

**Table 3.1: Size of Selected West Virginia Energy Industries**

<b>Industry</b>	<b>SIC</b>	<b>1996 Employment</b>	<b>1996 Employee Earnings \$000,000</b>	<b>1994 GSP \$000,000</b>
Electric, Gas and Sanitary Services	49	12,173	\$640	\$2,522
Coal Mining	12	23,243	\$1,481	\$3,093
Oil and Gas Extraction	13	8,456	\$135	\$236
West Virginia		847,010	\$16,045	\$34,654

Sources: U. S. Department of Commerce, Bureau of Economic Analysis, SPI CD, October 1996, REIS-CD, June 1996, and STATS-USA, June 1997.

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West Virginia University Electric Industry Research Group/June 28, 1997

**Table 3.2: Distribution of Coal Mined in West Virginia (1995)**

	Thousands of Short Tons
Total	165,187
Domestic Distribution	120,866
Inside West Virginia	29,081
Outside West Virginia	91,848
Ohio	19,543
Pennsylvania	14,056
North Carolina	7,169
Maryland	6,550
Kentucky	5,857
New York	5,506
Indiana	5,180
Michigan	4,853
Georgia	4,159
Alabama	4,091
Virginia	3,397
Tennessee	1,617
Florida	1,600
Illinois	1,451
Massachusetts	1,443
Other	5,374
Foreign Distribution	44,321
Canada	5,784
Italy	5,138
France	4,408
Brazil	4,328
Netherlands	3,737
Japan	3,373
Belgium & Luxembourg	1,923
United Kingdom	1,633
Romania	1,623
Turkey	1,560
Portugal	1,390
Bulgaria	1,360
Sweden	1,351
Korea, Republic of	1,171
Spain	1,083
Other	4,458

**NOTE:** Totals may not equal sum of components due to independent rounding.

Source: U.S. Department of Energy, Energy Information Administration, Coal Industry Annual 1995.

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West Virginia University Electric Industry Research Group/June 28, 1997

**Table 3.5: ASSETS AND COSTS OF POWER PLANTS IN WEST VIRGINIA**

Assumptions:

Assumed Default Capacity Factor	60
Maximum Plant Life, Years	50
Starting and Data Year	1995

Plant	Average Book Value 1989-95	Average Capital per Year = Avg. Book/20	Year of Latest Unit	Calculated Remaining Life Years	Capacity MW	Average Capacity Factor 1989-95	Average Net MWh per Year 1989-95	Assumed Capacity Factor	Assumed Net MWh per Year	Average Capital Cost \$/MWh	Average Production Cost \$/MWh	Average Total Cost per Year \$/MWh
ALBRIGHT	90,638,361	4,531,918	1954	9	278	48.99	1,194,412	60.00	1,462,745	3.79	23.26	27.05
AMOS	707,527,129	35,376,356	1973	28	2933	48.81	12,540,092	60.00	15,413,746	2.82	20.24	23.06
FORT MARTIN	265,692,016	13,284,601	1968	23	1152	64.38	6,496,653	64.38	6,496,653	2.04	17.83	19.87
HARRISON	634,143,022	31,707,151	1974	29	2052	68.17	12,253,285	68.17	12,253,285	2.59	15.98	18.57
KAMMER	186,809,944	9,340,497	1959	14	713	75.54	4,718,146	75.54	4,718,146	1.98	15.22	17.20
KANAWHA RIVER	112,580,380	5,629,019	1953	8	439	26.97	1,038,103	60.00	2,309,486	5.42	27.04	32.46
MITCHELL	395,228,229	19,761,411	1971	26	1633	47.72	6,826,432	60.00	8,583,048	2.89	19.62	22.51
MOUNT STORM	611,538,958	30,576,948	1973	28	1662	75.38	10,974,214	75.38	10,974,214	2.79	17.29	20.08
MOUNTAINEER	643,184,195	32,159,210	1980	35	1300	57.59	6,557,800	60.00	6,832,800	4.90	18.75	23.65
NORTHBRANCH	26,546,226	1,327,311	1992	47	80	84.13	589,556	84.13	589,556	2.25	33.13	35.38
PHILIP SPORN	306,663,053	15,333,153	1960	15	1106	40.89	3,961,975	60.00	5,813,136	3.87	21.72	25.59
PLEASANTS	840,395,808	42,019,790	1980	35	1368	63.93	7,661,763	63.93	7,661,763	5.48	16.90	22.38
RIVESVILLE	41,363,968	2,068,198	1951	6	110	30.21	290,434	60.00	576,846	7.12	41.32	48.44
WILLOW ISLAND	76,348,291	3,817,415	1960	15	213	43.37	810,085	60.00	1,120,579	4.71	21.99	26.70

**Table 3.6: STRANDED ASSETS OF POWER PLANTS IN WEST VIRGINIA, HISTORICAL PRODUCTION BASIS**

Assumptions:

Capacity Factor	Historical Capacity Factor				Historical Capacity Factor									
Historical Capacity Factor														
Maximum Plant Life, Years	50					50					50			
Starting and Data Year	1995					1995					1995			
Constant Dollar Discount Rate	8%					10%					12%			
Busbar price \$/mwh →	15	20	25	30	15	20	25	30	15	20	25	30		

Plant	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$
ALBRIGHT	181	143	106	69	174	139	105	70	167	136	104	72
AMOS	1825	1132	439	-254	1648	1065	481	-102	1515	1014	513	13
FORT MARTIN	594	257	-80	-417	547	258	-30	-319	510	259	9	-242
HARRISON	1122	438	-245	-929	1044	470	-104	-678	985	493	2	-490
KAMMER	272	78	-117	-311	263	89	-84	-258	256	99	-57	-213
KANAWHA RIVER	217	187	157	127	209	182	154	126	203	177	151	125
MITCHELL	950	581	212	-157	865	552	240	-73	800	531	261	-8
MOUNT STORM	1227	621	14	-592	1130	619	109	-402	1056	618	180	-258
MOUNTAINEER	1305	922	540	158	1190	874	558	242	1107	839	571	303
NORTHBRANCH	173	137	101	65	145	116	87	58	126	102	77	53
PHILIP SPORN	666	496	327	157	626	475	324	174	592	458	323	188
PLEASANTS	1500	1053	607	160	1386	1017	647	278	1303	990	677	363
RIVESVILLE	86	80	73	66	84	77	71	65	81	75	69	63
WILLOW ISLAND	157	123	88	53	148	118	87	56	141	113	86	58
Sum of Stranded Costs →	10274	6248	2222	-1803	9460	6052	2644	-764	8843	5904	2966	27

**Table 3.7: STRANDED ASSETS OF POWER PLANTS IN WEST VIRGINIA, HISTORICAL PRODUCTION BASIS**

Assumptions:

Capacity Factor	Historical Capacity Factor				Historical Capacity Factor							
Historical Capacity Factor												
Maximum Plant Life, Years	50				50				50			
Starting and Data Year	1995				1995				1995			
Constant Dollar Discount Rate	8%				10%				12%			
Busbar price \$/mwh →	15	20	25	30	15	20	25	30	15	20	25	30

Plant	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$
<b>Appalachian Power</b>												
AMOS	1825	1132	439	-254	1648	1065	481	-102	1515	1014	513	13
KANAWHA RIVER	217	187	157	127	209	182	154	126	203	177	151	125
MOUNTAINEER	1305	922	540	158	1190	874	558	242	1107	839	571	303
PHILIP SPORN	666	496	327	157	626	475	324	174	592	458	323	188
<b>TOTAL BY UTILITY</b>	<b>4012</b>	<b>2737</b>	<b>1463</b>	<b>188</b>	<b>3674</b>	<b>2596</b>	<b>1518</b>	<b>440</b>	<b>3417</b>	<b>2487</b>	<b>1558</b>	<b>629</b>
<b>Allegheny Power</b>												
ALBRIGHT	181	143	106	69	174	139	105	70	167	136	104	72
FORT MARTIN	594	257	-80	-417	547	258	-30	-319	510	259	9	-242
HARRISON	1122	438	-245	-929	1044	470	-104	-678	985	493	2	-490
PLEASANTS	1500	1053	607	160	1386	1017	647	278	1303	990	677	363
RIVESVILLE	86	80	73	66	84	77	71	65	81	75	69	63
WILLOW ISLAND	157	123	88	53	148	118	87	56	141	113	86	58
<b>TOTAL BY UTILITY</b>	<b>3640</b>	<b>2095</b>	<b>549</b>	<b>-997</b>	<b>3382</b>	<b>2079</b>	<b>775</b>	<b>-528</b>	<b>3187</b>	<b>2067</b>	<b>946</b>	<b>-175</b>
<b>Ohio Power</b>												
MITCHELL	950	581	212	-157	865	552	240	-73	800	531	261	-8
KAMMER	272	78	-117	-311	263	89	-84	-258	256	99	-57	-213
<b>TOTAL BY UTILITY</b>	<b>1222</b>	<b>659</b>	<b>95</b>	<b>-468</b>	<b>1128</b>	<b>642</b>	<b>156</b>	<b>-331</b>	<b>1056</b>	<b>630</b>	<b>204</b>	<b>-222</b>
<b>Virginia Power</b>												
MOUNT STORM	1227	621	14	-592	1130	619	109	-402	1056	618	180	-258
NORTHBRANCH	173	137	101	65	145	116	87	58	126	102	77	53
<b>TOTAL BY UTILITY</b>	<b>1400</b>	<b>758</b>	<b>115</b>	<b>-527</b>	<b>1275</b>	<b>736</b>	<b>196</b>	<b>-344</b>	<b>1183</b>	<b>720</b>	<b>257</b>	<b>-205</b>
<b>TOTAL WEST VIRGINIA</b>	<b>10274</b>	<b>6248</b>	<b>2222</b>	<b>-1803</b>	<b>9460</b>	<b>6052</b>	<b>2644</b>	<b>-764</b>	<b>8843</b>	<b>5904</b>	<b>2966</b>	<b>27</b>

**Table 3.8: STRANDED ASSETS OF POWER PLANTS IN WEST VIRGINIA, ASSUMED PRODUCTION BASIS**

Assumptions:

Capacity Factor	Default 60				Default 60				Default 60			
Maximum Plant Life, Years	50				50				50			
Starting and Data Year	1995				1995				1995			
Constant Dollar Discount Rate	8%				10%				12%			
Busbar price \$/MWh →	15	20	25	30	15	20	25	30	15	20	25	30

Plant	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$
ALBRIGHT	201	155	109	64	192	150	108	66	185	146	107	68
AMOS	2081	1229	377	-474	1864	1147	429	-288	1700	1084	469	-146
FORT MARTIN	594	257	-80	-417	547	258	-30	-319	510	259	9	-242
HARRISON	1122	438	-245	-929	1044	470	-104	-678	985	493	2	-490
KAMMER	272	78	-117	-311	263	89	-84	-258	256	99	-57	-213
KANAWHA RIVER	344	278	212	145	328	266	205	143	313	256	198	141
MITCHELL	1092	629	165	-299	986	593	200	-193	904	566	227	-112
MOUNT STORM	1227	621	14	-592	1130	619	109	-402	1056	618	180	-258
MOUNTAINEER	1332	934	536	138	1213	884	554	225	1127	847	568	289
NORTHBRANCH	173	137	101	65	145	116	87	58	126	102	77	53
PHILIP SPORN	834	585	336	87	775	554	333	112	726	528	330	132
PLEASANTS	1500	1053	607	160	1386	1017	647	278	1303	990	677	363
RIVESVILLE	131	117	104	91	125	113	100	88	121	109	97	85
WILLOW ISLAND	189	141	93	45	176	133	91	48	166	128	89	51
Sum of Stranded Costs →	11091	6652	2212	-2227	10175	6410	2644	-1121	9477	6224	2972	-280

**Table 3.9: STRANDED ASSETS OF POWER PLANTS IN WEST VIRGINIA, ASSUMED PRODUCTION BASIS**

Assumptions:

Capacity Factor	Default 60				Default 60				Default 60			
Maximum Plant Life, Years	50				50				50			
Starting and Data Year	1995				1995				1995			
Constant Dollar Discount Rate	8%				10%				12%			
Busbar price \$/mwh —>	15	20	25	30	15	20	25	30	15	20	25	30

Plant	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$
<i>Appalachian Power</i>												
AMOS	2081	1229	377	-474	1864	1147	429	-288	1700	1084	469	-146
KANAWHA RIVER	344	278	212	145	328	266	205	143	313	256	198	141
MOUNTAINEER	1332	934	536	138	1213	884	554	225	1127	847	568	289
PHILIP SPORN	834	585	336	87	775	554	333	112	726	528	330	132
<i>TOTAL BY UTILITY</i>	4591	3026	1461	-104	4180	2851	1521	192	3865	2715	1565	415
<i>Allegheny Power</i>												
ALBRIGHT	201	155	109	64	192	150	108	66	185	146	107	68
FORT MARTIN	594	257	-80	-417	547	258	-30	-319	510	259	9	-242
HARRISON	1122	438	-245	-929	1044	470	-104	-678	985	493	2	-490
PLEASANTS	1500	1053	607	160	1386	1017	647	278	1303	990	677	363
RIVESVILLE	131	117	104	91	125	113	100	88	121	109	97	85
WILLOW ISLAND	189	141	93	45	176	133	91	48	166	128	89	51
<i>TOTAL BY UTILITY</i>	3736	2162	588	-986	3470	2141	812	-518	3269	2124	980	-164
<i>Ohio Power</i>												
MITCHELL	1092	629	165	-299	986	593	200	-193	904	566	227	-112
KAMMER	272	78	-117	-311	263	89	-84	-258	256	99	-57	-213
<i>TOTAL BY UTILITY</i>	1365	706	48	-610	1249	682	116	-451	1160	665	170	-326
<i>Virginia Power</i>												
MOUNT STORM	1227	621	14	-592	1130	619	109	-402	1056	618	180	-258
NORTHBRANCH	173	137	101	65	145	116	87	58	126	102	77	53
<i>TOTAL BY UTILITY</i>	1400	758	115	-527	1275	736	196	-344	1183	720	257	-205
<i>TOTAL WEST VIRGINIA</i>	11091	6652	2212	-2227	10175	6410	2644	-1121	9477	6224	2972	-280

**Table 3.10: STRANDED ASSETS PRICE ELASTICITIES, HISTORICAL PRODUCTION BASIS**

Historical Capacity Factor 50 1995 8%				Historical Capacity Factor 50 1995 10%				Historical Capacity Factor 50 1995 12%			
15	20	25	30	15	20	25	30	15	20	25	30
Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$
-0.62	-1.04	-1.76		-0.59	-0.99	-1.64		-0.57	-0.94	-1.53	
-1.14	-2.45	-7.90		-1.06	-2.19	-6.06		-0.99	-1.97	-4.88	
-1.70	-5.24	21.15		-1.58	-4.47	47.95		-1.47	-3.87	-144.16	
-1.83	-6.24	13.93		-1.65	-4.89	27.51		-1.50	-3.98	-1304.00	
-2.14	-9.99	8.34		-1.98	-7.77	10.31		-1.84	-6.30	13.69	
-0.41	-0.64	-0.95		-0.40	-0.61	-0.90		-0.38	-0.58	-0.85	
-1.17	-2.54	-8.71		-1.08	-2.26	-6.52		-1.01	-2.03	-5.16	
-1.48	-3.91	-210.52		-1.36	-3.30	-23.50		-1.24	-2.83	-12.16	
-0.88	-1.66	-3.54		-0.80	-1.45	-2.83		-0.73	-1.28	-2.35	
-0.62	-1.05	-1.78		-0.60	-1.00	-1.67		-0.58	-0.96	-1.58	
-0.76	-1.37	-2.60		-0.72	-1.27	-2.32		-0.68	-1.18	-2.09	
-0.89	-1.70	-3.68		-0.80	-1.45	-2.85		-0.72	-1.27	-2.31	
-0.23	-0.34	-0.46		-0.23	-0.33	-0.45		-0.22	-0.32	-0.43	
-0.66	-1.13	-1.97		-0.62	-1.05	-1.77		-0.59	-0.97	-1.61	
-1.18	-2.58	-9.06		-1.08	-2.25	-6.44		-1.00	-1.99	-4.95	

**Table 3.11: STRANDED ASSETS DISCOUNT RATE ELASTICITIES, HISTORICAL PRODUCTION BASIS**

Assumptions:

Capacity Factor	Historical Capacity Factor				Historical Capacity Factor			
Maximum Plant Life, Years	50				50			
Starting and Data Year	1995				1995			
Constant Dollar Discount Rate	8%				10%			
Busbar price \$/mwh →	15	20	25	30	15	20	25	30

Plant	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$	Stranded Costs (Benefits) Million \$
ALBRIGHT	-0.16	-0.11	-0.05	0.10	-0.18	-0.13	-0.05	0.11
AMOS	-0.39	-0.24	0.39	-2.39	-0.41	-0.24	0.33	-5.62
FORT MARTIN	-0.32	0.02	-2.49	-0.94	-0.34	0.02	-6.45	-1.20
HARRISON	-0.28	0.29	-2.30	-1.08	-0.28	0.25	-5.09	-1.39
KAMMER	-0.13	0.60	-1.11	-0.68	-0.15	0.55	-1.61	-0.86
KANAWHA RIVER	-0.14	-0.11	-0.08	-0.03	-0.16	-0.13	-0.09	-0.04
MITCHELL	-0.36	-0.19	0.53	-2.15	-0.38	-0.20	0.45	-4.44
MOUNT STORM	-0.32	-0.01	26.18	-1.28	-0.33	-0.01	3.29	-1.79
MOUNTAINEER	-0.35	-0.21	0.13	2.12	-0.35	-0.20	0.12	1.26
NORTHBRANCH	-0.63	-0.60	-0.55	-0.44	-0.66	-0.62	-0.56	-0.44
PHILIP SPORN	-0.24	-0.17	-0.03	0.42	-0.27	-0.19	-0.03	0.40
PLEASANTS	-0.30	-0.14	0.27	2.93	-0.30	-0.13	0.23	1.54
RIVESVILLE	-0.12	-0.11	-0.10	-0.09	-0.14	-0.13	-0.12	-0.10
WILLOW ISLAND	-0.23	-0.17	-0.06	0.19	-0.25	-0.18	-0.06	0.19
Elasticities for WV →	-0.32	-0.13	0.76	-2.31	-0.33	-0.12	0.61	-5.18

Note: These elasticities are determined by dividing the percent change in asset value by the percent change in discount rate.