷

Hydrofracing, which involves the injection of fluids into wells at extremely high pressures to crack open underground formations and stimulate the flow of oil and gas, also has significant impacts on water quality. More than 90 percent of oil and gas wells in the United States use the method. On June 18, 2009, the House Appropriations Committee passed a bill seeking EPA review of hydrofracing. Hydrofracing is exempt from the Safe Drinking Water Act of 1974, making the oil and gas industry the only industry that is exempt from the Act. The also requires companies to disclose the chemicals used in hydrofracing which they are not currently required to disclose. There have been more than 1,000 reported contamination incidents in New Mexico, Alabama, Ohio, Texas, Pennsylvania and Colorado.¹⁸

Impacts Specific to Oil

Petroleum refineries emitted approximately 468 pounds of the mercury referred to in the coal section above. Some of New Mexico’s electricity is generated from oil-fired power plants, which also emit mercury. Fuel for transportation is the largest contributor of CO₂.

Impacts Specific to Natural Gas

Electrical generation from natural gas negatively impacts environmental quality by emitting NO_x, carbon monoxide (CO) and SO₂. “Pollutants emitted contribute to the formation of ozone and PM_{2.5}. Ozone is also a greenhouse gas that contributes to global warming. PM_{2.5} refers to fine particulate matter, having a diameter of less than 2.5 microns (2.5 micrometers). It can cause a variety of respiratory problems in humans, particularly children and the elderly.” The NMED has filed a lawsuit against the El Paso Electric Co. of Texas for air quality violations at its Rio Grande Electric Power Generating Station, alleging that the company violated more than 350 of the maximum emission rates for the aforementioned oxides. Secretary Curry states that “Doña Ana County is already on the brink of exceeding federal air quality standards – the company’s violations contribute to that problem.”¹⁹

The NMED has also filed a major, multi-million dollar lawsuit against Marathon Oil Corporation of Houston, Texas. The lawsuit alleges thousands of state Air Quality Control Act, permit and regulation violations at the Marathon Oil’s Indian Basin Gas Plant located approximately 20 miles west of Carlsbad in Eddy County. The 14-claim suit alleges more than 4,000 violations. Natural gas is processed at the plant to remove impurities. As a major source of air pollution, the plant is required to meet strict air emission limits and to operate pollution control equipment including a Sulfur Recovery Unit, flares to burn off toxic gasses and a Continuous Emission Monitoring System. The suit alleges excess emission violations during at least 191 flaring events and more than 2,000 violations for failing to maintain proper calibration of required emission control equipment. The suit alleges SO₂ and sulfur emission limit violations and noncompliance with standards for storage of volatile organic liquids. The Notice of

¹⁷ Personal interview with Chris Shuey, Environmental Health Specialist, Oil and Gas Accountability Project.

¹⁸ “House Panel Passes Bill Seeking EPA Review of Hydrofracing,” NGI’s Daily Gas Price Index June 22, 2009. V. 16. No. 236.

¹⁹ <http://www.nmenv.state.nm.us/OOTS/documents/PR-ElPasoElectric-realone-9-30-08.pdf>.

Violation was issued to Marathon Oil in February 2008. Failure to reach agreement on the issues resulted in filing of the lawsuit on December 12, 2008.²⁰

The environmental impacts, permit and regulation violations and lawsuits discussed are just an example of the environmental impacts from natural resource production. The discussion is not intended to be exhaustive but rather illustrative.

²⁰ <http://www.nmenv.state.nm.us/OOTS/documents/PR-Marathon-Final.pdf>.

V. Production and Non-Production Tax Rates on Coal, Oil and Natural Gas in New Mexico, FY2008

Comparing Effective Tax Rates on Coal, Oil and Natural Gas

Table 12 compares production and non-production tax rates on coal, oil and natural gas in New Mexico for Fiscal Year 2008. Effective production tax rates for all coal (4.11 percent) are significantly lower than for oil (7.55 percent) and natural gas (7.39 percent). When effective production tax rates are broken down by type of coal, the rate on underground coal (2.20 percent) is significantly lower than for surface coal (5.17 percent).

Adding non-production taxes (property and gross receipts) more than doubles the effective tax rates on coal, but neither tax applies directly to oil and natural gas. Total effective rates on all coal are 10.34 percent compared to 7.55 percent on oil and 7.39 percent on natural gas.

Table 12. Effective Tax Rates on Coal, Oil and Natural Gas, FY2008

Effective Production and Non-Production Tax Rates in FY2008					
Tax	Surface Coal	Underground Coal	All Coal	Oil	Natural Gas
Severance	2.25%	1.36%	1.94%	3.37%	3.02%
Severance Surtax	2.07%	0.00%	1.33%		
Resource Excise Tax	0.67%	0.67%	0.67%		
Conservation Tax	0.17%	0.17%	0.17%	0.17%	0.15%
Emergency School Tax				2.82%	3.20%
Ad Valorem Production Tax				1.04%	0.87%
Ad Valorem Production Equipment Tax				0.15%	0.15%
Total Effective Production Tax Rates	5.17%	2.20%	4.11%	7.55%	7.39%
Property Tax			0.91%		
Gross Receipts Tax			5.32%		
Total Effective Non-Production Tax Rates			6.23%		
Total Effective Tax Rates			10.34%	7.55%	7.39%

Source: Tax Analysis, Research and Statistics Office, New Mexico Taxation and Revenue Department.

Comparing Total Effective Production and Non-Production Taxes on Coal, Oil and Natural Gas by Heat Value

Table 13 shows total effective production and non-production taxes on coal, oil and natural gas by heat value in million British Thermal Units (MMBTU) in New Mexico during Fiscal Year 2008. Coal is taxed at significantly lower rates (\$0.16 per MMBTU for all taxes) than oil (\$1.24 per MMBTU) and natural gas (\$0.56 per MMBTU). Underground coal is taxed at significantly lower rates (\$0.04 per MMBTU for production taxes only) than surface coal (\$0.07), even though it generally has higher heat value than surface coal.

Table 13. Effective Taxes per MMBTU by Product, FY2008

Energy Resource	Surface Coal	Underground Coal	All Coal	Oil	Natural Gas
Average Heat Value*					
BHP Navajo	17,427,736				
Chevron McKinley	20,994,516				
Peabody El Segundo	18,881,545				
Peabody Lee Ranch	19,790,594				
BHP San Juan		20,749,576			
San Juan Basin				5,660,000	1,139,511
Permian Basin				5,660,000	1,074,829
Volume Produced**					
BHP Navajo	8,163,693				
Chevron McKinley	3,246,760				
Peabody El Segundo	121,397				
Peabody Lee Ranch	5,411,000				
BHP San Juan		5,858,440			
San Juan Basin				2,279,958	927,095,380
Permian Basin				58,086,719	488,101,354
Total MMBTU			441,378,052		
BHP Navajo	142,274,685				
Chevron McKinley	68,164,153				
Peabody El Segundo	2,292,168				
Peabody Lee Ranch	107,086,902				
BHP San Juan		121,560,144			
San Juan Basin				12,947,176	1,020,414,580
Permian Basin				327,576,988	539,136,966
Total Production Taxes	\$22,685,148	\$4,661,826	\$27,346,975	\$423,886,653	\$869,103,129
Total Production Taxes per MMBTU	\$0.07	\$0.04	\$0.06	\$1.24	\$0.56
Total Production and Non-Production Taxes			\$68,787,468	\$423,886,653	\$869,103,129
Total Production and Non-Production Taxes per MMBTU			\$0.16	\$1.24	\$0.56

*Weighted average BTU per short of coal and per thousand cubic feet (mcf) of natural gas; unweighted average BTU per barrel (bbl) of oil.

**Short tons of coal, bbl of oil, and mcf of natural gas.

Sources: Gretchen Hoffman, Senior Coal Geologist, New Mexico Bureau of Geology and Minerals; William Jones, Petroleum Engineer, New Mexico Oil Conservation Division; Ron Broadhead, Petroleum Geologist, New Mexico Bureau of Geology and Minerals; Tax Analysis, Research and Statistics Office, New Mexico Taxation and Revenue Department.

Comparing Total Effective Production and Non-Production Taxes on Coal, Oil and Natural Gas per Short Ton of Carbon Content and per Short Ton of CO₂ Emissions

Table 14 compares total effective production and non-production taxes per short ton of carbon content and per short ton of CO₂ emissions for coal, oil and natural gas in New Mexico during Fiscal Year 2008. Carbon content is highly correlated with heat value and CO₂ emissions. Coal has the highest carbon content per unit of energy. Petroleum generally has about 25 percent less and natural gas about 45 percent less. In addition to being taxed at significantly lower rates than oil and natural gas per MMBTU, coal is also taxed at significantly lower rates than oil and natural gas per short ton of carbon content (coal: \$5.60 per short ton for all taxes, oil: \$64.35 and natural gas: \$35.23) and per short ton of CO₂ emissions (coal: \$1.53 per short for all taxes, oil: \$17.55 and natural gas: \$9.61). Underground coal, which has the highest MMBTU and carbon content and which emits the highest amount of CO₂ emissions, is taxed at rates significantly lower than surface coal. Underground coal is taxed at a rate of \$1.38 per short ton of carbon content for production taxes only, compared to \$2.55 for surface coal. Underground coal is taxed at a rate of \$0.38 per short ton of CO₂ emissions for production taxes only, compared to \$0.70 for surface coal.

Table 14. Effective Taxes per Unit of Carbon Content and CO₂ Emissions by Product, FY2008

Energy Resource	Surface Coal	Underground Coal	All Coal	Oil	Natural Gas
Total Heat Value (trillion BTU)	319.82	121.56	441.38	340.52	1,559.55
Carbon Coefficient Factor	0.02524	0.02524	0.02524	0.01755	0.01435
Carbon Content (Million Metric Tons or Tg)	8.07	3.07	11.14	5.98	22.38
Carbon Content (Short Tons)	8,897,990	3,382,053	12,280,043	6,587,564	24,668,994
(Atomic Weight of CO ₂)/(Atomic Weight of Carbon)	3.6666	3.6666	3.6666	3.6666	3.6666
CO ₂ Emissions (Short Tons)	32,625,372	12,400,634	45,026,006	24,153,963	90,451,334
Total Production Taxes	\$22,685,148	\$4,661,826	\$27,346,975	\$423,886,653	\$869,103,129
Production Taxes per Short Ton of Carbon Content	\$2.55	\$1.38	\$2.23	\$64.35	\$35.23
Production Taxes per Short Ton of CO ₂ Emissions	\$0.70	\$0.38	\$0.61	\$17.55	\$9.61
Total Production and Non-Production Taxes			\$68,787,468	\$423,886,653	\$869,103,129
Total Taxes per Short Ton of Carbon Content			\$5.60	\$64.35	\$35.23
Total Taxes per Short Ton of CO ₂ Emissions			\$1.53	\$17.55	\$9.61

Sources: <http://www.epa.gov/climatechange/emissions/downloads/2007GHGFastFacts.pdf>;
[http://yosemite.epa.gov/oar/globalwarming.nsf/UniqueKeyLookup/LHOD5MJQ62/\\$File/2003-final-inventory_annex_b.pdf](http://yosemite.epa.gov/oar/globalwarming.nsf/UniqueKeyLookup/LHOD5MJQ62/$File/2003-final-inventory_annex_b.pdf);
 Gretchen Hoffman, Senior Coal Geologist, New Mexico Bureau of Geology and Minerals; William Jones, Petroleum Engineer, New Mexico Oil Conservation Division; Ron Broadhead, Petroleum Geologist, New Mexico Bureau of Geology and Minerals; Tax Analysis, Research and Statistics Office, New Mexico Taxation and Revenue Department.

VI. Interstate Comparison of Production and Taxes on Coal in the Western Region

Table 15 shows production and number of mines by state and coal rank in the western region. This table has been extracted from Table 2 in order to simplify the interstate comparison among coal producing states in the same region as New Mexico. Although Wyoming is the largest producer in the western region and in the Nation, it generally produces coal lower in heat value than New Mexico, mostly subbituminous and very little bituminous. Montana produces only subbituminous and lignite coal. Colorado and Utah produce the majority of bituminous coal in the western region.

Table 15. Coal Production and Number of Mines by State and Coal Rank, 2007
(thousand short tons)

Coal-Producing State	Bituminous		Subbituminous		Lignite		Anthracite		Total	
	Number of Mines	Production	Number of Mines	Production	Number of Mines	Production	Number of Mines	Production	Number of Mines	Production
Arizona	1	7,983	-	-	-	-	-	-	1	7,983
Colorado	9	28,016	3	8,368	-	-	-	-	12	36,384
Montana	-	-	5	43,031	1	358	-	-	6	43,390
New Mexico	1	6,898	3	17,553	-	-	-	-	4	24,451
Utah	10	24,307	-	-	-	-	-	-	10	24,307
Wyoming	1	120	19	453,448	-	-	-	-	20	453,568
Western Total	23	67,323	30	523,724	5	29,965	-	-	58	621,012
Powder River Basin	-	-	17	479,496	-	-	-	-	17	479,496
Uinta Region	16	51,446	3	8,368	-	-	-	-	19	59,815
U.S. Subtotal	1,237	541,607	30	523,724	19	78,585	72	1,564	1,358	1,145,480
Refuse Recovery	15	1,151	-	-	-	-	1	4	16	1,156
U.S. Total	1,252	542,758	30	523,724	19	78,585	73	1,568	1,374	1,146,635

Source: <http://www.eia.doe.gov/cneaf/coal/page/acr/table6.xls>

Table 16 shows coal mining productivity by state and mine type in 2007. Productivity is measured as average production of short tons per employee per hour. Wyoming's surface mines have the highest productivity – so high that they skew the averages for the western region and the Nation. Montana's surface mines come in a strong second, followed by New Mexico, with productivity less than one-half of Montana's.

Table 16. Coal Mining Productivity by State and Mine Type, 2007

Coal-Producing State, Region, and Mine Type	Number of Mining Operations¹	Number of Employees²	Average Production per Employee per Hour (short tons)³
Arizona	1	430	7.92
Surface	1	430	7.92
Colorado	13	2,249	7.51
Underground	9	1,729	7.36
Surface	4	520	8.05
Montana	6	986	22.20
Underground	1	16	1.46
Surface	5	970	22.55
New Mexico	6	1,356	9.03
Underground	2	374	9.11
Surface	4	982	9.00
Utah	18	2,012	5.79
Underground	17	2,006	5.81
Surface	1	6	-
Wyoming	21	6,383	33.30
Underground	1	204	6.47
Surface	20	6,179	34.19
Western Total	71	14,490	20.40
Underground	30	4,329	6.73
Surface	41	10,161	26.28
Powder River Basin	18	6,399	35.30
Underground	-	-	-
Surface	18	6,399	35.30
Uinta Region	28	4,165	6.76
Underground	24	3,668	6.60
Surface	4	497	7.97
U.S. Subtotal	1,839	81,173	6.27
Underground	795	46,723	3.34
Surface	1,044	34,450	10.25
Refuse Recovery	20	105	5.77
U.S. Total	1,859	81,278	6.27

¹Mining operations that consist of a mine and preparation plant or preparation plant only processing both underground and surface coal are reported as two operations.

²Includes all employees engaged in production, preparation, processing, development, maintenance, repair shop, or yard work at mining operations, including office workers.

³Calculated by dividing total coal production by the total labor hours worked by all employees engaged in production, preparation, processing, development, maintenance, repair shop, or yard work at mining operations, including office workers.

- = No data are reported.

Note: Excludes preparation plants with less than 5,000 employee hours per year, which are not required to provide data.

Source: <http://www.eia.doe.gov/cneaf/coal/page/acr/table21.xls>

Table 17 shows average open market sales price of coal by state and mine type during Calendar Year 2007 and Fiscal Year 2008. In 2007 New Mexico received the highest prices in the western region (\$29.91), whereas the most productive states received the lowest prices (Wyoming: 9.67 and Montana: \$11.79). New Mexico received the highest prices in the region for both surface and underground coal during Calendar Year 2007 and among the states for which data was available for Fiscal Year 2008.

**Table 17. Average Open Market* Sales Price of Coal by State and Mine Type
Calendar Year 2007 and Fiscal Year 2008**
(dollars per short ton)

Coal-Producing State	CY2007			FY2008		
	Underground	Surface	Total	Underground	Surface	Total
Arizona	-	W	W	-	W	W
Colorado	W	W	\$24.91	\$34.22	\$25.20	\$32.23
Montana	W	W	\$11.79	W	W	\$11.53
New Mexico	W	W	\$29.91	\$40.47	\$25.28	\$29.18
Utah	\$25.69	-	\$25.69			
Wyoming	-	\$9.67	\$9.67			
U.S. Total	\$40.29	\$19.41	\$26.20			

- = No data are reported.

W = Data withheld to avoid disclosure.

Note: Open market includes all coal sold on the open market to other coal companies or consumers. An average open market sales price is calculated by dividing the total free on board rail/barge value of the open market coal sold by the total open market coal sold. Data excludes mines producing less than 10,000 short tons, which are not required to provide data. Excludes silt, culm, refuse bank, slurry dam and dredge operations.

* For Fiscal Year 2008, prices reflect both open market and captive prices.

Sources: CY2007 data from <http://www.eia.doe.gov/cneaf/coal/page/acr/table28.xls>; FY2008 data from Tax Analysis, Research and Statistics Office, New Mexico Taxation and Revenue Department and telephone conversations with tax specialists in Colorado and Montana.

Table 18 compares effective production, non-production and total tax rates for New Mexico and all other coal producing states in the western region. Figures 8 and 9 graph the data in Table 18 and reflect New Mexico's rank among the other coal producing states in the western region by effective production tax rates and total tax rates. Considering production taxes only, New Mexico ranks third out of six states with an effective tax rate of 4.11 percent, compared to 11 percent in Montana and zero percent in Arizona and Utah, which rely on property and gross receipts taxes. Considering production and non-production taxes, New Mexico ranks second with an effective tax rate of 10.34 percent compared to 14.51 percent in Montana and 9.75 percent in Wyoming. The table and graphs reflect the significance of the gross receipts tax and sales taxes in other states.

Table 18. Interstate Comparison of Effective Production, Non-Production and Total Tax Rates in New Mexico and Other Western Coal Producing States, FY2008

State	Production Taxes					Other Taxes			Total Taxes
	Severance Tax	Severance Surtax	Resource Excise Tax	Conservation Tax	Total Effective Production Tax Rate	Property Tax	Gross Proceeds/ Receipts Tax	Total Effective Property and Sales Tax Rate	Total Effective Production and Non-Production Tax Rate
Montana	11.00%				11.00%		3.51%	3.51%	14.51%
Wyoming**	5.25%				5.25%	4.50%		4.50%	9.75%
New Mexico	1.94%	1.33%	0.67%	0.17%	4.11%	0.91%	5.32%	6.23%	10.34%
Colorado*	1.03%				1.03%	1.34%		1.34%	2.37%
Arizona					0.00%	0.62%	3.13%	3.74%	3.74%
Utah					0.00%	0.70%		0.70%	0.70%

*Up until December 2007, Colorado’s severance tax rate had been frozen at \$0.54 per ton as a result of the Tabor Amendment. However, Colorado’s Attorney General ruled that the Tabor Amendment did not apply to the severance tax. Effective January 2008, the rate increased to \$0.76 per ton. The data for FY2008 shows actual prices from January – June 2008.

**The state of Wyoming will release no information regarding prices or taxes on its one underground mine.

Source: Tax Analysis, Research and Statistics Office, New Mexico Taxation and Revenue Dept.; verbal and/or electronic data from employees in state revenue departments in other states.

For comparability purposes, calculations for the severance tax rates for the other five western coal producing states were on a tax base equivalent to New Mexico’s. The only deduction from the severance tax and severance surtax liability allowed in New Mexico is the ITC. Since the ITC represents taxes paid to other governmental agencies, the tax rates for New Mexico do not reflect the ITC deduction.

Figure 8. Effective Production Tax Rates in Western Coal Producing States, FY2008

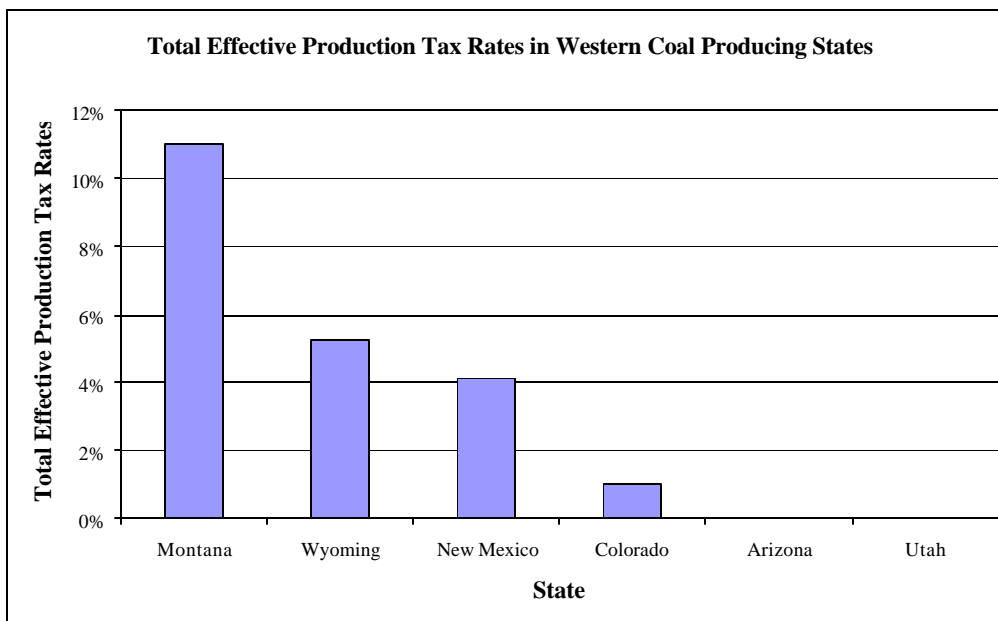
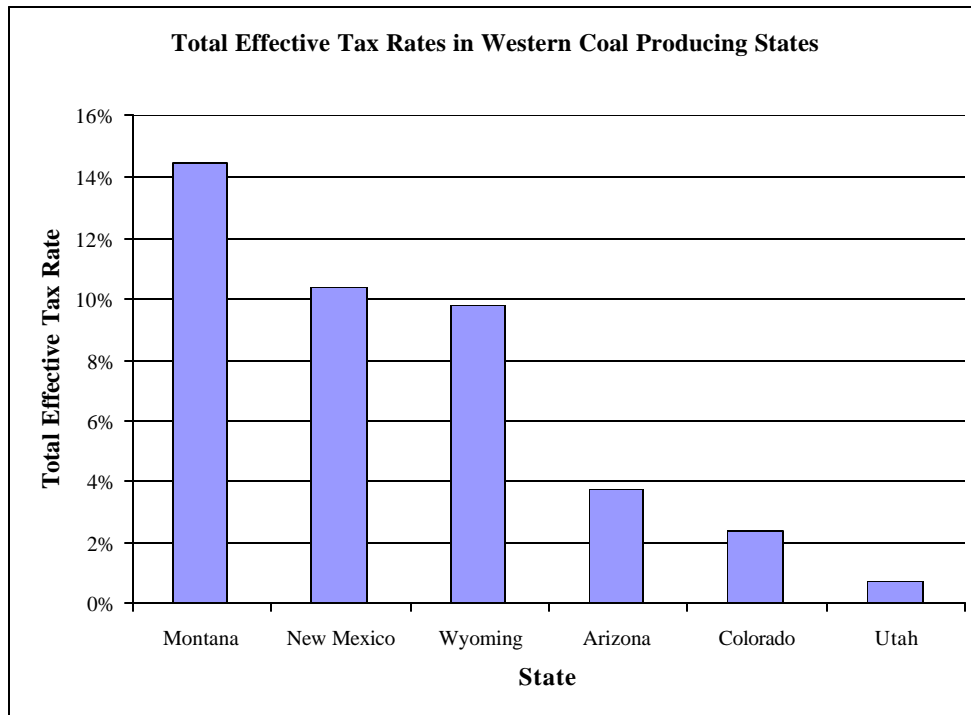


Figure 9. Total Effective Production and Non-Production Tax Rates in Western Coal Producing States, FY2008



VII. The Structure of Taxes on Oil and Natural Gas in New Mexico

Tables 19 and 20 reflect the current structure of taxes on oil and natural gas in New Mexico. At current prices, the total rate on oil is 8.27 percent and on natural gas 8.97 percent.

Table 19. Current Structure of Taxes on Oil in New Mexico

Taxes on Oil	Net Price of Oil (\$/bbl)		
	Under \$15	\$15 to \$18	Over \$18
Oil and Gas Emergency School Tax	1.58% ²	2.36% ²	3.15%
Oil and Gas Severance Tax¹	1.88% ²	2.81% ²	3.75%
Subtotal	3.46%	5.17%	6.90%
Oil and Gas Conservation Tax	0.19%	0.19%	0.19%
Production Ad Valorem Tax	1.04%	1.04%	1.04%
Production Equipment Ad Valorem Tax	0.14%	0.14%	0.14%
Total	4.83%	6.54%	8.27%

¹ Special rates now shown here apply when the average price for West Texas Intermediate (WTI) for the year ending on May 31 prior to the current Fiscal Year is less than \$24 (well workover projects; rate is 2.45%), or less than \$28 (enhanced oil recovery project; rate is 1.875%).

² These rates apply to stripper wells, with prices based on the average taxable value in the calendar year preceding July 1 of the current Fiscal Year.

Table 20. Current Structure of Taxes on Natural Gas in New Mexico

Taxes on Natural Gas	Net Price of Natural Gas (\$/mcf)		
	Under \$1.15	\$1.15 to \$1.35	Over \$1.35
Oil and Gas Emergency School Tax	2.00% ²	3.00% ²	4.00%
Oil and Gas Severance Tax¹	1.88% ²	2.81% ²	3.75%
Subtotal	3.88%	5.81%	7.75%
Oil and Gas Conservation Tax	0.19%	0.19%	0.19%
Production Ad Valorem Tax	0.88%	0.88%	0.88%
Production Equipment Ad Valorem Tax	0.15%	0.15%	0.15%
Total	5.10%	7.03%	8.97%

¹ A special rate now shown here applies when the average price for West Texas Intermediate (WTI) for the year ending on May 31 prior to the current Fiscal Year is less than \$24 (well workover projects; rate is 2.45%).

² These rates apply to stripper wells, with prices based on the average taxable value in the calendar year preceding July 1 of the current Fiscal Year.

VIII. Interstate Comparison of Taxes on Oil and Natural Gas

Table 21 compares tax rates on oil and natural gas in the nine largest producing states in Fiscal Year 2007. New Mexico ranks right in the middle in terms of tax rates on oil and below the middle in terms of tax rates on natural gas.

Table 22 compares combined tax and royalty rates in the same nine largest producing states in Fiscal Year 2007. The combined tax and royalty rates in Table 22 would apply only to production on state lands. New Mexico ranks below all states except for Colorado. Up until December 2007, Colorado's severance tax rates had been frozen as a result of the Tabor Amendment. Colorado's Attorney General has ruled that the Tabor Amendment does not apply to severance taxes. Immediately following the Attorney General's ruling Colorado increased its severance tax rates on coal from \$0.54 per to \$0.76 per ton (an increase of 40.74 percent). Similar increases in severance tax rates on oil and gas are likely to follow suit if they have not already. Note that the tax rates shown in Tables 21 and 22 are computed using the New Mexico tax base, which allows certain deductions, so the tax rates are higher than those shown in Table 12, which shows effective tax rates (tax divided by total industry sales, before deductions).

Table 21. State Tax and Royalty Rates and Production of Oil and Natural Gas in Top Producing States, Ranked by Tax Rate¹, FY2007

States (Ranked by Tax Rate)	Oil					
	Tax Rate	Royalty Rate	Combined Tax & Royalty Rate ²	Production		
				bbls (millions)	% U.S.	State Rank
Alaska	19.98%	20.00%	37.76%	22,517	14.1%	2
Louisiana	17.65%	23.75%	38.70%	6,345	4.0%	4
Wyoming	12.70%	16.67%	28.43%	4,615	2.9%	7
Kansas	8.92%	12.50%	21.17%	3,380	2.1%	8
New Mexico	8.27%	12.94%	20.94%	5,023	3.2%	6
Oklahoma	8.11%	20.00%	27.21%	5,288	3.3%	5
Texas	6.76%	25.00%	30.63%	32,821	20.6%	1
Colorado	5.50%	12.50%	17.85%	2,015	1.3%	9
California	1.06%	36.00%	36.75%	18,090	11.4%	3
	Natural Gas					
	Tax Rate	Royalty Rate	Combined Tax & Royalty Rate ²	Production		
				mcf (millions)	% U.S.	State Rank
Alaska	19.87%	20.00%	39.65%	445	2.3%	7
Wyoming	12.70%	16.67%	29.75%	1,816	9.4%	2
Kansas	11.86%	12.50%	25.33%	371	1.9%	8
Texas	11.03%	25.00%	35.23%	5,514	28.4%	1
Oklahoma	10.76%	20.00%	30.64%	1,689	8.7%	3
New Mexico	8.97%	13.07%	22.71%	1,609	8.3%	4
Colorado	5.50%	12.50%	18.45%	1,203	6.2%	6
Louisiana	4.45%	24.68%	28.82%	1,361	7.0%	5
California	1.75%	40.00%	41.30%	315	1.6%	9

¹ Tax rates for each state are on a taxable base equivalent to New Mexico's. They are either the rates that applied in FY07 if the information was available or that are expected to apply this year to the majority of oil or natural gas produced in the state and include property tax rates where applicable; some states have alternative rates that apply in certain circumstances. Royalty rates apply to production on state lands, and are averages reported for all production or for the most recently negotiated properties. New Mexico's rates are the weighted average rates in effect during FY07; Alaska's, Oklahoma's, and Wyoming's are the most recently negotiated rates; Louisiana's is the average bid in FY07; Kansas', Texas', and Colorado's rates are fixed rates in effect during FY07 and presently; California's are the weighted average rates for all leases presently in effect.

² Combined tax and royalty rates apply only to production on state lands and are calculated using the New Mexico tax base (assuming the royalty is the only deduction).

Source: Tax Analysis, Research and Statistics Office, New Mexico Taxation and Revenue Dept.; verbal and/or electronic data from employees in state revenue departments in other states.

Table 22. State Tax and Royalty Rates and Production of Oil and Natural Gas in Top Producing States, Ranked by Combined Tax and Royalty Rate¹, FY2007

States (Ranked by Combined Tax and Royalty Rate)	Oil					
	Tax Rate	Royalty Rate	Combined Tax & Royalty Rate ²	Production		
				bbls (millions)	% U.S.	State Rank
Louisiana	17.65%	23.75%	38.70%	6,345	4.0%	4
Alaska	19.98%	20.00%	37.76%	22,517	14.1%	2
California	1.06%	36.00%	36.75%	18,090	11.4%	3
Texas	6.76%	25.00%	30.63%	32,821	20.6%	1
Wyoming	12.70%	16.67%	28.43%	4,615	2.9%	7
Oklahoma	8.11%	20.00%	27.21%	5,288	3.3%	5
Kansas	8.92%	12.50%	21.17%	3,380	2.1%	8
New Mexico	8.27%	12.94%	20.94%	5,023	3.2%	6
Colorado	5.50%	12.50%	17.85%	2,015	1.3%	9
	Natural Gas					
	Tax Rate	Royalty Rate	Combined Tax & Royalty Rate ²	Production		
				mcf (millions)	% U.S.	State Rank
California	1.75%	40.00%	41.30%	315	1.6%	9
Alaska	19.87%	20.00%	39.65%	445	2.3%	7
Texas	11.03%	25.00%	35.23%	5,514	28.4%	1
Oklahoma	10.76%	20.00%	30.64%	1,689	8.7%	3
Wyoming	12.70%	16.67%	29.75%	1,816	9.4%	2
Louisiana	4.45%	24.68%	28.82%	1,361	7.0%	5
Kansas	11.86%	12.50%	25.33%	371	1.9%	8
New Mexico	8.97%	13.07%	22.71%	1,609	8.3%	4
Colorado	5.50%	12.50%	18.45%	1,203	6.2%	6

¹ Tax rates for each state are on a taxable base equivalent to New Mexico's. They are either the rates that applied in FY07 if the information was available or that are expected to apply this year to the majority of oil or natural gas produced in the state and include property tax rates where applicable; some states have alternative rates that apply in certain circumstances. Royalty rates apply to production on state lands, and are averages reported for all production or for the most recently negotiated properties. New Mexico's rates are the weighted average rates in effect during FY07; Alaska's, Oklahoma's, and Wyoming's are the most recently negotiated rates; Louisiana's is the average bid in FY07; Kansas', Texas', and Colorado's rates are fixed rates in effect during FY07 and presently; California's are the weighted average rates for all leases presently in effect.

² Combined tax and royalty rates apply only to production on state lands and are calculated using the New Mexico tax base (assuming the royalty is the only deduction).

Source: Tax Analysis, Research and Statistics Office, New Mexico Taxation and Revenue Dept.; verbal and/or electronic data from employees in state revenue departments in other states.