Annual Review and Forecast of

UTAH COAL

Production and Distribution - 2003

Prepared by the Utah Energy Office
Department of Natural Resources

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Cover photographs taken by Michael D. Vanden Berg, Utah Energy Office. Clockwise from top: longwall machine in the Deer Creek mine, West Ridge mine loadout, the now closed Skyline mine loadout, continuous miner machine in the Deer Creek mine.

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TABLE OF CONTENTS

EXECUTIVE SUMMARY

U.S. coal production decreased from 1.09 billion tons in 2002 to 1.07 billion tons in 2003, marking the second straight year of decline. In Utah, production of coal also declined for the second straight year to a total of 23.1 million tons, and distribution declined for the third consecutive year to 23.7 million tons. Utah coal production in 2004 will again decrease due to development work underway at several mines and the 2004 closure of the Skyline mine, one of Utah's largest producers. However, production in 2005 and beyond should remain steady or even increase as many mines return to full production.

The average price of coal rose at the national level, but declined for Utah coal. The average sales price for coal at Utah mines decreased to $16.64 per ton in 2003, which with lower production brought total estimated revenue below $400 million for the first time in 16 years. Low coal prices on multi-year contracts account for this current low average price. Conversely, spot prices range above $20 per ton and could be a better indicator of the price outlook for Utah coal in coming years.

Exports of U.S. coal increased for the first time in six years, even as imports of coal from overseas reached a historic high. Utah coal producers, however, did not participate in this resurgence, as exports in 2003 dwindled to just 222,000 tons, 90.8 percent lower than in 2001.

Natural gas accounts for an increasing share of total U.S. power generation capacity due to relatively clean combustion and peaking capability. However, natural gas usage may be limited by rising cost and supply constraints. On the other hand, coal consumption at Utah electric utilities is at an all time high, 15.8 million tons in 2003, and accounts for over 93 percent of all electricity generated in the state. This high demand is expected to continue, and Utah coal mines will be the main suppliers. In addition, continued federal and industry investments have helped researchers make improvements in technology for burning coal with greater efficiency and less pollution.

Utah coal continues to enjoy a reputation for high energy and low sulfur content. Increasing reliance on longwall equipment helps assure high productivity, even as miners experience some of the most difficult mining conditions in the United States. The use of longwall equipment under increasingly deep cover also presents challenges for maintaining coal quality, particularly ash content. Customer development of sophisticated coal blending and combustion controls, like those at the Hunter Power Plant, help assure plant efficiency and environmental compliance.

Rising production efficiency and automation steadily reduce the number of employees needed to meet coal demand. The average number of employees working in the 14 active Utah mines increased slightly to 1,583 in 2003, while productivity decreased to 6.35 tons per employee hour. With the closure of two mines in 2003 and one in early 2004, the number of employees in 2004 is expected to decrease to 1,394, while productivity will increase to 7.45 tons per employee hour. Average mine size and rate of utilization are both higher in Utah than the national average, suggesting potential vulnerability to coal shortage if any producer in the state experiences difficulty.

The reliance on coal for most of Utah's electric power will keep the coal mining industry in the state strong for many years. In addition, Utah coal will continue to supply several electric and cogeneration plants in Nevada and California. The most persistent concern of coal consumers is maintaining a stable supply of high-quality Utah coal in the face of difficult mining conditions, land-use restrictions and environmental regulations.

UTAH COAL PRODUCTION

INTRODUCTION

The annual Utah Coal Report is prepared by the Utah Energy Office (UEO), along with similar reports on energy resources, as part of its mission within the Utah Department of Natural Resources. Data were gathered directly from coal producers and consumers, and comparisons were made to national data, news reports and industry experts. A significant contribution was made by the Utah Geological Survey (UGS), with additional guidance from the Utah Division of Oil, Gas and Mining (DOGM).

In 2003, U.S. coal consumption increased by 2.3 percent over 2002 to a total of 1,090.5 million tons. Meanwhile, domestic production fell from 1,093.3 million tons to 1,068.5 million tons, a total national decline of 2.3 percent (Table 1). Consequently, coal imports to the United States rose to record levels, shrinking the margin by which the United States is still a net exporter of coal. Net production was down in the western United States where six of nine western states experienced reductions in coal production during 2003. Utah's annual production declined 9.7 percent from 25.3 million tons in 2002 to 23.1 million tons in 2003, the lowest since 1993. This 9.7 percent decline was the third largest decrease, behind New Mexico and Virginia, for states producing more than five million tons a year. Utah's 2003 coal production was 14.8 percent lower than peak annual production of 27.1 million tons in 1996. This production decrease resulted in a decline of sales revenue from $467.3 million in 2002 to $383.9 million in 2003, a 17.8 percent decrease (Table 2). Utah coal revenues are predicted to decrease by an additional 4.6 percent in 2004 as production is predicted to decline to 21.9 million tons. However, operators hope that prices will increase with growing demand and declining production.

On average, U.S. coal prices for domestic consumption rose during 2003. Conversely, prices for U.S. coal exports declined substantially during the year. Utah coal prices on average declined from $18.47 per ton in 2002 to $16.64 per ton in 2003; however, new contracts for Utah coal indicate increasing prices in 2004 (Table 2). Long-term contracts made during prior years at lower prevailing prices act as a substantial brake on rising revenues.

During 2003, the number of active mines increased from 13 to 14 and the number of coal employees increased from 1,525 to 1,583, temporarily halting the long-term Utah trend of declining coal mining employment (Table 2). However, 190 fewer coal mining jobs are anticipated for 2004

Table 1 **U.S. Coal Production by State, 2002-2003**
Thousand short tons

2003 Rank	State	2002	2003	Percent Change
1	Wyoming	373,161	375,511	0.6%
2	West Virginia	150,078	138,412	-8.4%
3	Kentucky	124,142	113,118	-9.7%
	Eastern Kentucky	*99,398*	*91,707*	*-8.4%*
	Western Kentucky	*24,744*	*21,411*	*-15.6%*
4	Pennsylvania	68,393	63,695	-7.4%
5	Texas	45,247	47,517	4.8%
6	Montana	37,386	36,994	-1.1%
7	Colorado	35,103	35,749	1.8%
8	Indiana	35,337	35,409	0.2%
9	Illinois	33,314	31,640	-5.3%
10	Virginia	29,956	31,545	5.0%
11	North Dakota	30,799	30,775	-0.1%
12	New Mexico	28,916	25,835	-11.9%
13	**Utah**	**25,299**	**23,069**	**-9.7%**
14	Ohio	21,157	21,990	3.8%
15	Alabama	18,931	20,048	5.6%
16	Arizona	12,804	12,059	-6.2%
17	Washington	5,827	6,232	6.5%
18	Maryland	5,147	5,066	-1.6%
19	Louisiana	3,803	4,028	5.6%
20	Mississippi	2,305	3,695	37.6%
21	Tennessee	3,166	2,564	-23.5%
22	Oklahoma	1,406	1,782	21.1%
23	Alaska	1,146	1,081	-6.0%
24	Missouri	248	533	53.5%
25	Kansas	205	154	-32.9%
26	Arkansas	14	8	-75.0%
	Appalachian	396,226	375,027	-5.7%
	Interior	146,623	146,177	-0.3%
	Western	544,614	541,073	-0.7%
	East of Mississippi R.	491,926	467,182	-5.3%
	West of Mississippi R.	601,364	601,327	0.0%
U.S. Total		1,070,023	1,043,366	-2.6%

Source: U.S. Energy Information Administration (EIA) and UEO

Table 2 **Utah Coal Industry Production, Employment, Productivity, Prices and Revenue, 1981-2004**

Year	Production	# of operators	# of mines	Employment	Productivity	Prices	Revenue
	Thousand short tons			# of employees	Tons/employee hour	$/Ton (nominal dollars)	Million $ (nominal dollars)
1981	13,808	16	28	4,166	1.99	26.87	371.0
1982	16,912	16	29	4,296	2.05	29.42	497.6
1983	11,829	15	25	2,707	2.59	28.32	335.0
1984	12,259	15	24	2,525	2.94	29.20	358.0
1985	12,831	15	22	2,563	2.80	27.69	355.3
1986	14,269	16	21	2,881	3.08	27.64	394.4
1987	16,521	16	20	2,650	3.25	25.67	424.1
1988	18,164	14	17	2,559	3.69	22.85	415.0
1989	20,517	14	20	2,471	4.42	22.01	451.6
1990	22,012	13	18	2,791	4.10	21.78	479.4
1991	21,875	11	16	2,292	4.79	21.56	471.6
1992	21,015	10	16	2,106	5.13	21.83	458.8
1993	21,723	9	15	2,161	5.47	21.17	459.9
1994	24,422	8	14	2,024	6.01	20.07	490.1
1995	25,051	7	14	1,989	6.41	19.11	478.7
1996	27,071	7	13	2,077	5.91	18.50	500.8
1997	26,428	8	16	2,091	5.57	18.34	484.7
1998	26,600	8	17	1,950	6.19	17.83	474.3
1999	26,491	8	15	1,843	6.09	17.36	459.9
2000	26,920	8	13	1,672	6.91	16.93	455.8
2001	27,024	7	13	1,564	5.98	17.76	479.9
2002	25,299	8	13	1,525	6.83	18.47	467.3
2003	23,069	9	14	1,583	6.35	16.64	383.9
2004*	21,907	8	12	1,394	7.45	16.72	366.3

Source: UEO coal company questionnaires
*Forecast

due to the closing of the Skyline and Whisky Creek mines. Still, 90.7 percent of Utah coal production came from mines producing more than 1.0 million tons during 2003 (Table 3), compared with a national average of roughly 60 percent of annual production coming from large mines. The result is vulnerability for customers who rely on Utah coal, particularly where blending of coals from different mines is required and where transportation and stockpile limitations exist.

COAL MINING PRODUCTIVITY

Production efficiency at Utah coal mines declined slightly during 2003, from 6.83 short tons of coal production per employee per hour in 2002 to 6.35 tons per employee hour in 2003 (Table 2). This is lower than the 8.33 tons per employee hour for underground mines in western U.S. states during 2003. Utah mines are run at high rates of equipment utilization and are typically deeper and more expensive to operate than mines in other western states. Miner productivity was below 5.0 tons per employee hour as recently as 1991. In fact, the 1,583 coal mine employees working during 2003 is just 69.1 percent of the work force employed as recently as 1991. On average, each employee produced 14,600 tons during 2003, down from 16,600 tons in 2002, but still higher than the 1990's average of 11,600 tons per employee and much higher than the 1980's average of 5,300 tons per employee. Mining productivity projections for 2004 suggest a substantial increase to 7.45 short tons per employee per hour due to a projected short-term increase in longwall mining production, which requires fewer employees to produce more coal.

Various factors affect coal mining productivity. Surface land-use restrictions, as well as other environmental regulations, reduce options for entry to coal seams and place substantial coal resources off-limits. Depletion of accessible coal compels the mining of deeper seams that exhibit relatively more root-control problems and other hazards. The use of longwall equipment greatly improves productivity, but many mines are having difficulty finding new seams that are suitable for longwall mining.

PRODUCTION BY COAL FIELD

Mines in the Wasatch Plateau coal field accounted for 68.8 percent of Utah's coal production in 2003, down from 77.7 percent the year before (Table 4). With the

Table 3 **Coal Production in Utah by Coal Mine, 2001-2003**

Thousand short tons

Company	Mine	County	Coal Field	2001	2002	2003
Andalex Resources Inc.	Aberdeen	Carbon	Book Cliffs	531	37	444
	Pinnacle	Carbon	Book Cliffs	296	662	584
Canyon Fuel LLC	Dugout Canyon	Carbon	Book Cliffs	1,981	2,080	2,941
	Skyline #3	Emery	Wasatch Plateau	3,822	3,477	2,771
	Sufco	Sevier	Wasatch Plateau	7,001	7,600	7,126
Consolidation Coal Co.	Emery Deep	Emery	Emery	--	26	243
C.W. (Co-op) Mining Co.	Bear Canyon #1	Emery	Wasatch Plateau	1,254	953	403
	Bear Canyon #3	Emery	Wasatch Plateau	--	4	310
Energy West Mining Co.	Deer Creek	Emery	Wasatch Plateau	4,338	3,984	3,938
	Trail Mountain	Emery	Wasatch Plateau	924	--	--
Genwal Resources Inc.	Crandall Canyon	Emery	Wasatch Plateau	3,996	3,248	1,161
	S. Crandall Canyon	Emery	Wasatch Plateau	--	--	26
Hidden Splendor Res. Inc.[1]	Horizon	Carbon	Wasatch Plateau	23	110	108
Lodestar Energy Inc.	Whisky Creek #1	Carbon	Wasatch Plateau	--	278	25
	White Oak #2	Carbon	Wasatch Plateau	560	--	--
West Ridge Resources, Inc.	West Ridge	Carbon	Book Cliffs	2,298	2,840	2,989
Total				27,024	25,299	23,069

Source: UEO coal company questionnaires

[1]Owned by Lodestar in 2001

Table 4 **Coal Production in Utah by Coal Field, 1982-2004**

Thousand short tons

Year	Wasatch Plateau	Book Cliffs	Emery	Sego	Coalville	Others	Total
1870-1981	166,404	234,547	5,723	2,654	4,262	2,332	415,922
1982	12,342	3,718	852	0	0	0	16,912
1983	10,173	1,568	88	0	0	0	11,829
1984	10,266	1,993	0	0	0	0	12,259
1985	9,386	2,805	640	0	0	0	12,831
1986	10,906	2,860	503	0	0	0	14,269
1987	13,871	2,348	269	0	33	0	16,521
1988	15,218	2,363	548	0	35	0	18,164
1989	17,146	2,785	586	0	0	0	20,517
1990	18,591	3,085	336	0	0	0	22,012
1991	18,934	2,941	0	0	0	0	21,875
1992	18,631	2,384	0	0	0	0	21,015
1993	19,399	2,324	0	0	0	0	21,723
1994	22,079	2,343	0	0	0	0	24,422
1995	22,631	2,420	0	0	0	0	25,051
1996	23,616	3,455	0	0	0	0	27,071
1997	22,916	3,512	0	0	0	0	26,428
1998	22,708	3,892	0	0	0	0	26,600
1999	23,572	2,919	0	0	0	0	26,491
2000	22,967	3,953	0	0	0	0	26,920
2001	21,919	5,106	0	0	0	0	27,024
2002	19,654	5,619	26	0	0	0	25,299
2003	15,868	6,958	243	0	0	0	23,069
2004*	13,257	8,500	150	0	0	0	21,907
Cumulative Production	559,197	305,898	9,814	2,654	4,330	2,332	884,224

Source: UEO coal company questionnaires

*Forecast, 2004 numbers not included in cumulative production totals

closure of the Skyline mine, production from the Book Cliffs coal field will become more significant in 2004. In fact, production from mines in the Book Cliffs increased by 23.8 percent in 2003 and is predicted to increase by an additional 22.2 percent in 2004. Combined production from the Aberdeen and Pinnacle mines rose by 47.1 percent in 2003, Dugout Canyon increased by 41.4 percent and West Ridge increased by 5.2 percent.

In the Wasatch Plateau, production at Co-op's Bear Canyon mine declined by 25.5 percent in 2003 due to a labor strike, Crandall Canyon production declined by 63.4 percent as longwall equipment shifted to Andalex's Aberdeen mine and Deer Creek production was down by 1.2 percent due to greater than expected faults and scours in their primary seam. The Whisky Creek mine ceased production when its parent company went out of business. Production at the Horizon mine remained steady under new ownership, producing 108,000 tons in 2003, about the same as in 2002. Production from Sufco, the largest coal mine in Utah, declined by 6.2 percent in 2003. The Sufco mine has been running at maximum capacity for many years, and the working face is currently about 12 miles from the mine entry.

The Emery coal field resumed coal production in 2002 with the reopening of the Emery mine. This mine produced 243,000 tons in 2003 before closing again in August of that year due to contract and ownership issues. The Emery mine is scheduled to begin production again in August of 2004.

The remainder of Utah's coal fields are inactive, as they have been for many years. Several

fields, like the Kaiparowits Plateau, which holds an estimated 9.1 billion tons of recoverable coal, cannot be mined because of land-use restrictions and/or they are too remote for economical transport to market.

PRODUCTION BY COUNTY

Coal production in Emery County decreased from 11.7 million tons in 2002 to 8.8 million tons in 2003 (Table 5). Despite this decrease, it is still the highest producing county in the state accounting for 38.4 percent of total production. To help offset the decline in Emery County, coal production in Carbon County increased from 6.0 million tons in 2002 to 7.1 million tons in 2003, an 18.0 percent increase. In 2004, with the closure of the Skyline mine, Carbon County will resume its position as the leading coal producing county in the state, a position it last held in 1989. Emery County's production is expected to decrease to 5.7 million tons in 2004 while Carbon County production should increase to 8.9 million tons. The boundary line between Carbon and Emery County cuts across the northern Wasatch Plateau that contains substantial accessible coal reserves. Historically, mine tracts containing substantial reserves have straddled both jurisdictions and simply by moving equipment to different areas, mine operators quickly changed county production totals. Sevier County's only active mine, Sufco, produced 7.1 million tons in 2003 and is expected to produce 7.4 million tons in 2004.

PRODUCTION BY LANDOWNERSHIP

Federal leases continued to dominate Utah's production picture as mines on U.S. Bureau of Land Management (BLM) and Forest Service land accounted for 18.8 million tons, or 81.6 percent, of the state's total coal production in 2003 (Table 6). Production from Sufco, West Ridge, Deer Creek and Aberdeen will keep federal leases the primary source of Utah coal for a few more years. However, due to the closing of the Skyline mine, production on federal leases is predicted to decline by 9.1 percent to a total of 17.1 million tons in 2004. Also, the

Table 5 **Coal Production in Utah by County, 1960-2004**
Thousand short tons

Year	Carbon	Emery	Sevier	Summit	Iron	Kane	Others	Total
1870-1959	211,028	49,166	4,046	4,012	521	45	2,846	271,664
1960	3,698	1,137	49	20	50	0	1	4,955
1961	3,916	1,124	47	20	52	0	0	5,159
1962	3,105	1,077	49	20	46	0	0	4,297
1963	3,493	752	47	18	48	1	0	4,359
1964	3,752	848	47	17	54	2	0	4,720
1965	3,779	1,101	61	13	36	2	0	4,992
1966	3,380	1,170	65	15	4	2	0	4,636
1967	2,971	1,113	72	13	3	2	0	4,174
1968	3,062	1,167	70	13	3	2	0	4,317
1969	3,367	1,200	72	12	4	2	0	4,657
1970	3,349	1,292	79	13	0	0	0	4,733
1971	3,347	1,097	158	12	0	12	0	4,626
1972	2,956	1,656	184	6	0	0	0	4,802
1973	2,866	2,445	339	0	0	0	0	5,650
1974	2,754	2,901	391	0	0	0	0	6,046
1975	2,984	3,126	827	0	0	0	0	6,937
1976	3,868	3,057	1,043	0	0	0	0	7,968
1977	4,390	3,107	1,337	0	0	0	4	8,838
1978	4,005	3,640	1,558	0	0	0	50	9,253
1979	5,292	5,147	1,657	0	0	0	0	12,096
1980	5,096	6,319	1,821	0	0	0	0	13,236
1981	6,123	5,609	2,076	0	0	0	0	13,808
1982	8,335	6,329	2,248	0	0	0	0	16,912
1983	4,194	5,404	2,231	0	0	0	0	11,829
1984	5,293	4,825	2,141	0	0	0	0	12,259
1985	6,518	4,516	1,797	0	0	0	0	12,831
1986	6,505	5,404	2,360	0	0	0	0	14,269
1987	7,495	6,765	2,228	33	0	0	0	16,521
1988	7,703	7,801	2,625	35	0	0	0	18,164
1989	8,927	8,531	3,059	0	0	0	0	20,517
1990	8,810	10,315	2,887	0	0	0	0	22,012
1991	5,816	12,980	3,079	0	0	0	0	21,875
1992	3,386	15,049	2,580	0	0	0	0	21,015
1993	2,642	15,528	3,553	0	0	0	0	21,723
1994	4,523	16,330	3,569	0	0	0	0	24,422
1995	3,801	17,344	3,906	0	0	0	0	25,051
1996	5,985	16,872	4,214	0	0	0	0	27,071
1997	6,956	14,533	4,939	0	0	0	0	26,428
1998	7,206	13,675	5,719	0	0	0	0	26,600
1999	4,514	16,214	5,763	0	0	0	0	26,491
2000	4,615	16,399	5,906	0	0	0	0	26,920
2001	5,689	14,334	7,001	0	0	0	0	27,024
2002	6,007	11,692	7,600	0	0	0	0	25,299
2003	7,091	8,852	7,126	0	0	0	0	23,069
2004*	8,850	5,657	7,400	0	0	0	0	21,907
Cumulative Production	424,592	348,943	102,626	4,272	821	70	2,901	884,225

Source: UEO coal company questionnaires
*Forecast, 2004 numbers not included in cumulative production totals

Deer Creek mine will begin production on the state-owned Mill Fork tract in 2005, and Sufco will move into the state-owned Muddy Tract by 2009, causing a dramatic shift from federal coal to state-owned coal production in the next five years.

Lands owned by the State of Utah supplied 2.2 million tons of coal in 2003, which is 49.6 percent less than the 2002 production of 4.4 million tons. State lands accounted for only 9.5 percent of total state production in 2003, down from 17.2 percent in 2002. This decline was partially caused by decreased production due to a shift in longwall equipment from the Crandall Canyon mine to the Aberdeen mine. Higher production at the Dugout Canyon mine only partly mitigated the loss.

Production on county-owned land dwindled to only 25,000 tons in 2003 with the closing of the Whisky Creek mine. No production on county land is expected in 2004.

Production on private "fee" land decreased from 2.3 million tons in 2002 to 2.0 million tons in 2003, 8.8 percent of Utah's total. This decline was primarily due to reduced production from Co-op's Bear Canyon mine, but declining production from private land was also recorded at the Skyline, Dugout and Deer Creek mines.

PRODUCTION BY MINING METHOD

During 2003, six longwall mining machines in seven mines produced 18.0 million tons of coal, accounting for 77.9 percent of total Utah coal production. Most notably, the longwall at the Crandall Canyon mine was moved to the Aberdeen mine during the year as part of the shift in coal production from the Wasatch Plateau coal field to the Book Cliffs coal field. Twenty-five continuous miner machines, up from 21 in 2002, produced the remaining 22.1 percent of state production. Lodestar's Whisky Creek mine was the state's only surface coal mine in recent years and produced just 25,000 tons during 2003 before closing. The processing of waste coal piles at the old Sunnyside and Star Point mines is not generally considered coal mining, but rather reclamation activity. Fluidized bed combustion allows discarded wash plant waste and other coal refuse to be used as fuel at Utah's Sunnyside Cogeneration power plant. Annual coal waste consumption at the Sunnyside Cogeneration facility averages 485,000 tons.

Table 6 **Coal Production in Utah by Landownership, 1980-2004**
Thousand short tons

Year	Federal Land	% of Total	State Land	% of Total	County Land	% of Total	Fee Land	% of Total	Total
1980	8,663	65.5%	1,105	8.3%	0	0.0%	3,468	26.2%	13,236
1981	8,719	63.1%	929	6.7%	0	0.0%	4,160	30.1%	13,808
1982	10,925	64.6%	998	5.9%	0	0.0%	4,989	29.5%	16,912
1983	6,725	56.9%	419	3.5%	0	0.0%	4,685	39.6%	11,829
1984	8,096	66.0%	285	2.3%	0	0.0%	3,878	31.6%	12,259
1985	9,178	71.5%	510	4.0%	0	0.0%	3,143	24.5%	12,831
1986	11,075	77.6%	502	3.5%	0	0.0%	2,692	18.9%	14,269
1987	13,343	80.8%	488	3.0%	0	0.0%	2,690	16.3%	16,521
1988	15,887	87.5%	263	1.4%	0	0.0%	2,014	11.1%	18,164
1989	16,931	82.5%	375	1.8%	153	0.7%	3,058	14.9%	20,517
1990	17,136	77.8%	794	3.6%	606	2.8%	3,476	15.8%	22,012
1991	18,425	84.2%	942	4.3%	144	0.7%	2,364	10.8%	21,875
1992	17,760	84.5%	1,384	6.6%	136	0.6%	1,735	8.3%	21,015
1993	19,099	87.9%	1,682	7.7%	116	0.5%	826	3.8%	21,723
1994	22,537	92.3%	1,227	5.0%	243	1.0%	415	1.7%	24,422
1995	23,730	94.7%	571	2.3%	289	1.2%	461	1.8%	25,051
1996	25,996	96.0%	446	1.6%	15	0.1%	614	2.3%	27,071
1997	25,161	95.2%	339	1.3%	0	0.0%	928	3.5%	26,428
1998	24,954	93.8%	297	1.1%	37	0.1%	1,312	4.9%	26,600
1999	21,982	83.0%	3,071	11.6%	65	0.2%	1,373	5.2%	26,491
2000	20,812	77.3%	4,021	14.9%	0	0.0%	2,087	7.8%	26,920
2001	18,369	68.0%	5,386	19.9%	331	1.2%	2,939	10.9%	27,024
2002	18,365	72.6%	4,353	17.2%	278	1.1%	2,303	9.1%	25,299
2003	18,815	81.6%	2,192	9.5%	25	0.1%	2,037	8.8%	23,069
2004*	17,111	78.1%	2,708	12.4%	0	0.0%	2,088	9.5%	21,907

Source: UEO coal company questionnaires
*Forecast

ACTIVITIES OF UTAH COAL OPERATORS

ANDALEX RESOURCES, INC.

Andalex Resources, Inc. currently has three divisions which are located in Utah: the Centennial or Tower Division, consisting of the Aberdeen and Pinnacle mines; the Genwal Resources Division, which manages the Crandall Canyon and South Crandall Canyon mines; and the West Ridge Resources Division, which manages the West Ridge mine. Andalex wholly owns the Tower Division, whereas the two other operations are half-owned by the Intermountain Power Association (IPA). IPA owns and operates the Intermountain Power Plant near Delta, Utah, which is the largest coal consumer in the state. The Wildcat railroad loadout, an Andalex facility in Carbon County, serves all three Andalex mining divisions.

Tower Division – Aberdeen and Pinnacle Mines

The Tower Division is located in the Deadman Creek area about seven miles north of Price, Utah. Combined production from both the Aberdeen and Pinnacle mines reached 1.0 millions tons in 2003, exceeding the company's projection of 960,000 tons. Slightly more than half of that production came from retreat mining in the Centennial and Gilson seams of the Pinnacle mine. Production at the Aberdeen mine rose from 37,000 tons in 2002 to 444,000 tons in 2003 as development work continued for a new longwall mining machine. Longwall operation began in February of 2004 and is expected to double production from the Tower Division. Expanding production will help rebuild stockpiles that have been depleted at the company's Wildcat load-out facility and at client power plants.

The Aberdeen seam is typically 6.5 to 7.0 feet thick, with coal quality averaging 12,300 British thermal units (Btu) per pound and a sulfur content of 0.7 percent. This high-quality coal will help offset the expense and risk of operating longwall equipment at record cover depths. Currently, equipment is running at a depth of 2,600 feet with plans to approach a depth of 3,150 feet, which is deeper than any longwall has ever been successfully used in the United States. In recognition of the potential difficulty of mining at these depths, the BLM has reduced its royalty fees from the usual 8.0 percent of revenue to just 5.0 percent. Production in the Aberdeen mine is running at about 5,600 tons per day or somewhere around 1.5 million tons per year. As is typical in gassy Book Cliffs mines, production is limited by the ability to adequately ventilate the mine.

New federal leases in the Summit Creek tract will allow the Aberdeen seam to be mined through 2005. Additional leases will extend longwall production through 2010 with perhaps two to three years of lower-production retreat mining beyond that.

Meanwhile, smaller-volume, retreat production will continue for the next two to three years in the Pinnacle mine's Centennial and Gilson seams using continuous miner equipment that is operated on an "as available" basis from higher priority development work and longwall operation in the Aberdeen mine.

Genwal Resources, Inc. - Crandall Canyon and South Crandall Canyon Mines

Andalex Resources, Inc. and Intermountain Power Agency (IPA) share equally in ownership of the Crandall Canyon and South Crandall Canyon mines, both of which are located in the Wasatch Plateau. The mines are operated by Genwal Resources, Inc., a wholly owned subsidiary of Andalex Resources, Inc.

Genwal depleted its longwall reserves at the Crandall Canyon mine and moved its longwall equipment to the Aberdeen mine in the Book Cliffs during 2003. With less longwall tonnage, Crandall Canyon production dropped from 3.2 million tons in 2002 to 1.2 million tons in 2003. In 2004, total production from both the Crandall Canyon and South Crandall Canyon mines is expected to be 1.1 million tons with roughly 30 percent coming from the South Crandall Canyon mine.

Prior to moving its longwall equipment in 2003, Crandall Canyon was the leading producer of coal from land owned by the State of Utah Institutional Trust Lands Administration (SITLA). The presence of clay and volcanic dikes across the SITLA reserves contributed to the decline of production from this area. Roughly 4 million tons of reserves remain available to the Crandall Canyon mine. Extraction of these remain-

ing reserves will be accomplished by continuous miners, mobile roof supports and low-profile longwall equipment.

Starting in 2003, construction and development began in the South Crandall Canyon mine. Continuous miner production in South Crandall totaled 26,000 tons in 2003. Production in 2004 will increase substantially as development work continues for a low-profile longwall, which should be added in 2005. Average coal height in South Crandall is about 5.5 feet, and production will come from both the Blind Canyon and Hiawatha coal seams.

West Ridge Resources, Inc. – West Ridge Mine

The West Ridge mine began operation in 1999, with production from the lower Sunnyside seam in the Book Cliffs coal field. The mine is operated by West Ridge Resources, Inc., a subsidiary of Andalex Resources, Inc. Mine assets are co-owned equally by the Intermountain Power Agency (IPA) and Andalex.

West Ridge's coal seam thickness averages about 8.5 feet and cover depths reached up to 2,000 feet during 2003. Coal quality remains roughly consistent from year to year, with ash content below 10 percent and sulfur content near 1.0 percent. West Ridge coal is often blended with other Utah coal to achieve air quality compliance standards.

Production in 2003 reached 3.0 million tons, which is almost 150,000 tons more than 2002. Production in 2004 will decrease to 2.4 million tons due to production lost during three longwall moves. The current mine plan anticipates an annual production of more than 2 million tons for at least 15 years.

CANYON FUEL COMPANY – ARCH COAL

Dugout Canyon Mine

During 2003, Dugout mine production relied primarily on longwall equipment that was brought in from the Skyline mine and fitted with new shields and a tailgate to help control ash content. Production in 2003 reached 2.9 million tons, up from 2.1 million tons in 2002. Longwall production in the Rock Canyon seam finished in January of 2004 whereupon that equipment, along with two continuous miners, moved to the Gilson seam. Coal in the Gilson seam is typically better quality than coal from the Rock Canyon seam and is under only 800 to 1,600 feet of cover. Longwall panels were shortened to improve ventilation, but still are about one mile long and 880 feet wide. Seam thickness averages 8.5 feet. Production should reach 4.1 million tons in 2004, and reserves are projected to last through 2012.

Methane gas is typically high in the Book Cliffs coal field, and concentrations at Dugout mine can range as high as 250 cubic feet per ton of produced coal. Coal production is directly limited by the ability of ventilation equipment to maintain gas concentration at less than one percent of atmosphere. In addition, old workings in the Gilson seam have proven more extensive than previously thought, altering development plans and requiring draining to avoid water intrusion into the new entries. Fortunately, no dikes and few channels or faults have been encountered.

Coal heating values range to above 12,000 Btu per pound, but ash contents sometimes approach 20 percent. As such, blending Dugout Canyon coal, either at the mine or with other Utah coal, helps assure a marketable product. In the past, high-ash coal from Dugout Canyon was delivered to the Detroit Edison (DTE) facility in Price for the manufacture of synthetic fuel; this synfuel plant is currently idle.

For the future, substantial reserves lie to the west of current Dugout Canyon workings at Soldier Canyon, and Canyon Fuel has acquired additional coal reserves for the Dugout mine on SITLA property to the east. The substantial reserves in Soldier Canyon were left for future mining due to high costs associated with bouncing problems and elevated gas levels.

Skyline Mine

Canyon Fuel's Skyline mine consistently produced high Btu, low sulfur and low ash coal. Skyline was well known in the western United States, and its production was often blended with other coals to improve combustion qualities. Substantial water intrusion along faults, as well as depletion of the existing reserve base at the #3 mine, forced Canyon Fuel to close the mine. Skyline produced 2.8 million tons of coal in 2003, down from 3.5 million tons in 2002. Production in 2004 totaled 557,000 tons before the mine closed in May.

Sufco Mine

Sufco is Utah's largest coal producer and is the only coal mine in Sevier County. Production totaled 7.1 million tons in 2003, slightly less than maximum capacity and the record production in 2002 of 7.6 million tons. The working face is currently 12 miles from the portal, and coal must be promptly trucked to distant loadouts at Levan and the Hunter power plant due to the small surface storage space at this isolated mountain facility.

Current production is taking place in the Pines federal tract, which contains about three-and-a-half undeveloped longwall panels, which are sufficient for about 4 years worth of production. The length of each panel is limited by a sand channel that traverses the north side of the Pines reserve. Rock splits are increasingly common as the longwall face moves north and east. These problems are a significant limitation on production. The depth of cover varies from a minimum of 1,000 feet to about 1,500 feet. The coal seam slopes at about one degree, which is relatively flat by industry comparison. The seam thickness ranges from 6 to 14 feet.

When panels in the Pines area are finished, primary production will likely move to the Muddy tract, which is currently under "lease by nomination" consideration by SITLA. Although leasing of the Muddy tract will occur by open bid, Sufco is the only mine with reasonable access to the tract, so Canyon Fuel hopes not to encounter any competition. The Muddy tract, in conjunction with areas already under lease, will give Sufco an additional 11 years of production at current rate. All of current Sufco production is on federal land. The un-leased portion of the Muddy tract is under SITLA control, with royalty payments subject to the limitations imposed by SITLA's exchange agreement with the BLM. During 2004, four drill holes are planned for characterizing reserves in the Muddy tract. Coal in this tract is affected by the same sand channel that affects coal production in the Pines area.

Application has been made for a permit to build the "Quitchupah Creek Road" access to the mine that would shorten travel distance to Emery County power plants by more than 20 miles. An ethnographic study is underway as part of a final environmental impact statement. A $100,000 study is also underway for a proposed rail extension to the Salina area that would make Sufco, and other potential coal reserves in the southern Wasatch Plateau and Emery coal fields, relatively more accessible to rail transport.

CONSOLIDATION (CONSOL) COAL COMPANY

Emery Deep Mine

Consolidation Coal Company is one of the nation's largest coal producers. It's Emery Deep mine produced intermittently during 2003 and finally shut down in August for the remainder of the year amidst rumors of either pending sale and/or resumption of full production. A new portal was opened in 2003, providing access to the "I" seam, which is between 10 and 15 feet thick and under just 50 feet of cover. A second seam, called the "A" seam, is about 10 feet thick and is located 250 feet below the "I" seam. Reserves available to Consol total about 100 million tons, most of which are on private land. Coal heating values range from 12,400 to 12,500 Btu per pound, ash content averages 7.5 percent and sulfur content varies from 0.6 to almost 2.0 percent. Continuous miner equipment at the mine is capable of producing between 1,000 and 1,500 tons per shift, and longwall production might be feasible if sufficient contracts are available.

In order for the Emery mine to keep its federal leases, one percent of their reserves need to be produced each year. To meet this obligation, production will resume in August of 2004. Production at this mine may be limited by several factors, most notably by a lack of nearby railroad access. In addition, the high sulfur content of the upper portion of the seam may require that roof coal be left behind, or that the produced coal be washed or blended. Disposition of the mine has apparently been the subject of corporate negotiations which probably include both the long range outlook for coal markets and short range market profitability indicators such as rising prices and the prospect for improved rail access.

C.W. MINING COMPANY (CO-OP)

Bear Canyon Mine

Coal production at the privately owned Bear Canyon mine peaked in 2001 at 1.3 million tons before declining to 713,000 tons in 2003, primarily due to labor

problems. Reserves total more than 40 million tons, and continuous miner equipment is capable of consistently producing more than 1 million tons per year for the foreseeable future. The west side of Bear Canyon has been mined-out, and operations have moved to the east, where the upper of two seams is being mined. Resolution of labor issues will be required to resume full production at these mines and fully utilize the company's recent acquisition of the old Hiawatha property on federal land.

ENERGY WEST MINING COMPANY (PACIFICORP)

Deer Creek Mine

Coal produced from the Energy West Mining Company's Deer Creek mine goes via conveyer belt to PacifiCorp's Huntington power plant located in Huntington Canyon. In addition, smaller amounts of Deer Creek coal goes by truck to PacifiCorp's Hunter power plant, located south of the town of Castle Dale. Production has varied in the last few years, from 4.3 million tons in 2001 to 3.9 million tons in 2003, as development work commenced on the new Mill Fork tract and as the company recovered coal from smaller, isolated longwall panels on prior leases. Longwall production will come from one panel in the Rilda Canyon area and up to four smaller panels on existing lease areas to the south through mid-2005. Production is expected to increase again to about 4 million tons per year as longwall equipment is moved to the Mill Fork area in late 2005.

The Deer Creek mine produces coal from two separate seams. The Blind Canyon seam is located 80 to 100 feet above the Hiawatha seam, and both contain good quality coal. Coal production is from two to four continuous miners and one longwall machine. Seam thickness ranges from a low of 6.5 feet with an average of about 10.0 feet. A variety of geologic features, including faults, channels and dikes provide production challenges and may locally raise ash content from the average of about 9.0 percent to over 20 percent. High-ash coal can be handled effectively by new sophisticated blending facilities at PacifiCorp's Hunter and Huntington power plants.

Development plans call for the eventual move into recently acquired reserves in SITLA's Mill Fork tract, where some 55 million tons of good quality coal in two beds await the eventual transfer of longwall and continuous miner equipment which is currently at work in older leases. Longwall production should commence in the new Mill Fork panels sometime in late 2005 and continue for about 15 years. Energy West also proposes new entry portals at a site in Rilda Canyon. This will allow more efficient and safer access to the ever more distant working face, while minimizing surface disturbance. Coal production will still exit through existing portals in Deer Creek Canyon. As coal reserves are depleted on older leases, Energy West is working to relinquish federal leaseholds with the BLM in areas that have previously been mined.

HIDDEN SPLENDOR RESOURCES, INC.

Horizon Mine

Production at the Horizon mine ceased temporarily in February of 2003, with the sale of assets and lease holdings from Lodestar Resources, Inc. to Hidden Splendor Resources, Inc. Operations resumed in August of that year, resulting in total 2003 reported production of 108,000 tons, down only slightly from 2002 production of 110,000 tons. Horizon used only one continuous miner in 2003. A second continuous miner was scheduled to begin work in June of 2004 to help meet a production target of 480,000 tons for the year. A third continuous miner may be added in the future. Mobile roof support equipment is also being used to allow faster and more complete recovery of pillars. Geologic faults and channel scours hinder mining and increase equipment maintenance costs. These conditions, combined with relatively low coal prices, make profitability for this new operation challenging.

Available coal under lease totals more than 6 million tons. There are potential leases with another 13 million tons for coal on federal land to the north. Current production is primarily in lease areas north and west of the portal, in a seam that averages 7 feet thick and is under 1,600 feet of cover.

Longwall production is not feasible at this mine due to faults and other geologic features. The Horizon Mine produces high quality coal typical of the Wasatch Plateau, which averages 11,700 to 12,100 Btu per pound.

LODESTAR ENERGY INC.

Whisky Creek Mine

Production at the Whisky Creek mine ceased in February of 2003 due to the financial liquidation of its parent company, Lodestar. Before the mine closed, 25,000 tons of coal was produced in 2003. Assets and facilities have been sold and removed, reducing the likelihood of any restart. Reserves consisted primarily of unrecovered coal near the portal of old workings. As such, overburden was easily removed and the mine was worked as two open pits. A cessation order from DOGM is currently in place.

DISTRIBUTION OF UTAH COAL

INTRODUCTION

The total amount of Utah coal distributed to market is proportional to the amount of Utah coal production. Following the trend of declining production, total distribution of Utah coal decreased from 24.4 million tons in 2002 to 23.7 million tons in 2003, a 2.8 percent decline (Table 7). Distribution of Utah coal to the electric utility market in 2003 actually increased by 22.1 percent, as expected due to the ever-growing demand for electricity. However, this gain was overshadowed by heavy loses in the industrial, residential and commercial sectors. Distribution to the industrial sector decreased by 17.6 percent, and distribution to residential and commercial sectors decreased by 88.3 percent. In addition, exports to overseas markets decreased by 74.6 percent. Overall distribution has decreased 14.8 percent since record distribution in 1996. This downward trend, for both distribution and production, is expected to continue into 2004. The next few sections provide descriptions of electric utility and industrial customers that use Utah coal. It should be noted that this is not an exhaustive list.

ELECTRIC UTILITY MARKET

During 2003, 84.9 percent of Utah coal, 20.1 million tons, was delivered to the electric utility market in Utah, other states or overseas (Table 8). This is more than during 2002 when only 79.8 percent, or 19.4 million tons of Utah coal was delivered to electric utilities. In 2003, coal accounted for 93.8 percent of all electricity produced in Utah, which is substantially more than the U.S. average of 51.0 percent. If electricity consumption continues to increase, demand for Utah coal at power plants should remain high.

Out-of-State Electric Utility Market

Electric utility companies outside of Utah received 6.8 million tons of Utah coal in 2003, an increase of 18.1 percent over 2002, but still down from peak deliveries of 7.7 million tons in 1998 (Table 8). Nevada received the

Table 7 **Distribution of Utah Coal and Imports of Coal into Utah, 1981-2004**

Thousand short tons

Year	Production	Distribution of Utah Coal										Imports into Utah				
		EU - outside UT[1]	EU - in UT[1]	CP - outside UT	CP - in UT	Ind - outside UT[2]	Ind - in UT	Res/Com - outside UT	Res/Com - in UT	Overseas exports	Total	EU	CP	Ind	Res/ Com	Total
1981	13,808	2,688	4,829	779	267	1,645	493	180	197	3,472	14,627	8	1,030	98	0	1,136
1982	16,912	3,643	6,135	859	136	1,349	728	233	177	2,177	15,397	18	695	84	0	797
1983	11,829	3,404	5,220	0	32	1,091	581	292	191	1,346	12,188	0	854	83	0	937
1984	12,259	3,730	4,688	0	163	1,542	466	311	257	849	12,074	224	1,229	85	1	1,539
1985	12,831	3,746	7,192	0	39	1,866	352	312	252	625	14,361	193	1,289	98	0	1,580
1986	14,269	2,989	6,955	0	485	1,745	271	81	191	551	13,243	659	383	103	0	1,145
1987	16,521	3,182	10,772	0	131	1,813	249	83	204	555	16,989	905	160	100	0	1,165
1988	18,164	2,797	11,233	0	171	1,996	679	88	236	1,044	18,244	1,300	1,088	60	0	2,448
1989	20,517	2,623	11,563	0	355	2,401	765	84	323	2,175	20,289	1,400	922	45	0	2,367
1990	22,012	3,373	12,604	0	617	2,327	612	59	380	1,708	21,680	1,449	679	7	2	2,137
1991	21,875	3,608	12,162	0	615	2,158	622	76	320	2,112	21,673	1,310	695	2	0	2,007
1992	21,015	4,000	11,619	0	553	2,006	488	81	347	2,245	21,339	1,517	629	9	0	2,155
1993	21,723	3,914	11,842	0	510	2,146	594	134	228	2,567	21,935	1,501	579	20	0	2,100
1994	24,422	4,841	12,344	0	109	2,322	643	308	157	2,717	23,441	1,495	1,089	4	0	2,588
1995	25,051	6,570	11,771	0	0	2,399	642	68	182	3,811	25,443	779	1,062	0	0	1,841
1996	27,071	7,258	11,923	0	0	2,339	517	51	260	5,468	27,816	805	1,120	0	0	1,925
1997	26,428	5,638	13,271	0	0	2,164	665	60	96	3,513	25,407	1,509	1,106	0	0	2,615
1998	26,600	7,704	12,812	0	0	2,749	680	82	212	2,735	26,974	1,733	982	0	0	2,715
1999	26,491	6,910	13,162	0	0	2,529	830	75	107	2,567	26,180	1,431	728	0	0	2,159
2000	26,920	6,639	14,276	0	5	2,892	634	141	82	2,960	27,629	1,531	936	0	0	2,467
2001	27,024	7,419	12,480	0	0	3,055	792	254	394	2,404	26,798	2,028	648	0	0	2,676
2002	25,299	5,562	13,009	0	0	3,543	735	282	372	875	24,378	2,074	0	16	0	2,090
2003	23,069	6,789	13,121	0	0	2,856	633	28	50	222	23,700	2,036	0	0	0	2,036
2004*	21,907	6,537	12,626	0	0	2,228	620	139	29	390	22,569	2,436	0	0	0	2,436

Source: UEO coal company questionnaires

Note: EU - Electric utilities; CP - Coke Plants; Ind - Industrial; Res - Residential; Com - Commercial

[1]Includes cogeneration facilities

[2]A large portion of out-of-state industrial deliveries are most likely going to cogeneration plants, which are only required to use 5.0 percent of their power for industrial use; the remainder is typically sold to the grid.

*Forecast

Table 8 **Distribution of Utah Coal by State, 2003**
Thousand short tons

Destination	Residential	Commercial	Industrial	Electric Utility[1]	Total
Arizona	--	--	163	--	163
California	--	--	2,035	655	2,690
Colorado	*	*	*	--	*
Idaho	--	2	138	--	140
Illinois	--	--	--	210	210
Indiana	--	--	--	198	198
Iowa	--	--	--	23	23
Kansas	--	*	--	--	*
Michigan	--	--	--	390	390
Missouri	--	--	--	378	378
Nevada	--	--	268	3,307	3,575
Ohio	--	--	--	53	53
Oregon	--	--	187	--	187
Tennessee	--	--	--	1,017	1,017
Utah	**14**	**36**	**633**	**13,121**	**13,804**
Virginia	--	--	--	107	107
Washington	--	25	65	*	90
Wisconsin	--	--	--	451	451
Wyoming	--	*	--	--	*
Overseas exports	--	--	--	222	222
Total	14	64	3,489	20,132	23,700

Source: UEO coal company questionnaires
[1]Includes cogeneration facilities
*Amounts less than 500 tons

majority of that coal, 3.3 million tons, while 1.0 million tons went to electric utility markets in Tennessee and 0.7 million tons went to California cogeneration plants. The remaining 1.8 million tons went to electric markets in Illinois, Indiana, Iowa, Michigan, Missouri, Ohio, Virginia, Washington and Wisconsin.

Nevada Plants – Reid Gardner and North Valmy Power Plants

Sierra Pacific and Nevada Power jointly own and operate seven power generation stations that serve Nevada and northeastern California. Nevada Power also owns a minority interest in two other power plants, and the partnership buys power from other generators. Utah coal is distributed to two plants in this system, the Reid Gardner plant, which serves the Las Vegas area, and the North Valmy plant, which is located near Battle Mountain, Nevada.

Reid Gardner is a conventional power plant, which was originally rated at 580 megawatts (MW), but has since been upgraded to produce 605 MW. The plant accepted delivery of 1.8 million tons of Utah coal in 2003, with smaller amounts purchased from Colorado. Gross power generation in 2003 was steady at 4,531 gigawatthours (GWh), with net power generation at 4,089 GWh, running at 88.7 percent of capacity. Plant availability will rise from 84.1 percent in 2003 to 88.7 percent in 2004, but net generation is expected to decrease slightly to 3,942 GWh.

North Valmy is also a conventional power plant with a capacity rating of 522 MW. In 2003, the plant received 1.2 million tons of Utah coal along with a small amount of coal from Wyoming. In 2004, the amount of Utah coal delivered to North Valmy will increase to 1.6 million tons, and the amount of coal from Wyoming will substantially increase, replacing coal that was supplied by the now closed Skyline mine.

In 2003, the North Valmy plant generated a net of 3,288 GWh with an availability of 72.7 percent. Availability will be much higher in 2004, rising to 92.9 percent, and net generation should increase to 3,913 GWh.

Utah Electric Utility Market

The amount of Utah coal delivered to electric utilities within the state has averaged 12.7 million tons over the last 10 years, peaking in 2000 at 14.3 million tons (Table 7). Distribution increased slightly from 13.0 million tons in 2002 to 13.1 million tons in 2003, but is expected to decrease in 2004 to 12.6 million tons. Even with this projected decline, demand for coal at Utah power plants, two of which are slated for capacity expansions, is expected to remain high as demand for electricity continues to grow.

PacifiCorp - Hunter

The three units at the Hunter power plant have a combined total capacity of 1,320 MW and produced a net of 9,944 GWh of power in 2003. Hunter purchased 3.8 million tons of Utah coal in 2003, relying mostly on Canyon Fuel mines. The Hunter plant ran at 87.9 percent availability and averaged 86.0 percent of used maximum capacity. Plant availability during 2004 is expected to increase to 91.7 percent, at 87.8 percent of feasible power, for a total annual net generation of 10,177 GWh. PacifiCorp expects to purchase 4.5 million tons of coal in 2004, 16.3 percent more than in 2003, with an increased reliance on Sufco coal.

Hunter began operation in 1978 with Unit 1, while Units 2 and 3 began supplying power in 1980 and 1983, respectively. All three units have been up-rated from an original combined total of 1,180 MW and are now typically run at 105 percent of standard pressure to supply maximum possible base load power. As such, Hunter is one of the most efficient of PacifiCorp's power plants. Hunter Plant Unit 1 is jointly owned by PacifiCorp and Provo City with undivided interest of 93.75 percent and 6.25 percent, respectively. Hunter Plant Unit 2 is owned by PacifiCorp, Deseret Generation and Transmission Co-operative and Utah Associated Municipal Power Systems, each with an undivided interest of 60.31 percent, 25.11 percent and 14.58 percent, respectively. Hunter Unit 3 is wholly owned by PacifiCorp.

The foundation for a fourth unit has been in place for more than 20 years and is now the most likely candidate for PacifiCorp's proposed increase in baseload capacity for the Utah region. In fact, PacifiCorp recently applied for an air quality permit for the expansion. The previously installed boiler, steam drum and circulating lines would become Hunter IV, providing a 650 MW increase in baseload capacity. Completion of Hunter IV would cost approximately $1.0 billion, more than the original cost of Hunter units I, II and III combined, but Hunter IV would be cleaner and more efficient than the other units. Expansion of the existing plant saves a great deal of land-use planning expense and provides immediate grid access.

PacifiCorp - Huntington

Completed in 1977, PacifiCorp's Huntington plant was built in Huntington Canyon, very close to PacifiCorp's Deer Creek mine. As a result, only a conveyor belt is needed to deliver coal for power generation. Huntington's two units have been uprated from 815 MW to 895 MW. In 2003, Huntington generated a net of 7,213 GWh on plant availability of 95.4 percent and an average load of 92.0 percent. For 2004, power plant availability is expected to drop to 88.4 percent resulting in net generation of 6,681 GWh, a 7.4 percent decrease.

Huntington's coal purchases rose to 2.9 million tons in 2003, up from 2.7 million tons the year before. The Deer Creek mine continues to supply the vast majority of coal used at the Huntington plant, with smaller amounts coming from Canyon Fuel, West Ridge and Emery. Coal delivery in 2004 is again expected to rise, reaching a total of 3.2 million tons. Deer Creek's share will be reduced slightly, and more coal will come from Canyon Fuel.

PacifiCorp - Carbon

Coal delivered to Carbon, PacifiCorp's oldest and smallest coal-fired power plant in Utah, rose from 615,000 tons in 2002 to 664,000 tons in 2003, an 8.0 percent increase. On a plant rating of 172 MW, Carbon generated a net of 1,472 GWh, 3.9 percent more power than in 2002. However, projections for 2004 call for a 13.6 percent reduction in net generation, with a decrease of maximum capacity from 91.0 percent in 2003 to 78.4 percent in 2004.

Interestingly, during 2003, the Carbon plant purchased coal from more mines than any other power plant in Utah. The vast majority came from Canyon Fuel mines, with smaller amounts coming from the newly reopened Horizon mine, the now closed Whisky Creek open pit mine and Consol's Emery Deep mine. The coal supply picture should be equally interesting in 2004, even as total deliveries decrease to 582,000 tons. Unlike 2003, no deliveries are planned from the now closed Skyline mine. Instead, deliveries from the Horizon mine and Dugout Canyon are expected to increase. The West Ridge and Bear Canyon mines will begin new deliveries to Carbon in 2004, and deliveries from the Sufco mine will decline sharply.

Intermountain Power Agency

The Intermountain Power Agency (IPA) and its Intermountain Power Project (IPP), located just north of Delta, Utah, were created in 1976 to meet the power needs of some 23 public agencies and municipalities in Utah that were previously supplied primarily from the Colorado River Storage Project. The Los Angeles Department of Water and Power is the operating agent, as nearly all IPP power is exported to 27 California municipalities until such time as Utah allotments are called in to meet in-state demand.

As of April 2004, IPP increased its capacity rating to 1,800 MW, making it the largest power generation facility in Utah. In 2003, IPP generated a net of 13,553 GWh of power and purchased 5.3 million tons of Utah coal, the majority of which came from Canyon Fuel mines. The remaining amount of coal was supplied by the Andalex mines, two of which are partly owned by IPA. In addition, a small amount

of coal was purchased from the Emery mine before it became idle in August 2003.

For 2004, IPP is expecting power generation to increase slightly to a net of 13,914 GWh. Coal deliveries are projected to total 6.1 million tons, a 14.9 percent increase over 2003, with 6.6 percent projected to come from new out-of-state contracts.

Plans for expanding IPP by adding a third unit would increase generation capability by another 950 MW in 2009. This additional capacity is intended to supply power to communities in Utah, New Mexico and Arizona. Coal consumption would rise almost 40 percent with such an expansion. This new demand is expected to be met mostly by Utah coal, particularly from the mines jointly owned by IPA and Andalex.

COGENERATION MARKET

Out-of-State Cogeneration Plants

Cogeneration plants ("cogen") in California are major customers of Utah coal. Cogen facilities provide process steam and power for industry, but are primarily devoted to generating electricity for consumer markets, generally providing a maximum allowable 95 percent of total net capacity to the grid. The increasing stringency of California air quality standards means that conventional stoker power plants, particularly for coal, will eventually give way entirely to cleaner technology. At present, circulating fluidized bed combustion is the most popular technology for cogen facilities due to its low oxide emissions and its ability to burn a variety of fuels, including high-ash coal.

Millennium – Ace Plant

Located near Bakersfield, California, this 120 MW facility produced a net of 757 GWh of electricity during 2003 using a combination of Utah coal and petroleum coke. In addition to generating electricity, the power plant supplied process steam to an adjacent chemical company as required by its cogeneration status. Plant utilization and availability both reached about 90 percent during 2003 and are expected to increase in 2004 with power generation reaching 788 GWh.

Deliveries of Utah coal in 2003 totaled 222,000 tons, down 30.3 percent compared to 2002, but are expected to increase again substantially in 2004 to 351,000 tons. It is possible that coal from other states made up the difference during 2003. The closure of the Skyline mine has fostered the continuing search for alternate sources of fuel, including coal from other states. The Ace plant may be purchasing up to half of its coal supplies on the spot market, and its operators would like to have at least 90 days of supply in stockpile at all times.

Mt. Poso

Located in the San Joaquin Valley, Mt. Poso is a 58 MW cogeneration plant that is owned by the Millennium Energy Company. The required minimum 5.0 percent of energy generation is devoted to steam production for enhanced oil recovery at nearby oil wells. As with other cogeneration plants, the remaining generation is supplied to the consumer grid.

In 2003, Mt. Poso generated a net of 417 GWh of electricity, an increase of 4.3 percent over 2002. Plant utilization was at 96.3 percent. For 2004, plant utilization and plant availability are both expected to exceed 95 percent, however, power generation is projected to decrease slightly to 416 GWh.

During 2003, Mt. Poso purchased 150,000 tons of Utah coal. Total 2003 deliveries were 11.1 percent greater than the 135,000 tons of Utah coal delivered in 2002. For 2004, coal deliveries from Utah will decrease by 16.3 percent to 126,000 tons.

Rio Bravo Poso

Rio Bravo Poso uses circulating fluidized bed combustion to generate power at a rated capacity of 33 MW. Like Mt. Poso, this Constellation Operating Service plant distributes at least 5.0 percent of generated energy to steam-based enhanced recovery at nearby crude oil wells. Remaining power is sold into the California grid.

Rio Bravo Poso produced a net of 291 GWh in 2003 and received nearly 66,000 tons of Utah coal. In addition, petroleum coke and propane continue to be used in substantial amounts. Plant utilization and availability were unusually high for the year, at 100.5 percent and 99.0 percent, respectively. Plant utilization during 2004 is expected to be lower, at 91.5 percent, and power generation is expected to decline by 8.7 percent to 265 GWh. Likewise, Utah coal deliveries will decline slightly to about 64,000 tons.

Rio Bravo Jasmin

Rio Bravo Jasmin is a Constellation-owned plant located

seven miles from the nearly identical Rio Bravo Poso. Both plants provide roughly the same amount of steam for enhanced oil recovery in the surrounding oil fields. Remaining generation is sold to Southern California Edison.

Plant availability and capacity in 2003 together averaged greater than 100 percent, producing a net of 293 GWh of electricity. Rio Bravo Jasmin purchased about 66,000 tons of Utah coal, down from 77,000 tons in 2002. In addition, an unknown amount of petroleum coke was consumed along with small amounts of natural gas.

For 2004, the Jasmin plant projects a 5.0 percent decrease in net generation, running at slightly higher plant availability, but 5.2 percent lower utilization. They also expect to purchase about 1.2 percent more coal than in 2003.

POSDEF Plant

Like other cogeneration facilities, the Port of Stockton District Energy Facility (POSDEF) supplies at least 5.0 percent of their energy generation in the form of steam for industrial production, in this case sugar and wood products, and the remaining power is sold to Pacific Gas and Electric. Total power generated in 2003 was 335 GWh.

The power plant consumed 174,000 tons of Utah coal during 2003, along with petroleum coke, waste tires and coal from Colorado. POSDEF, like many other power plants, is actively experimenting with various fuels to find the most affordable combination that can produce steady power and consistent compliance with air quality standards. In the past year, POSDEF has tested 15 different coals, including several from Utah and others from as far away as Canada. Results are mixed, as some of the best Utah coals, such as coal from the Skyline mine, will no longer be available, while other coals require blending in order to be suitable.

In the meantime, the Port of Stockton continues to dredge the San Joaquin River to eventually accommodate vessels carrying over 60,000 tons of raw materials, including coal, from Pacific Rim markets.

Stockton Cogeneration Company

The Stockton Cogeneration facility in California was created to supply process heat for agricultural products. In 2003, the plant generated a net of 426 GWh on a base rating of 55 MW running at 91.5 percent availability and utilization. Stockton plans to increase power generation in 2004 to a net of 446 GWh by increasing availability and utilization to 95.0 percent. Fuel for the year included petroleum coke, tire-derived fuel and coal. Stockton purchased a total of 130,000 tons of coal in 2003, of which 121,000 tons, or 92.8 percent, was from Utah. Coal deliveries are expected to remain the same in 2004, but only 80.0 percent will be Utah coal, mostly due to the closing of the Skyline mine.

Utah Cogeneration Plants

Sunnyside Cogeneration Plant

The Constellation plant at Sunnyside, Utah was originally designed as a true cogeneration plant, which would have supplied 5.0 percent of its power to a commercial greenhouse. In spite of this, since the plant burns waste coal, it is designated as a "qualifying facility", which under the Federal Public Utility Regulatory Policy Act, is exempt from the cogeneration requirement, and the proposed commercial greenhouse was never developed. Subsequently, all of Sunnyside's power goes directly to the grid.

The Sunnyside plant, rated at a net of 51 MW, uses circulating fluidized bed combustion technology to burn waste coal left from the Kaiser Sunnyside coal wash operation and coal from the old Star Point waste pile. The plant's 7.0 MW parasitic power consumption is higher than industry average for coal-fired power plants and is probably due to the use of high-ash waste coal. In fact, the heating value of the Sunnyside fuel varies from 4,000 to 5,500 Btu per pound, which is less than half the Btu value for most Utah coal. The sulfur content of the fuel averages about 1.2 percent.

The Sunnyside power station consumed about 385,000 tons of waste coal during 2003. At that rate, waste coal "reserves" at the site are expected to last 5 to 7 more years. In anticipation of resource depletion, Constellation purchased waste coal from a wash plant associated with the now-closed Cyprus-Plateau Star Point mine. That fuel is of higher quality than that from Sunnyside and averages 5,700 Btu per pound with 0.7 percent sulfur.

Net power generation in 2003 totaled 389 GWh based on 91.8 percent plant availability. Plant utilization is expected to reach 93.0 percent in 2004, and net electricity production should reach 403 GWh, a 3.8 percent increase over 2003.

In contrast to conventional coal combustion, where high-ash content hampers performance, the use of circulating fluidized bed

combustion at the Sunnyside plant requires the addition of noncombustible material. The plant consumes about 55,000 tons of pulverized limestone per year in order to achieve proper combustion and eliminate sulfur emission. Bag house technology is used to remove fly ash.

INDUSTRIAL MARKET

Out-of-State Industrial Market

Deliveries of Utah coal to industrial plants outside of Utah have gradually increased during previous decades with a record 3.5 million tons shipped in 2002 (Table 7). Deliveries decreased by 19.4 percent in 2003 to 2.9 million tons and are expected to decrease again by 22.0 percent in 2004.

California is the largest industrial consumer of Utah coal, with delivery of 2.0 million tons in 2003, down from 2.7 million tons in 2002 (Table 8). Deliveries to Idaho and Nevada industrial customers also declined in 2003, whereas shipments to Arizona and Oregon increased. Other states receiving Utah coal for industrial use are Colorado and Washington.

It is important to note that a large portion of out-of-state industrial deliveries are likely going to cogeneration plants. These plants are only required to use 5.0 percent of their power generation for industrial use, with the remainder typically sold to the power grid.

Utah Industrial Market

The amount of coal delivered to industrial users within the state of Utah has remained constant during recent decades (Table 7). In 2003, 633,000 tons of coal was delivered to Utah industries, down from 735,000 tons in 2002. Deliveries in 2004 are expected to further decrease to 620,000 tons.

Ashgrove Cement

Ashgrove Cement uses a 25 MW conventional boiler to produce steam and electricity for Portland cement production at its remote site located about 25 miles west of Nephi, Utah. During 2003, this cement plant purchased about 124,000 tons of Utah coal, up from 109,000 tons in 2002. Plant availability was rated at 96.0 percent for 2003, on utilization of 90.7 percent. For 2004, both performance measures are expected to decline while coal purchases are expected to remain the same.

Graymont

Graymont Western U.S., Inc., is an affiliate of Graymont Dolime, of Genoa, Ohio, one of the largest producers of limestone products in the United States. The Utah operation is located about 40 miles south of Delta, where limestone from the nearby Cricket Mountains is used to produce calcium oxide and magnesium oxide in a rotary kiln. Graymont consumes about 150,000 tons of Utah coal each year.

Holcim, Inc.

Holcim is one of the world's leading suppliers of cement, sand and gravel and construction-related services. Holcim has a presence in 70 countries and is one of the leading suppliers of construction materials in the United States, with 70 operations located in 15 states. Holcim's Devil's Slide plant, located in Morgan County, Utah, produces cement and washed aggregates. During 2003, this plant purchased 70,000 tons of Utah coal. In 2004, this total is expected to rise to roughly 84,000 tons, all of which will come from Bear Canyon.

In addition to coal, the Devil's Slide plant also uses natural gas; coke, some of which came from the now closed Geneva Steel plant in Utah County; rubber tires and scraps from sanitary diaper production. Coke is the only fuel not expected to be used in 2004.

Kennecott

Kennecott Copper uses coal to produce electricity for copper refining at its Salt Lake County facility. During 2003, Kennecott purchased 400,000 tons of coal from Canyon Fuel, the same amount as in 2002. In 2004, this total will increase slightly to 406,000 tons and will include some coal from Wyoming. Like many coal users, Kennecott is concerned about stability of price and supply, especially because Kennecott keeps very little coal stocked at the refinery.

The Kennecott steam boiler is fed by a conventional stoker that is rated at 175 MW. In 2003, Kennecott produced a net of 730 GWh of electricity, down substantially from 2002, based on a plant availability of 88.2 percent and 78.9 percent of maximum capacity. Generation is expected to decrease to 718 GWh in 2004.

UTAH COKING COAL MARKET

The coking coal market was once a major Utah industry in support of steel making and other industrial processes. During the early 1990s, an average of 1.1 mil-

lion tons of coke were consumed in Utah, of which about half was produced in state. By 1994, as consumption remained near 1.1 million tons, Utah stopped producing coke and began receiving it all from out-of-state sources, with the exception of a one-time delivery of 5,000 tons in 2000 from West Ridge Resources. The last recorded substantial use of coke in Utah was in 2001, when some 648,000 tons were used before Geneva Steel closed its doors.

With the permanent closure of Geneva, steel-making in Utah now consists only of melting scrap. Steel-making and production of coke have passed into Utah history, with the exception of very small quantities of coke consumed by Pacific States Steel in Utah County and even smaller amounts used by Utah foundries and metal shops.

RESIDENTIAL AND COMMERCIAL MARKETS

About 78,000 tons of Utah coal was shipped to businesses and residences during 2003, with 50,000 tons going to Utah customers and 28,000 tons going to customers out of state (Table 7). These amounts are substantially less than the 654,000 tons delivered in 2002 and 648,000 tons delivered in 2001. The apparent decline in residential and commercial markets is at least partly due to changing reporting methods and purchases by commercial coal brokers, who also sell to utility markets. Commercial brokers buy and sell substantial amounts of coal each year, with most of their volumes going to utilities for power generation. These commercial transactions may be logged as commercial deliveries, but are probably not going to homes or businesses.

In fact, there is little market evidence of coal use by businesses and residences in Utah. Approximately 20 wholesale and retail outlets for coal have been identified in the state, but these sources have dwindled in number, and few proprietors will report useful customer information, except to say that a few customers, mostly in rural areas, continue to use coal as a backup fuel or for decorative fireplaces. In addition, a few tons of Pennsylvania anthracite coal is distributed in Utah and nearby states as “boutique” fuel. Due to the expansion of natural gas networks, there are only a few remote locations in Utah where coal still competes favorably with propane, electricity or renewable sources of energy for residential and commercial applications.

OVERSEAS EXPORTS

Demand for Utah coal by foreign countries reached peaks in the early 1980s and mid-1990s, reaching a record 5.5 million tons in 1996, matching peaks in both production and total distribution (Table 7). Since then, export markets for Utah coal dwindled, totaling 2.4 million tons in and 875,000 tons in 2002. Exports in 2003 totaled 222,000 tons, but Utah coal producers expect export demand in 2004 to increase to 390,000 tons, which is only 1.7 percent of total distribution.

Utah mostly exports coal to Japan, but as coal production continues to grow in Asia, this market has become less reliable. In fact, a significant resurgence in overseas demand for Utah coal is not expected as China is projected to eventually dwarf all world coal exporters once its own production system matures. Meanwhile, ever since the Port of Los Angeles coal terminal was closed, capability for the western United States to export coal has significantly declined.

COAL IMPORTED INTO UTAH

DESERET GENERATION AND TRANSMISSION CO. – BONANZA PLANT

Deseret Generation and Transmission Co. (DG&T) is a cooperative of Utah and Colorado municipalities that jointly developed and operate a 458 MW coal-fired power plant located near Bonanza, Utah, a remote area of Uintah County near the Colorado border. During 2003, the Bonanza power plant purchased 2.0 million tons of coal from the Deserado mine in Colorado, operated by Blue Mountain Energy, a wholly owned subsidiary of DG&T. The power plant generated a net of 3,516 GWh of electricity, a 10.3 percent decline from 2002, for distribution to communities in the six cooperative organizations that control the plant.

Power plant availability reached 90.0 percent in 2003, with plant utilization at 87.5 percent. Both figures are expected to reach 91.0 percent in 2004, with total net generation of 3,595 GWh. Bonanza plans to purchase 2.4 million tons of coal in 2004, all from Blue Mountain Energy.

MINOR COAL IMPORTS

As noted above, small amounts of coal for specialized purposes are imported into Utah from other states. Anthracite coal from Pennsylvania is burned in some residential fireplaces, and coke from Alabama is used by some steel fabricators and foundries. Small amounts of coal are brought to Utah from states to the east and then distributed with Utah coal to other points in surrounding states. These markets are small, amounting to less than 200 tons per year, and are declining as natural gas replaces coal in nearly all but the most remote areas, and markets for specialized uses in homes and industry are limited.

COAL LEASING ACTIVITY IN UTAH

INTRODUCTION

Most coal production in Utah occurs on land owned by either the federal government or the SITLA. Production of coal from these lands is done by lease under a variety of revenue or royalty arrangements. Many tracts of coal under SITLA control were acquired from the federal government by exchange, resulting in agreements that cap or limit SITLA revenue to a pre-agreed total tonnage or total dollar amount before reversion. On exchange tracts, SITLA does not receive any bonus bid revenue, but shares royalty payments equally with the Utah mineral reserve fund until a cap is reached. After reversion, Utah continues to share coal royalty revenues with the U.S. Minerals Management Service (MMS).

Leasing of federal land for coal production was vigorous and relatively uncontrolled during the 1950s and 1960s, resulting in a moratorium for about 15 years thereafter. Leasing began again in the early 1980s based upon more accurate delineation of tracts and reserves. Leasing standards were also intended to promote more competitive bidding and better environmental protection. At present, the leasing process is not as difficult as the permitting process for coal production. As a result, coal tracts under lease in Utah contain enough reserves to meet current production levels for at least the next 15 years. However, it is widely recognized that profitable coal mining in Utah requires the use of longwall equipment, and tracts containing seams of coal of sufficient size and thickness are becoming scarce. Modification of longwall equipment for seams thinner than six feet will make some large tracts of coal viable for future leasing and permitting.

The BLM leases federal land independent of SITLA, but also acts as consultant on SITLA lease actions that occur on land previously exchanged between Utah and the BLM or U.S. Forest Service. Participation by BLM includes engineering, lease terms and resource valuation. Under terms of the Federal Mining Leasing Act, the BLM is authorized to grant royalty rate reductions to encourage production on marginal tracts if warranted by difficult mining conditions. Ordinarily, an 8.0 percent royalty fee applies. Recent bonus bid fees range from as low as $0.16 per ton to as high as $0.70 per ton.

SITLA TRACTS

In 2003, SITLA negotiated with Andalex Resources, Inc. for an 881-acre lease adjacent to current workings on the northwest side of the West Ridge mine in the Book Cliffs of Carbon County. This federal exchange lease was approved in early 2004 providing additional reserves estimated at 6.9 million tons of coal. The bonus bid was paid directly to the MMS. Royalty payments are split equally between SITLA and the Utah mineral revenue fund.

SITLA is also preparing to open the Muddy tract for bidding during 2004. This tract abuts the west side of current workings at the Sufco mine. Canyon Fuel will most likely be the only bidder for leasing the Muddy tract due to its isolation from points of access other than Canyon Fuel holdings. The Muddy is also an exchange tract, so royalty payments will be split equally between SITLA and the Utah mineral reserve fund. However, royalty payments to SITLA accrue only until a combined total of 34 million tons is produced from both the Muddy tract and the SITLA portion of Canyon Fuel's Dugout Canyon mine. As such, there is no way to estimate how much royalty may accrue from either lease before the cap is reached. In any case, after that point, further royalty revenue will be split equally between the Utah mineral reserve fund and MMS.

In 2005, SITLA will open its Cottonwood tract for lease bids. This tract is located in Huntington Canyon near the Deer Creek mine and closed workings at Trail Mountain and Cottonwood mines. Coal reserves in the Cottonwood tract have not yet been fully delineated, however, royalty revenues are expected to reach $32 million and will be equally split between SITLA and the Utah mineral reserve fund. Multiple bids on this tract are expected since access to the coal is not currently under lease.

BLM TRACTS

During 2003, the South Crandall coal tract was leased by the Bureau of Land Management (BLM) to Genwal Resources, Inc.,

a subsidiary of Andalex Resources, Inc. South Crandall reserves total about 7.6 million tons of coal in two seams that will extend the life of the Crandall Canyon mine by approximately five years. This lease agreement, and associated permits for production, became possible after an agreement was reached between Andalex and local water users for construction of a water treatment plant in Emery County.

At the Crandall Canyon mine, the BLM began work on a lease modification for 120 additional acres to create a buffer zone in anticipation of Genwal finding more coal than expected at the boundary of current workings. The usual up front bonus bid would not be paid in this case, but would be limited to whatever additional coal is actually produced by the lease modification.

In 2003, the BLM leased the Summit Creek tract to Andalex for continuation of deep coal production in the Aberdeen seam. Summit Creek reserves are estimated at 3.0 million tons on 700 acres.

A lease-by-application (LBA) was also accepted by the BLM for a tract in the Slaughterhouse Canyon area, near the now-closed Whisky Creek and White Oak mines in the Wasatch Plateau. This undelineated tract would essentially be an open-pit, mountain top mine. However, as Lodestar is out-of-business, there is no current interest in this LBA.

A LBA by Utah American Energy for reserves in the Lila Canyon area of the Book Cliffs has been suspended by the BLM pending resolution of environmental issues that are currently under review by the DOGM. Opposition to coal mining in Lila Canyon by the Southern Utah Wilderness Alliance resulted in revocation of the DOGM permit in 2003.

According to the BLM, coal reserves under lease hold about 16 years of production at proposed rates. The BLM also suggests that the complete process of developing a new mine can take more than 10 years. As such, the general lack of large tracts of good quality coal suitable for longwall production could portend an eventual shortage of tracts that are under lease and ready for production.

The North Horn tract may be the last large block of undeveloped, high-quality coal in the Wasatch Plateau. Acquisition of a portion of that tract by SITLA produced some renewed interest in exploration data generated by private companies during the exploration license granted by the BLM in the 1980s. The BLM Interior Board of Land Appeals approved release of that information in 2003, allowing SITLA and others to prepare for potential mining of more than 100 million tons of coal in that tract.

FEDERAL, LEGISLATIVE AND OTHER ISSUES

LAND USE REGULATION

In 2003, DOGM proceeded with a mandated additional review of a proposed mining plan for Lila Canyon. The plan had been approved by DOGM for Utah-American Energy, Inc. (UEI) to open new portals into coal reserves that had once been accessed from a currently closed mine in nearby Horse Canyon. The proximity of the new mine to reserves under the old lease area, as well as the previous mine proposal, helped facilitate DOGM's review and approval of the UEI plan. However, the Southern Utah Wilderness Alliance objected to the UEI plan and the Board of Oil, Gas and Mining sent it back to DOGM for additional study.

Elsewhere, PacifiCorp has initiated plans that have triggered an environmental assessment (EA) for proposed new entries in Rilda Canyon, which would provide better access to the working face at the Deer Creek mine. Until recently, a new surface breakout had been proposed in an area that had been previously disturbed by coal mining. Public scrutiny of the EA process has led to a new proposal that will require no disturbance to the canyon's creek. Findings from the EA process could lead to processing the new permit or to a full-blown environmental impact analysis.

In general, DOGM views coal mining in Utah as in transition from a previous era of abundant, high-quality coal, to a new era in which lower grade coal is mined under deeper, more difficult conditions. This new era is accompanied by stringent regulations for environmental protection and post-mining reclamation and promotes the use of longwall equipment to help assure profitability. In addition, trends in the insurance industry across the United States have made it more difficult for mining companies to cover the rising cost of bonds for mine reclamation. In fact, the failure of several important bond companies in 2002 and 2003 resulted in the closure of two Lodestar coal operations in Utah in 2003. One of the operations was purchased, repermitted and bonded, and the other is being reclaimed with money from settlements with the bonding company and the debtors-in-possession. Altogether, these combined trends have made it difficult for all but the largest, most well financed coal companies to succeed in Utah.

EPA REGULATION OF AIR EMISSIONS

Environmental advocacy groups claim that visibility over most of the western United States is cut in half by man-made air pollution. The federal Clean Air Act, followed by a long series of amendments and court decisions, has produced a set of administrative rules intended to assure generally clean air and prevention of visibility impairment over national parks. Recently, some industry groups and state governments have challenged the Environmental Protection Agency's (EPA) 1999 haze rule that required installation of best available retrofit haze-reducing technology on power plants. That rule was struck down by court action in 2002, resulting in yet another countervailing lawsuit by environmental groups in 2003. Later in the year, an advocacy group for coal producers and utilities was unsuccessful in a petition to dismiss that suit. An EPA consent decree is now in place that provides temporary guidance on the issue of haze prevention.

As a result of these and other trends in regulatory air quality control, coal-fired power plants in Utah are faced with installing high-cost, upgraded pollution control equipment. The location of these plants with regard to several national parks and monuments adds heightened interest, and it is likely that the uneasy truce in place between environmental and industry groups will be followed by additional litigation over the best means to assure air quality at reasonable cost. It is very likely that, at a minimum, planned upgrades of pollution control equipment will be followed by yet further calls for installation of newer, more effective technology.

These issues have direct implications for proposed expansion of the Intermountain Power Project (IPP), near Delta. The EPA recently rejected Utah's proposal for averaging annual air emissions as the basis for achieving approval of a 950 MW expansion at IPP, set for commencing operations in 2009. The rejection was based, in part, on the idea that air emissions could affect visibility in national parks to the southeast of the plant.

Regulations for promoting generally clean air and visibility over sensitive lands will comple-

ment forthcoming rules for controlling mercury, the first round of which are due in 2005. At present, the EPA is required to add mercury as a regulated substance in air emissions by industry and utilities. Industry groups are concerned about potential costs of mercury control equipment and the differential effects that EPA rules may have on combustion of different kinds of coal, including Utah coal. Utah coal contains relatively small amounts of mercury, however, low chlorine values in Utah coal make controlling mercury emissions difficult. The EPA's decision to regulate mercury emissions from coal-fired power plants is based on the EPA's determination that there is a plausible link between emissions from coal-fired power plants and methyl mercury levels in fish. Estimates of biologic effects of mercury from coal combustion will have important implications for Utah coal and its competitive position with other coal and other fuels. Additionally, the kinds of emission control technology that may be required will have an effect on equipment required at Utah's coal-fired power plants.

FEDERAL FUNDING FOR NEW COAL TECHNOLOGY

In 2003, debate continued on the Bush administration's energy bill, which has yet to be adopted. Furthermore, proposed funding for the EPA's Clean Coal Power initiative and the FutureGen power plant concept emphasize the importance of coal in the U.S. long-term electricity outlook.

Congressional action in 2003 and early 2004 reduced current funding for FutureGen from $237 million to $18 million, but will not prevent continuing progress on the endeavor. Moreover, a concurrent $55 million increase in funding was proposed for a variety of smaller clean coal research and development programs, such as advanced turbines, coal gasification and specialized combustion systems.

The FutureGen concept would combine a variety of emerging technologies to result in near zero emission coal combustion, with carbon dioxide being sequestered underground. Funding and designing FutureGen depends upon a consortium of coal and utility companies teaming with the U.S. Department of Energy for up to $1 billion to be spent over more than a decade. Among other things, FutureGen would produce hydrogen, as well as electricity, helping support current administration goals to establish hydrogen fuel as an integral part of the U.S. economy. Overall funding for clean coal research and development could reach $2 billion.

Meanwhile, under the recent federal EPA Clean Coal Power initiative, innovations in combustion of high-moisture lignite coal will commence in 2004. The EPA will also fund development of silica-based materials that absorb mercury from air emissions more effectively than conventional activated carbon materials.

Altogether, Congress appropriated $378 million in fiscal year 2004 for research and development on improved technology for coal combustion. Part of current federal and industry initiative on clean coal development reflects recent recognition that the outlook for cleaner burning natural gas to supplant coal-fired capacity has proved to be overly optimistic.

OUTLOOK FOR UTAH'S COAL INDUSTRY

INTRODUCTION

In 2003, the U.S. Energy Information Administration (EIA) recorded that the U.S. coal industry experienced a second year of falling production that resulted in smaller coal inventories and additional pressure for production increases in 2004. It is predicted that 2004 will mark the third consecutive year of decreased coal production in Utah, even though demand for electricity by Utah consumers is steadily rising. This downward trend is not expected to continue as existing mines step up production in order to make up for recent mine closures.

In the longer term, coal should continue to be the most important fuel produced in the United States for electricity generation. Known reserves of coal are expected to last more than 200 years, much longer than known reserves of petroleum and natural gas. The same is true in Utah where crude oil and natural gas production are in long-term decline.

In 2004, coal-fired power generation is projected to supply more than a third of worldwide electricity demand, more than 50 percent of the United State's electricity needs and more than 90 percent of Utah's electricity demand. Thanks to abundant reserves of coal, Utah consumers will continue to enjoy a stable supply of electricity from its coal-fired power plants, and electricity prices will continue to be among the lowest in the nation. Utah will also continue to be a net exporter of electricity.

In recent years, air quality concerns and demand for peaking capacity have increasingly favored natural gas. However, more recent projections for a growing price differential between natural gas and coal appear to be moderating that outlook, and many new coal-fired power plants are in the planning stage. In Utah, recent capacity expansion of the Kern River gas pipeline, which supplies California markets, resulted in a sharp rise in the baseline price of natural gas. Utah coal prices should remain low, providing incentive for about 1,300 MW of new coal-fired power plant capacity.

Emission standards remain a major issue for coal combustion, and research on clean coal technology is being vigorously pursued around the world, particularly in the United States. The low-sulfur content of most Utah coal is an advantage in the current market place. However, the combined effect of forthcoming federal regulation of mercury emissions and emerging new technology for sulfur control are difficult to predict. As of 2004, most of Utah's six coal-fired power plants are either using upgraded emission controls or are planned for upgrades in the future.

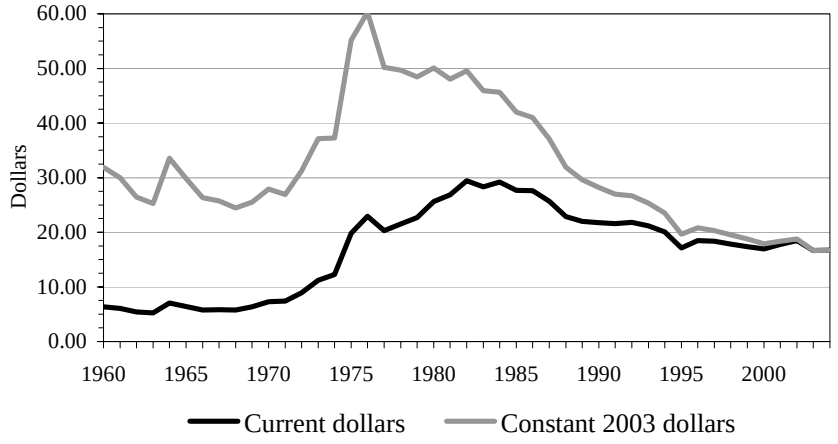
PRICES

EIA projects that over the next 20 years coal prices in the United States should decline by an annual average of about 0.3 percent. This decline is expected for several reasons, including: coal-fired power plants are increasingly efficient, and many plants now use inexpensive, lower rank coal; efficiency of mines and coal transportation systems reduce delivered cost of coal; and foreign supplies of low-cost coal exert downward price pressure on domestic supplies. By comparison, world crude oil prices are projected to rise at an annual average rate of 0.6 percent per year over the next 20 years, while natural gas prices are projected to rise even faster, at 1.8 percent annually. As a result, coal will provide an increasing advantage over other fossil fuels in equivalent energy per unit of fuel cost. In 2004, U.S. coal for power generation is expected to sell for a delivered price of about $25.10 per short ton, or about $1.25 per million Btu. Industrial and metallurgical coal is expected to sell for about $33.00 and $51.00 per ton, respectively.

The mine sale price for Utah coal decreased from $18.47 in 2002 to $16.64 in 2003, a 9.9 percent decline (all prices in nominal dollars). Prices are expected to change little in 2004, averaging $16.72 (Table 2). Low coal prices on multi-year contracts account for this current low average price. Data on multi-year contracts are incomplete, but suggest prices as low as $10 per ton in 2003. Conversely, data on spot prices for Utah coal range above $20 per ton and could be a better indicator of the outlook for Utah coal in coming years (Figure 1).

Projected total revenue from Utah coal production is expected to decline for the third consecutive year to $366 million, 26.9 percent lower than peak year revenues of $501 million reported in 1996 (Table 2).

Figure 1 **Average Price of Utah Coal, 1960-2004**



*2004 value is forecast

PRODUCTION

During 2004, EIA expects U.S. production of coal to rise slightly, reversing a downward trend from recent years. In contrast, Utah coal production in 2004 is expected to show a third consecutive year of decline to 21.9 million tons, 5.0 percent lower than 2003 and 19.1 percent less than all-time high production recorded in 1996.

The number of coal mines in Utah continues to decline as profitability relies increasingly on expensive longwall machinery. Only 12 mines are expected to be in operation in Utah during 2004 compared to 28 mines operating in 1981. As a result, the number of coal miners in Utah has declined from 4,166 in 1981 to a projected 2004 workforce of just 1,394. However, with the introduction of efficient longwall machinery, production efficiency rose from 1.99 tons per employee hour in 1981 to a projected 7.45 tons per employee hour for 2004 (Table 2). Reliance on relatively large and highly efficient operations has kept Utah coal competitive in price, but suggests increasing vulnerability if any one facility experiences difficulty. The 2004 closure of the Skyline mine significantly reduced Utah's production capability and increased pressure on the remaining mines to make up the difference. No other mine closures are expected in the near future allowing overall state production to remain fairly consistent or even rise slightly as existing mines increase production to meet growing demand.

DISTRIBUTION

In 2004, EIA's projected U.S. domestic consumption of coal for all uses will exceed 1.1 billion tons, an all-time high, of which 1.0 billion tons will go to electric utilities. In Utah, 2004 is expected to show a fourth consecutive year of decreased distribution, totaling 22.6 million tons, or 18.9 percent less than record year 1996. This continued decline reflects decreases in production levels rather than a decrease in demand. For example, coal consumption for power generation in Utah is expected to be 15.6 million tons in 2004, near the all-time high of 15.8 million tons consumed in 2003, and will account for 95.3 percent of all coal used in the state (see Appendix Table C).

Expected distribution in 2004 will decrease in all sectors except for small increases in out-of-state residential and commercial distribution and overseas exports. Distribution to out-of-state utility markets is expected to decrease to 6.5 million tons and in-state distribution will decrease to 12.6 million tons in 2004. In-state and out-of-state distribution for the industrial sector will decrease to 0.6 million tons and 2.2 million tons, respectively. As production stabilizes or even increases over the next few years, so too will total distribution.

Coal demand in Utah is expected to remain high for many years as demand for electricity continue to increase. Proposed expansion of IPP would increase demand for Utah coal by about two million tons a year. Also, recent concerns about the price and availability of natural gas have dampened some enthusiasm for this relatively clean burning fuel. As a result, there is renewed interest in coal-burning plants as a means to increase generation capacity. If Utah mines cannot meet the growing demand, plants such as IPP, which has the ability to burn lower-rank coals, may opt to import coal from places like Wyoming. Currently, the Deseret Generation and Transmission (Bonanza) plant is the only significant importer of coal to Utah.

RESERVES

The Kaiparowits Plateau is estimated to contain about 9.1 billion tons, or 64.2 percent, of Utah's remaining recoverable coal reserves, but is unavailable for development due to its location within the Grand Staircase-Escalante National Monument (see Appendix Table A). As a result, Utah coal production will continue to rely heavily on reserves in the Wasatch Plateau, estimated at 1.4 billion tons, and the Book Cliffs, estimated at 0.7 billion tons.

Utah mining companies generally have 10 to 15 years worth of ready coal under lease. Beyond that, the North Horn tract may represent the last large tract of good quality, accessible coal remaining in the Wasatch Plateau. Combined reserves there could exceed 100 million tons and provide 20 to 30 years of steady production for one longwall operation. As demand for Utah coal continues to increase, reserves in other coal fields may become attractive to mine.

The gradual depletion of Utah's "easy" coal turns interest toward more difficult and/or lower-quality reserves, some of which were partially mined in the past. Portions of the Cottonwood tract once hosted prominent Utah mines such as the Trail Mountain. Remaining reserves in that area might someday yield an additional 75 million tons of coal. In the north Book Cliffs field, reserves held by the now-closed Willow Creek mine may become attractive if prices and technology combine to make it profitable to deal with gassy conditions and deep cover. In fact, new main entries in Andalex's Aberdeen mine can now access reserves adjacent to old Willow Creek reserves, which might eventually yield as much as 80 million additional tons. In the southeastern Book Cliffs, reserves of unknown size in the Lila Canyon area will become viable if environmental agreements can be reached.

The Emery mine in the southern portion of the Emery coal field has access to unleased reserves totaling more than 100 million tons. These reserves may become more attractive if prices increase enough to overcome the relative lack of coal transport and concerns over coal chemistry.

APPENDIX

Table A **Utah Coal Reserves by Coal Field, 2003**

Million Short Tons

Coal Field	Original Principal Reserves	Original Recoverable Reserves	Cumulative Production 1870-2003	Remaining Recoverable Reserves	% of Remaining Recoverable Reserves
Kaiparowits	22,740.0	9,096.0	0.1	9,095.9	64.2%
Wasatch Plateau	6,378.9	1,913.7	559.2	1,354.5	9.6%
Book Cliffs	3,527.3	1,033.5	305.9	727.6	5.1%
Kolob	2,014.3	805.9	0.8	805.1	5.7%
Alton	1,509.4	754.7	0.0	754.7	5.3%
Emery	1,430.4	429.1	9.8	419.3	3.0%
Henry Mountains	925.5	484.7	0.0	484.7	3.4%
Sego	696.3	208.9	2.7	206.2	1.5%
Mt. Pleasant	249.1	99.6	0.0	99.6	0.7%
Tabby Mountain	231.2	69.4	0.0	69.4	0.5%
Coalville	186.0	55.8	4.3	51.5	0.4%
Vernal	177.1	53.2	0.3	52.9	0.4%
Salina Canyon	86.4	30.2	0.4	29.8	0.2%
Wales	12.2	3.7	0.7	3.0	*
Sterling	2.0	0.6	0.1	0.5	*
Harmony	1.3	0.4	0.0	0.4	*
Lost Creek	1.1	0.4	0.0	0.4	*
Total	40,168.5	15,039.8	861.2	14,178.6	

Source: Modified from Smith and Jahanbani, 1988, Annual Production and Distribution of Coal in Utah, 1987, UGMS Circular 80; UEO coal company questionnaires for production data

* Value less than 0.1 percent

Figure A **Remaining Recoverable Reserves in Utah by Coal Field, 2003**

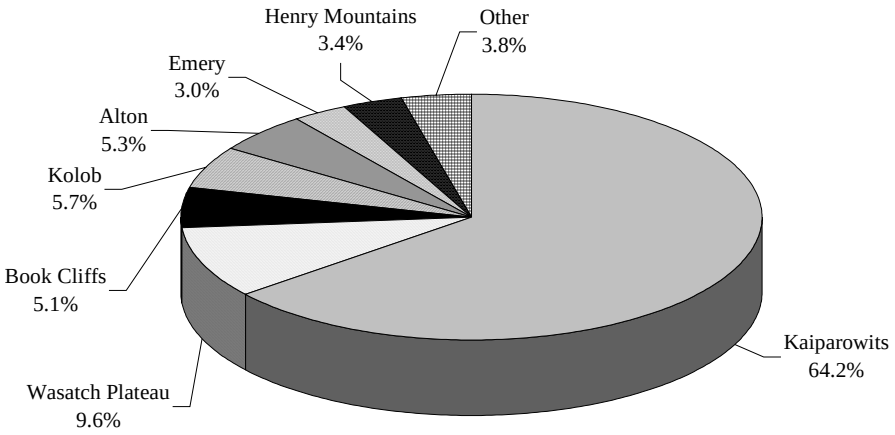


Table B **Utah Coal Reserves by County, 2003**

Million Short Tons

Coal Field	Original Principal Reserves	Original Recoverable Reserves	Cumulative Production 1870-2003	Remaining Recoverable Reserves	% of Remaining Recoverable Reserves
Kane	18,934.0	7,724.6	0.1	7,724.5	54.5%
Carbon	4,993.6	1,475.8	424.6	1,051.3	7.4%
Emery	4,130.1	1,236.6	349.0	887.6	6.3%
Garfield	7,493.1	3,106.3	0.0	3,106.3	21.9%
Sevier	2,073.1	626.2	102.6	523.6	3.7%
Iron	650.8	260.2	0.8	259.5	1.8%
Sanpete	489.5	171.8	0.7	171.1	1.2%
Grand	696.3	208.9	2.7	206.2	1.5%
Summit	186.0	55.8	4.3	51.5	0.4%
Wasatch	177.3	53.2	0.0	53.2	0.4%
Uintah	177.1	53.2	0.3	52.9	0.4%
Washington	86.1	34.4	0.0	34.4	0.2%
Duchesne	53.9	16.2	0.0	16.2	0.1%
Wayne	27.0	16.2	0.0	16.2	0.1%
Morgan	1.1	0.4	0.0	0.4	*
Total	40,168.5	15,039.8	861.2	14,178.6	

Source: Modified from Smith and Jahanbani, 1988, Annual Production and Distribution of Coal in Utah, 1987, UGMS Circular 80; UEO coal company questionnaires for production data

* Value less than 0.1 percent

Table C **Consumption of Coal in Utah by End Use, 1960-2004**

Thousand Short Tons

Year	Electric Utilities[1]	Coke Plant	Other Industrial	Residential & Commercial	Trans-portation	Total
1960	515	2,216	424	249	45	3,449
1961	563	1,930	363	243	11	3,110
1962	462	1,416	336	275	7	2,497
1963	447	1,362	331	228	6	2,374
1964	411	1,693	375	204	8	2,690
1965	363	1,917	389	181	8	2,857
1966	440	1,988	382	185	7	3,003
1967	410	1,845	313	180	5	2,753
1968	417	1,917	345	119	5	2,803
1969	375	1,964	483	161	4	2,988
1970	435	1,948	529	109	4	3,025
1971	417	1,859	527	240	3	3,047
1972	571	1,739	551	161	2	3,024
1973	984	1,889	812	199	2	3,886
1974	1,296	1,957	654	355	1	4,263
1975	2,026	1,985	493	131	0	4,636
1976	1,267	2,011	631	208	0	4,117
1977	2,511	1,995	640	282	0	5,429
1978	3,148	1,725	800	281	0	5,954
1979	4,151	1,566	844	542	0	7,104
1980	4,895	1,528	446	237	0	7,106
1981	4,956	1,567	714	196	0	7,432
1982	4,947	841	822	177	0	6,787
1983	5,223	829	629	191	0	6,873
1984	5,712	1,386	548	259	0	7,905
1985	6,325	1,254	472	252	0	8,303
1986	6,756	785	380	191	0	8,112
1987	11,175	231	276	124	0	11,807
1988	12,544	1,184	589	196	0	14,513
1989	12,949	1,179	686	231	0	15,044
1990	13,563	1,231	676	267	0	15,738
1991	12,829	1,192	508	305	0	14,834
1992	13,857	1,114	525	223	0	15,719
1993	13,995	1,005	727	121	0	15,848
1994	14,269	1,007	835	105	0	16,216
1995	13,325	990	915	77	0	15,307
1996	13,585	1,047	512	94	0	15,237
1997	14,252	1,020	709	123	0	16,105
1998	14,664	971	1,304	113	0	17,052
1999	14,590	741	745	114	0	16,190
2000	14,688	985	1,166	59	0	16,897
2001	14,403	873	1,235	60	0	16,571
2002	15,194	0	592	198	0	15,984
2003	15,788	0	611	61	0	16,460
2004*	15,584	0	641	128	0	16,354

Source: U.S. Energy Information Administration and UEO

Note: Consumption differs from distribution (Table 7) because of additional consumption from consumer stockpiles.

[1]Does not include the Sunnyside Cogeneration facility, which began operation in 1993. Sunnyside burns waste coal.

*Forecast

Figure B **Consumption of Coal in Utah by End Use, 1960-2004**

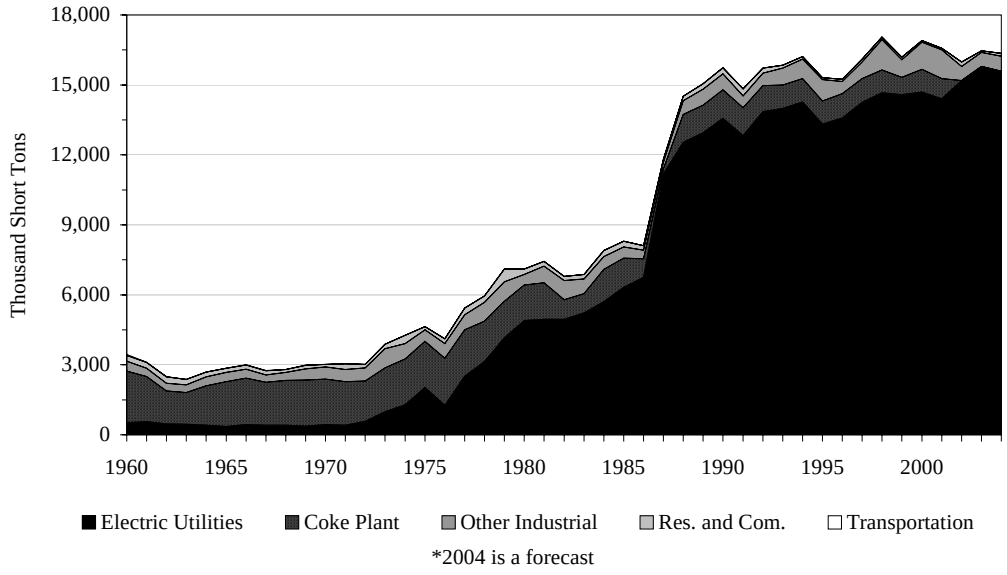


Table D **Electricity Generation and Coal Consumption at Coal Burning Power Plants in Utah, 1990-2004**

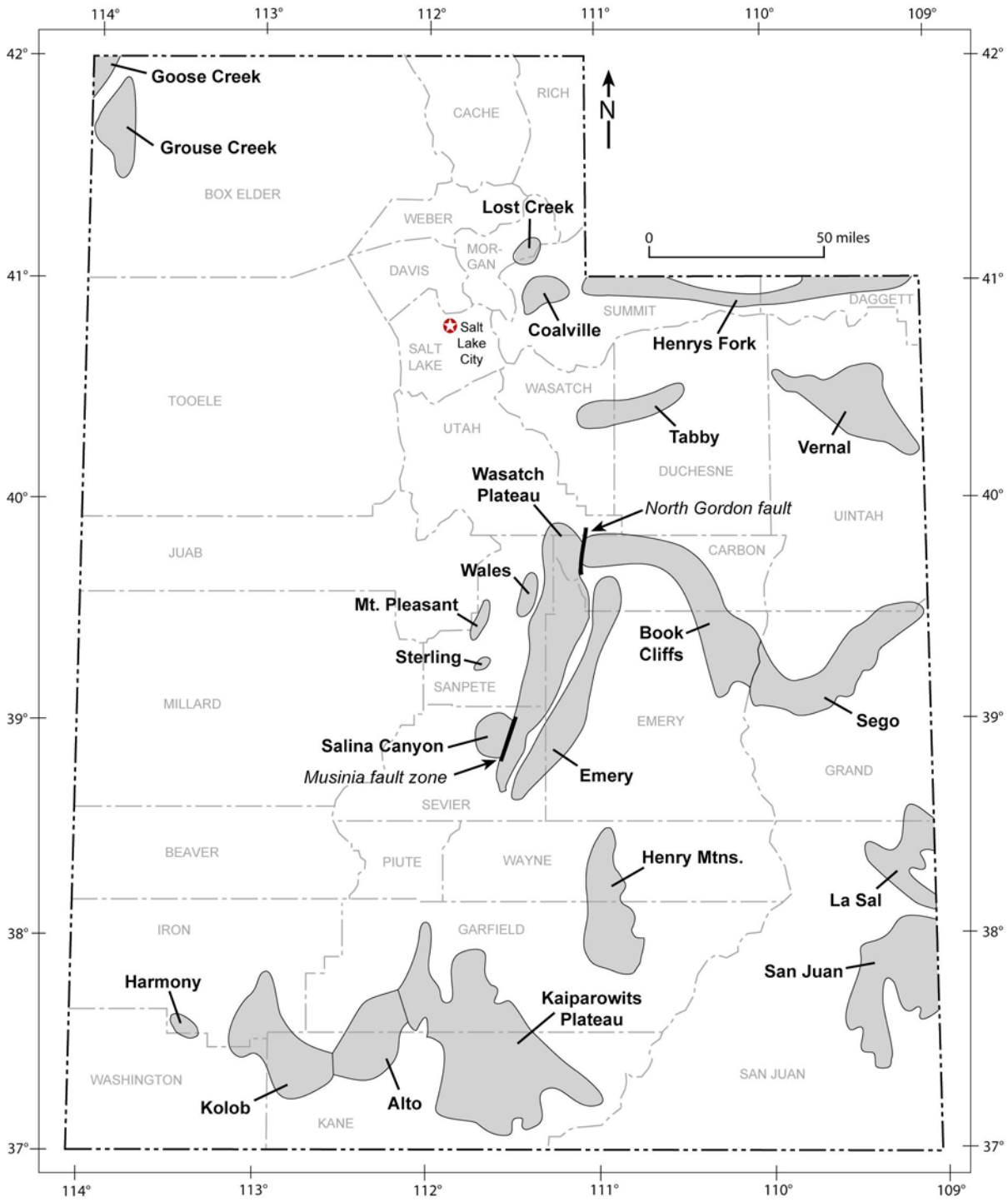
Year	Deseret Generation & Transmission Co.			Intermountain Power Agency			PacifiCorp		
	Bonanza			Intermountain (IPP)			Carbon		
	Coal Consumption	Net Generation	MWh per Short Ton	Coal Consumption	Net Generation	MWh per Short Ton	Coal Consumption	Net Generation	MWh per Short Ton
	Short Tons	MWh		Short Tons	MWh		Short Tons	MWh	
1990	1,237,312	2,577,271	2.08	4,967,883	12,410,005	2.50	582,320	1,260,497	2.16
1991	1,309,770	2,764,208	2.11	4,145,585	10,106,144	2.44	547,905	1,192,091	2.18
1992	1,511,878	3,201,401	2.12	4,959,568	12,264,308	2.47	623,178	1,307,598	2.10
1993	1,414,980	3,132,999	2.21	4,856,527	11,936,833	2.46	631,909	1,358,949	2.15
1994	1,533,363	3,242,413	2.11	4,916,555	12,171,664	2.48	622,621	1,366,103	2.19
1995	1,125,003	2,344,439	2.08	4,248,623	10,306,059	2.43	605,712	1,351,984	2.23
1996	1,341,076	2,831,105	2.11	4,350,752	10,711,308	2.46	622,126	1,410,369	2.27
1997	1,532,158	2,947,675	1.92	5,158,831	12,762,721	2.47	653,833	1,403,936	2.15
1998	1,734,613	3,456,787	1.99	5,278,344	12,973,101	2.46	600,317	1,286,805	2.14
1999	1,598,296	3,227,344	2.02	5,266,047	13,069,535	2.48	552,590	1,217,838	2.20
2000	1,510,407	2,931,869	1.94	5,301,096	13,176,578	2.49	628,623	1,371,586	2.18
2001	2,013,770	3,932,642	1.95	5,365,021	13,383,601	2.49	632,124	1,371,822	2.17
2002	2,092,485	3,921,576	1.87	5,429,620	13,479,234	2.48	615,117	1,322,049	2.15
2003	1,893,338	3,516,478	1.86	5,518,129	13,553,352	2.46	657,111	1,371,293	2.09
2004*	1,885,905	3,595,196	1.91	5,611,035	13,913,856	2.48	551,725	1,184,579	2.15

Year	PacifiCorp			PacifiCorp			Total		
	Hunter			Huntington					
	Coal Consumption	Net Generation	MWh per Short Ton	Coal Consumption	Net Generation	MWh per Short Ton	Coal Consumption	Net Generation	MWh per Short Ton
	Short Tons	MWh		Short Tons	MWh		Short Tons	MWh	
1990	4,022,009	9,019,470	2.24	2,753,717	6,253,702	2.27	13,563,241	31,520,945	2.32
1991	4,124,260	8,915,149	2.16	2,701,376	5,907,238	2.19	12,828,896	28,884,830	2.25
1992	4,107,391	8,605,835	2.10	2,655,409	6,164,281	2.32	13,857,424	31,543,423	2.28
1993	4,253,731	9,151,459	2.15	2,837,819	6,339,069	2.23	13,994,966	31,919,309	2.28
1994	4,277,130	9,323,744	2.18	2,919,715	6,660,541	2.28	14,269,384	32,764,465	2.30
1995	4,376,632	9,453,500	2.16	2,968,886	6,803,932	2.29	13,324,856	30,259,914	2.27
1996	4,343,571	9,337,663	2.15	2,927,155	6,402,742	2.19	13,584,680	30,693,187	2.26
1997	4,220,568	8,893,113	2.11	2,686,976	6,136,491	2.28	14,252,366	32,143,936	2.26
1998	4,140,205	9,044,084	2.18	2,910,474	6,445,954	2.21	14,663,953	33,206,731	2.26
1999	4,220,721	9,483,957	2.25	2,952,484	7,126,340	2.41	14,590,138	34,125,014	2.34
2000	4,226,218	9,518,367	2.25	3,021,448	7,047,404	2.33	14,687,792	34,045,804	2.32
2001	3,722,062	8,289,465	2.23	2,670,253	6,226,810	2.33	14,403,230	33,204,340	2.31
2002	4,342,594	9,393,635	2.16	2,714,232	5,964,609	2.20	15,194,048	34,081,103	2.24
2003	4,563,686	9,943,557	2.18	3,155,334	7,213,222	2.29	15,787,598	35,597,902	2.25
2004*	4,614,652	10,176,828	2.21	2,921,120	6,680,564	2.29	15,584,437	35,551,023	2.28

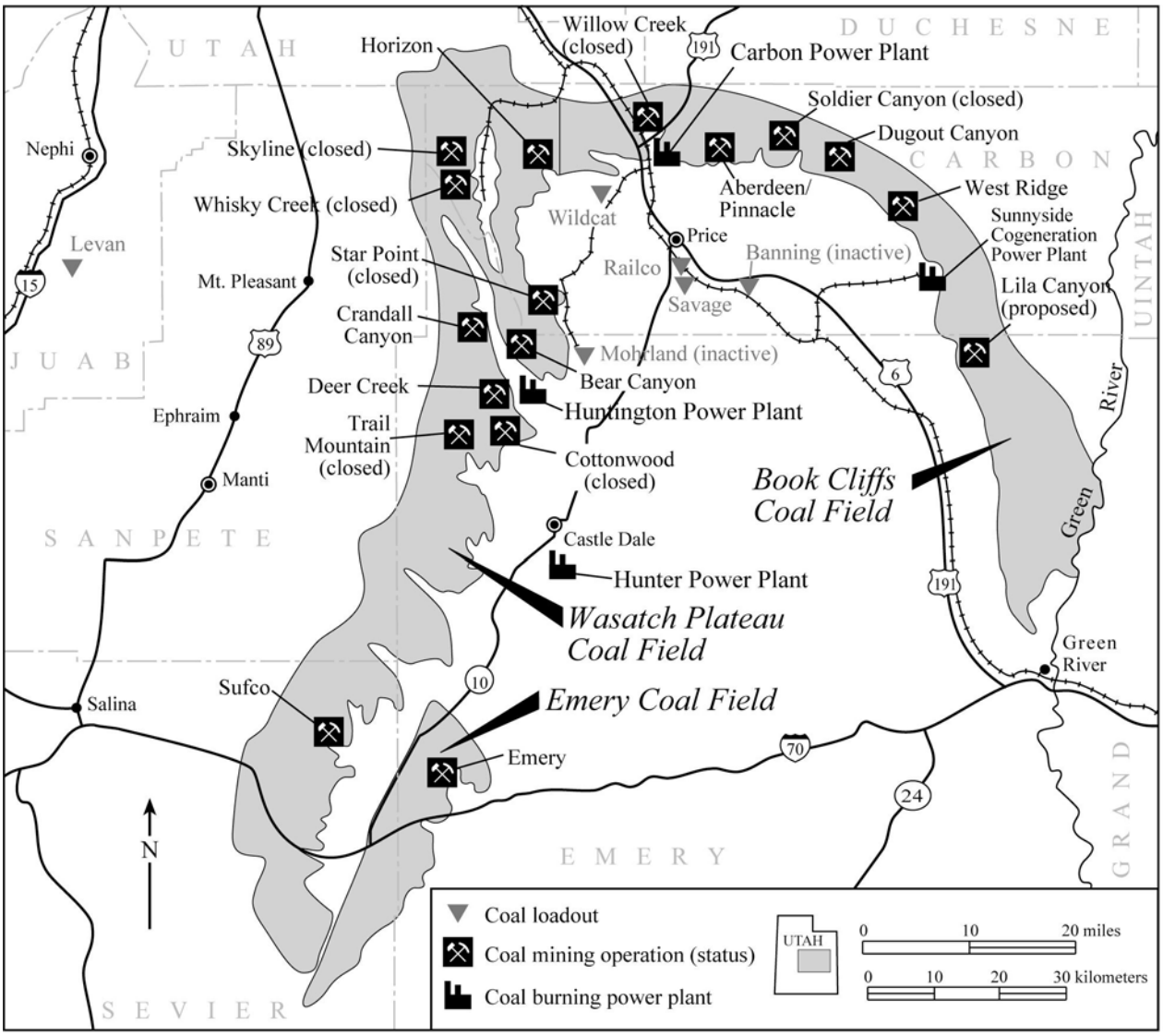
Source: U.S. Energy Information Administration (EIA) and Utah Energy Office

Note: Sunnyside Cogeneration is not included because it burns waste coal

*Forecast



Map 1. Location of Utah coal fields (provided by the UGS).



Map 2. Location and status (as of printing) of Utah coal mining operations (map provided by UGS).

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