

Utah Economic and Business Review

Highlights

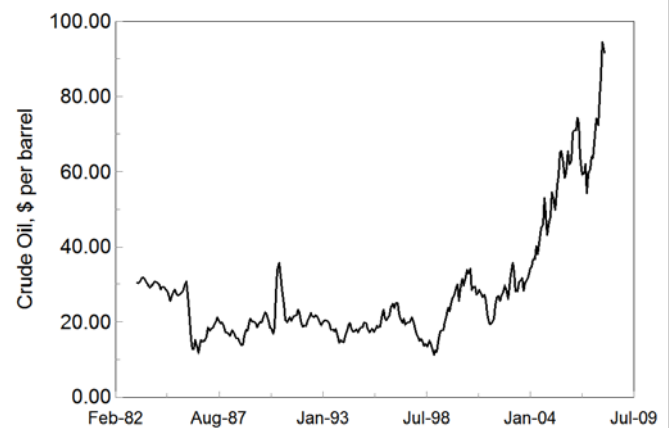
- The rise in the price of crude oil over the past several years has stimulated increased exploration and production activity in Utah, with the number of oil and gas wells drilled in the state increasing from 283 in 1999 to 1,057 in 2006. Increased drilling and production activity has resulted in higher employment in the producing areas, with total employment in the Uinta Basin rising from 15,547 in 1997 to 23,552 in 2006.
- There are six areas with significant production of oil and/or natural gas in Utah. These are the Uinta Basin, conventional and coalbed methane deposits in Carbon and Emery counties, the Uncompahgre Uplift in Grand County, Paradox Basin in San Juan County, the Hingeline in central Utah, and the Thrust Belt in Summit County.
- The Uinta Basin is the center of the oil and gas industry in Utah, with many companies maintaining offices near Vernal. In Duchesne and Uintah counties, the oil and gas industry directly accounted for approximately 20 percent of total jobs and 35 percent of total wages in 2006. When also considering indirect and induced employment due to company and employee spending, the oil and gas industry was responsible for 50 percent of employment and 60 percent of wages in the Uinta Basin during 2006.
- Carbon and Emery counties have become important producers of coalbed methane over the past 10 years and currently account for over 25 percent of total natural gas production in Utah. During 2006, the oil and gas industry was responsible for 1.1 percent of employment and 1.5 percent of total wages in the two counties. When considering indirect and induced employment, the oil and gas industry was responsible for 4.0 percent of the jobs and 4.9 percent of the total wages in Carbon and Emery counties.
- The oil and gas industry also has a sizeable fiscal impact on the producing areas. In 2006, the industry paid 39 percent of total property taxes paid in Duchesne and Uintah counties and 24 percent of property taxes paid in Carbon and Emery counties.
- This report is an update on an ongoing project at the Bureau of Economic and Business Research to determine the economic impact of the oil and gas industry on the producing areas in Utah. Subsequent portions of the study will address other producing areas in the state.

Utah's Oil and Gas Exploration and Production Industry: Economic Impact on the Uinta Basin and Carbon and Emery Counties

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The recent rise in the price of gasoline has refocused attention on energy markets with an intensity not seen since the collapse of oil prices in the mid 1980s. In contrast to the energy shortage of the 1970s, which was largely driven by constrained supply due to geopolitical issues, the recent runup is a result of increasing demand and decreasing supply. Crude oil, and to a lesser extent natural gas, is a worldwide commodity with international supply and demand factors determining prices. Consumption of petroleum products is up worldwide, with developing countries driving the increase. This rise in demand has resulted in a dramatic increase in the nominal price of crude oil (Figure 1).

Figure 1
Crude Oil Price: NYMEX Near Month Contract for Light Sweet Crude



Source: Energy Information Administration.

The Rocky Mountain states are becoming an increasingly important component of the nation's oil and gas supply (Table 1). Of the five Petroleum Administration for Defense Districts (PADD) used for analyzing petroleum data (Figure 2), crude oil and natural gas production are increasing at the highest rate in the Rocky Mountains (PADD IV). Both the Gulf Coast (PADD III) and West Coast (PADD V), traditionally the largest producers in

**Table 1
U.S. Crude Oil and Natural Gas Production by PADD,
2002–2006**

	PADD I	PADD II	PADD III	PADD IV	PADD V	U.S. Total
Crude Oil, thousand barrels						
2002	7,458	164,635	1,174,305	102,982	947,745	2,097,124
2003	7,170	161,360	1,162,869	105,931	636,123	2,073,453
2004	6,941	159,309	1,103,743	113,069	600,239	1,983,302
2005	8,299	161,587	1,023,499	123,956	572,765	1,890,106
2006	8,062	167,298	1,035,904	130,466	520,529	1,862,259
Change	8.1%	1.6%	-11.8%	26.7%	-45.1%	-11.2%
Dry Natural Gas, MMCF						
2002	453,774	2,432,537	12,622,766	2,641,749	776,962	18,927,788
2003	521,824	2,336,271	12,662,381	2,797,202	780,866	19,098,544
2004	520,240	2,428,676	11,960,955	2,935,503	745,517	18,590,891
2005	522,997	2,413,736	11,298,362	3,075,234	763,907	18,074,237
2006	536,184	2,533,780	11,311,563	3,371,822	722,476	18,475,826
Change	18.2%	4.2%	-10.4%	27.6%	-7.0%	-2.4%

Note: MMCF = Million cubic feet measured at 1 atmosphere of pressure and 60° F.
Source: Energy Information Administration.

the country, have experienced declines in crude oil and natural gas production since 2002.

Despite the common perception of being vertically integrated, the oil and gas industry is highly fragmented, especially at the exploration and production stage. Many companies concentrate exclusively on oil and gas production and have no interest in downstream operations such as pipelines, refineries, and product distribution. Additionally, much of the work conducted in the producing fields is contracted to other companies that specialize in different aspects of drilling and maintaining the wells. Few of the operating companies operate their own drill rigs but instead contract with companies that specialize in drilling. Other companies specialize in different operations such as grading well locations, well surveying, running and pulling well casings, cementing wells, perforating well casings, and reservoir treatment and stimulation. The operating, drilling, and service companies collectively constitute the oil and gas exploration and production industry. In the North American Industry Classification System (NAICS) codes, used by economists to classify employment and earnings, the oil and gas industry is included in the classifications NAICS 211—Oil and Gas Extraction, NAICS 213111—Drilling Oil and Gas Wells, and NAICS 213112—Support Activities for Oil and Gas Operations.

Many other industries benefit from spending by the oil and gas industry. These include consulting geologists and engineering companies, environmental consultants, vendors of oil field equipment, and pipeline and trucking companies. Spending by oil industry employees also benefits the local economy. These economic benefits beyond direct employment in the oil and gas industry are known as indirect and induced benefits, and are the source of the “multiplier” effect.

Utah's Oil and Gas Industry

The Utah oil and gas industry started in 1891, when a water well being drilled in Farmington Bay on the

Great Salt Lake encountered natural gas. Gas was transported to Salt Lake City through wooden pipelines for several years until shifting sand in the lakebed plugged the wells. The first oil was found in the early 1900s near Rozel Point at the north end of the Great Salt Lake, near Mexican Hat in southeastern Utah, and near the town of Virgin in southwestern Utah. The first large-scale commercial oil well was drilled near Vernal in 1948. Since the early 1960s, Utah has consistently ranked in the top 15 oil-producing states and in recent years has experienced a dramatic rise in natural gas production.

The state's 2006 crude oil production of 17.9 million barrels was a 37 percent increase over the recent low of 13.1 million barrels produced in 2003 (Figure 3). Although a substantial increase from the recent past, 2006's output was still only 44 percent of the all-time high of 41.1 million barrels produced in 1985.

There has been an even greater rise in natural gas production in Utah. In 2006, Utah's marketed natural gas production hit an all-time high of 343 billion cubic feet (BCF), up 502 percent from 57 BCF in 1976 (Figure 4).

Six different areas in Utah currently have significant production of oil and/or natural gas. These areas are defined by geology. Additionally, these areas are somewhat isolated from one another economically, especially in terms of the oil and gas industry. The major oil and gas producing area in Utah is the Uinta Basin in the northeastern part of the state. Vernal is a center of the oil and gas industry in the Uinta Basin, with many of the producing, drilling, and service companies maintaining offices in the area. Other producing areas in Utah include both conventional plays and coalbed methane in Carbon and Emery counties, the Paradox Basin in San Juan County, the Uncompahgre Uplift in Grand County, the Thrust Belt in Summit County, and the Hingeline in the central part of the state.

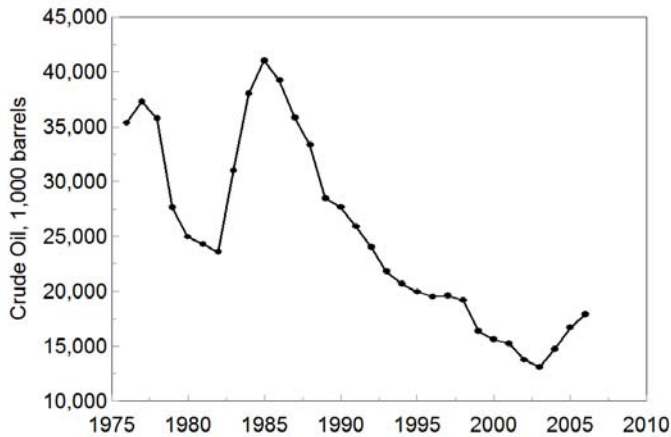
The Paradox Basin, Uncompahgre Uplift, and Thrust Belt all extend over state lines into adjacent states. Many of the workers involved in operating wells in these areas are actually employed in

**Figure 2
Petroleum Administration for Defense Districts (PADD)**



Source: Energy Information Administration.

Figure 3
Utah Crude Oil Production



Source: Utah Division of Oil, Gas and Mining.

other states. Expanded gas operations in Carbon and Emery counties and new oil production in the Hingeline are fairly recent discoveries, and an oil service industry has not yet developed in these areas.

The Uinta Basin in northeastern Utah (defined here as Duchesne and Uintah counties) is the largest oil and gas producing area in the state and a significant producer in the Rocky Mountains. Natural gas was first discovered in economic quantities in the basin in 1925 at the Ashley Valley field. In 1949, oil was discovered in the Roosevelt field. Natural gas and crude oil have been produced in the basin since then, although production and the accompanying economic impacts have varied with prices. The Uinta Basin is currently experiencing a significant economic boom due to increased oil and gas activity. This boom should continue as long as energy prices remain at current or higher levels.

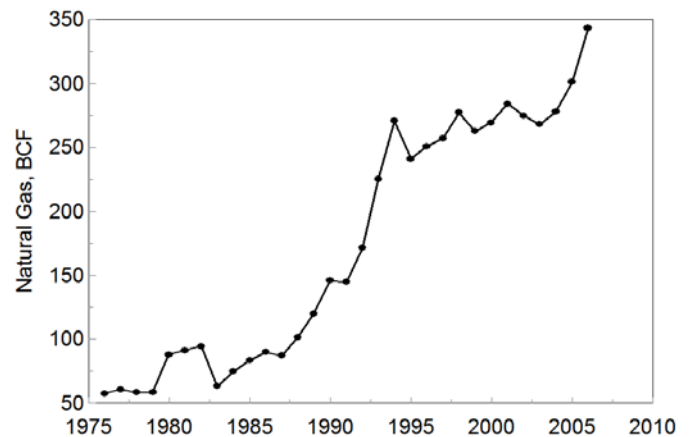
The two-county area of Carbon and Emery counties has emerged as a significant coalbed methane producer over the past 15 years. The initial discovery in the area was the conventional Clear Creek field in 1951. Production noticeably increased in the early 1990s with discovery of the Drunkards Wash field southwest of Price. Coalbed methane development and production peaked in 2001–2002 and has declined since then. Recent discoveries of

conventional gas deposits in the Nine Mile and Peter’s Point areas of northeastern Carbon County have brought renewed activity to this area and began to reverse the overall gas production decline in 2006.

Crude oil and natural gas production have increased in recent years in both areas examined. From a low of 7.3 million barrels in 2002, crude oil production in the Uinta Basin increased to 11.4 million barrels in 2006 (Table 2). The rise in natural gas production has been even more dramatic. Over the past 10 years, gas production from the basin has steadily grown from 81 BCF in 1997 to 226 BCF in 2006, a 178 percent increase (Table 3).

Carbon and Emery counties primarily produce natural gas, while oil production is minor, generally as an associated byproduct of gas production. Over the past 10 years, natural gas production in the area increased from 23.7 BCF in 1997 to 104.6 BCF in 2002, before declining to 98.5 BCF in 2006 (Table 3). Even with the decline from 2002, production in 2006 was over four times the level in 1997.

Figure 4
Utah Marketed Natural Gas Production



Note: BCF = billion cubic feet.
Source: Utah Geological Survey.

Perhaps a better gauge of activity in the oil and gas industry is the number of wells drilled. The majority of the employment in the oil and gas industry is actually in the drilling and service

companies and not with the operating companies. The total number of wells that commenced drilling (spudded) in Utah increased from 430 during 1997 to 1,057 during 2006 (Table 4). During 2006, 88.3 percent of these were drilled in the Uinta Basin and 7.4 percent were drilled in Carbon and Emery counties.

Economic Impacts

The Uinta Basin is the center of the oil and gas industry in Utah. As such, the oil and gas industry is a major factor in the area’s economy and is responsible for a major portion of employment in

Table 2
Selected Utah Crude Oil Production, 1997–2006
(barrels)

	Duchesne County	Uintah County	Uinta Basin Total	Carbon County	Emery County	Two-County Area Total	State Total
1997	6,358,598	3,147,423	9,506,021	0	3,354	3,354	19,592,548
1998	6,268,634	2,940,615	9,209,249	0	3,662	3,662	19,223,542
1999	4,697,532	2,637,875	7,335,407	527	1,649	2,176	16,376,521
2000	4,772,096	2,788,908	7,561,004	211	3,279	3,490	15,609,030
2001	4,980,167	3,195,205	8,175,372	128	4,552	4,680	15,273,926
2002	4,291,457	3,016,376	7,307,833	46	2,493	2,539	13,770,860
2003	4,341,306	3,069,047	7,410,353	1,885	6,191	8,076	13,098,424
2004	5,838,429	3,776,762	9,615,191	4,661	4,657	9,318	14,799,208
2005	6,670,272	4,371,478	11,041,750	9,468	3,196	12,664	16,675,302
2006	6,401,299	4,959,425	11,360,724	27,906	4,036	31,942	17,926,580
Share of State, 2006	35.7%	27.7%	63.4%	0.2%	0.0%	0.2%	100%

Note: A barrel of crude oil contains 42 gallons.
Source: Utah Division of Oil, Gas and Mining.

Table 3
Selected Utah Natural Gas Production (Gross Withdrawals), 1997–2006
(MCF)

	Duchesne County	Uintah County	Uinta Basin Total	Carbon County	Emery County	Two-County Area Total	State Total
1997	20,631,221	60,599,426	81,230,647	22,760,216	926,911	23,687,127	272,553,774
1998	19,204,848	70,621,273	89,826,121	31,903,361	1,345,422	33,248,783	297,503,246
1999	15,352,521	72,154,481	87,507,002	50,175,216	2,317,596	52,492,812	277,494,312
2000	13,934,444	83,100,193	97,034,637	72,586,085	4,042,810	76,628,895	281,170,016
2001	13,933,698	93,909,207	107,842,905	86,532,946	7,718,744	94,251,690	300,975,578
2002	12,476,159	104,385,705	116,861,864	90,700,883	13,901,494	104,602,377	293,030,004
2003	11,954,655	111,241,438	123,196,093	85,179,739	17,213,152	102,392,891	287,141,238
2004	14,641,315	132,454,516	147,095,831	79,238,531	17,443,464	96,681,995	293,735,994
2005	20,089,535	163,830,925	183,920,460	74,822,590	16,606,967	91,429,557	313,465,305
2006	22,525,615	203,522,421	226,048,036	82,337,741	16,199,707	98,537,448	356,361,028
Share of State, 2006	6.3%	57.1%	63.4%	23.1%	4.5%	27.7%	100%

Note: MCF = thousand cubic feet measured at 1 atmosphere of pressure and 60° F.
Source: Utah Division of Oil, Gas and Mining.

the two counties. The basin is benefitting from the oil and gas boom; employment in the Uinta Basin rose from 15,547 in 1997 to 23,552 persons in 2006. During the same time period, total wages paid in the basin increased from \$283 million to \$747 million (in current dollars). Employment and wages have also risen in Carbon and Emery counties, although not to the same extent as in the basin. From 1997 to 2006, employment in Carbon and Emery counties increased from 13,082 to 14,589 while total wages paid increased from \$329 million to \$451 million. Carbon and Emery counties are the site of several coal mines and three electric power plants which have had fairly consistent employment over the past 10 years, dampening the effect of rising oil and gas employment.

Direct employment in the oil and gas exploration and development industry accounted for nearly 20 percent of total employment and 35 percent of total wages paid in the Uinta Basin during 2006 (Table 5). Industry employment in Carbon and Emery counties is estimated at 137 persons, or 1.1 percent of total employment and 1.5 percent of total wages in 2006. Since the industry is a relatively recent development in Carbon and Emery counties, many of the service companies have not established a permanent presence but work out of offices in the Uinta Basin.

In addition to the direct employment, spending by the industry and its employees induces economic benefits by creating new jobs and wages. Other employment due to spending by the oil and gas industry is distributed throughout different industries (Table 6). Total employment due to the oil and gas industry, including direct, indirect, and induced, was estimated at 49.5 percent of total jobs in the Uinta Basin and 4.0 percent of jobs in Carbon and Emery

Table 5
Direct Employment and Wages in the E&P Industry, 2006

	Uinta Basin		Carbon & Emery Counties	
	Employ.	Wages (000)	Employ.	Wages (000)
Total	19,852	\$745,683	12,954	\$450,623
Oil and Gas Industry, direct	3,959	\$259,242	137	\$6,546
Oil and Gas Industry, share	19.9%	34.8%	1.1%	1.5%

Source: BLS, Quarterly Census of Employment and Wages; Utah Department of Workforce Services FirmFind; interviews with companies; author's estimates.

counties during 2006. In Table 6, direct employment in the oil and gas industry is included in the Mining industry (NAICS 21). The RIMS II input-output model used to determine economic impacts calculates employment by industry irrespective of type of ownership, i.e., private or government. However, the BLS figures do segregate private and government employment. The employment due to the oil and gas industry given in

Table 6 includes government employment in the various industries, not just private employment. Therefore, the number of total jobs due to the oil and gas industry can be greater than the number of private sector jobs in a given industry.

Table 4
Selected Wells Spudded in Utah, 1997–2006

	Duchesne County	Uintah County	Uinta Basin Total	Carbon County	Emery County	Two-County Area Total	State Total
1997	160	154	314	41	23	64	430
1998	123	186	309	74	3	77	430
1999	10	140	150	110	16	126	283
2000	63	289	352	122	55	144	540
2001	74	386	460	104	44	148	627
2002	44	226	270	51	53	104	391
2003	89	333	422	34	14	45	480
2004	166	441	607	32	4	36	659
2005	183	569	752	59	27	86	889
2006	279	654	933	57	21	78	1,057
Share of State, 2006	26.4%	61.9%	88.3%	5.4%	2.0%	7.4%	100%

Source: Utah Division of Oil, Gas and Mining.

The oil and gas industry was responsible for 60.1 percent of total wages in the Uinta Basin and 4.9 percent in Carbon and Emery counties during 2006 (Table 7). This includes direct, indirect, and induced wages. As with employment, the additional wages are distributed across numerous industries.

Fiscal Impacts

The oil and gas industry also has impacts on local government finances. In addition to the taxes common to all businesses, there are also impacts unique to the industry. Production on federal land is subject to a royalty payment under the Mineral Lands Leasing Act of 1920. A portion of the federal mineral royalties is returned to the state of origin, generally one-half. Royalties from production on Indian lands are returned to the appropriate tribe, not to the state government. Since a large portion of the crude oil production in Utah occurs on Indian lands, especially in Duchesne and San Juan counties,

the amount of crude oil royalty returned to the state government is significantly less than half of the amount paid to the federal government. The states have full discretion as to the distribution of federal mineral royalties as long as priority is given to areas with economic and/or social impacts from leasing activities. Federal mineral royalty data are not available at the county level, but statewide data are available.

Federal mineral royalties due to oil and gas production in Utah have increased dramatically from \$91 million in 2001 to nearly \$300 million in 2006, a 228 percent rise (Table 8). Oil and gas production accounted for 91.3 percent of the royalties paid for mineral production on federal land in Utah during 2006. There was also an additional \$103 million paid in bonuses and rents on federal mineral leases. These are fees associated with awarding federal mineral leases and maintaining the leases until production is initiated. Table 8 includes royalties due to oil and gas production, but does not include bonus or rent payments for federal oil and gas leases. Of the nearly \$300 million paid in federal mineral royalties by the oil and gas industry in Utah, \$109 million was returned to the state government.

In Utah, federal mineral royalties are distributed to several different accounts according to state law. The largest recipients are the Department of Transportation (40.0 percent) and the Permanent Community Impact Fund (32.5 percent). The funds distributed to the Department of Transportation are then distributed to local governments in proportion to the amount of mineral lease money generated by each county. The Permanent Community Impact Fund makes loans and grants to state agencies and subdivisions of state government impacted by mineral resource development, and is distributed in response to proposals submitted by state agencies and local governments. Therefore, the distribution of funds by the Permanent Community Impact Fund may vary from the amount of royalty generated. Lesser amounts of federal mineral royalties are distributed to the State Board of Education, the Utah Geological Survey, the Water Research Laboratory, and the Department of Community and Culture. The state also uses federal royalties to make payments in lieu of taxes to counties for lands controlled by the School and Institutional Trust Lands Administration, the Division of Parks and Recreation, and the Division of Wildlife Resources.

The School and Institutional Trust Lands Administration (SITLA) controls mineral rights on approximately 4.4 million acres in Utah. These lands are held in trust for the state's public schools and 11 other beneficiaries. In 2006, royalties paid for oil and gas extraction on SITLA lands totaled \$82.7 million. This was 51.0 percent of SITLA's total revenue for 2006. These funds are not returned to the county of origin, but are placed in a permanent fund managed by the state treasurer on behalf of the public schools or distributed to the appropriate beneficiary as mandated.

In addition to royalties, there is an Oil and Gas Severance Tax in Utah and an Oil and Gas Conservation Fee that are levied on all

**Table 6
Employment Due to Oil and Gas, 2006**

	Uinta Basin			Carbon & Emery Counties		
	Total Employment	Employment Due to Oil & Gas	Oil & Gas Employment, share of total	Total Employment	Employment Due to Oil & Gas	Oil & Gas Employment, share of total
Private Employment						
Agriculture, Forestry, Fishing and Hunting (NAICS 11)	114	14	12.3%	ND	1	NA
Mining (NAICS 21)	4,229	4,020	95.1%	1,804	147	8.1%
Utilities (NAICS 22)	178	33	18.5%	ND	44	NA
Construction (NAICS 23)	1,479	598	40.4%	731	103	14.1%
Manufacturing (NAICS 31-32)	375	185	49.3%	435	5	1.1%
Wholesale Trade (NAICS 42)	661	145	21.9%	ND	10	NA
Retail Trade (NAICS 44-45)	2,223	1,558	70.1%	1,719	68	4.0%
Transportation and Warehousing (NAICS 48-49)	1,240	875	70.6%	435	16	3.7%
Information (NAICS 51)	315	59	18.7%	259	4	1.5%
Finance and Insurance (NAICS 52)	299	142	47.5%	244	6	2.5%
Real Estate (NAICS 53)	403	307	76.2%	65	5	7.7%
Professional, Scientific and Technical Services (NAICS 54)	418	229	54.8%	279	4	1.4%
Management of Companies and Enterprises (NAICS 55)	ND	16	NA	ND	1	NA
Administrative and Support (NAICS 56)	ND	80	NA	ND	10	NA
Educational Services (NAICS 61)	42	58	138.1%	ND	11	NA
Health Care (NAICS 62)	1,277	626	49.0%	ND	25	NA
Arts, Entertainment and Recreation (NAICS 71)	ND	49	NA	71	3	4.2%
Accommodation and Food Services (NAICS 72)	ND	427	NA	911	34	3.7%
Other Services (NAICS 81)	501	378	75.4%	485	27	5.6%
Households	NA	36	NA	NA	2	NA
Government Employment	4,293	NA	NA	2,801	NA	NA
All Employment	19,582	9,835	50.2%	12,954	524	4.0%

Note: There is significant government employment in both Educational Services and Health Care and Social Assistance in the Uinta Basin. The employment calculated using the RIMS II model, which includes government employment, can exceed the private employment in these industries.
 ND: not disclosed; data are included in the totals. NA: not applicable.
 Source: BLS, Quarterly Census of Employment and Wages; author's calculations.

production in the state. Revenue from the Oil and Gas Severance Tax is placed in the state general fund, and the tax rate varies from 3 to 5 percent of the sales price. The Oil and Gas Conservation Fee funds the state Division of Oil, Gas, and Mining. The fee is imposed at a rate of 0.2 percent of the value of production.

Revenues from both the severance tax and the conservation fee have increased significantly in recent years (Table 9). Severance tax collections grew by 82 percent from 2001 to 2006, while conservation fee revenue increased by 102 percent. The drop from 2001 to 2002 was due to the decline of the wellhead price of natural gas produced in Utah from \$3.52 per MCF to \$1.99 per

**Table 7
Wages Due to Oil and Gas, 2006**

	Uinta Basin			Carbon & Emery Counties		
	Total Wages (000)	Total Wages Due to Oil & Gas (000)	Oil & Gas Wages share of total	Total Wages (000)	Total Wages Due to Oil & Gas (000)	Oil & Gas Wages share of total
Private Employment						
Agriculture, Forestry, Fishing and Hunting (NAICS 11)	\$2,027	\$243	12.0%	ND	\$9	NA
Mining (NAICS 21)	\$269,605	\$263,111	97.6%	\$111,000	\$7,359	6.6%
Utilities (NAICS 22)	\$12,473	\$2,959	23.7%	ND	\$3,891	NA
Construction (NAICS 23)	\$49,123	\$24,547	50.0%	\$35,249	\$4,241	12.0%
Manufacturing (NAICS 31-32)	\$10,808	\$7,897	73.1%	\$18,992	\$260	1.4%
Wholesale Trade (NAICS 42)	\$30,033	\$6,886	22.9%	ND	\$458	NA
Retail Trade (NAICS 44-45)	\$45,603	\$35,053	76.9%	\$30,198	\$1,542	5.1%
Transportation and Warehousing (NAICS 48-49)	\$66,650	\$34,377	51.6%	\$15,243	\$945	6.2%
Information (NAICS 51)	\$9,457	\$3,257	34.4%	\$6,713	\$191	2.8%
Finance and Insurance (NAICS 52)	\$9,058	\$5,683	62.7%	\$6,599	\$218	3.3%
Real Estate (NAICS 53)	\$20,894	\$11,872	56.8%	\$1,044	\$117	11.2%
Professional, Scientific and Technical Services (NAICS 54)	\$15,049	\$11,553	76.8%	\$5,450	\$207	3.8%
Management of Companies and Enterprises (NAICS 55)	ND	\$852	NA	ND	\$56	NA
Administrative and Support (NAICS 56)	ND	\$1,836	NA	ND	\$214	NA
Educational Services (NAICS 61)	\$466	\$1,195	256.4%	ND	\$233	NA
Health Care (NAICS 62)	\$33,508	\$19,975	59.6%	ND	\$924	NA
Arts, Entertainment and Recreation (NAICS 71)	ND	\$892	NA	\$825	\$44	5.3%
Accommodation and Food Services (NAICS 72)	ND	\$5,830	NA	\$9,660	\$530	5.5%
Other Services (NAICS 81)	\$13,690	\$9,651	70.5%	\$12,846	\$678	5.3%
Households	NA	\$578	NA	NA	\$36	NA
Government Employment	\$131,529	NA	NA	\$82,266	NA	NA
All Employment	\$745,683	\$448,246	60.1%	\$450,623	\$22,151	4.9%

Note: There is significant government employment in both Educational Services and Health Care and Social Assistance in the Uinta Basin. The wages calculated using the RIMS II model, which includes government wages, can exceed the private wages in these industries. ND: not disclosed; NA: not applicable.
Source: BLS, Quarterly Census of Employment and Wages; author's calculations.

Emery counties. Table 10 refers to all property taxes paid to various government entities, not just the county governments. Given rising production and the expected continuation of current energy prices, property taxes paid by the oil and gas industry should continue to rise into the future.

The funds generated through federal mineral royalties that are returned to the counties through the Utah Department of Transportation (UDOT) are also a significant source of revenue for local governments (Table 11). These funds actually exceed the amount of property taxes paid by the oil

MCF. These data reflect statewide oil and gas operations and are not specific to areas addressed in this report.

The largest direct fiscal impacts on local governments due to oil and gas operations are property taxes paid by the operating

and gas industry. In 2006, the Uinta Basin received \$30.3 million in federal mineral royalties returned by UDOT. This was a 296 percent increase over the amount returned in 2001. Carbon and Emery counties collectively received \$13.7 million in federal

royalties, a 70 percent increase over 2001.

**Table 8
Federal Mineral Royalty Payments and Disbursements for Utah, 2001-2006**

	Oil		Natural Gas		Total	
	Royalties	Disbursements	Royalties	Disbursements	Royalties	Disbursements
2001	\$32,799,794	\$4,392,667	\$58,553,527	\$26,210,621	\$91,353,321	\$30,603,288
2002	\$26,028,911	\$3,493,794	\$37,653,050	\$11,921,373	\$63,681,961	\$15,415,167
2003	\$37,462,357	\$5,575,810	\$55,369,036	\$26,040,706	\$92,831,293	\$31,616,515
2004	\$45,743,590	\$7,235,629	\$87,075,857	\$38,228,494	\$132,819,447	\$45,464,122
2005	\$66,900,212	\$10,405,687	\$118,132,687	\$53,647,636	\$185,032,900	\$64,053,323
2006	\$106,457,298	\$21,866,066	\$193,416,183	\$87,551,457	\$299,873,481	\$109,417,522

Note: Years are federal fiscal years. Natural gas includes natural gas liquids from gas processing plants.
Source: Minerals Management Service.

companies and federal mineral royalties distributed to local governments by the Utah Department of Transportation. The Utah State Tax Commission centrally assesses oil and gas properties using a net present value approach. The local county treasurers bill and collect the taxes.

Property taxes paid on oil and gas properties are a significant portion of total property taxes in the Uinta Basin (Table 10). During 2006, the oil and gas industry paid nearly 40 percent of total property taxes in the basin. Similarly, the oil and gas industry paid nearly 25 percent of total property taxes in Carbon and

**Table 9
State Tax Collections Related to Oil and Gas Production, 2001-2006**

	Oil & Gas Severance Tax	Oil & Gas Conservation Fee
2001	\$39,357,798	\$2,748,318
2002	\$18,893,082	\$1,710,219
2003	\$26,745,279	\$1,943,755
2004	\$36,659,808	\$2,696,250
2005	\$53,484,320	\$3,631,963
2006	\$71,513,869	\$5,560,449

Note: Years are state fiscal years.
Source: Utah State Tax Commission.

Royalties paid to SITLA from production of oil and gas (Table 12) rose significantly in the Uinta Basin from 2005 to 2006. In 2005, oil and gas production in the basin resulted in \$23 million in SITLA royalties. Rising production and prices resulted in

a 54 percent increase in 2006, with over \$35 million in SITLA royalties paid. Royalties paid to SITLA in Carbon and Emery counties dropped slightly from 2005 to 2006, from \$27 to \$25 million.

Table 10
Oil and Gas Property Tax Payments, 1997–2006

	Oil & Gas Property Tax	Share of Total Prop. Tax	Oil & Gas Property Tax	Share of Total Prop. Tax	Oil & Gas Property Tax	Share of Total Prop. Tax
	Duchesne County		Uintah County		Uinta Basin Total	
1997	\$2,412,970	27.2%	\$2,389,667	15.7%	\$4,802,637	20.0%
1998	\$2,353,888	27.9%	\$2,858,447	18.1%	\$5,212,335	21.5%
1999	\$1,561,466	21.3%	\$2,309,639	15.6%	\$3,871,105	17.5%
2000	\$1,749,689	19.7%	\$2,579,728	16.9%	\$4,329,417	17.9%
2001	\$2,221,385	23.1%	\$3,449,316	20.8%	\$5,670,701	21.7%
2002	\$1,773,249	18.4%	\$4,054,227	22.5%	\$5,827,476	21.1%
2003	\$1,739,101	17.2%	\$4,276,125	21.9%	\$6,015,226	20.3%
2004	\$2,407,040	21.8%	\$5,985,003	25.3%	\$8,392,043	24.2%
2005	\$3,640,044	27.8%	\$8,241,224	33.0%	\$11,881,268	31.2%
2006	\$5,358,661	33.9%	\$12,895,362	41.1%	\$18,254,024	38.7%
	Carbon County		Emery County		Two-County Area Total	
1997	\$359,255	3.0%	\$44,722	0.2%	\$403,977	1.2%
1998	\$653,781	4.9%	\$56,297	0.3%	\$710,078	2.2%
1999	\$1,233,733	10.2%	\$144,661	0.7%	\$1,378,394	4.4%
2000	\$3,316,312	22.2%	\$237,473	1.2%	\$3,553,785	10.4%
2001	\$4,779,864	28.0%	\$547,486	2.8%	\$5,327,350	14.4%
2002	\$4,290,845	26.5%	\$755,816	4.1%	\$5,046,661	14.6%
2003	\$4,567,518	24.5%	\$985,587	5.5%	\$5,553,105	15.1%
2004	\$6,576,519	32.8%	\$1,496,054	8.2%	\$8,072,573	21.1%
2005	\$7,418,552	38.7%	\$1,836,886	10.2%	\$9,255,438	24.9%
2006	\$8,101,170	35.8%	\$2,111,766	10.9%	\$10,212,936	24.3%

Source: Utah State Tax Commission, Property Tax Division Annual Reports.

Table 11
Federal Mineral Royalties Returned by UDOT, 2001–2006

	Duchesne County	Uintah County	Uinta Basin Total
2001	\$789,854	\$6,856,410	\$7,646,264
2002	\$718,112	\$3,031,081	\$3,749,193
2003	\$678,705	\$6,893,486	\$7,572,192
2004	\$931,428	\$11,767,611	\$12,699,038
2005	\$1,903,292	\$16,704,532	\$18,607,824
2006	\$2,750,055	\$27,500,128	\$30,250,182
	Carbon County	Emery County	Two-County Area Total
2001	\$5,140,732	\$2,900,800	\$8,041,532
2002	\$2,260,889	\$1,703,743	\$3,964,632
2003	\$3,233,674	\$2,208,352	\$5,442,026
2004	\$5,421,384	\$3,761,439	\$9,182,823
2005	\$7,050,220	\$4,082,628	\$11,132,848
2006	\$10,145,446	\$3,566,833	\$13,712,279

Note: Years are state fiscal years.
Source: Utah Department of Transportation.

drilling, and service companies. Using data on total production of oil and gas, number of wells spudded, and employment reported by government agencies, the spending reported by responding companies was expanded to total industry spending. The multipliers from the RIMS II model were then applied to the

total spending to determine the indirect and induced employment and wages.

State personal income taxes in 2006 as a result of oil and gas activities (Table 13) are estimated at just over \$18 million for the Uinta Basin. For Carbon and Emery counties they are estimated at \$681,000.

Technical Notes and Methodology

Economic impacts on an economy arise from exogenous sources or activities that inject new funds into the economy. Crude oil and natural gas from producing areas in Utah are exported to refineries and markets out of state. This results in an inflow of funds, which creates a positive economic impact on the area.

The oil and gas exploration and production industry has a direct impact on the local economy through employment and wages paid. In addition, there are additional indirect and induced impacts. Indirect impacts result from local spending by the E&P industry and induced impacts arise from employees of the E&P industry spending their earnings.

The RIMS II input-output model developed by the Bureau of Economic Analysis was used to determine the indirect and induced economic impacts. Data on spending by the E&P industry was obtained via a survey of operating,

Table 13
State Personal Income Taxes due to Oil and Gas, 2006

	Uinta Basin Total	Two-County Area Total
Total Wages Due to Oil and Gas E&P (000)	\$448,246	\$22,151
Personal State Income Taxes (000)	\$18,026	\$681

Source: Author's calculations. Details of the estimation are in the Technical Notes.

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