

This is a report of an economic study, which was sent to some of us in April by Sen. George Nodland-- JMA

N.D. must prepare now for the end of the Bakken boom

By Scott Streater, Energy and Environmental Reporter

North Dakota does not have the policies in place to reap the full economic benefits of the Bakken Shale oil boom, according to a new study that warns the state could face significant problems in the coming years if it does not start planning for life after the oil rush. The study, conducted by Bozeman, Mont.-based research group Headwaters Economics, **concludes it would be beneficial if the state funneled more oil and natural gas tax revenues to communities in the pathway of the Bakken play.**

The study, which is part of a larger research effort led by Stanford University analyzing the true benefits of energy development to Western communities, also recommends the state pump more oil and gas revenues into a recently established "legacy fund" for education and economic development projects that should help ensure the state does not suffer after the Bakken boom subsides.

While North Dakota has agreed this year to make a one-time transfer of \$885 million for local infrastructure improvement projects, **the state directly allocates only 8 percent of the total oil and gas revenues it receives to local governments, according to the study.**

That is far less than the 63 percent of revenues Colorado sends to local governments. Montana allocates 39 percent of state oil and gas revenues to local governments, and Wyoming 35 percent, according to the study. "North Dakota stands out among its peers for providing the least direct funding for oil-impacted communities," according to the 24-page study.

The state needs to address the issue quickly, said Mark Haggerty, an economist at Headwaters Economics and the study's lead author. "They need to get the distribution system right and make sure these communities are getting what they need," Haggerty said.

U.S. and Canadian law enforcement officers say they expect as many as 30,000 workers to arrive in Montana, North Dakota and Saskatchewan in the next few years to work the Bakken Shale, and they are bracing for a spike in crime (EnergyWire, April 24).

There are also mounting infrastructure needs. As shale oil production continues to grow strongly in emerging areas, the oil and gas industry is creating bottlenecks for itself, pumping more crude out of the ground than can be moved out through either existing pipeline infrastructure or by truck.

"Intensive oil extraction creates the need for expensive improvements to road, water, and sewer systems and increases demand for public services such as police, fire, and emergency response, social services, and -- significantly -- housing," according to the study.

Unlike conventional drilling practices, which are "premised by 'sticking a straw in the ground' and watching valuable resources flow out," unconventional oil extraction is "characterized by an ongoing cycle of drilling, fracking, and often re-fracking of producing wells" for years, increasing impacts to infrastructure and the environment, according to the study.

"What this means for communities is that they're going to see more activity because the technology is different, and the production level of each well, on average, is not as significant, so you need to re-frack or drill more wells," said Chris Mehl, Headwaters Economics' policy director.



Historical and Forecast Information

May 30th, 2012

Below is the; BLAISDELL SUBSTATION:

ENERGIZED MAY 25th 2012;



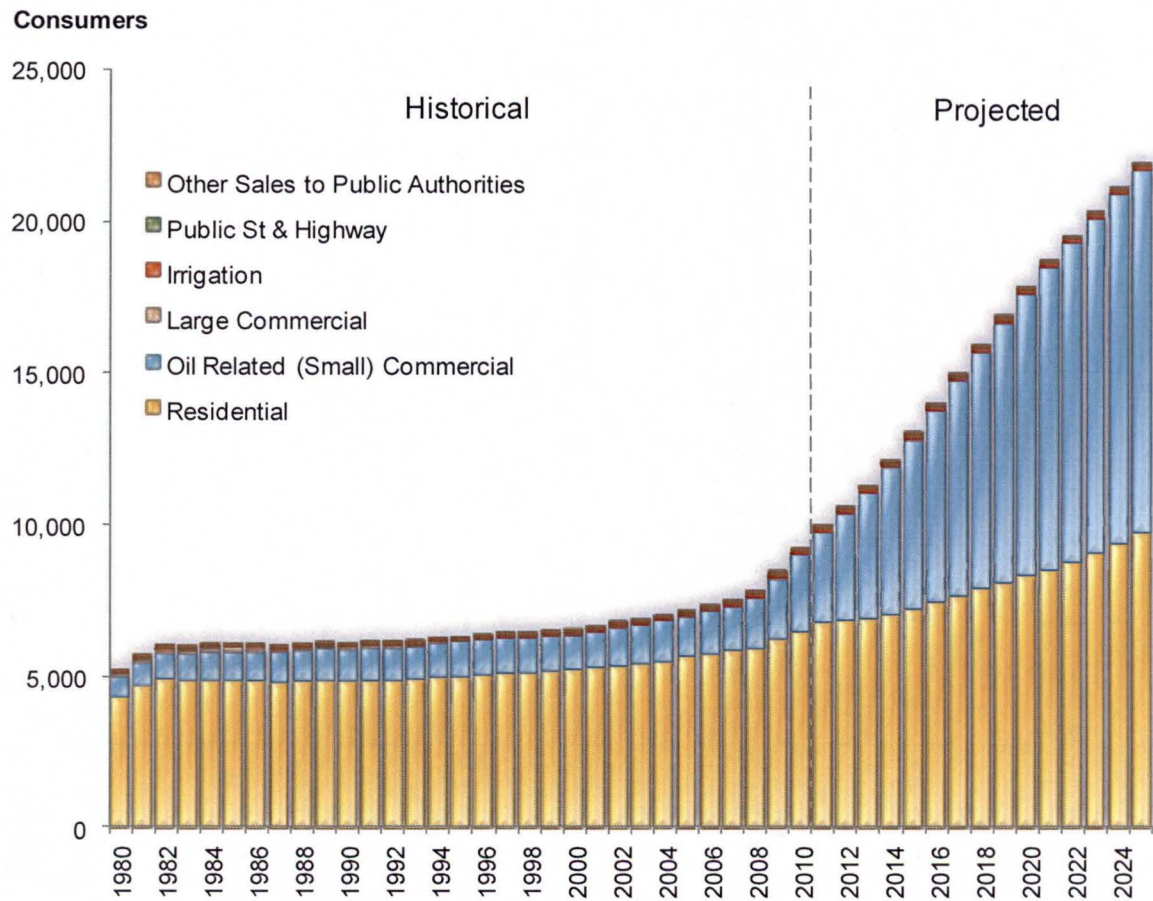
200 MW CAPACITY;

Substation estimated to be at \$20 million Dollars

Annual Number of Consumers

Mountrail-Williams Electric’s historical and projected annual energy sales by consumer classification are shown in the following graph and table.

Annual Number of Consumers



Mountrail-Williams Electric Cooperative

Number of Consumers by Consumer Classification

Year	Total	Oil Related	Large		Public	Other Sales	Total
	<u>Residential</u>	<u>Small Commercial</u>	<u>Commercial</u>	<u>Irrigation</u>	<u>St & Highway</u>	<u>to Public Authorities</u>	<u>Consumers</u>
1980	4,335	655	98	11	5	42	5,146
1981	4,696	738	130	12	5	42	5,623
1982	4,901	827	151	12	5	42	5,938
1983	4,865	848	159	11	5	42	5,930
1984	4,879	890	165	15	5	42	5,996
1985	4,884	898	168	16	5	42	6,013
1986	4,856	946	144	16	5	42	6,009
1987	4,799	973	109	18	5	42	5,946
1988	4,843	997	101	19	5	42	6,007
1989	4,882	1,015	92	20	4	42	6,055
1990	4,847	1,025	90	21	4	42	6,029
1991	4,865	1,056	94	21	4	42	6,082
1992	4,879	1,040	93	21	4	42	6,079
1993	4,910	1,051	81	20	4	42	6,108
1994	4,964	1,153	1	21	5	42	6,186
1995	4,990	1,153	1	25	5	42	6,216
1996	5,051	1,162	1	27	5	42	6,288
1997	5,103	1,178	1	62	5	42	6,391
1998	5,128	1,165	1	61	4	42	6,401
1999	5,204	1,134	1	63	2	42	6,446
2000	5,234	1,122	1	65	4	42	6,468
2001	5,269	1,183	1	71	3	42	6,569
2002	5,341	1,256	1	82	3	42	6,725
2003	5,427	1,279	1	81	3	42	6,833
2004	5,509	1,312	1	89	3	42	6,956
2005	5,643	1,328	1	92	3	42	7,109
2006	5,759	1,376	2	98	4	42	7,281
2007	5,838	1,460	3	101	5	42	7,449
2008	5,943	1,633	3	108	5	42	7,734
2009	6,224	2,009	3	114	6	42	8,398
2010	6,488	2,517	3	116	6	42	9,172
2011	6,776	2,973	3	116	6	42	9,916
2012	6,872	3,491	3	116	6	42	10,530
2013	6,928	4,136	3	116	6	42	11,231
2014	7,061	4,835	3	116	6	42	12,063
2015	7,231	5,590	3	116	6	42	12,988
2016	7,437	6,347	3	116	6	42	13,951
2017	7,647	7,101	3	116	6	42	14,915
2018	7,878	7,837	3	116	6	42	15,882
2019	8,095	8,565	3	116	6	42	16,827
2020	8,327	9,303	3	116	6	42	17,797
2021	8,549	9,923	3	116	6	42	18,639
2022	8,796	10,481	3	116	6	42	19,444
2023	9,076	11,007	3	116	6	42	20,250
2024	9,405	11,510	3	116	6	42	21,082
2025	9,758	11,965	3	116	6	42	21,890

Historical Average Compound Growth Rates:

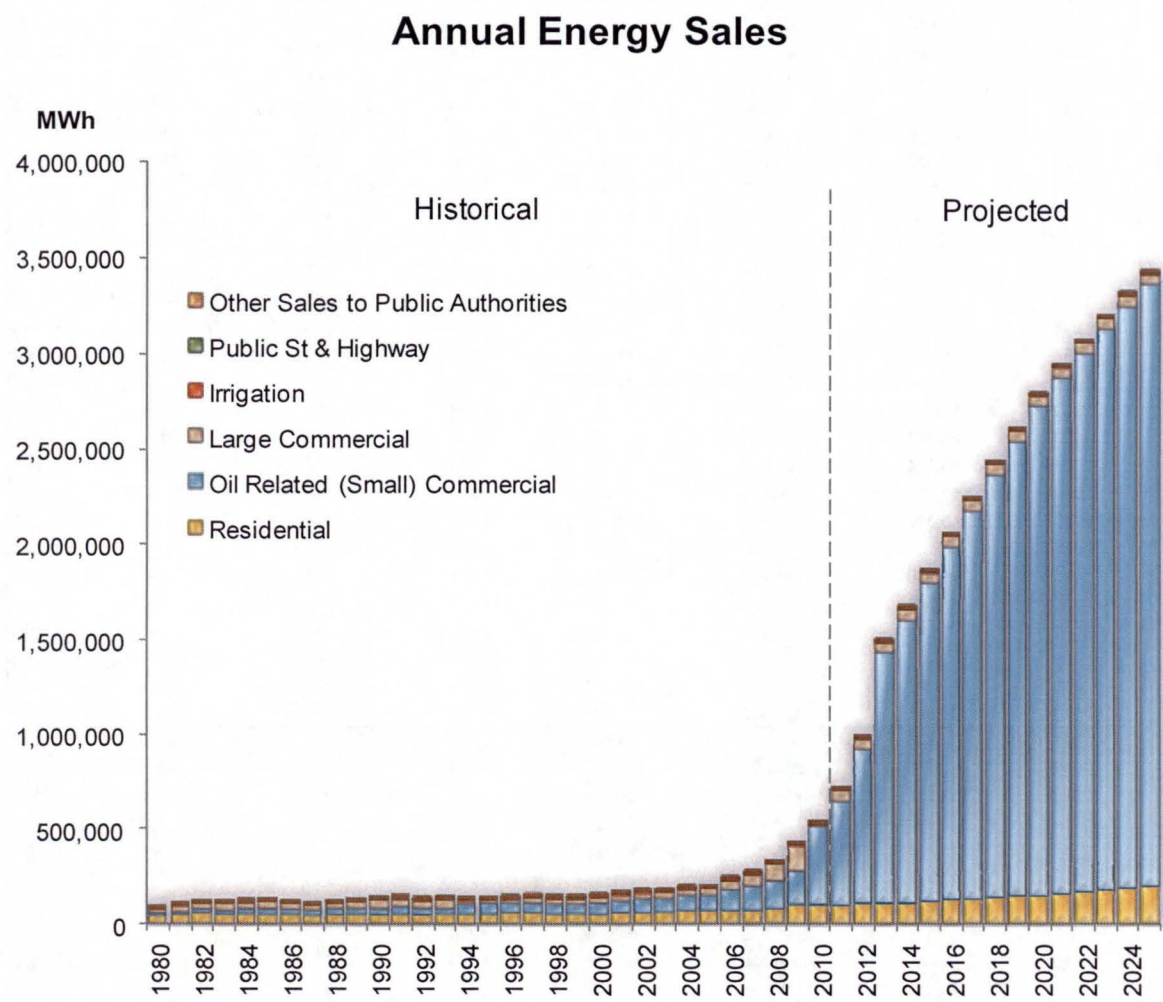
Projected Average Compound Growth Rates:

1980-2010	1.95%	2006-2010	5.94%
2011-2025	5.82%	2011-2015	6.98%

I. Load Forecast Details

Annual Energy Sales

Mountrail-Williams Electric's historical and projected annual energy sales by consumer classification are shown in the following graph and table.



Mountrail-Williams Electric Cooperative

System Energy Sales by Consumer Classification (MWh)

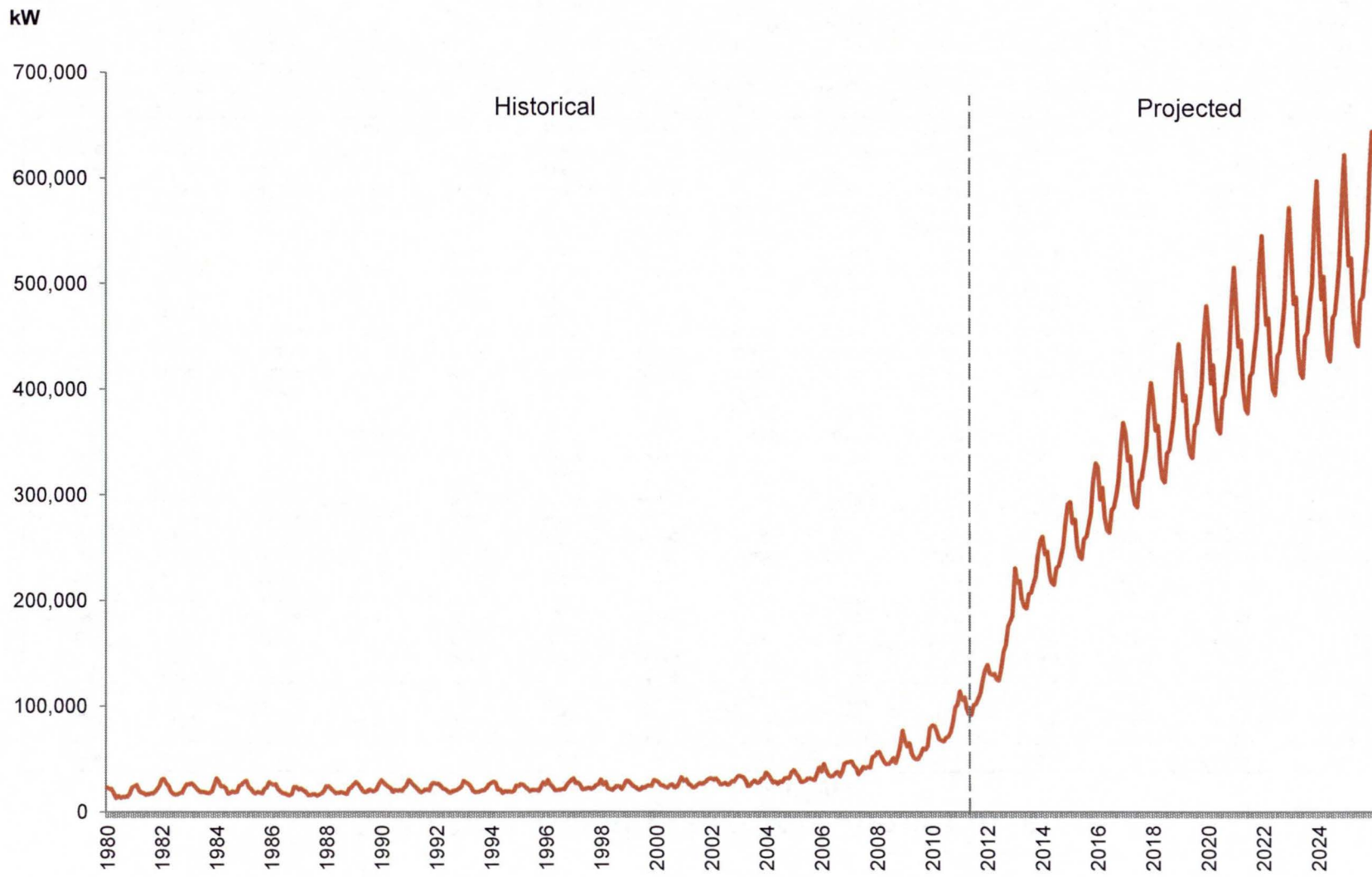
	Year	Total	Oil Related		Irrigation	Public St & Highway	Other Sales to Public Authorities	Total Sales
		<u>Residential</u>	<u>Small Commercial</u>	<u>Large Commercial</u>				
H i s t o r i c a l	1980	46,990	13,954	20,372	1,173	167	9,469	92,125
	1981	49,388	16,627	29,704	1,015	164	9,280	106,178
	1982	58,236	21,542	31,528	746	168	9,802	122,022
	1983	51,744	21,401	36,038	989	167	9,324	119,663
	1984	53,101	23,705	36,498	1,384	166	7,366	122,220
	1985	52,835	25,710	39,539	1,131	166	6,455	125,836
	1986	50,764	26,497	32,237	866	171	6,288	116,823
	1987	46,799	28,525	25,170	1,183	154	6,255	108,086
	1988	50,386	32,500	25,624	1,645	152	6,463	116,770
	1989	50,766	32,847	36,118	1,455	145	6,537	127,868
	1990	49,032	33,799	43,684	1,289	147	6,590	134,541
	1991	51,976	36,577	44,564	1,048	144	6,515	140,824
	1992	47,528	34,569	42,183	1,289	156	6,239	131,964
	1993	53,308	32,302	46,113	721	165	6,260	138,869
	1994	53,601	50,796	21,047	1,268	160	6,296	133,168
	1995	54,712	52,205	20,818	1,242	166	6,375	135,518
	1996	58,604	50,164	25,162	1,284	170	6,261	141,645
	1997	59,772	51,231	29,488	1,989	170	6,302	148,952
	1998	53,598	50,943	29,373	1,928	44	6,211	142,097
	1999	55,498	49,474	29,298	1,568	159	6,094	142,091
P r o j e c t e d	2000	54,847	56,010	31,246	2,039	172	6,119	150,433
	2001	58,974	62,834	32,407	1,808	171	6,076	162,270
	2002	62,769	69,415	31,862	1,955	176	6,220	172,397
	2003	63,388	70,520	32,423	3,076	175	6,219	175,801
	2004	68,168	80,770	33,219	2,508	176	6,343	191,184
	2005	69,076	84,790	34,945	2,571	175	6,291	197,848
	2006	69,543	107,224	51,442	3,278	176	6,298	237,961
	2007	75,364	121,166	64,462	2,893	192	5,842	269,919
	2008	83,442	142,135	88,675	3,052	196	6,426	323,926
	2009	105,222	176,672	129,228	2,694	205	6,929	420,950
	2010	97,806	421,809	780	1,981	183	6,417	528,976
	2011	104,806	540,149	54,496	2,256	214	6,420	708,341
	2012	109,213	807,827	54,496	2,256	221	6,401	980,414
	2013	110,568	1,318,588	54,496	2,256	227	6,383	1,492,518
	2014	114,823	1,489,846	54,496	2,256	234	6,364	1,668,019
	2015	120,464	1,675,291	54,496	2,256	241	6,346	1,859,094
	2016	127,442	1,859,486	54,496	2,256	248	6,327	2,050,255
	2017	134,060	2,041,650	54,496	2,256	254	6,309	2,239,025
	2018	141,615	2,217,520	54,496	2,256	261	6,291	2,422,439
	2019	148,612	2,390,326	54,496	2,256	268	6,272	2,602,230
	2020	155,425	2,565,115	54,496	2,256	275	6,254	2,783,821
	2021	162,346	2,707,087	54,496	2,256	281	6,235	2,932,701
	2022	170,434	2,832,176	54,496	2,256	288	6,217	3,065,867
	2023	179,906	2,949,147	54,496	2,256	295	6,199	3,192,299
	2024	191,260	3,060,210	54,496	2,256	301	6,180	3,314,703
	2025	203,541	3,158,685	54,496	2,256	308	6,162	3,425,448

Historical Average Compound Growth Rates:

Projected Average Compound Growth Rates:

1980-2010	6.00%	2006-2010	22.10%
2011-2025	11.92%	2011-2015	27.28%

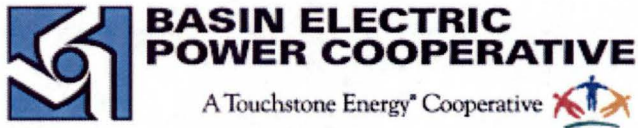
Mountrail-Williams Electric Cooperative Demand Purchases



Mountrail-Williams Electric Cooperative

Demand Purchases (kW)

	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Historical	1980	22,869	21,696	21,325	17,134	13,048	14,887	13,259	13,961	13,810	14,367	17,104	22,596	206,056
	1981	24,297	25,306	19,719	18,129	17,560	15,962	16,412	17,222	17,211	18,586	21,326	24,516	236,246
	1982	30,276	30,778	26,389	24,406	19,360	16,944	16,294	16,836	17,912	18,007	22,453	25,918	265,573
	1983	25,643	26,908	25,221	22,678	20,359	18,638	18,931	18,401	17,648	17,571	19,042	24,990	256,030
	1984	31,447	28,526	24,026	24,126	22,217	17,080	17,820	19,341	18,442	18,986	24,483	25,590	272,084
	1985	27,712	29,244	23,241	21,733	18,752	17,088	18,558	18,179	17,102	21,107	22,788	27,801	263,305
	1986	26,342	25,358	25,940	20,974	19,136	17,501	17,204	15,959	15,470	16,642	23,315	23,443	247,284
	1987	20,760	21,959	20,018	19,191	15,733	15,802	16,336	16,472	15,012	16,306	17,318	19,393	214,300
	1988	23,705	23,965	21,604	19,744	17,464	17,693	18,328	18,191	17,451	16,822	22,005	23,155	240,127
	1989	26,028	27,816	25,541	22,469	19,421	18,125	19,329	20,735	19,331	19,255	21,379	26,249	265,678
	1990	29,458	27,152	25,304	23,680	22,075	18,906	20,571	19,885	20,145	19,602	22,598	24,712	274,088
	1991	30,019	27,574	25,299	23,357	21,008	18,602	18,931	20,625	20,948	20,056	26,118	27,173	279,710
	1992	26,453	26,447	24,167	21,876	21,155	19,462	18,004	19,145	20,009	20,314	22,201	23,620	262,853
	1993	28,945	27,640	26,297	23,915	19,765	18,635	19,145	19,997	20,566	22,229	25,509	27,201	271,201
	1994	27,338	28,267	27,151	20,662	20,870	17,559	19,351	19,131	19,189	18,500	19,503	24,586	262,107
	1995	24,043	25,889	25,349	23,090	21,534	19,206	20,403	20,332	20,440	19,575	23,381	27,528	270,770
	1996	25,455	29,688	25,621	23,240	20,167	20,296	20,398	21,248	21,183	24,383	27,346	29,393	288,418
	1997	31,428	26,935	27,320	25,133	20,909	21,245	22,040	21,335	22,977	24,904	25,621	29,317	292,317
	1998	30,101	25,427	27,898	22,217	21,280	20,496	22,534	23,959	23,847	21,240	24,767	29,097	292,863
	1999	28,765	26,095	24,190	22,762	21,139	20,452	22,931	22,656	24,279	24,592	24,387	29,737	291,985
	2000	28,875	27,493	24,872	24,724	23,184	22,667	25,148	25,545	22,939	23,545	27,475	32,403	308,870
Projected	2001	28,921	30,476	26,191	25,210	22,933	23,292	25,193	26,842	26,141	27,060	29,567	31,006	322,832
	2002	31,325	30,153	31,260	28,666	25,716	25,910	27,063	25,368	26,421	28,753	28,496	32,051	341,182
	2003	33,823	33,346	32,587	29,466	24,079	24,968	27,765	29,416	27,267	27,764	31,098	31,561	353,140
	2004	36,805	34,425	30,899	27,374	28,355	26,122	28,719	27,909	31,252	31,757	31,675	37,263	372,555
	2005	39,131	35,482	32,704	28,051	28,249	29,078	31,165	31,381	30,492	29,750	35,343	41,668	392,494
	2006	37,607	44,772	38,951	34,289	32,949	33,908	36,113	37,363	33,260	38,248	45,757	46,104	459,321
	2007	46,811	47,218	42,883	41,012	35,321	38,228	42,231	40,981	42,109	41,387	51,442	52,227	521,850
	2008	55,755	56,124	51,149	47,239	44,898	45,039	47,370	50,630	45,980	52,279	60,875	76,491	633,829
	2009	67,489	61,572	64,443	54,804	50,416	49,347	50,266	54,034	59,564	58,590	61,729	78,845	711,099
	2010	81,414	80,762	74,690	68,068	67,092	66,145	70,144	70,932	74,997	85,106	98,275	101,404	939,029
	2011	113,346	105,503	107,753	96,927	92,234	91,230	100,719	101,320	106,524	111,946	125,843	134,283	1,287,628
	2012	138,468	130,365	129,333	130,212	124,653	123,728	134,808	150,866	157,182	175,000	179,915	185,297	1,759,828
	2013	229,975	216,042	218,249	201,065	193,710	191,983	205,482	206,767	214,447	222,733	243,312	255,966	2,599,729
	2014	259,977	243,296	245,937	225,362	216,554	214,485	230,647	232,185	241,382	251,305	275,945	291,095	2,928,170
	2015	292,704	273,031	276,142	251,871	241,473	239,030	258,088	259,904	270,755	282,464	311,532	329,395	3,286,389
	2016	325,475	295,051	306,389	278,419	266,427	263,608	285,563	287,658	300,164	313,664	347,164	367,740	3,637,327
	2017	357,829	332,808	336,250	304,627	291,063	287,872	312,689	315,058	329,200	344,466	382,343	405,598	3,999,204
	2018	389,280	350,788	365,279	330,106	315,012	311,460	339,056	341,693	357,424	374,408	416,539	442,395	4,343,440
	2019	420,108	388,802	393,734	355,081	338,487	334,581	364,901	367,800	385,089	403,758	450,058	478,465	4,680,863
	2020	451,171	405,333	422,404	380,241	362,140	357,880	390,954	394,116	412,975	433,339	483,844	514,832	5,009,232
	2021	476,653	440,182	445,928	400,886	381,548	376,997	412,328	415,707	435,854	457,609	511,562	544,665	5,299,930
	2022	499,473	460,907	466,981	419,363	398,917	394,104	431,454	435,026	456,326	479,327	536,366	571,360	5,549,604
	2023	524,111	480,591	486,975	436,911	415,413	410,352	449,618	453,374	475,769	499,952	559,922	596,725	5,786,725
	2024	542,124	485,122	506,346	453,913	431,394	426,092	467,213	471,148	494,603	519,933	582,742	621,267	6,001,897
	2025	561,104	516,909	523,864	469,288	445,846	440,327	483,126	487,222	511,637	538,003	603,375	643,476	6,224,184



Antelope Valley facts

Located near Beulah, ND, this baseload plant is fueled by coal.

- Capacity: 900 MW
- Units: 2
- Newest coal-based power plant in ND

Unit 1 began commercial operation in 1984 and Unit 2 began in 1986

Each Unit if built in today's dollar would be 1.4 billion dollars.

MWEC is committing to two units, to meet its 700 MW demand!