

APPENDIX 3.1

CUSTOMER FORECASTS

APPENDIX 3.1 – CUSTOMER FORECASTS

OVERVIEW

Avista presented their 2009 Natural Gas Demand Forecast to the Technical Advisory Committee (TAC) in April 2009. What follows in narrative is the process of preparing the company base customer growth forecast. The first step is a framework-forecast of the national economy, followed by regional economic forecasts consistent with the national outlook. The employment and population forecasts are the key drivers for the natural gas customer forecast.

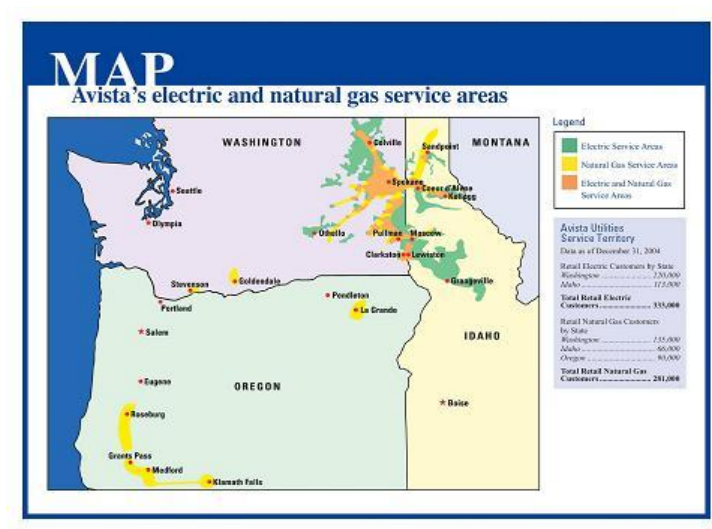
NATIONAL ECONOMIC OUTLOOK

Avista has contracted for national economic forecasts with Global Insight, Inc. for over two decades. The Spring 2008 twenty-five year long term forecast was used as the basis for the 2009 effort; the Spring 2009 county forecast update took into account the depth of the current recession but was largely unchanged after the anticipated economic recovery. The following narrative has Avista remarks and Global Insight forecasts (used with permission) which are consistent with the presentation at the TAC in April 2009, with a focus on the near term national outlook.

The U.S. Gross Domestic Product is expected to rebound to levels in 2010 to the 2.5 to 3.0 percent range after the severe recession in 2008 and 2009. Longer term the rate settles in at 2.6 percent.

REGIONAL ECONOMIC OUTLOOK

Avista serves natural gas in eastern Washington, northern Idaho, and in portions of five counties in Oregon. The principal county in Washington is Spokane, while in Idaho there are two counties; Kootenai and Bonner are barometers of service area growth. Kootenai County includes Coeur d'Alene, Post Falls, Hayden and a host of smaller municipalities and Bonner County is anchored by Sandpoint. The primary cities in Spokane County are the City of Spokane, City of Spokane Valley and Liberty Lake. In Oregon, the counties (principal city) of Jackson (Medford), Josephine (Grants Pass), Douglas (Roseburg), Klamath (Klamath Falls) and Union (La Grande) round out the service territory. The map below shows the breadth of the service area.



Global Insight, Inc. has been providing county-level forecasts to Avista for several years. These forecasts are consistent with and driven by their national forecast.

The economic concepts provided are forecast forward for 30 years. We report below forecast data ending in the year 2030, the twenty-year horizon IRP horizon.

Overall, the results of the economic forecasts suggest the following impacts on Avista’s customer growth: Near term the weakness in construction will be mirrored with slow customer growth, while longer term, underlying employment and population growth will drive customer growth.

The following table indicates a listing of 21 counties served by Avista Natural Gas. We purchased economic forecasts for the 15 principal counties.

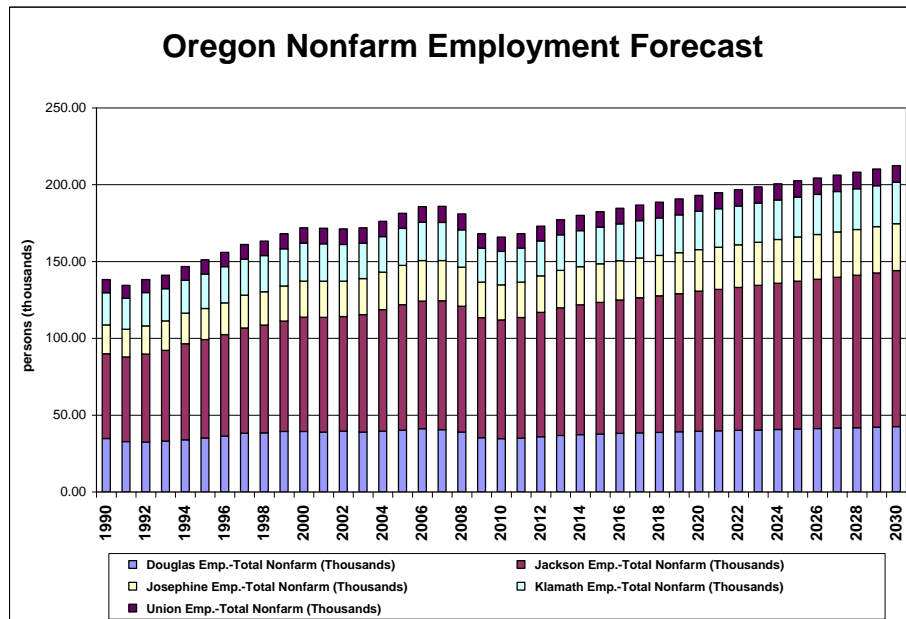
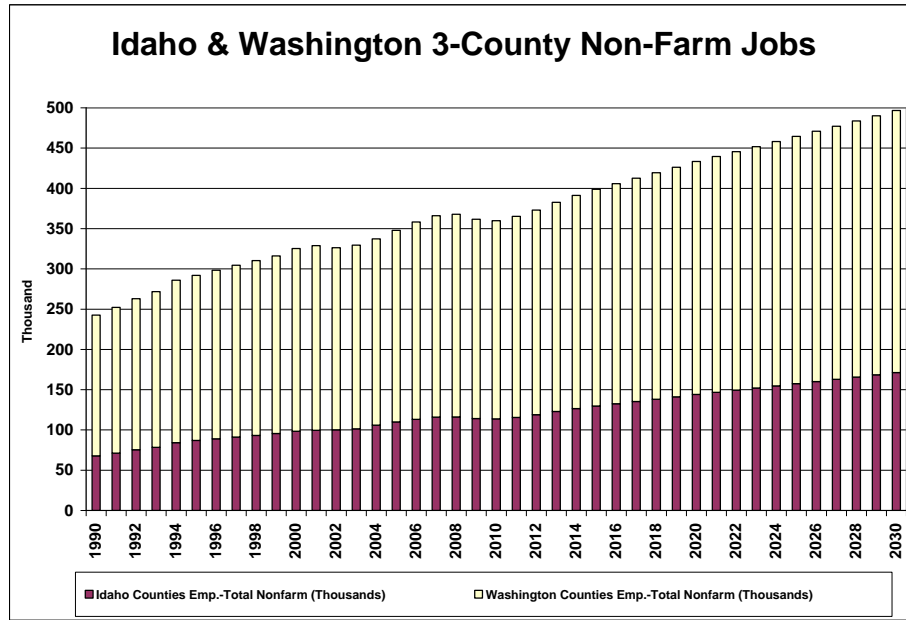
Table of Counties Served (All or Portions)		
Washington	Idaho	Oregon
Adams*	Benewah	Douglas
Asotin	Bonner	Jackson
Franklin*	Boundary	Josephine
Grant*	Latah	Klamath
Klickitat*	Nez Perce	Union
Lincoln*	Shosone	
Skamania*		
Spokane		
Stevens		
Whitman		
*Did not purchase economic data, few customers served		

The charts that follow are the actual employment, population, population age 65 and over, number of households and personal income forecasts used to produce the natural gas customer forecasts by state, by customer class (residential, commercial and industrial) and by rate schedule (firm – small, medium and large-sized customers).

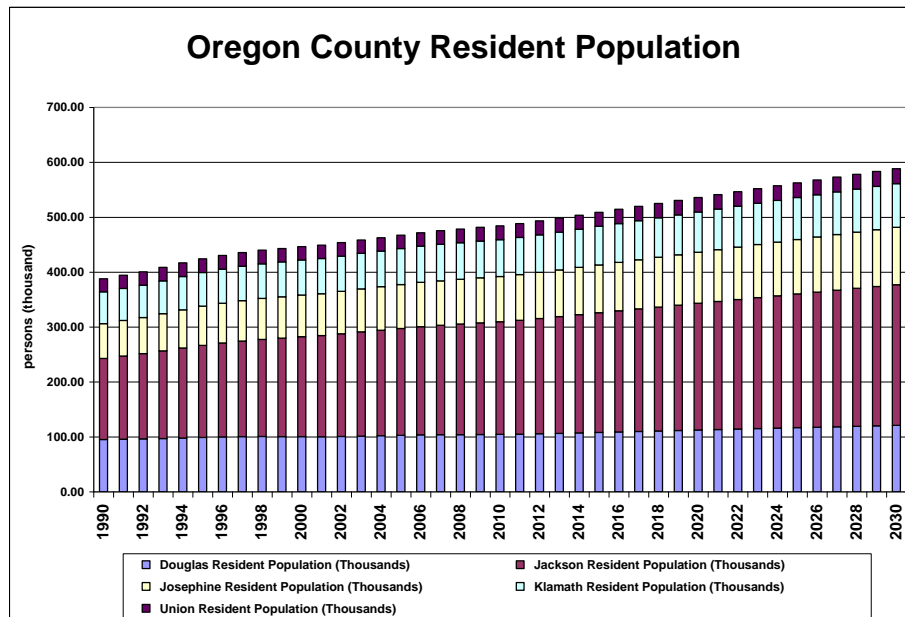
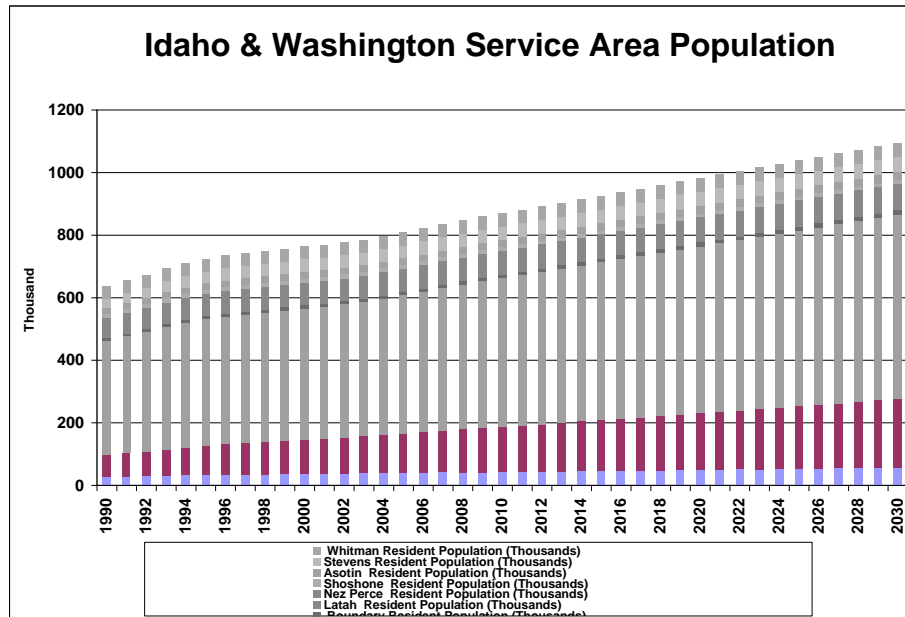
Although the forecasts are prepared in detail by county, the charts aggregate the data by State.

The first pair of charts is Non-Farm Employment. During the last decade, fairly consistent growth in jobs was observed except during recession periods in 2000-01 and at the present time.

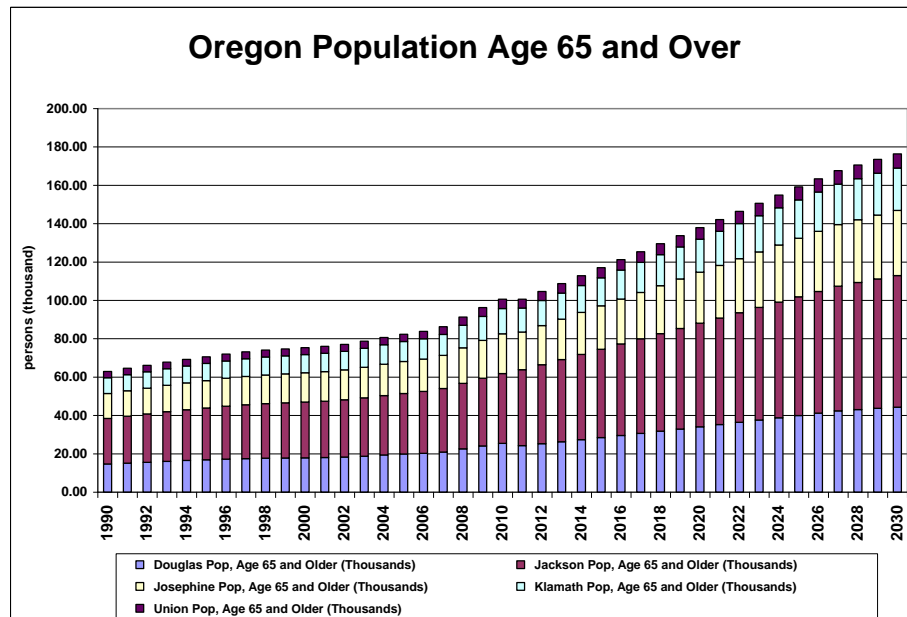
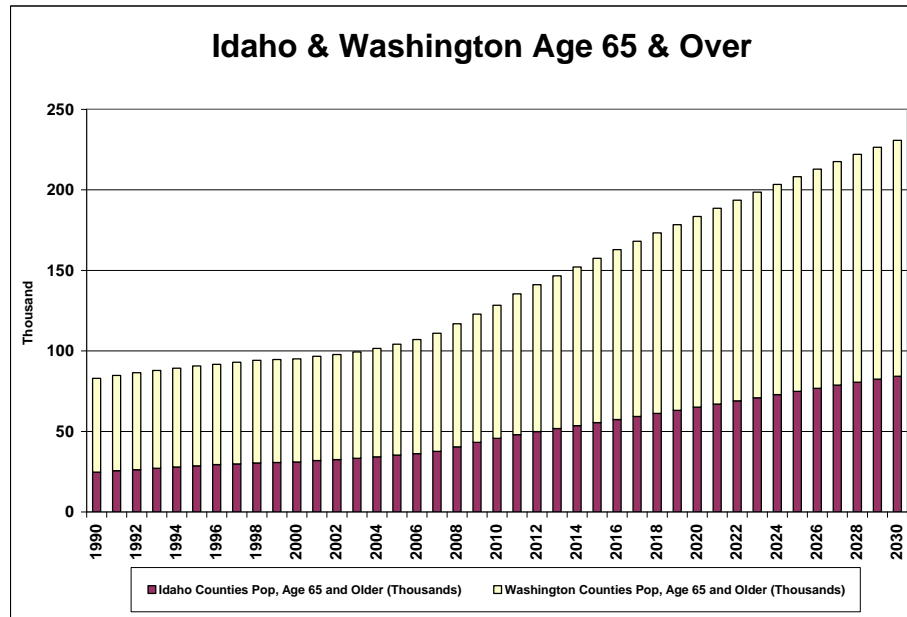
The twenty year average compounded growth rate in jobs for Idaho Counties was 2.6 percent from 1990-2010, and is forecast to be 2.1 percent for the period 2010-2030. Washington Counties were 1.7 percent from 1990-2010, and is forecast to be 1.4 percent for the period 2010-2030. And Oregon Counties were 0.9 percent from 1990-2010, and is forecast to be 1.2 percent for the period 2010-2030.



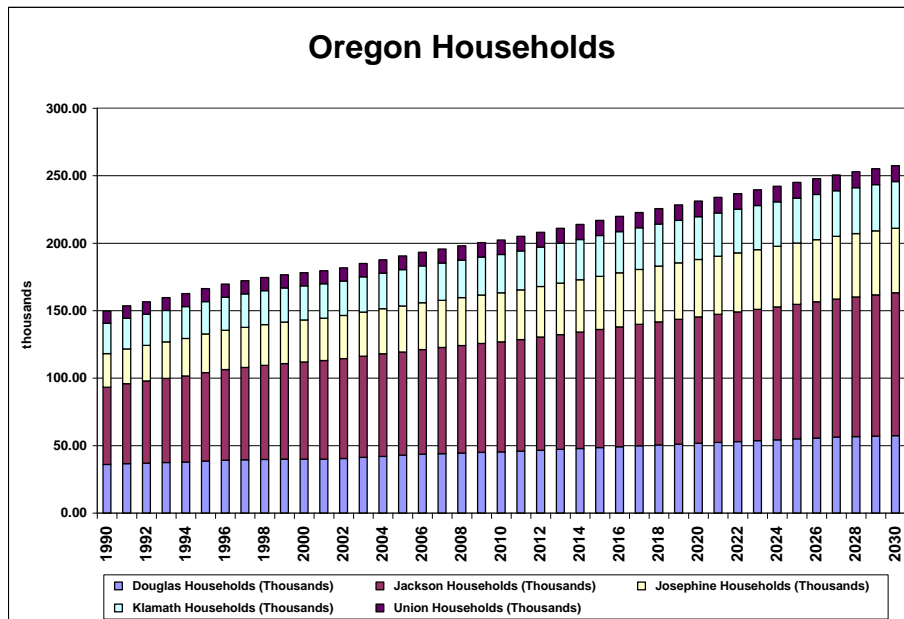
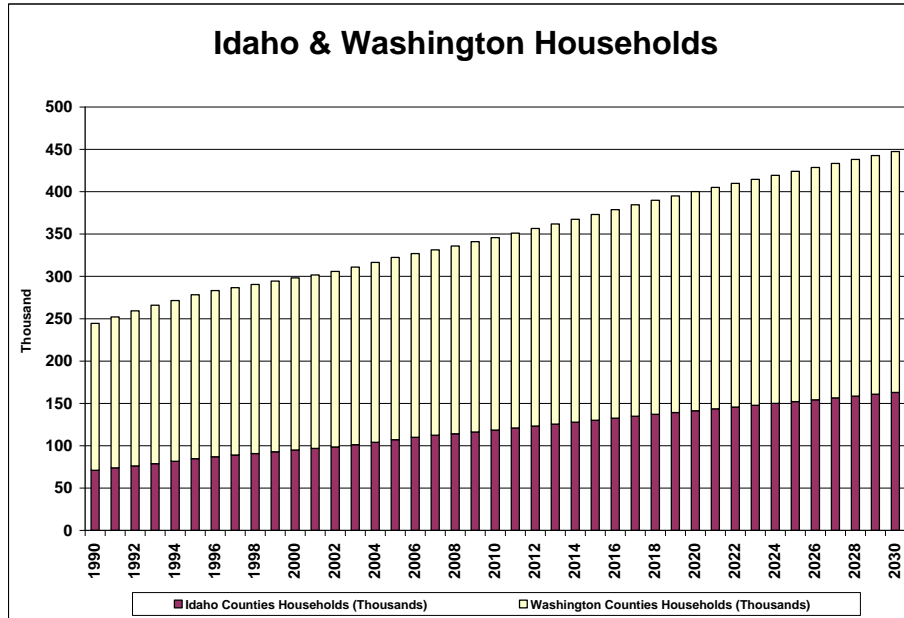
Next is resident population. The twenty year average compounded growth rate in population for Idaho Counties was 2.2 percent from 1990-2010, and is forecast to be 1.5 percent for the period 2010-2030. Washington Counties were 1.3 percent from 1990-2010, and is forecast to be 1.0 percent for the period 2010-2030. And Oregon Counties were 1.1 percent from 1990-2010, and is forecast to be 1.0 percent for the period 2010-2030.



The next pair of charts is persons 65 years and over. The twenty year average compounded growth rate in persons 65 and over for Idaho Counties was 3.1 percent from 1990-2010, and is forecast to be 3.1 percent for the period 2010-2030. Washington Counties were 1.8 percent from 1990-2010, and is forecast to be 2.9 percent for the period 2010-2030. And Oregon Counties were 2.4 percent from 1990-2010, and is forecast to be 2.8 percent for the period 2010-2030.



The next economic variable used in the preparation of Avista’s forecast is number of resident households in the service area. The household growth rate for Idaho Counties was 2.6 percent from 1990-2010, and is forecast to be 1.6 percent for the period 2010-2030. Washington Counties were 1.4 percent from 1990-2010, and is forecast to be 1.1 percent for the period 2010-2030. And Oregon Counties were 1.5 percent from 1990-2010, and is forecast to be 1.2 percent for the period 2010-2030.



REFERENCE CASE FORECASTS OF CUSTOMERS SERVED

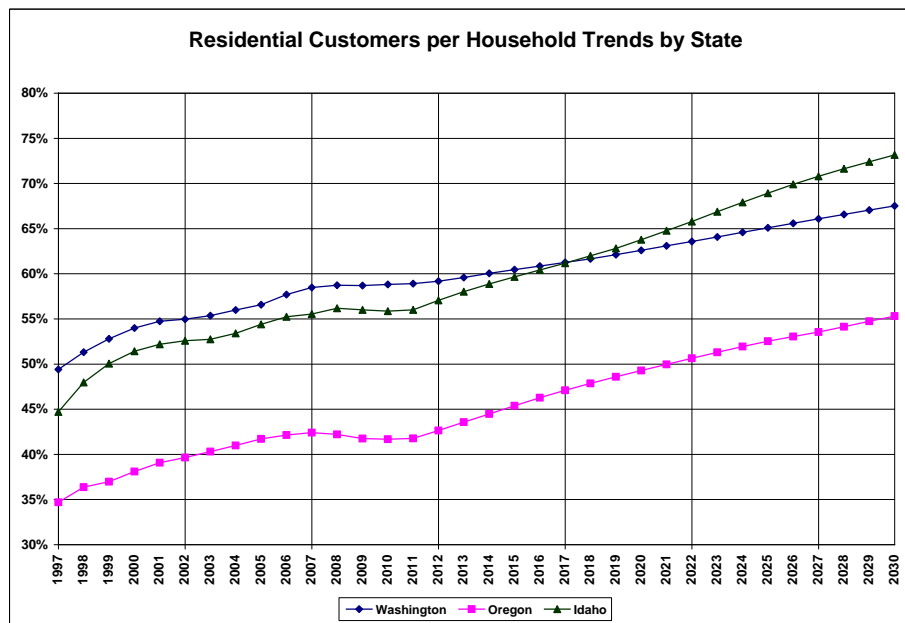
Reference case customer forecasts for residential customers are consistent with our economic forecasts. The relationship has been changing over the last decade, and the forecasts take into account the most recent trends. As shown on the next figure, the number of residential customers per household grew rapidly between 1997 and 2001, while it has slowed during the present economic downturn. About half of the growth between 1997 and 2001 was due to fuel switching of existing homes from other heating sources to natural gas. Although fuel switching continues to occur, today it represents only 15 percent of customer additions.

To produce the customer forecast, we look at recent trends in housing construction and the likelihood those homes will be served with natural gas. For example, in Washington, the number of single family homes being constructed has declined, with apartment dwellings taking a larger market share. Multi-family housing has traditionally been served with electricity only, limiting the number of available dwellings for natural gas service.

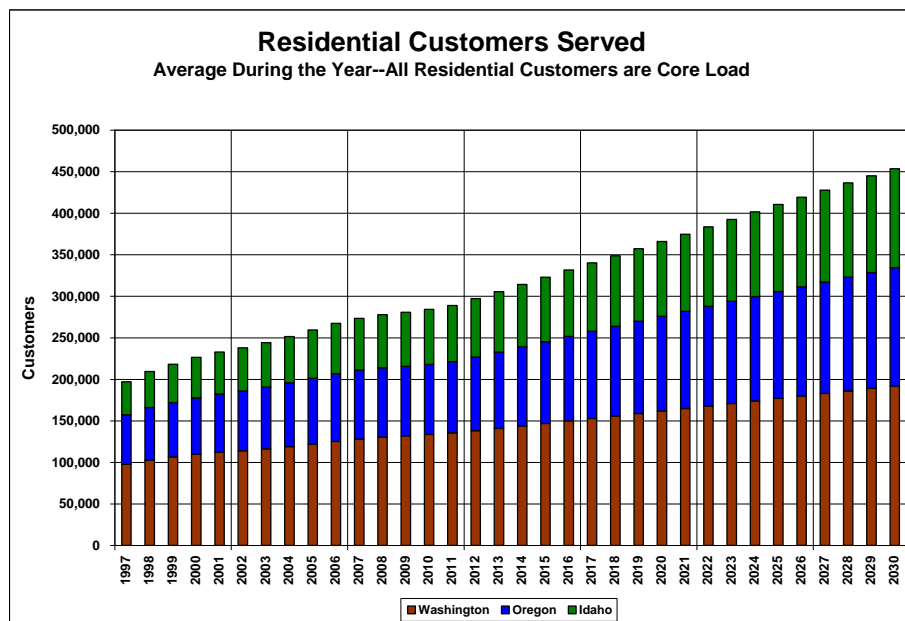
However, in the areas outside of the urban core of Spokane, including the rest of Washington, much of Idaho and Oregon, housing construction activity has maintained very high levels of single family homes, whether detached-style homes on individual lots or attached-style homes, like duplexes, townhomes, or condominiums. This market is traditionally served with natural gas water and space heat, and many of these homes now are being built with natural gas clothes dryers, gas ranges and ovens and natural gas fire places.

Because growth management laws are in place in all of Avista's natural gas service areas, we assume these construction trends in the urban growth areas will be served with natural gas, and do not anticipate any switching to electricity. We have an effort under way to encourage multi-family builders, who typically are building apartments for rental purposes to include natural gas appliances, but this forecast does not assume this effort will lead to a change in construction practices. We will continue to monitor activity in the multi-family housing segment.

The forecast assumes that the trends of the last five years continue into the future, adjusted for the sharp building cycle presently under way and based on the household forecasts provided by Global Insight. The chart shows the number of residential customers per household. The reason this ratio is increasing in the forecast period is because the ratio of homes being added is higher than the current ratio. This is largely driven by the assumption of nearly 100 percent of new homes having at least one natural gas service. Also, outside of the Medford and Spokane metropolitan areas, the multi-family construction market is very small. The only exception would be in Pullman and Moscow where growth in university enrollments is leading to apartment construction activity in those special areas. To a lesser extent, La Grande, Klamath Falls, and Ashland are seeing student growth-driven apartment construction, but to a small extent.

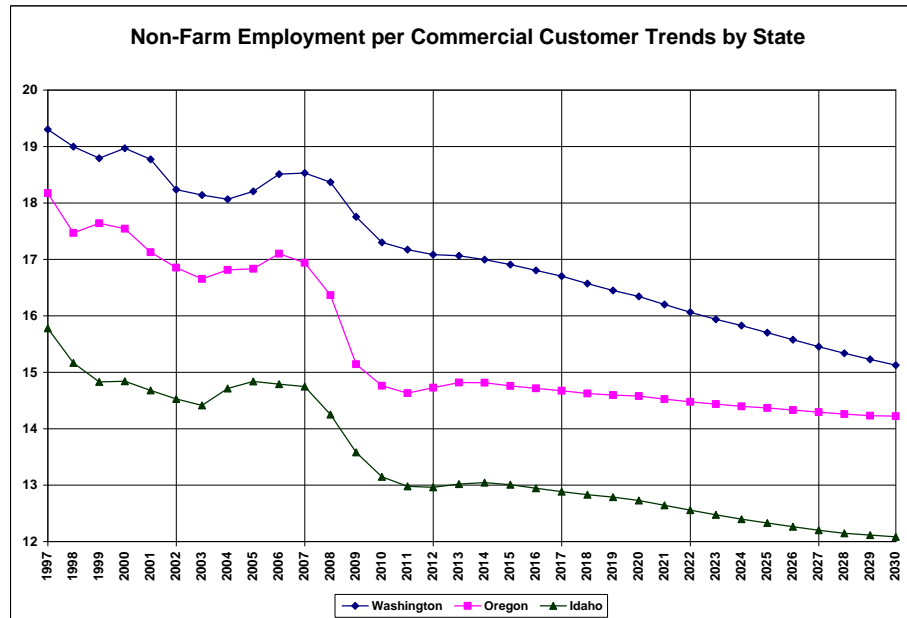


The residential customer forecast is the product of the customers-per-household forecast and the household forecast from Global Insight.

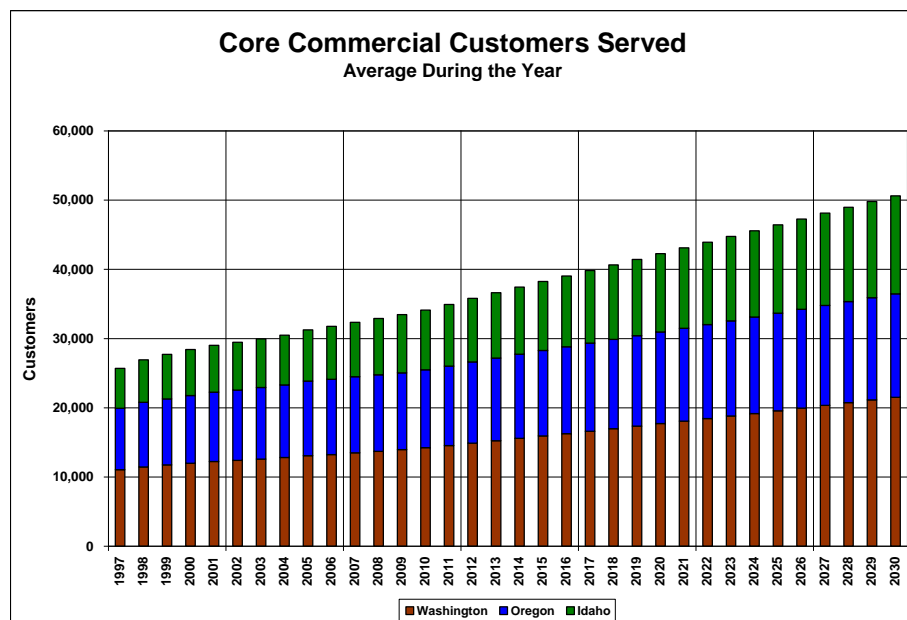


Core commercial customers served are based on job forecasts for each county, as well as the number of residential customers. The figure below shows ratio of non-farm workers per commercial customer. The previous ten years show declines in numbers of workers early in the period, followed by a buildup until recently. This build up is due to an increase in the number of big-box retail stores, which have moved from the very large metro areas into the smaller metro areas served by Avista. We believe that build out is largely complete. We do not anticipate new large mall-type complexes will be built in to any great extent. Therefore, in a few more years we expect the number of workers will again begin to decline as smaller shops and strip-mall developments fill into the neighborhood developments. We have taken into account the known shopping areas that have been either permitted or have those proposed that have a high probability of being built in the

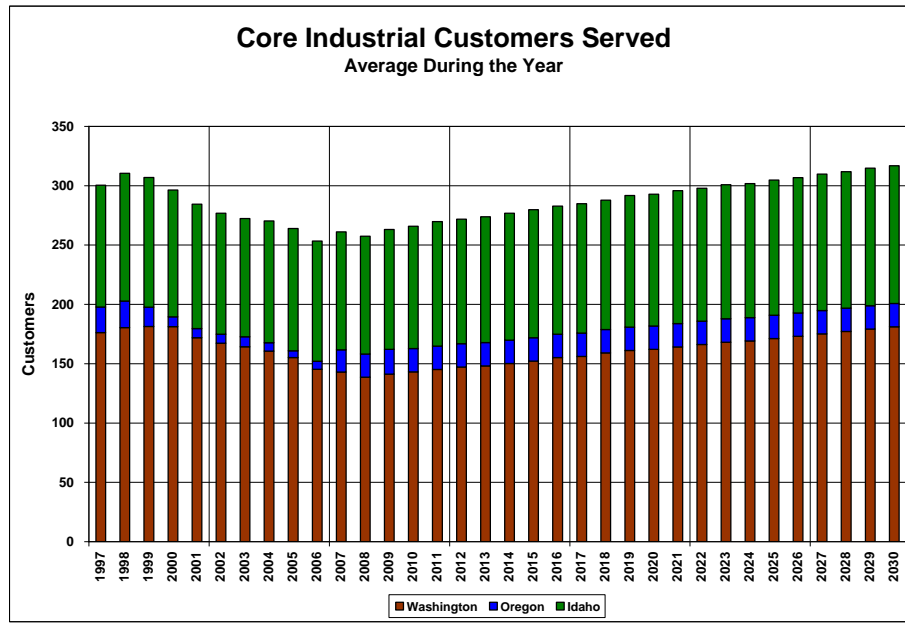
near term forecast. As shown in the chart, although declines are forecast, they are very modest levels and reflect the particular characteristics of the existing mix of commercial developments in each state.



The commercial customer forecast is based on job forecasts multiplied times the forecasted ratio of workers per customer as described above.



Core industrial customers served are based on manufacturing job forecasts for each county. The number of manufacturing workers is expected to be growing slowly over the forecast period, leading to little change in the number of core firm industrial customers.



APPENDIX 3.2

CUSTOMER FORECASTS DATA

Appendix 3.2 - Customer Forecast - Number by Region
Expected Case

	WA/ID Res	WA/ID Com	WA/ID Firm Ind	WA/ID Total	MFR Res	MFR Com	MFR Firm Ind	MFR Total	ROS Res	ROS Com	ROS Firm Ind	ROS Total	KLA Res	KLA Com	KLA Firm Ind	KLA Total	LGD Res	LGD Com	LGD Firm Ind	LGD Total
Nov-27	296,387	33,800	292	330,479	81,597	8,037	10	89,644	25,589	3,158	2	28,749	19,693	2,328	5	22,026	8,306	989	5	9,301
Dec-27	297,382	33,898	293	331,574	82,022	8,077	10	90,109	25,710	3,165	2	28,877	19,892	2,349	5	22,246	8,361	1,021	1	9,383
Jan-28	298,842	34,075	285	333,202	82,728	8,068	10	90,806	25,992	3,140	2	29,135	19,996	2,341	5	22,342	8,526	1,009	1	9,536
Feb-28	298,854	34,088	290	333,232	82,568	8,094	11	90,673	26,029	3,139	2	29,170	20,035	2,379	5	22,419	8,506	1,008	1	9,514
Mar-28	298,710	34,091	287	333,088	82,417	8,050	10	90,477	25,994	3,204	2	29,200	19,961	2,379	5	22,345	8,453	1,009	1	9,463
Apr-28	298,043	34,343	294	332,681	82,941	8,108	10	91,058	26,105	3,161	2	29,269	20,004	2,345	5	22,354	8,421	997	1	9,418
May-28	297,855	34,347	294	332,496	82,681	8,097	10	90,788	26,037	3,163	2	29,202	19,913	2,322	5	22,240	8,380	997	1	9,377
Jun-28	297,569	34,441	290	332,300	82,420	8,104	10	90,534	25,835	3,156	2	28,992	19,744	2,314	5	22,063	8,365	988	1	9,354
Jul-28	299,109	34,474	293	333,876	82,485	8,048	10	90,542	25,801	3,173	2	28,976	19,660	2,314	5	21,979	8,270	994	1	9,266
Aug-28	299,069	34,450	294	333,814	82,171	8,043	10	90,224	25,788	3,159	2	28,948	19,552	2,310	5	21,867	8,237	997	1	9,234
Sep-28	300,069	34,454	291	334,814	82,041	8,040	10	90,091	25,632	3,160	2	28,794	19,583	2,317	5	21,905	8,234	993	10	9,237
Oct-28	300,960	34,550	294	335,805	82,504	8,048	10	90,561	26,000	3,168	2	29,171	19,843	2,332	5	22,179	8,351	999	7	9,357
Nov-28	302,347	34,484	294	337,126	83,259	8,116	10	91,385	26,255	3,207	2	29,464	20,025	2,362	5	22,392	8,417	994	5	9,416
Dec-28	303,363	34,583	295	338,242	83,693	8,156	10	91,859	26,380	3,214	2	29,596	20,227	2,383	5	22,616	8,472	1,026	1	9,500
Jan-29	304,634	34,725	288	339,647	84,379	8,147	10	92,536	26,652	3,200	2	29,854	20,328	2,375	5	22,707	8,638	1,014	1	9,653
Feb-29	304,646	34,739	293	339,677	84,216	8,173	11	92,400	26,690	3,198	2	29,891	20,368	2,413	5	22,786	8,617	1,013	1	9,631
Mar-29	304,499	34,742	290	339,531	84,062	8,129	10	92,201	26,654	3,264	2	29,921	20,292	2,413	5	22,710	8,564	1,014	1	9,579
Apr-29	303,820	34,999	297	339,116	84,596	8,187	10	92,793	26,768	3,221	2	29,992	20,336	2,379	5	22,720	8,531	1,002	1	9,534
May-29	303,628	35,003	297	338,928	84,332	8,176	10	92,517	26,698	3,223	2	29,923	20,243	2,355	5	22,604	8,489	1,002	1	9,492
Jun-29	303,336	35,099	293	338,727	84,066	8,183	10	92,259	26,491	3,216	2	29,708	20,072	2,347	5	22,424	8,475	993	1	9,469
Jul-29	304,906	35,132	296	340,334	84,131	8,126	10	92,267	26,457	3,233	2	29,691	19,987	2,347	5	22,339	8,379	999	1	9,379
Aug-29	304,866	35,108	297	340,271	83,811	8,121	10	91,942	26,443	3,218	2	29,663	19,877	2,343	5	22,225	8,345	1,002	1	9,347
Sep-29	305,884	35,112	294	341,290	83,679	8,119	10	91,808	26,283	3,220	2	29,505	19,908	2,350	5	22,263	8,342	998	10	9,350
Oct-29	306,793	35,209	297	342,300	84,151	8,126	10	92,287	26,660	3,228	2	29,891	20,172	2,365	5	22,542	8,461	1,004	7	9,472
Nov-29	308,207	35,142	297	343,647	84,921	8,195	10	93,127	26,922	3,267	2	30,191	20,358	2,395	5	22,758	8,527	999	5	9,532
Dec-29	309,243	35,244	299	344,785	85,364	8,236	10	93,610	27,050	3,274	2	30,327	20,563	2,417	5	22,985	8,583	1,032	1	9,616

Appendix 3.2 - Customer Forecast - Number by Region
Low Growth

	WA/ID				Medford				Roseburg				Klamath Falls				La Grande			
	WA/ID Res	WA/ID Com	WA/ID Firm Ind	WA/ID Total	MFR Res	MFR Com	MFR Firm Ind	MFR Total	ROS Res	ROS Com	ROS Firm Ind	ROS Total	KLA Res	KLA Com	KLA Firm Ind	KLA Total	LGD Res	LGD Com	LGD Firm Ind	LGD Total
Nov-27	248,427	28,311	271	277,009	65,710	7,223	10	72,943	19,269	2,658	2	21,928	16,652	1,968	5	18,626	7,332	930	5	8,267
Dec-27	248,928	28,361	271	277,560	65,921	7,243	10	73,174	19,329	2,661	2	21,992	16,751	1,979	5	18,735	7,359	946	1	8,306
Jan-28	249,663	28,450	267	278,380	66,271	7,239	10	73,520	19,469	2,649	2	22,120	16,802	1,975	5	18,782	7,440	940	1	8,381
Feb-28	249,669	28,457	269	278,395	66,192	7,252	11	73,454	19,488	2,648	2	22,138	16,821	1,994	5	18,820	7,430	939	1	8,370
Mar-28	249,597	28,458	268	278,323	66,117	7,230	10	73,357	19,470	2,681	2	22,153	16,785	1,994	5	18,783	7,404	940	1	8,345
Apr-28	249,261	28,586	272	278,118	66,377	7,259	10	73,645	19,526	2,660	2	22,187	16,806	1,977	5	18,788	7,388	934	1	8,323
May-28	249,166	28,588	272	278,026	66,248	7,253	10	73,511	19,492	2,660	2	22,154	16,761	1,966	5	18,732	7,368	934	1	8,302
Jun-28	249,022	28,635	269	277,927	66,119	7,257	10	73,385	19,391	2,657	2	22,050	16,678	1,961	5	18,644	7,361	929	1	8,291
Jul-28	249,798	28,652	271	278,720	66,150	7,229	10	73,389	19,374	2,665	2	22,042	16,636	1,961	5	18,603	7,314	932	1	8,247
Aug-28	249,778	28,640	272	278,689	65,995	7,226	10	73,231	19,368	2,658	2	22,028	16,583	1,959	5	18,547	7,297	934	1	8,232
Sep-28	250,281	28,642	270	279,193	65,930	7,225	10	73,165	19,290	2,659	2	21,951	16,598	1,963	5	18,566	7,296	932	10	8,238
Oct-28	250,730	28,690	272	279,692	66,160	7,229	10	73,399	19,473	2,663	2	22,138	16,726	1,970	5	18,702	7,354	935	7	8,296
Nov-28	251,428	28,657	272	280,357	66,535	7,263	10	73,808	19,600	2,682	2	22,285	16,816	1,985	5	18,807	7,386	932	5	8,324
Dec-28	251,939	28,707	272	280,919	66,750	7,283	10	74,043	19,662	2,686	2	22,350	16,916	1,996	5	18,917	7,414	948	1	8,363
Jan-29	252,580	28,779	268	281,627	67,091	7,278	10	74,379	19,798	2,679	2	22,479	16,966	1,992	5	18,962	7,496	942	1	8,439
Feb-29	252,586	28,786	271	281,642	67,010	7,291	11	74,312	19,817	2,678	2	22,497	16,985	2,011	5	19,001	7,485	942	1	8,428
Mar-29	252,511	28,787	270	281,568	66,934	7,269	10	74,213	19,799	2,711	2	22,512	16,948	2,011	5	18,964	7,459	942	1	8,402
Apr-29	252,170	28,917	273	281,360	67,199	7,298	10	74,507	19,855	2,690	2	22,547	16,970	1,994	5	18,969	7,443	936	1	8,380
May-29	252,073	28,920	273	281,265	67,067	7,293	10	74,370	19,821	2,690	2	22,513	16,924	1,982	5	18,911	7,422	936	1	8,359
Jun-29	251,926	28,968	271	281,165	66,935	7,296	10	74,241	19,717	2,687	2	22,406	16,840	1,978	5	18,822	7,415	932	1	8,348
Jul-29	252,717	28,985	273	281,974	66,968	7,268	10	74,246	19,700	2,695	2	22,398	16,797	1,978	5	18,780	7,367	935	1	8,303
Aug-29	252,696	28,973	273	281,942	66,809	7,265	10	74,084	19,693	2,688	2	22,384	16,743	1,976	5	18,724	7,351	936	1	8,288
Sep-29	253,209	28,975	271	282,455	66,743	7,264	10	74,017	19,614	2,689	2	22,305	16,759	1,979	5	18,743	7,349	934	10	8,294
Oct-29	253,667	29,024	273	282,964	66,977	7,268	10	74,255	19,802	2,693	2	22,497	16,889	1,987	5	18,881	7,408	937	7	8,352
Nov-29	254,379	28,990	273	283,642	67,360	7,302	10	74,672	19,932	2,713	2	22,647	16,981	2,002	5	18,987	7,441	935	5	8,381
Dec-29	254,900	29,041	274	284,215	67,580	7,323	10	74,912	19,996	2,716	2	22,714	17,082	2,013	5	19,100	7,468	951	1	8,420

Appendix 3.2 - Customer Forecast - Number by Region
High Growth

	WA/ID				Medford				Roseburg				Klamath Falls				La Grande			
	WA/ID Res	WA/ID Com	WA/ID Firm Ind	WA/ID Total	MFR Res	MFR Com	MFR Firm Ind	MFR Total	ROS Res	ROS Com	ROS Firm Ind	ROS Total	KLA Res	KLA Com	KLA Firm Ind	KLA Total	LGD Res	LGD Com	LGD Firm Ind	LGD Total
Nov-27	348,499	40,095	324	388,918	96,302	8,798	16	105,116	31,656	3,694	2	35,351	22,231	2,659	5	24,895	9,066	1,020	5	10,091
Dec-27	350,002	40,244	326	390,572	96,935	8,858	16	105,809	31,837	3,704	2	35,543	22,526	2,691	5	25,222	9,146	1,067	1	10,215
Jan-28	352,208	40,512	313	393,032	97,985	8,845	16	106,847	32,258	3,667	2	35,927	22,680	2,679	5	25,364	9,391	1,049	1	10,441
Feb-28	352,226	40,532	320	393,077	97,747	8,884	16	106,647	32,313	3,665	2	35,980	22,738	2,736	5	25,478	9,360	1,047	1	10,409
Mar-28	352,008	40,536	316	392,860	97,523	8,818	16	106,357	32,261	3,763	2	36,026	22,628	2,736	5	25,368	9,282	1,049	1	10,332
Apr-28	351,001	40,919	327	392,247	98,303	8,904	16	107,223	32,427	3,699	2	36,128	22,692	2,685	5	25,382	9,235	1,031	1	10,266
May-28	350,716	40,926	327	391,969	97,916	8,887	16	106,820	32,325	3,701	2	36,028	22,557	2,651	5	25,213	9,174	1,031	1	10,205
Jun-28	350,284	41,068	320	391,672	97,528	8,898	16	106,442	32,023	3,690	2	35,715	22,308	2,638	5	24,951	9,153	1,018	1	10,171
Jul-28	352,611	41,117	325	394,053	97,623	8,814	16	106,453	31,973	3,716	2	35,691	22,183	2,638	5	24,826	9,012	1,027	1	10,040
Aug-28	352,551	41,081	327	393,959	97,156	8,807	16	105,979	31,953	3,695	2	35,649	22,023	2,632	5	24,660	8,962	1,031	1	9,994
Sep-28	354,060	41,088	321	395,470	96,963	8,803	16	105,782	31,720	3,697	2	35,419	22,068	2,642	5	24,716	8,958	1,026	10	9,994
Oct-28	355,407	41,233	327	396,967	97,652	8,814	16	106,482	32,270	3,710	2	35,981	22,453	2,665	5	25,123	9,132	1,034	7	10,173
Nov-28	357,502	41,133	327	398,962	98,777	8,917	16	107,710	32,651	3,767	2	36,420	22,723	2,709	5	25,438	9,229	1,027	5	10,261
Dec-28	359,036	41,284	329	400,649	99,423	8,977	17	108,416	32,837	3,778	2	36,617	23,023	2,742	5	25,769	9,311	1,075	1	10,387
Jan-29	360,957	41,499	317	402,773	100,445	8,963	17	109,424	33,243	3,757	2	37,002	23,171	2,729	5	25,905	9,557	1,056	1	10,614
Feb-29	360,975	41,519	324	402,818	100,201	9,002	17	109,220	33,300	3,754	2	37,057	23,230	2,786	5	26,021	9,526	1,055	1	10,581
Mar-29	360,752	41,524	321	402,597	99,973	8,935	17	108,925	33,246	3,854	2	37,103	23,118	2,786	5	25,909	9,447	1,056	1	10,504
Apr-29	359,727	41,914	331	401,972	100,768	9,022	17	109,807	33,416	3,789	2	37,208	23,184	2,735	5	25,924	9,398	1,038	1	10,437
May-29	359,436	41,921	331	401,688	100,374	9,006	17	109,396	33,312	3,791	2	37,105	23,047	2,700	5	25,751	9,336	1,038	1	10,376
Jun-29	358,996	42,066	324	401,386	99,978	9,017	16	109,011	33,002	3,780	2	36,784	22,793	2,687	5	25,485	9,315	1,025	1	10,341
Jul-29	361,368	42,116	330	403,813	100,075	8,932	16	109,023	32,951	3,806	2	36,760	22,666	2,687	5	25,359	9,172	1,035	1	10,208
Aug-29	361,306	42,080	331	403,717	99,599	8,924	16	108,539	32,930	3,785	2	36,717	22,503	2,681	5	25,190	9,122	1,038	1	10,161
Sep-29	362,845	42,086	326	405,257	99,402	8,921	16	108,339	32,692	3,787	2	36,481	22,550	2,692	5	25,246	9,118	1,033	10	10,162
Oct-29	364,218	42,234	331	406,783	100,104	8,932	17	109,053	33,255	3,800	2	37,057	22,941	2,714	5	25,660	9,294	1,041	7	10,342
Nov-29	366,354	42,132	331	408,817	101,252	9,035	17	110,304	33,646	3,859	2	37,507	23,216	2,759	5	25,980	9,392	1,035	5	10,432
Dec-29	367,918	42,286	333	410,537	101,911	9,096	17	111,024	33,837	3,869	2	37,708	23,520	2,792	5	26,317	9,475	1,082	1	10,559

APPENDIX 3.3

DEMAND COEFFICIENTS

Appendix 3.3 - WA/ID Base Coefficient Calculation

Average Actual Demand by Class

		Month		
Year	Data	7	8	Grand Total
2005	Average of Res Demand	11,098	10,607	10,852
	Average of Com Demand	7,729	8,406	8,067
	Average of Ind Demand	991	1,001	996
2006	Average of Res Demand	9,988	10,513	10,250
	Average of Com Demand	6,956	8,331	7,643
	Average of Ind Demand	892	992	942
2007	Average of Res Demand	10,032	10,433	10,232
	Average of Com Demand	6,987	8,267	7,627
	Average of Ind Demand	896	984	940
2008	Average of Res Demand	10,684	10,495	10,590
	Average of Com Demand	7,441	8,317	7,879
	Average of Ind Demand	954	990	972
Total Average of Res Demand		10,450	10,512	10,481
Total Average of Com Demand		7,278	8,330	7,804
Total Average of Ind Demand		933	992	962

Average Actual Customer Count by Class

		Month		
Year	Data	7	8	Grand Total
2005	Average of Res Cust	179,140	179,447	179,294
	Average of Com Cust	20,450	20,427	20,439
	Average of Ind Cust	263	260	262
2006	Average of Res Cust	185,182	185,455	185,319
	Average of Com Cust	20,748	20,856	20,802
	Average of Ind Cust	246	242	244
2007	Average of Res Cust	189,577	190,087	189,832
	Average of Com Cust	21,291	21,336	21,314
	Average of Ind Cust	244	241	243
2008	Average of Res Cust	193,667	193,643	193,655
	Average of Com Cust	21,847	21,815	21,831
	Average of Ind Cust	239	240	240
Total Average of Res Cust		186,892	187,158	187,025
Total Average of Com Cust		21,084	21,109	21,096
Total Average of Ind Cust		248	246	247

Base Coefficients

(Actual Average Demand/Customer Count)

0.056042 Res Base Usage
 0.369928 Com Base Usage
 3.898256 Ind Base Usage

Appendix 3.3 - WA/ID Regression Stats

WA/ID Residential

	January	February	March	April	May	June	July	August	September	October	November	December
<i>Regression Statistics</i>												
Multiple R	0.998398723	0.995750934	0.994490863	0.983623734	0.969333647	0.939778657	0.335222502	0.752299466	0.941398214	0.986521604	0.995938325	0.997695538
R Square	0.99680001	0.991519923	0.989012077	0.967515651	0.93960772	0.883183924	0.112374126	0.565954486	0.886230597	0.973224875	0.991893148	0.995396386
Adjusted R Square	0.985930445	0.979615161	0.978142511	0.956279696	0.928738154	0.871947969	0.101504561	0.555084921	0.874994642	0.962355309	0.980657192	0.98452682
Standard Error	0.022033904	0.030732888	0.026342574	0.030074362	0.016078288	0.010418248	0.00185167	0.002476787	0.007801887	0.021630349	0.024635913	0.027253246
Observations	93	85	93	90	93	90	93	93	90	93	90	93

Coefficients

Intercept	0	0	0	0	0	0	0	0	0	0	0	0
X Variable 1	0.010161371	0.009844216	0.009304356	0.007733501	0.005344796	0.004028185	0.000608084	0.000921821	0.002524987	0.006699091	0.00905327	0.010007757

WA/ID Commercial

	January	February	March	April	May	June	July	August	September	October	November	December
<i>Regression Statistics</i>												
Multiple R	0.998205563	0.995422216	0.993514039	0.978724692	0.946895526	0.915462071	0.259337381	0.742496607	0.948760581	0.983665598	0.994646858	0.997342233
R Square	0.996414345	0.990865388	0.987070146	0.957902023	0.896611138	0.838070803	0.067255877	0.551301212	0.900146641	0.967598008	0.989322371	0.99469153
Adjusted R Square	0.98554478	0.978960626	0.976200581	0.946666068	0.885741572	0.826834848	0.056386312	0.540431646	0.888910686	0.956728443	0.978086416	0.983821964
Standard Error	0.122309206	0.165472366	0.138772667	0.161734208	0.089249524	0.056897097	0.003194496	0.027159875	0.069633124	0.132664609	0.138894328	0.146007905
Observations	93	85	93	90	93	90	93	93	90	93	90	93

Coefficients

Intercept	0	0	0	0	0	0	0	0	0	0	0	0
X Variable 1	0.053275318	0.051052228	0.045140487	0.036351273	0.022150311	0.01820155	0.000791714	0.009812502	0.024243202	0.037241593	0.044416725	0.049912097

WA/ID Industrial

	January	February	March	April	May	June	July	August	September	October	November	December
<i>Regression Statistics</i>												
Multiple R	0.983068858	0.98946309	0.970782442	0.864451536	0.542191066	0.654513296	0.474285435	0.900826006	0.958139923	0.979266163	0.973451995	0.987504551
R Square	0.96642438	0.979037207	0.942418549	0.747276459	0.293971152	0.428387654	0.224946674	0.811487493	0.918032112	0.958962219	0.947608786	0.975165238
Adjusted R Square	0.955554815	0.967132446	0.931548984	0.736040504	0.283101587	0.417151699	0.214077108	0.800617928	0.906796157	0.948092653	0.936372831	0.964295673
Standard Error	7.01262933	4.887622022	6.445493864	10.66927823	9.970168364	5.376631886	0.953858066	1.332094749	2.469011204	3.943486882	6.889674699	6.310446154
Observations	93	85	93	90	93	90	93	93	90	93	90	93

Coefficients

Intercept	0	0	0	0	0	0	0	0	0	0	0	0
X Variable 1	0.029537303	0.022644728	0.014240273	0.006666253	0.000440254	0.000647201	0.000103312	0.000654992	0.005618723	0.02430201	0.017250182	0.030898324

Appendix 3.3 - Medford Base Coefficient Calculation

Average Actual Demand by Class

		Month		
Year	Data	7	8	Grand Total
2005	Average of Res Demand	2,422	2,367	2,395
	Average of Com Demand	2,136	2,219	2,178
	Average of Ind Demand	8	7	8
2006	Average of Res Demand	2,245	2,306	2,276
	Average of Com Demand	1,979	2,163	2,071
	Average of Ind Demand	8	7	7
2007	Average of Res Demand	2,319	2,285	2,302
	Average of Com Demand	2,044	2,142	2,093
	Average of Ind Demand	8	7	7
2008	Average of Res Demand	2,300	2,688	2,494
	Average of Com Demand	2,027	2,520	2,274
	Average of Ind Demand	8	8	8
Total Average of Res Demand		2,321	2,412	2,366
Total Average of Com Demand		2,047	2,261	2,154
Total Average of Ind Demand		8	7	8

Average Actual Customer Count by Class

		Month		
Year	Data	7	8	Grand Total
2005	Average of Res Customer	47,286	47,191	47,239
	Average of Com Customer	6,085	6,094	6,090
	Average of Ind Customer	-	-	-
2006	Average of Res Customer	48,666	48,531	48,599
	Average of Com Customer	6,225	6,229	6,227
	Average of Ind Customer	-	-	-
2007	Average of Res Customer	49,448	49,391	49,420
	Average of Com Customer	6,356	6,352	6,354
	Average of Ind Customer	9	9	9
2008	Average of Res Customer	49,930	49,734	49,832
	Average of Com Customer	6,395	6,391	6,393
	Average of Ind Customer	10	10	10
Total Average of Res Customer		48,833	48,712	48,772
Total Average of Com Customer		6,265	6,267	6,266
Total Average of Ind Customer		5	5	5

Base Coefficients

(Actual Average Demand/Customer Count)

0.04852 Res Base Usage
0.343742 Com Base Usage
1.613195 Ind Base Usage

Appendix 3.3 - Medford Regression Stats

Medford Residential

	January	February	March	April	May	June	July	August	September	October	November	December	
<i>Regression Statistics</i>													
Multiple R	0.997134455	0.9956274	0.991885136	0.992020827	0.971083997	0.951603992		1	0.932017098	0.93846896	0.979085299	0.994286808	0.997032867
R Square	0.994277122	0.991273919	0.983836123	0.98410532	0.943004129	0.905550157		1	0.86865587	0.880723988	0.958608022	0.988606256	0.994074538
Adjusted R Square	0.983407557	0.979369158	0.972966558	0.972869365	0.932134564	0.894314202	0.978494624	0.857786305	0.869488033	0.947738457	0.977370301	0.983204972	
Standard Error	0.024793168	0.024268254	0.02636742	0.016960252	0.011758493	0.005471504		0	0.000510824	0.005468033	0.016468298	0.021179782	0.023241593
Observations	93	85	93	90	93	90	93	93	90	93	90	93	90

Coefficients

Intercept	0	0	0	0	0	0	0	0	0	0	0	0	0
X Variable 1	0.011705871	0.011263499	0.010326571	0.008962427	0.006580555	0.004939512		0	0.001562886	0.003545602	0.006777695	0.009489786	0.010903024

Medford Commercial

	January	February	March	April	May	June	July	August	September	October	November	December	
<i>Regression Statistics</i>													
Multiple R	0.996784908	0.994461134	0.987386868	0.987224704	0.947022126	0.949396645		1	0.917991079	0.937475383	0.977343321	0.991152773	0.996731693
R Square	0.993580153	0.988952947	0.974932828	0.974612616	0.896850908	0.901353989		1	0.842707622	0.878860094	0.955199968	0.982383819	0.993474067
Adjusted R Square	0.982710588	0.977048185	0.964063262	0.963376661	0.885981343	0.890118034	0.978494624	0.831838057	0.867624139	0.944330403	0.971147864	0.982604502	
Standard Error	0.104086797	0.107780652	0.130318333	0.080078125	0.05309695	0.0213312		0	0.004658366	0.038403579	0.104503728	0.11331058	0.097184676
Observations	93	85	93	90	93	90	93	93	90	93	90	93	90

Coefficients

Intercept	0	0	0	0	0	0	0	0	0	0	0	0	0
X Variable 1	0.046383127	0.044407158	0.040798114	0.033321104	0.021541343	0.018799439		0	0.012827896	0.024683314	0.041267734	0.040701618	0.043429764

Medford Industrial

	January	February	March	April	May	June	July	August	September	October	November	December	
<i>Regression Statistics</i>													
Multiple R	0.789420263	0.793717904	0.704505615	0.732204638	0.517931489		0	1	0	0.430000967	0.631909117	0.463225574	0.937903107
R Square	0.623184352	0.629988111	0.496328161	0.536123632	0.268253027		0	1	0	0.184900832	0.399309132	0.214577932	0.879662239
Adjusted R Square	0.612314787	0.61808335	0.485458596	0.524887677	0.257383462	-0.011111111	0.978494624	-0.010752688	0.173664877	0.388439567	0.203341977	0.868792674	
Standard Error	17.13717432	13.96883719	14.1375431	10.1415113	6.21734101	3.410767265		0	0.836017184	3.783464912	9.062638562	18.42447239	9.577855007
Observations	93	85	93	90	93	90	93	93	90	93	90	93	90

Coefficients

Intercept	0	0	0	0	0	0	0	0	0	0	0	0	0
X Variable 1	0.00772489	0.021890782	0.015527802	0.008999948	0.002086688		0	0	1.56271E-05	0.005075985	0.365065388	0.01944488	

Appendix 3.3 - Roseburg Base Coefficient Calculation

Average Actual Demand by Class

		Month		
Year	Data	7	8	Grand Total
2005	Average of Res Demand	859	849	854
	Average of Com Demand	910	1,040	975
	Average of Ind Demand	32	46	39
2006	Average of Res Demand	702	611	657
	Average of Com Demand	744	748	746
	Average of Ind Demand	26	33	29
2007	Average of Res Demand	634	619	627
	Average of Com Demand	672	757	715
	Average of Ind Demand	24	33	28
2008	Average of Res Demand	632	585	609
	Average of Com Demand	670	716	693
	Average of Ind Demand	23	31	27
Total Average of Res Demand		707	666	686
Total Average of Com Demand		749	815	782
Total Average of Ind Demand		26	36	31

Average Actual Customer Count by Class

		Month		
Year	Data	7	8	Grand Total
2005	Average of Res Customer	12,311	12,257	12,284
	Average of Com Customer	2,093	2,093	2,093
	Average of Ind Customer	2	2	2
2006	Average of Res Customer	12,570	12,511	12,541
	Average of Com Customer	2,128	2,112	2,120
	Average of Ind Customer	3	4	4
2007	Average of Res Customer	12,900	12,777	12,839
	Average of Com Customer	2,126	2,105	2,116
	Average of Ind Customer	2	1	2
2008	Average of Res Customer	12,942	12,885	12,914
	Average of Com Customer	2,116	2,106	2,111
	Average of Ind Customer	2	2	2
Total Average of Res Customer		12,681	12,608	12,644
Total Average of Com Customer		2,116	2,104	2,110
Total Average of Ind Customer		2	2	2

Base Coefficients

(Actual Average Demand/Customer Count)

0.054292 Res Base Usage

0.37063 Com Base Usage

13.78076 Ind Base Usage

Appendix 3.3 - Roseburg Regression Stats

Roseburg Residential

	January	February	March	April	May	June	July	August	September	October	November	December
<i>Regression Statistics</i>												
Multiple R	0.991367883	0.990994199	0.988973116	0.982896977	0.964808013	0.913479404	0.901282988	0.442373441	0.903573229	0.97329924	0.991649071	0.99351331
R Square	0.98281028	0.982069503	0.978067824	0.966086467	0.930854503	0.834444621	0.812311025	0.195694261	0.81644458	0.94731141	0.98336788	0.987068697
Adjusted R Square	0.971940714	0.970164741	0.967198258	0.954850512	0.919984938	0.823208666	0.80144146	0.184824696	0.805208625	0.936441844	0.972131925	0.976199132
Standard Error	0.040415547	0.034729716	0.029928677	0.024955649	0.015657803	0.013462314	0.00093196	0.000307506	0.004773063	0.019669774	0.023163079	0.02976046
Observations	93	85	93	90	93	90	93	93	90	93	90	93

Coefficients

Intercept	0	0	0	0	0	0	0	0	0	0	0	0
X Variable 1	0.011739765	0.012002059	0.01066242	0.008796645	0.006684316	0.006364556	0.002005321	0.000131182	0.00233934	0.006930492	0.009308506	0.01069573

Roseburg Commercial

	January	February	March	April	May	June	July	August	September	October	November	December
<i>Regression Statistics</i>												
Multiple R	0.992265812	0.991074226	0.986097496	0.976906522	0.949873574	0.853735613	0.813329036	0.726798867	0.929317717	0.971654909	0.988621839	0.992886275
R Square	0.984591442	0.982228121	0.972388271	0.954346353	0.902259807	0.728864497	0.661504121	0.528236593	0.863631418	0.944113263	0.977373141	0.985823155
Adjusted R Square	0.973721876	0.970323359	0.961518706	0.943110398	0.891390241	0.717628542	0.650634556	0.517367028	0.852395463	0.933243697	0.966137186	0.97495359
Standard Error	0.166708416	0.134049982	0.132985425	0.113430363	0.076067558	0.035131124	0.004269241	0.005480161	0.03838982	0.123910636	0.121433297	0.131017601
Observations	93	85	93	90	93	90	93	93	90	93	90	93

Coefficients

Intercept	0	0	0	0	0	0	0	0	0	0	0	0
X Variable 1	0.051193529	0.046535659	0.042101905	0.034250846	0.026890317	0.012129519	0.006172839	0.005015183	0.022451199	0.042319727	0.041711454	0.044942538

Roseburg Industrial

	January	February	March	April	May	June	July	August	September	October	November	December
<i>Regression Statistics</i>												
Multiple R	0.918530171	0.963015396	0.954353828	0.735987825	0.711794929	0.411154682	0.431331093	0.174892794	0.464784791	0.902308321	0.968157638	0.923289039
R Square	0.843697675	0.927398653	0.910791228	0.541678078	0.506652021	0.169048172	0.186046512	0.030587489	0.216024902	0.814160306	0.937329213	0.852462649
Adjusted R Square	0.83282811	0.915493891	0.899921663	0.530442123	0.495782455	0.157812217	0.175176946	0.019717924	0.204788947	0.803290741	0.926093258	0.841593084
Standard Error	10.29134657	5.770224964	5.59859604	10.25082009	6.036836982	4.328790887	0.872278376	1.138447354	3.810085613	5.187912461	4.789973446	9.337545902
Observations	93	85	93	90	93	90	93	93	90	93	90	93

Coefficients

Intercept	0	0	0	0	0	0	0	0	0	0	0	0
X Variable 1	0.14368321	0.382986079	0.454116065	6.43351624	0.073323445	0.733042531	0.001168185	0.62096138	0.871053897	0.581124251	0.430738696	0.171301851

Appendix 3.3 - Klamath Falls Base Coefficient Calculation

Average Actual Demand by Class

		Month		
Year	Data	7	8	Grand Total
2005	Average of Res Demand	752	674	713
	Average of Com Demand	632	682	657
	Average of Ind Demand	9	12	11
2006	Average of Res Demand	541	533	537
	Average of Com Demand	455	539	497
	Average of Ind Demand	7	10	8
2007	Average of Res Demand	576	540	558
	Average of Com Demand	484	547	515
	Average of Ind Demand	7	10	8
2008	Average of Res Demand	494	508	501
	Average of Com Demand	416	514	465
	Average of Ind Demand	6	9	8
Total Average of Res Demand		591	564	577
Total Average of Com Demand		497	570	534
Total Average of Ind Demand		7	10	9

Average Actual Customer Count by Class

		Month		
Year	Data	7	8	Grand Total
2005	Average of Res Customer	12,977	12,855	12,916
	Average of Com Customer	1,576	1,566	1,571
	Average of Ind Customer	-	-	-
2006	Average of Res Customer	13,240	13,135	13,188
	Average of Com Customer	1,582	1,576	1,579
	Average of Ind Customer	-	-	-
2007	Average of Res Customer	13,675	13,610	13,643
	Average of Com Customer	1,605	1,598	1,602
	Average of Ind Customer	5	5	5
2008	Average of Res Customer	13,703	13,576	13,640
	Average of Com Customer	1,603	1,590	1,597
	Average of Ind Customer	5	5	5
Total Average of Res Customer		13,399	13,294	13,346
Total Average of Com Customer		1,592	1,583	1,587
Total Average of Ind Customer		3	3	3

Base Coefficients

(Actual Average Demand/Customer Count)

0.043256 Res Base Usage

0.336197 Com Base Usage

3.515359 Ind Base Usage

Appendix 3.3 - Klamath Falls Regression Stats

Klamath Falls Residential

	January	February	March	April	May	June	July	August	September	October	November	December
<i>Regression Statistics</i>												
Multiple R	0.993062364	0.994783204	0.992335858	0.984431794	0.90204138	0.943498977	0.579473888	0.590914942	0.905460706	0.981467019	0.993478035	0.99483772
R Square	0.986172859	0.989593624	0.984730455	0.969105957	0.813678651	0.89019032	0.335789987	0.349180469	0.81985909	0.963277509	0.986998606	0.98970209
Adjusted R Square	0.975303294	0.977688862	0.97386089	0.957870002	0.802809086	0.878954365	0.324920421	0.338310903	0.808623135	0.952407944	0.975762651	0.978832524
Standard Error	0.035652592	0.02567037	0.02588898	0.027423238	0.030798103	0.00980396	0.001655684	0.002471344	0.011285938	0.018299672	0.022703065	0.030326521
Observations	93	85	93	90	93	90	93	93	90	93	90	93

Coefficients

Intercept	0	0	0	0	0	0	0	0	0	0	0	0
X Variable 1	0.007863049	0.007265615	0.007048129	0.006407522	0.004341971	0.003034126	0.000666518	0.000484551	0.002265305	0.004697918	0.007089624	0.007764077

Klamath Falls Commercial

	January	February	March	April	May	June	July	August	September	October	November	December
<i>Regression Statistics</i>												
Multiple R	0.99126788	0.993538491	0.987434685	0.964267296	0.760031127	0.750273218	0.45023922	0.728985915	0.89961323	0.976689555	0.989089275	0.994348689
R Square	0.982612009	0.987118733	0.975027257	0.929811419	0.577647314	0.562909902	0.202715355	0.531420464	0.809303963	0.953922487	0.978297594	0.988729316
Adjusted R Square	0.971742444	0.975213971	0.964157692	0.918575464	0.566777749	0.551673947	0.19184579	0.520550899	0.798068008	0.943052922	0.967061639	0.977859751
Standard Error	0.171220984	0.119668112	0.129777997	0.148701981	0.161043709	0.05671166	0.0079703	0.026053637	0.084987919	0.130726554	0.121910441	0.131749433
Observations	93	85	93	90	93	90	93	93	90	93	90	93

Coefficients

Intercept	0	0	0	0	0	0	0	0	0	0	0	0
X Variable 1	0.033613433	0.030405028	0.027490939	0.022578968	0.012705896	0.006995477	0.002275434	0.007426894	0.016472813	0.029814558	0.029335794	0.032225664

Klamath Falls Industrial

	January	February	March	April	May	June	July	August	September	October	November	December
<i>Regression Statistics</i>												
Multiple R	0	0	0	0	0.190476487	0	0	0	0.390765841	0.358970161	0	0
R Square	0	0	0	0	0.036281292	0	0	0	0.152697943	0.128859576	0	0
Adjusted R Square	-0.010752688	-0.011764706	-0.010752688	-0.011111111	0.025292281	-0.011111111	-0.010752688	-0.010752688	0.141461988	0.117990011	-0.011111111	-0.010752688
Standard Error	38.0857832	34.25063331	29.33858702	23.83694611	14.5873647	9.148770409	1.756707575	1.756707575	9.783484642	18.62050906	27.74587056	38.0857832
Observations	93	85	93	90	92	90	93	93	90	93	90	93

Coefficients

Intercept	0	0	0	0	0	0	0	0	0	0	0	0
X Variable 1	0	0	0	0	5.5682E-05	0	0	0	0.000935955	0.00127142	0	0

Appendix 3.3 - LaGrande Base Coefficient Calculation

Average Actual Demand by Class

		Month	
Year	Data	7	Grand Total
2005	Average of Res Demand	368	368
	Average of Com Demand	224	224
	Average of Ind Demand	17	17
2006	Average of Res Demand	360	360
	Average of Com Demand	219	219
	Average of Ind Demand	17	17
2007	Average of Res Demand	360	360
	Average of Com Demand	219	219
	Average of Ind Demand	17	17
2008	Average of Res Demand	365	365
	Average of Com Demand	222	222
	Average of Ind Demand	17	17
Total Average of Res Demand		364	364
Total Average of Com Demand		221	221
Total Average of Ind Demand		17	17

Average Actual Customer Count by Class

		Month	
Year	Data	7	Grand Total
2005	Average of Res Customers	6,475	6,475
	Average of Com Customers	949	949
	Average of Ind Customers	3	3
2006	Average of Res Customers	6,163	6,163
	Average of Com Customers	873	873
	Average of Ind Customers	2	2
2007	Average of Res Customers	6,259	6,259
	Average of Com Customers	868	868
	Average of Ind Customers	1	1
2008	Average of Res Customers	6,351	6,351
	Average of Com Customers	880	880
	Average of Ind Customers	1	1
Total Average of Res Customers		6,312	6,312
Total Average of Com Customers		893	893
Total Average of Ind Customers		2	2

Base Coefficients

(Actual Average Demand/Customer Count)

0.057597 Res Base Usage

0.247762 Com Base Usage

9.582906 Ind Base Usage

Appendix 3.3 - LaGrande Regression Stats

	January	February	March	April	May	June	July	August	September	October	November	December
LaGrande Residential												
<i>Regression Statistics</i>												
Multiple R	0.994589872	0.994689217	0.983701811	0.976803952	0.909994946	0.914751317	0.818086637	0.708928486	0.583127441	0.957903564	0.985673476	0.996323896
R Square	0.989209014	0.989406639	0.967669253	0.954145961	0.828090802	0.836769971	0.669265746	0.502579598	0.340037612	0.917579238	0.971552202	0.992661306
Adjusted R Square	0.978339449	0.977501877	0.956799688	0.942910006	0.817221237	0.825534016	0.658396181	0.491710033	0.328801657	0.906709672	0.960316247	0.98179174
Standard Error	0.036928346	0.028857126	0.039769899	0.034178424	0.028547421	0.014599672	0.00143458	0.037345249	0.01428263	0.020632378	0.038187972	0.028290967
Observations	93	85	93	90	93	90	93	93	90	93	90	93

<i>Coefficients</i>												
Intercept	0	0	0	0	0	0	0	0	0	0	0	0
X Variable 1	0.010032753	0.00941539	0.008731541	0.007629031	0.005248865	0.004847228	0.002290957	0.011883615	0.001145173	0.003817002	0.008745128	0.009437935

	January	February	March	April	May	June	July	August	September	October	November	December
LaGrande Commercial												
<i>Regression Statistics</i>												
Multiple R	0.9942758	0.994924902	0.983584571	0.97556244	0.8950851	0.889506261	0.850734185	0.735492775	0.705875052	0.965396013	0.985553463	0.99585588
R Square	0.988584366	0.98987556	0.967438609	0.951722075	0.801177337	0.791221388	0.723748654	0.540949622	0.498259589	0.931989462	0.971315628	0.991728934
Adjusted R Square	0.9777148	0.977970798	0.956569043	0.94048612	0.790307772	0.779985433	0.712879089	0.530080057	0.487023634	0.921119897	0.960079673	0.980859369
Standard Error	0.16694532	0.125902205	0.168878038	0.140455244	0.117981709	0.059733575	0.005840607	0.232786043	0.096056046	0.093964113	0.156460606	0.126811832
Observations	93	85	93	90	93	90	93	93	90	93	90	93

<i>Coefficients</i>												
Intercept	0	0	0	0	0	0	0	0	0	0	0	0
X Variable 1	0.044083686	0.04202937	0.036941473	0.030515287	0.019840618	0.017051862	0.010612854	0.079997745	0.010692319	0.019286303	0.035677411	0.039830301

	January	February	March	April	May	June	July	August	September	October	November	December
LaGrande Industrial												
<i>Regression Statistics</i>												
Multiple R	0	0	0	0	0.20961698	0.638087506	0.636751222	0.592660516	0.909857698	0.983767201	0	0
R Square	0	0	0	0	0.043939278	0.407155665	0.405452118	0.351246488	0.827841031	0.967797907	0	0
Adjusted R Square	-0.010869565	-0.011764706	-0.010752688	-0.011111111	0.033069713	0.39591971	0.394582553	0.340376922	0.816605076	0.956928341	-0.011111111	-0.010752688
Standard Error	35.04096981	29.44526328	24.78401323	20.32240143	11.67168629	5.250770625	0.686848469	2.544293966	3.714547661	3.236476622	25.37715508	34.67483361
Observations	92	85	93	90	93	90	93	93	90	93	90	93

<i>Coefficients</i>												
Intercept	0	0	0	0	0	0	0	0	0	0	0	0
X Variable 1	0	0	0	0	0.002658518	0.033886923	0.452915064	2.241471101	5.571099508	4.713182014	0	0

APPENDIX 3.4

HEATING DEGREE DAY (HDD) DATA

Appendix 3.4 - Heating Degree Day Data Monthly Totals

Temp Pattern	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Total
Klam Falls	2009	1042	935	772	593	393	169	36	48	188	487	825	1212	6700
Klam Falls	2010	1042	935	772	593	393	169	36	48	188	487	825	1212	6700
Klam Falls	2011	1042	935	772	593	393	169	36	48	188	487	825	1212	6700
Klam Falls	2012	1032	930	772	593	393	169	36	48	188	487	820	1202	6670
Klam Falls	2013	1015	923	762	586	393	169	36	48	188	486	809	1187	6602
Klam Falls	2014	1011	915	746	580	389	169	36	48	188	479	803	1187	6551
Klam Falls	2015	1011	912	745	578	386	169	36	48	187	475	799	1187	6533
Klam Falls	2016	1011	912	743	572	383	164	36	48	186	472	798	1186	6511
Klam Falls	2017	1006	909	742	571	378	161	36	48	186	470	794	1181	6482
Klam Falls	2018	1001	907	741	571	377	160	36	47	186	467	792	1177	6462
Klam Falls	2019	992	903	738	568	372	160	36	47	182	466	788	1169	6421
Klam Falls	2020	992	903	738	568	372	160	36	47	182	466	788	1169	6421
Klam Falls	2021	990	902	737	567	372	160	36	47	182	466	788	1169	6416
Klam Falls	2022	990	902	737	567	372	160	36	47	182	466	788	1169	6416
Klam Falls	2023	990	902	737	567	372	160	36	47	182	466	788	1169	6416
Klam Falls	2024	990	902	737	567	372	160	36	47	182	466	788	1169	6416
Klam Falls	2025	989	902	737	566	372	160	36	47	182	466	785	1167	6409
Klam Falls	2026	989	902	737	566	372	160	36	47	182	466	784	1167	6408
Klam Falls	2027	989	902	737	566	372	160	36	47	182	466	784	1167	6408
Klam Falls	2028	987	901	737	564	371	159	36	46	180	464	781	1166	6392
Klam Falls	2029	987	901	737	564	371	159	36	46	180	464	781	1166	6392

Temp Pattern	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Total
LaGrande	2009	1019	969	712	511	343	145	29	37	122	484	775	1146	6292
LaGrande	2010	996	958	706	510	343	145	29	37	122	484	766	1127	6223
LaGrande	2011	985	946	682	492	335	144	29	37	120	464	745	1119	6098
LaGrande	2012	964	935	675	487	324	139	28	37	117	460	736	1101	6003
LaGrande	2013	948	924	663	474	320	136	27	36	115	447	722	1084	5896
LaGrande	2014	931	912	652	468	311	134	27	34	113	445	706	1070	5803
LaGrande	2015	914	902	635	454	307	129	26	33	111	431	693	1058	5693
LaGrande	2016	894	890	625	451	302	127	26	33	109	423	682	1039	5601
LaGrande	2017	877	880	616	438	295	124	25	31	107	420	666	1026	5505
LaGrande	2018	860	868	598	430	288	121	24	31	104	409	655	1010	5398
LaGrande	2019	841	854	587	419	284	119	24	30	100	399	640	995	5292
LaGrande	2020	838	853	586	419	283	119	24	30	100	399	637	993	5281
LaGrande	2021	836	852	580	418	281	119	24	30	99	395	633	991	5258
LaGrande	2022	832	852	579	418	281	119	24	30	99	395	632	985	5246
LaGrande	2023	830	852	578	418	281	119	24	30	99	395	630	984	5240
LaGrande	2024	828	846	576	415	279	118	23	30	97	392	627	982	5213
LaGrande	2025	823	845	576	415	277	116	23	30	96	391	626	981	5199
LaGrande	2026	820	842	571	411	275	116	23	30	96	389	622	978	5173
LaGrande	2027	816	840	571	411	275	116	23	30	96	389	621	974	5162
LaGrande	2028	812	840	571	411	275	116	23	30	96	389	621	971	5155
LaGrande	2029	806	833	566	406	274	116	23	30	95	385	616	966	5101

Temp Pattern	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Total
Medford	2009	823	667	560	394	220	58	7	7	68	316	622	966	4708
Medford	2010	792	646	536	379	218	58	7	7	68	308	622	966	4607
Medford	2011	768	633	533	377	218	58	7	7	68	308	611	944	4532
Medford	2012	761	627	514	367	216	58	7	7	68	303	596	940	4464
Medford	2013	758	623	507	361	212	58	7	7	68	293	591	938	4423
Medford	2014	745	619	505	358	207	56	7	7	67	287	587	925	4370
Medford	2015	736	610	502	355	204	56	7	7	66	287	581	917	4328
Medford	2016	726	607	490	351	199	56	7	7	65	282	570	912	4272
Medford	2017	716	605	486	344	197	53	7	7	65	280	561	900	4221
Medford	2018	711	595	482	339	195	53	7	7	62	278	556	893	4178
Medford	2019	696	588	474	333	195	53	7	7	62	270	551	888	4124
Medford	2020	694	586	471	333	195	53	7	7	62	270	545	882	4105
Medford	2021	694	586	471	333	195	53	7	7	62	270	545	882	4105
Medford	2022	688	585	465	328	191	50	7	6	59	268	544	878	4069
Medford	2023	686	584	465	328	191	50	7	6	59	268	543	874	4061
Medford	2024	686	583	461	327	189	50	7	6	59	267	538	872	4045
Medford	2025	685	580	461	327	187	50	7	6	59	266	537	871	4036
Medford	2026	683	576	459	322	187	50	7	6	59	265	533	868	4015
Medford	2027	683	576	459	322	187	50	7	6	59	265	533	868	4015
Medford	2028	677	575	458	322	187	50	7	6	59	265	530	867	4003
Medford	2029	673	574	454	319	185	49	7	6	58	262	525	862	3987

Appendix 3.4 - Heating Degree Day Data Monthly Totals

Temp Pattern	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Total
Roseburg	2009	677	623	491	354	219	79	13	6	66	275	501	831	4135
Roseburg	2010	677	623	491	354	219	79	13	6	66	275	501	830	4134
Roseburg	2011	660	611	483	353	219	79	13	6	66	274	497	817	4078
Roseburg	2012	650	604	471	344	214	79	13	6	66	264	476	808	3995
Roseburg	2013	646	601	464	337	210	79	13	6	66	263	472	802	3959
Roseburg	2014	634	593	460	332	206	78	13	6	64	262	470	795	3913
Roseburg	2015	630	588	452	327	203	77	13	6	64	255	467	788	3870
Roseburg	2016	617	586	450	322	201	76	13	6	62	253	460	779	3825
Roseburg	2017	609	580	443	322	201	76	13	6	62	249	454	772	3787
Roseburg	2018	604	571	437	315	194	72	12	6	58	242	443	765	3719
Roseburg	2019	596	569	430	309	193	72	12	6	58	240	439	762	3686
Roseburg	2020	586	565	428	305	189	69	11	6	57	239	435	756	3646
Roseburg	2021	583	563	425	303	189	69	11	6	57	238	434	750	3628
Roseburg	2022	579	557	421	303	188	69	11	6	57	237	429	747	3604
Roseburg	2023	577	556	420	303	188	69	11	6	57	236	427	743	3593
Roseburg	2024	575	552	417	300	186	69	11	6	56	236	426	740	3574
Roseburg	2025	569	551	411	300	186	69	11	6	56	232	422	736	3549
Roseburg	2026	566	551	411	300	186	69	11	6	56	232	422	733	3543
Roseburg	2027	560	546	406	295	179	62	10	5	54	228	416	729	3490
Roseburg	2028	556	543	404	293	179	62	10	5	54	228	412	728	3474
Roseburg	2029	553	538	401	290	176	62	10	5	54	227			

Temp Pattern	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Total
WA/ID	2009	1128	1155	761	548	317	145	35	34	187	541	886	1184	6921
WA/ID	2010	1128	1155	761	548	317	145	35	34	187	541	886	1184	6921
WA/ID	2011	1111	1143	760	548	317	145	35	34	187	541	875	1167	6863
WA/ID	2012	1097	1134	734	536	317	145	35	34	187	531	856	1158	6764
WA/ID	2013	1092	1126	730	527	313	145	35	34	185	525	856	1156	6724
WA/ID	2014	1081	1123	730	525	303	144	35	34	180	518	855	1150	6678
WA/ID	2015	1078	1118	729	522	301	142	35	34	178	516	845	1141	6639
WA/ID	2016	1071	1106	719	518	296	141	34	34	175	507	835	1131	6567
WA/ID	2017	1051	1102	712	515	296	137	34	34	173	506	829	1126	6515
WA/ID	2018	1044	1098	703	506	295	134	32	34	173	501	820	1120	6460
WA/ID	2019	1040	1092	700	500	295	134	32	34	173	499	815	1113	6427
WA/ID	2020	1035	1088	700	500	295	134	32	34	173	499	815	1109	6414
WA/ID	2021	1035	1085	697	499	293	130	32	32	171	494	812	1106	6386
WA/ID	2022	1028	1084	695	496	292	130	32	32	171	492	810	1101	6363
WA/ID	2023	1025	1082	692	495	292	130	32	32	171	490	808	1101	6350
WA/ID	2024	1023	1078	688	495	291	130	32	32	170	489	804	1098	6330
WA/ID	2025	1017	1074	685	495	291	130	32	32	170	489	798	1097	6310
WA/ID	2026	1016	1074	685	495	291	130	32	32	170	489	797	1094	6305
WA/ID	2027	1014	1072	682	492	286	129	31	31	168	484	793	1093	6275
WA/ID	2028	1006	1069	681	492	286	129	31	31	168	484	792	1091	6260
WA/ID	2029	1005	1067	680	491	281	129	31	31	166	482			

Appendix 3.4 - Heating Degree Days by Day (Includes Peak Weather Event and Additional Winter Storm)

Temperature Pattern	Day	January	February	March	April	May	June	July	August	September	October	November	December
Klamath Falls	1	29	32	26	30	11	0	9	0	3	7	30	29
Klamath Falls	2	33	39	22	31	8	0	2	0	5	8	21	29
Klamath Falls	3	33	44	19	27	4	0	0	0	6	7	20	31
Klamath Falls	4	33	43	13	25	4	0	0	0	7	6	19	31
Klamath Falls	5	23	36	18	23	6	0	0	0	7	7	15	29
Klamath Falls	6	22	41	27	20	12	0	1	0	10	9	10	35
Klamath Falls	7	28	34	22	23	14	1	2	0	10	14	10	39
Klamath Falls	8	31	30	22	29	15	4	0	0	8	27	23	38
Klamath Falls	9	32	35	24	33	23	15	0	0	1	25	31	42
Klamath Falls	10	25	40	23	29	20	17	0	0	1	23	29	43
Klamath Falls	11	28	28	29	27	21	17	0	0	4	21	33	50
Klamath Falls	12	30	33	25	32	16	17	0	0	3	21	37	42
Klamath Falls	13	24	42	26	28	16	15	0	0	1	25	28	41
Klamath Falls	14	35	51	29	21	12	16	0	0	3	23	31	37
Klamath Falls	15	41	54	32	17	18	15	0	0	12	13	25	34
Klamath Falls	16	34	53	29	18	15	10	0	0	16	6	22	37
Klamath Falls	17	30	47	24	12	10	5	0	0	19	10	26	0
Klamath Falls	18	37	26	33	10	4	0	0	0	11	12	28	54
Klamath Falls	19	42	25	34	7	0	0	0	0	4	13	19	66
Klamath Falls	20	39	23	33	7	1	0	2	0	7	14	14	72
Klamath Falls	21	42	26	28	8	2	0	6	0	11	13	23	68
Klamath Falls	22	44	23	28	18	14	0	9	0	11	9	24	58
Klamath Falls	23	42	19	28	15	27	0	5	0	4	10	33	36
Klamath Falls	24	38	21	27	17	26	0	0	0	0	19	31	36
Klamath Falls	25	36	23	22	25	24	0	0	10	0	17	34	28
Klamath Falls	26	40	20	22	18	21	0	0	13	5	16	33	42
Klamath Falls	27	34	23	25	18	14	0	0	9	7	29	39	28
Klamath Falls	28	32	24	26	12	11	7	0	4	7	22	44	33
Klamath Falls	29	34		24	9	11	17	0	5	1	23	51	35
Klamath Falls	30	33		18	4	13	13	0	4	4	20	42	35
Klamath Falls	31	38		14		0		0	3		18		34

Temperature Pattern	Day	January	February	March	April	May	June	July	August	September	October	November	December
LaGrande	1	28	30	28	26	8	2	0	0	0	0	26	37
LaGrande	2	27	28	26	26	10	0	1	0	0	1	20	27
LaGrande	3	29	28	28	25	14	7	0	0	0	7	18	27
LaGrande	4	32	23	25	22	20	4	0	0	8	9	18	27
LaGrande	5	32	31	25	18	21	5	0	0	4	16	26	23
LaGrande	6	27	33	27	26	12	5	0	0	3	8	25	23
LaGrande	7	17	32	23	28	8	9	0	0	0	13	19	31
LaGrande	8	23	31	26	28	18	11	0	0	0	22	20	32
LaGrande	9	28	32	31	26	18	5	4	0	0	23	27	28
LaGrande	10	30	31	27	24	17	4	5	0	0	26	25	31
LaGrande	11	27	24	30	22	13	8	0	0	0	24	21	36
LaGrande	12	22	20	30	24	10	13	0	0	0	22	21	34
LaGrande	13	31	61	30	27	14	10	0	0	0	22	23	28
LaGrande	14	34	68	25	18	7	10	0	0	4	16	24	30
LaGrande	15	33	74	23	10	6	6	0	0	2	23	20	29
LaGrande	16	36	61	24	12	9	0	0	0	13	15	22	38
LaGrande	17	36	60	16	15	6	0	0	0	17	12	22	40
LaGrande	18	35	31	16	9	16	0	0	0	8	8	27	51
LaGrande	19	30	24	15	4	11	0	0	0	7	16	28	58
LaGrande	20	32	26	10	12	11	0	10	0	3	14	33	64
LaGrande	21	32	28	17	17	7	0	8	0	3	25	28	58
LaGrande	22	38	28	18	11	1	1	1	0	3	25	34	51
LaGrande	23	34	28	16	7	9	5	0	1	0	15	35	26
LaGrande	24	29	27	28	7	7	2	0	9	0	21	27	28
LaGrande	25	23	27	29	17	1	0	0	5	0	15	31	35
LaGrande	26	33	26	21	16	3	0	0	7	1	25	25	40
LaGrande	27	43	24	17	18	16	0	0	7	16	15	30	46
LaGrande	28	49	22	20	9	16	13	0	4	14	17	32	42
LaGrande	29	51		21	5	13	16	0	0	10	16	28	41
LaGrande	30	39		19	1	11	9	0	0	6	1	31	37
LaGrande	31	36		15		10		0	4		12		29

Temperature Pattern	Day	January	February	March	April	May	June	July	August	September	October	November	December
Medford	1	29	15	13	14	10	0	2	4	0	0	10	30
Medford	2	30	12	15	14	8	0	1	0	0	1	13	27
Medford	3	31	15	17	20	2	0	0	0	3	9	11	21
Medford	4	28	14	18	18	6	0	0	0	4	7	16	25
Medford	5	32	21	20	9	19	0	0	0	2	3	16	24
Medford	6	29	25	20	0	19	4	0	0	0	0	21	19
Medford	7	27	13	18	18	10	6	0	0	0	0	21	23
Medford	8	31	17	21	19	6	1	0	0	0	3	21	23
Medford	9	30	22	23	15	5	0	1	0	0	11	19	22
Medford	10	32	19	15	17	7	0	0	0	0	13	18	19
Medford	11	30	14	12	12	9	0	0	0	0	14	17	27
Medford	12	31	23	15	22	12	0	0	0	0	15	19	26
Medford	13	36	32	14	25	11	6	0	0	5	6	27	25
Medford	14	31	36	10	18	8	4	0	0	8	9	23	28
Medford	15	26	38	14	13	8	3	0	0	5	13	21	28
Medford	16	20	32	13	13	3	10	0	0	2	10	22	21
Medford	17	22	28	13	18	7	9	0	0	7	10	25	27
Medford	18	20	25	10	20	0	6	0	0	1	9	21	50
Medford	19	23	26	13	17	4	4	0	0	4	7	19	59
Medford	20	24	26	19	14	7	2	0	0	5	13	14	61
Medford	21	27	23	19	8	9	1	0	0	3	20	16	56
Medford	22	23	21	21	5	11	1	0	0	4	19	24	55
Medford	23	23	24	17	10	9	0	0	1	3	12	32	28
Medford	24	20	25	19	9	12	0	0	0	0	14	28	30
Medford	25	15	22	21	5	3	0	0	0	0	7	19	29
Medford	26	16	26	24	4	0	0	0	0	0	10	18	36
Medford	27	20	27	19	4	1	0	0	0	1	13	24	35
Medford	28	17	25	20	7	0	0	0	0	1	13	29	29
Medford	29	22		20	6	4	1	0	0	0	15	34	29
Medford	30	24		23	5	5	0	0	2	10	14	24	25
Medford	31	23		20		3		3	0		18		29

Appendix 3.4 - Heating Degree Days by Day (Includes Peak Weather Event and Additional Winter Storm)

Temperature Pattern	Day	January	February	March	April	May	June	July	August	September	October	November	December
Roseburg	1	26	25	16	19	15	3	0	0	0	0	14	10
Roseburg	2	30	27	18	12	8	2	0	0	1	2	14	19
Roseburg	3	29	23	16	13	9	9	5	0	0	8	14	19
Roseburg	4	32	18	16	15	6	2	3	0	0	7	20	21
Roseburg	5	30	11	22	19	4	0	1	0	0	7	21	19
Roseburg	6	25	23	22	15	9	4	0	0	0	2	17	23
Roseburg	7	27	25	21	10	14	1	0	0	0	0	15	23
Roseburg	8	29	23	11	13	14	3	0	0	0	0	15	17
Roseburg	9	28	26	8	14	13	1	4	0	0	0	19	16
Roseburg	10	28	27	16	13	5	4	0	0	0	0	15	18
Roseburg	11	29	25	14	12	11	5	0	0	5	5	18	27
Roseburg	12	24	20	14	8	12	5	0	0	10	4	18	28
Roseburg	13	27	32	10	7	3	5	0	2	6	5	13	31
Roseburg	14	28	37	11	14	0	3	0	0	5	1	16	19
Roseburg	15	22	42	14	21	0	0	0	0	5	5	11	24
Roseburg	16	15	34	12	20	0	0	0	0	0	9	13	35
Roseburg	17	12	28	11	20	0	0	0	0	0	14	16	41
Roseburg	18	6	16	12	13	0	0	0	1	3	17	17	40
Roseburg	19	12	14	17	9	0	0	0	0	9	22	20	53
Roseburg	20	11	12	15	7	7	0	0	0	6	15	20	55
Roseburg	21	17	15	21	14	12	0	0	0	0	15	25	46
Roseburg	22	18	14	23	13	14	0	0	0	0	15	25	48
Roseburg	23	16	26	26	8	15	4	0	0	2	16	23	8
Roseburg	24	21	21	26	9	4	3	0	0	2	16	20	11
Roseburg	25	20	17	21	5	6	0	0	0	0	13	7	12
Roseburg	26	15	11	19	10	5	5	0	0	2	16	16	17
Roseburg	27	19	10	13	5	3	6	0	0	5	19	13	27
Roseburg	28	20	21	13	0	10	8	0	0	4	18	16	29
Roseburg	29	20		10	6	7	3	0	0	0	8	15	28
Roseburg	30	22		8	10	3	3	0	0	1	8	15	32
Roseburg	31	19		15		10		0	3		8		34

Temperature Pattern	Day	January	February	March	April	May	June	July	August	September	October	November	December
WA/ID	1	38	31	21	25	4	8	0	0	1	9	22	25
WA/ID	2	40	35	25	29	13	0	0	0	0	10	27	29
WA/ID	3	43	43	23	28	14	0	0	0	0	6	30	32
WA/ID	4	43	53	25	25	10	4	4	0	0	15	32	29
WA/ID	5	51	49	30	19	13	8	7	0	0	22	29	30
WA/ID	6	44	47	27	11	11	1	3	5	0	25	27	33
WA/ID	7	40	48	25	7	5	0	0	4	0	15	30	38
WA/ID	8	40	47	26	11	1	0	0	0	0	17	36	34
WA/ID	9	43	55	16	20	2	6	0	0	8	15	35	36
WA/ID	10	43	47	22	23	5	8	0	0	9	13	26	43
WA/ID	11	43	39	26	23	15	6	0	0	8	12	25	38
WA/ID	12	44	30	30	21	11	4	0	0	2	10	33	36
WA/ID	13	51	62	22	19	4	0	0	0	0	9	28	47
WA/ID	14	57	72	21	18	14	1	0	0	0	11	29	41
WA/ID	15	61	82	27	21	10	0	0	0	0	20	32	36
WA/ID	16	49	67	28	20	0	3	0	0	0	22	26	41
WA/ID	17	36	57	29	20	14	12	0	0	9	22	26	40
WA/ID	18	26	27	30	22	17	15	7	0	16	18	26	51
WA/ID	19	21	16	28	22	10	12	9	0	18	18	26	56
WA/ID	20	23	14	27	22	14	2	5	0	14	17	23	61
WA/ID	21	24	26	24	21	10	3	0	0	11	14	33	58
WA/ID	22	26	31	22	17	4	8	0	2	4	14	37	53
WA/ID	23	25	33	17	15	10	10	0	3	11	7	27	51
WA/ID	24	26	34	22	10	13	7	0	6	13	15	21	33
WA/ID	25	29	30	20	17	14	7	0	4	15	20	28	32
WA/ID	26	26	29	19	19	7	1	0	6	15	22	34	29
WA/ID	27	25	28	21	9	5	6	0	3	14	28	38	31
WA/ID	28	26	23	21	8	18	6	0	1	6	27	35	31
WA/ID	29	28		28	12	15	7	0	0	4	28	35	31
WA/ID	30	29		33	14	18	0	0	0	9	30	30	32
WA/ID	31	28		26		16		0	0		30		27

APPENDIX 3.5

GLOBAL WARMING SUMMARY AND GRAPHS

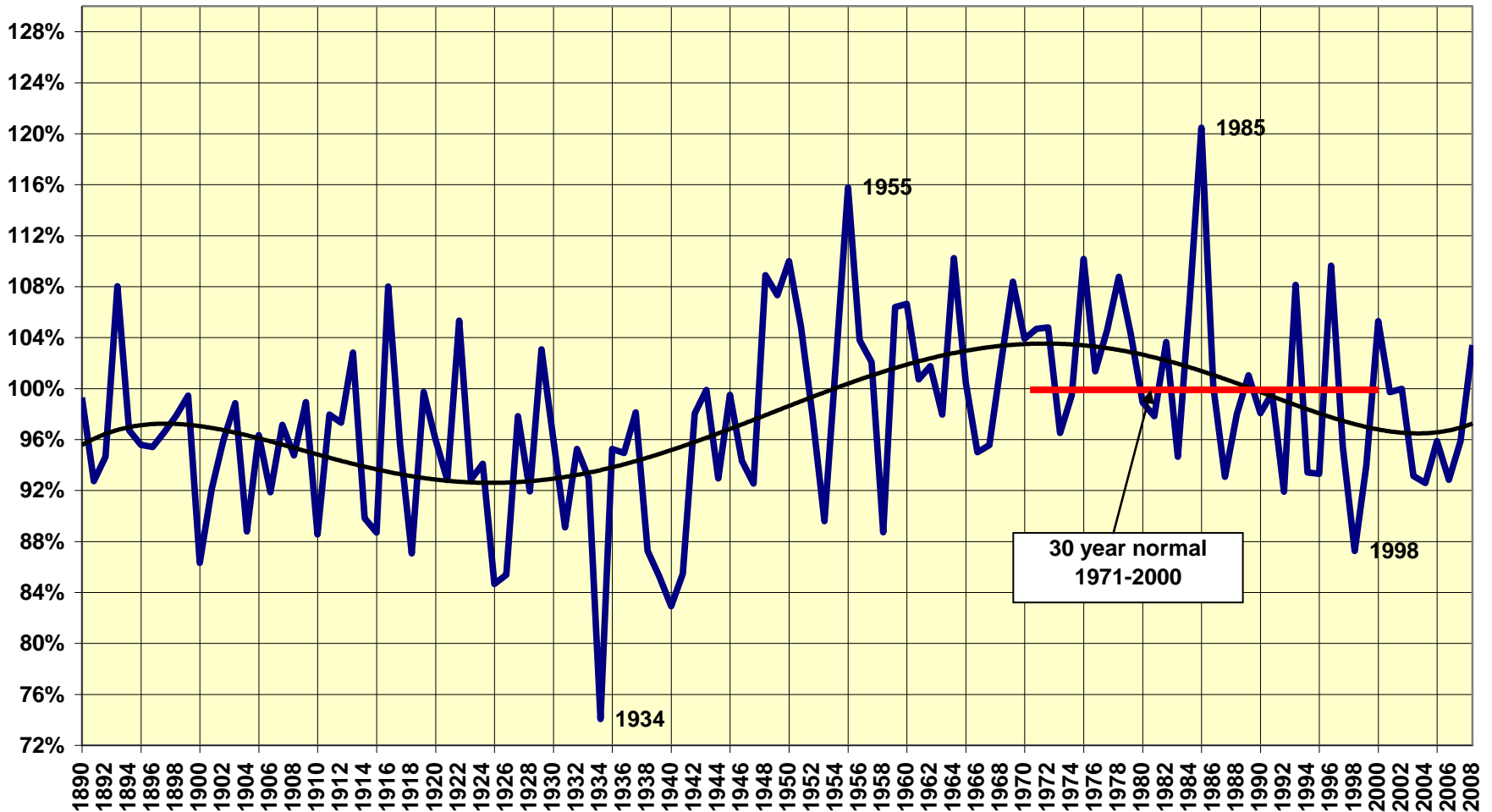
Global Warming

- Peak and trough weather appears more volatile
- Reduce annual consumption over time
- Decrease **non peak** HDDs over time to reflect warming trend

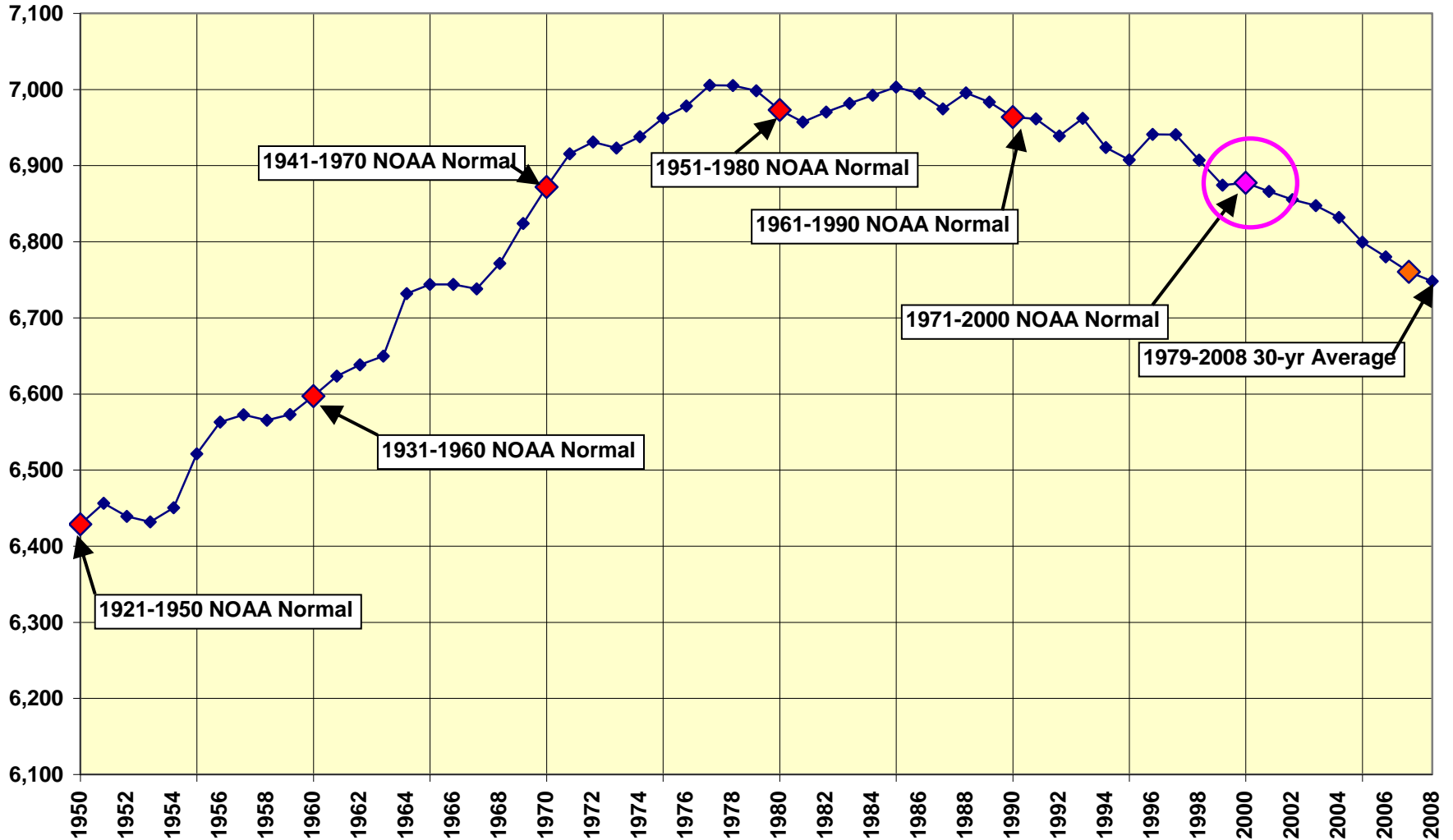
GLOBAL WARMING ADJUSTMENT

- Heating degree day data is obtained from the National Weather Service (NWS). Avista uses the most recent 30-year period, which goes from 1979-2008. For Oregon, Avista uses four weather stations as the weather basis, corresponding to the areas within which natural gas services are provided, all of which are official National Weather Service stations. Heating degree day weather patterns between these areas are uncorrelated.
- At the April 2009 Technical Advisory Committee meeting, Avista presented some data and information regarding trends in heating degree days for its service area. Avista has adopted a “Global Warming” baseline for forecasting which captures the modest warming trend (i.e. gradually declining heating degree days) expected through the 20 year forecast period.
- By 2030, as compared to the “official” NWS normal figures based on the 1971-2000 period, the number of annual heating degree days as a percentage of the official period are:
 - Spokane 93.9%
 - Medford 88.4%
 - Roseburg 86.8%
 - Klamath Falls 94.9%
 - La Grande 81.6%

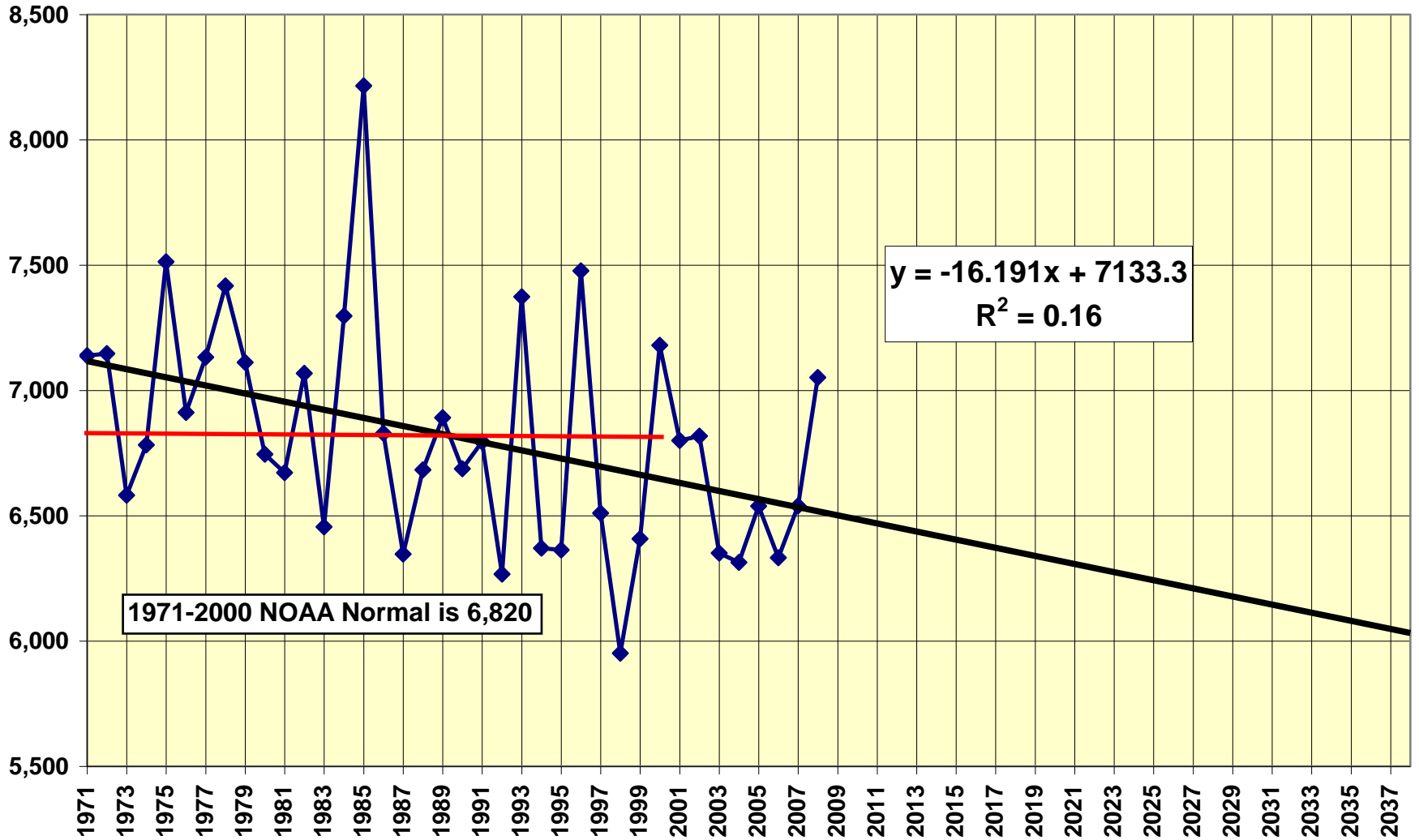
Annual Heating Degree Days, Percent of Normal Spokane, Washington



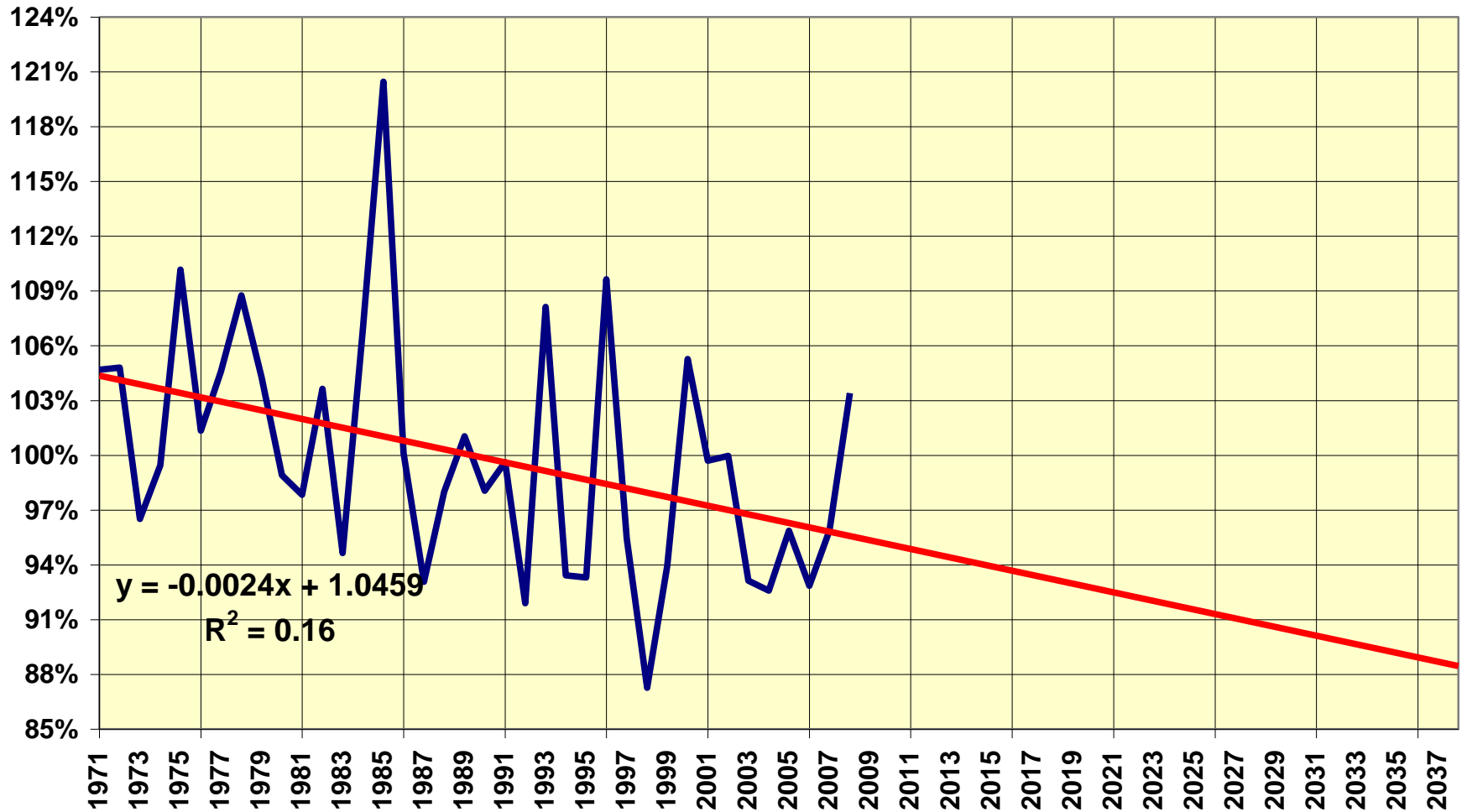
30-year Rolling Average Spokane HDD



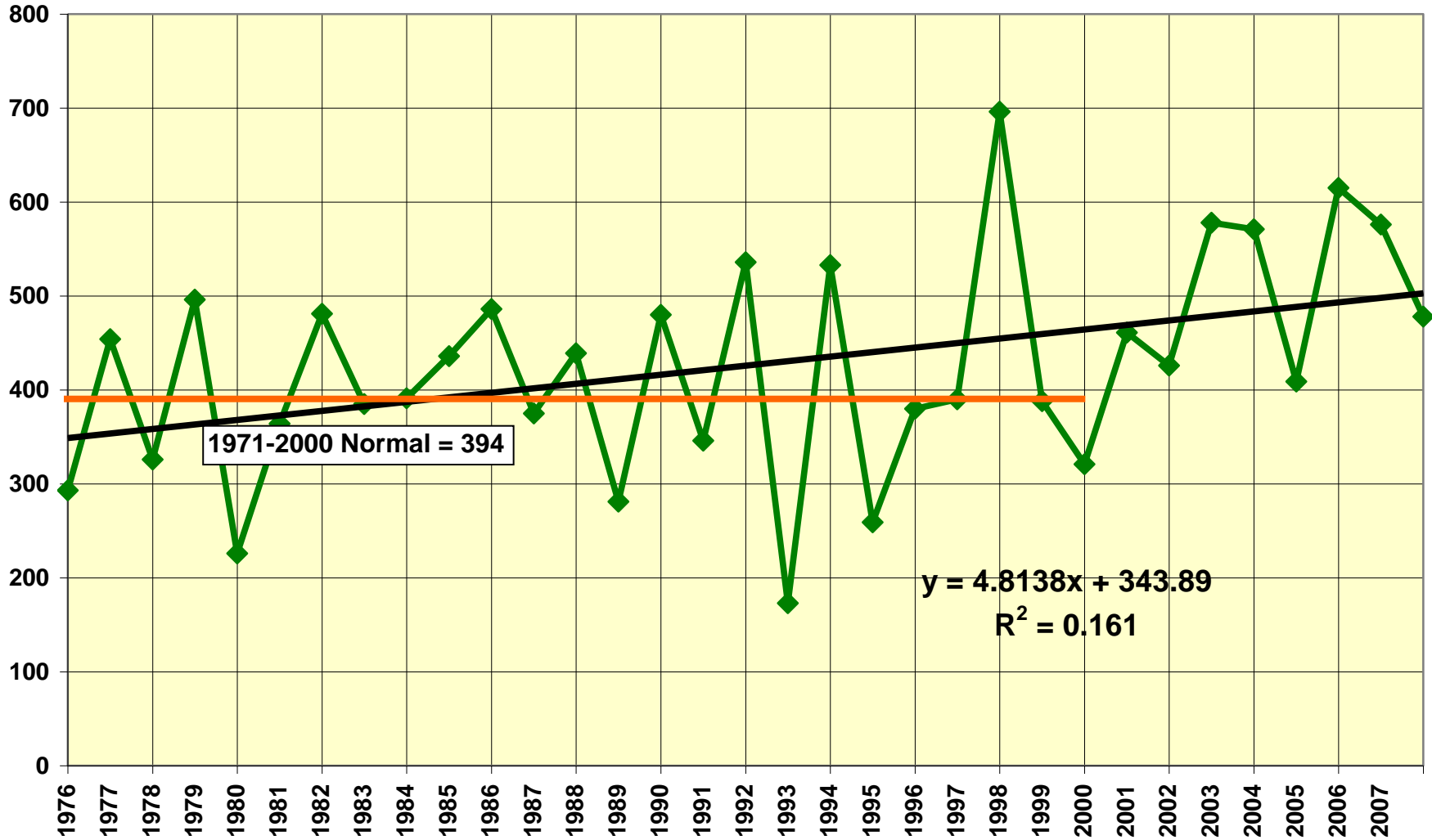
1971-2007 Spokane HDD Trend



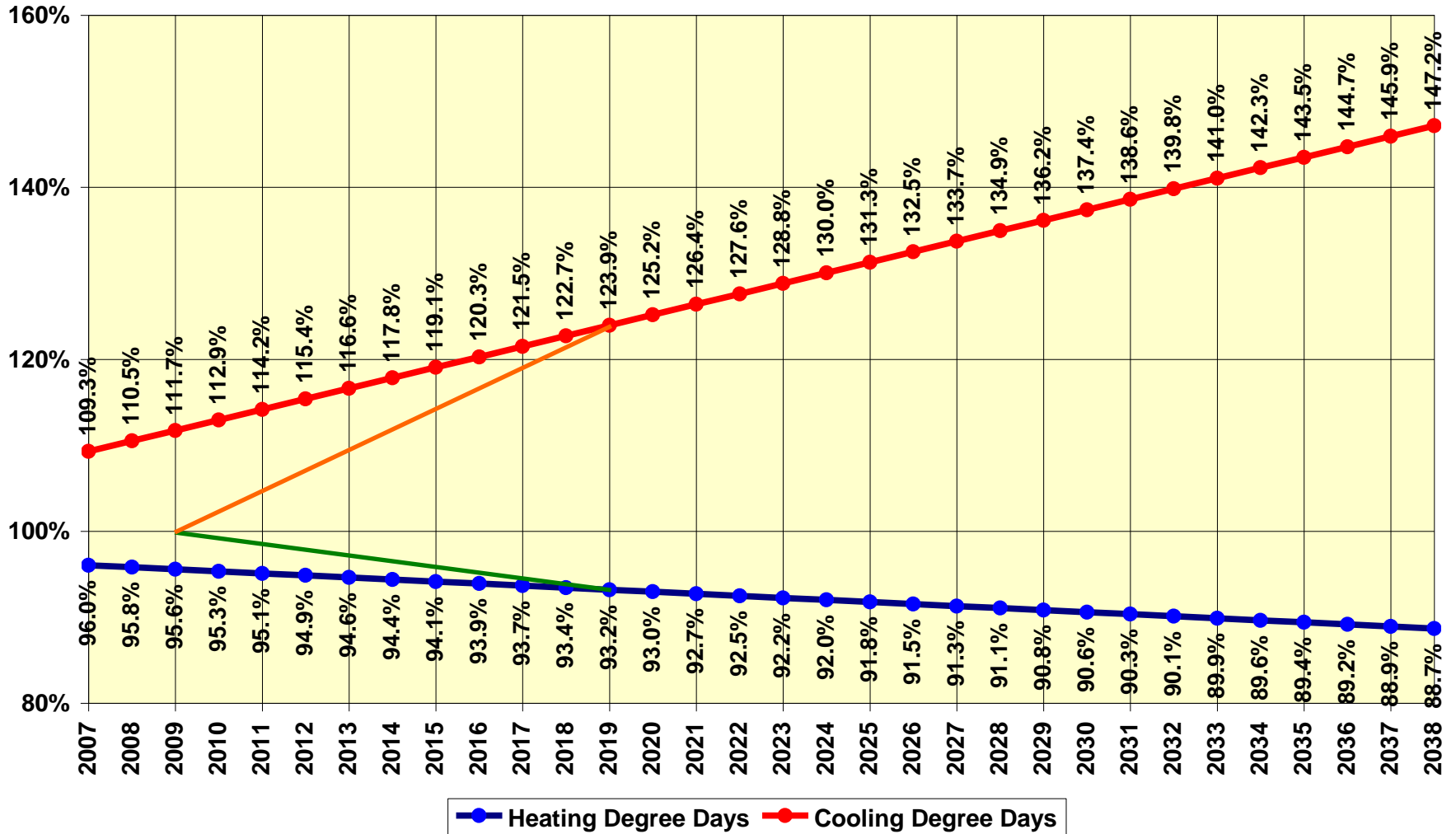
HDD Trends 1971-2007 and Projected 30 Years Spokane, Washington



1976-2007 Cooling Degree Day Trends

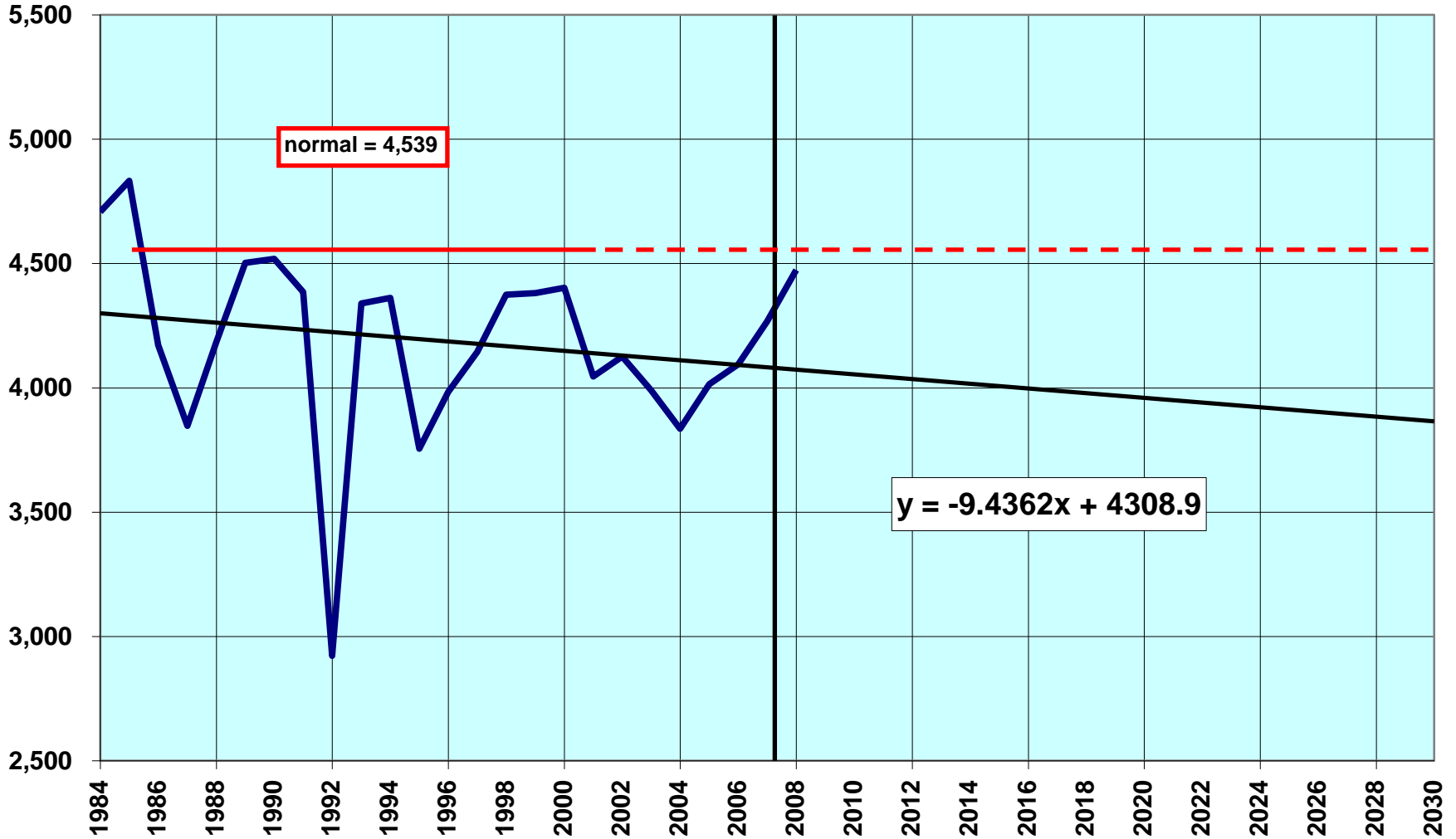


Spokane NWS Global Warming Degree Day Trends 2007-2038



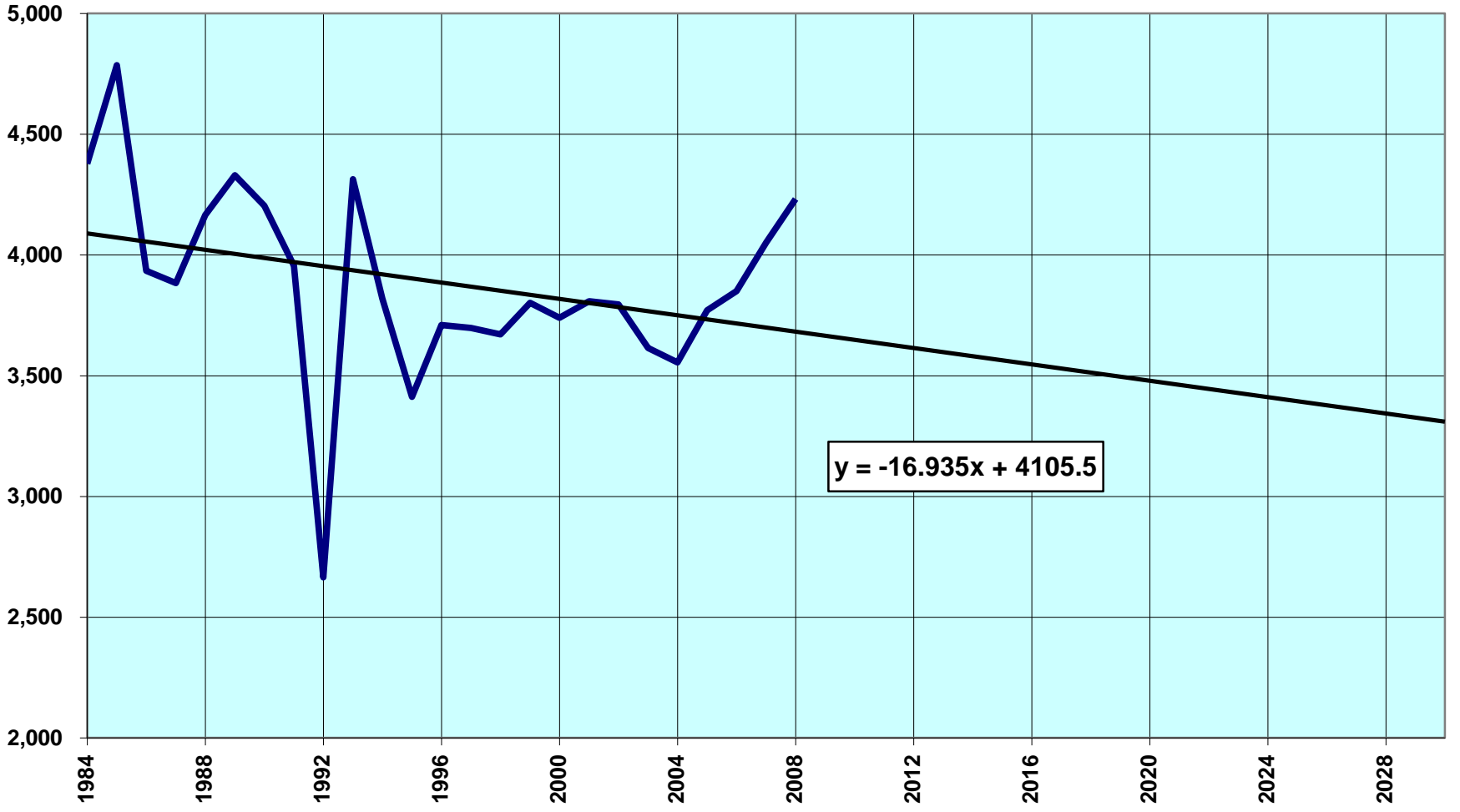
Medford Heating Degree Day Trends

excluding Summer



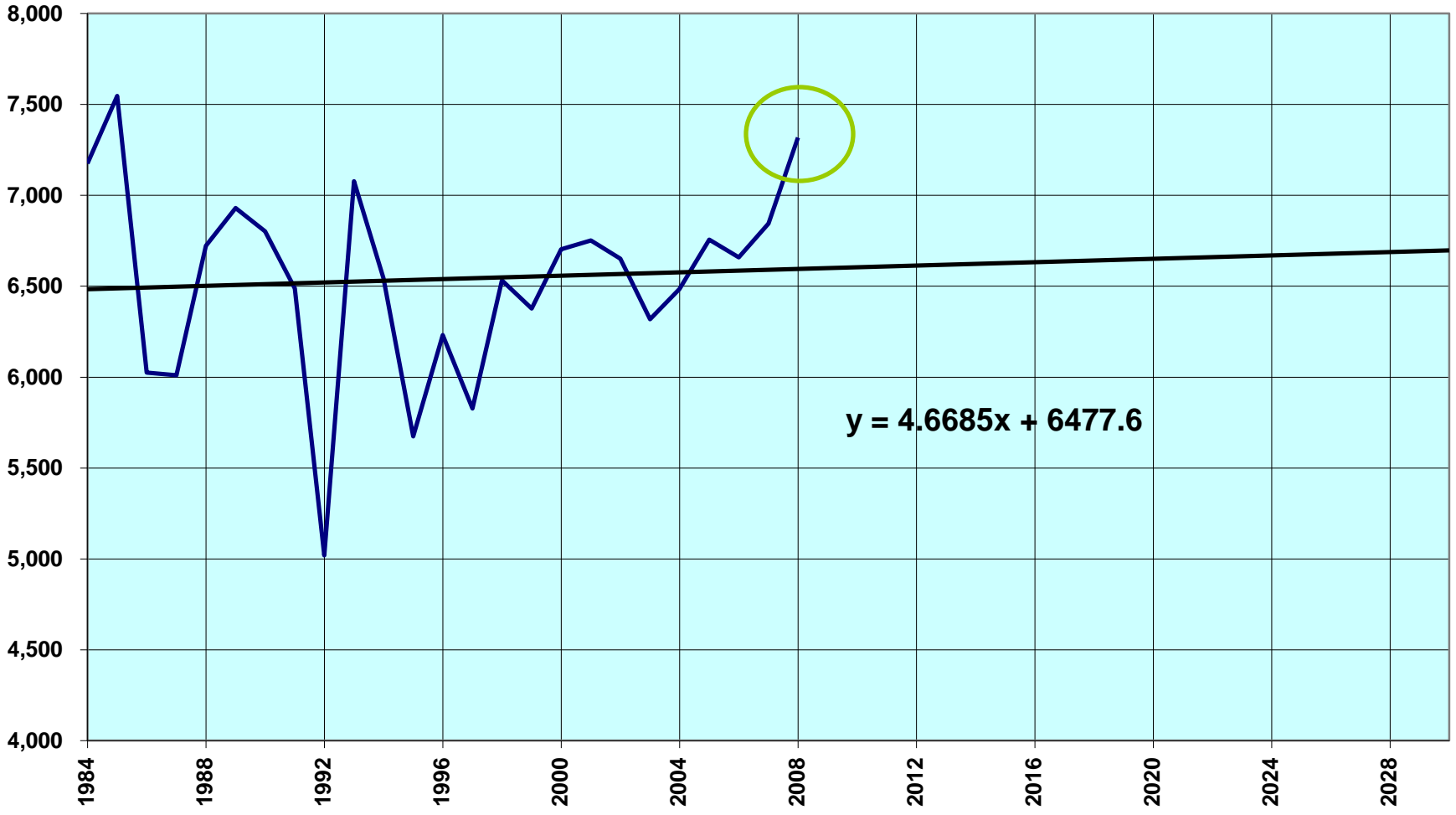
Roseburg HDD Trends

excluding Summer



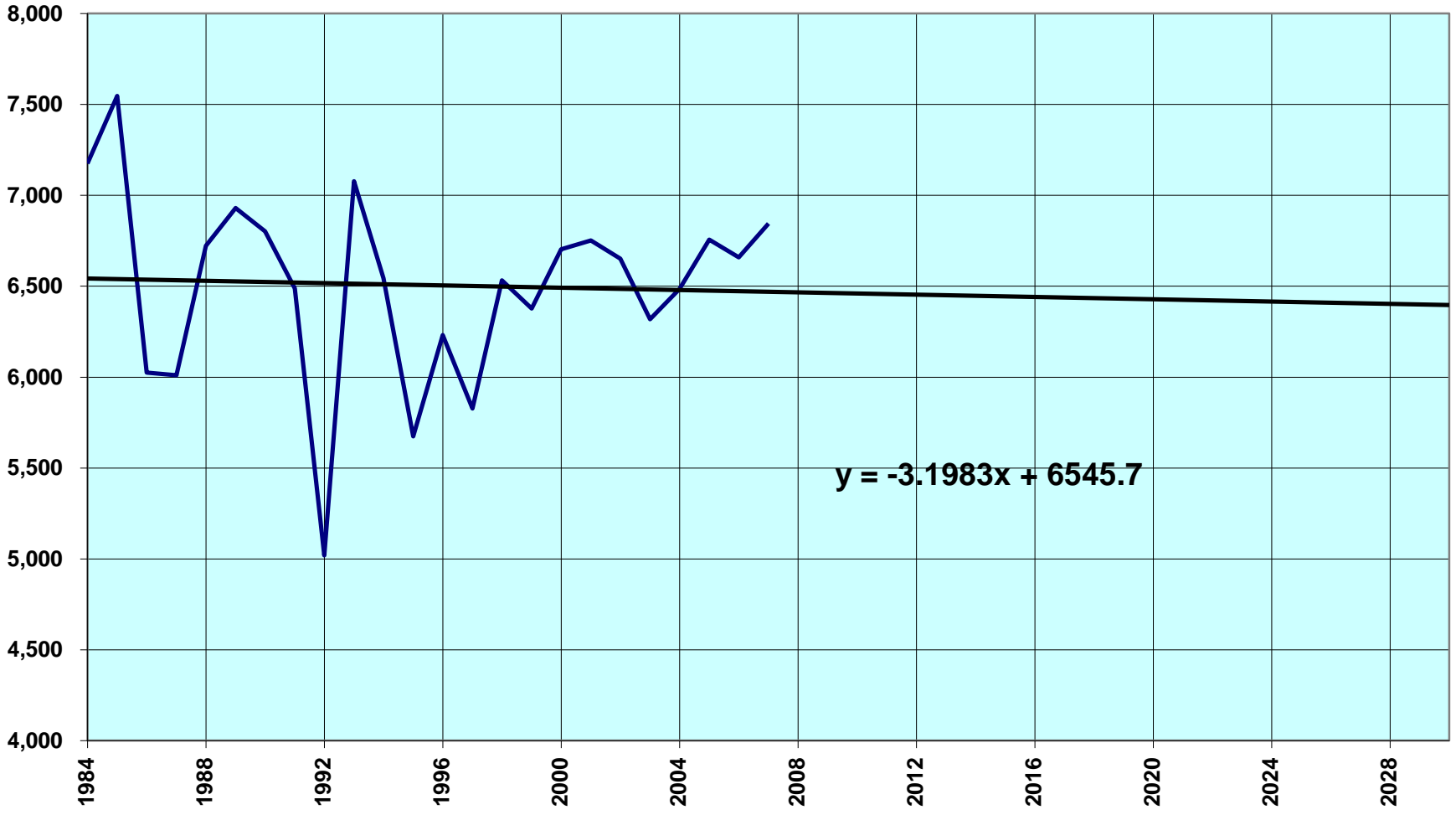
Klamath Falls HDD Trends

excluding Summer



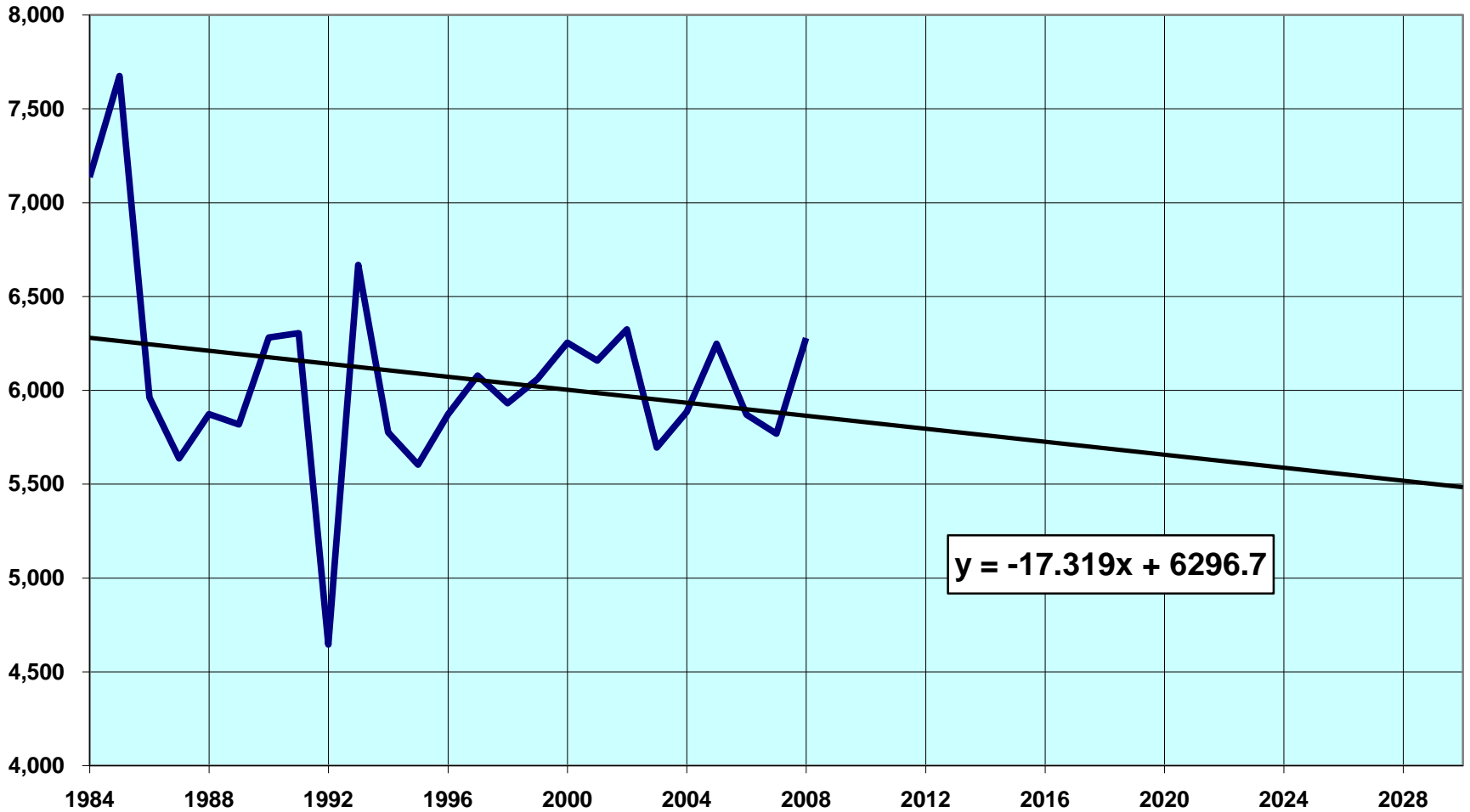
Klamath Falls HDD Trends

excluding Summer

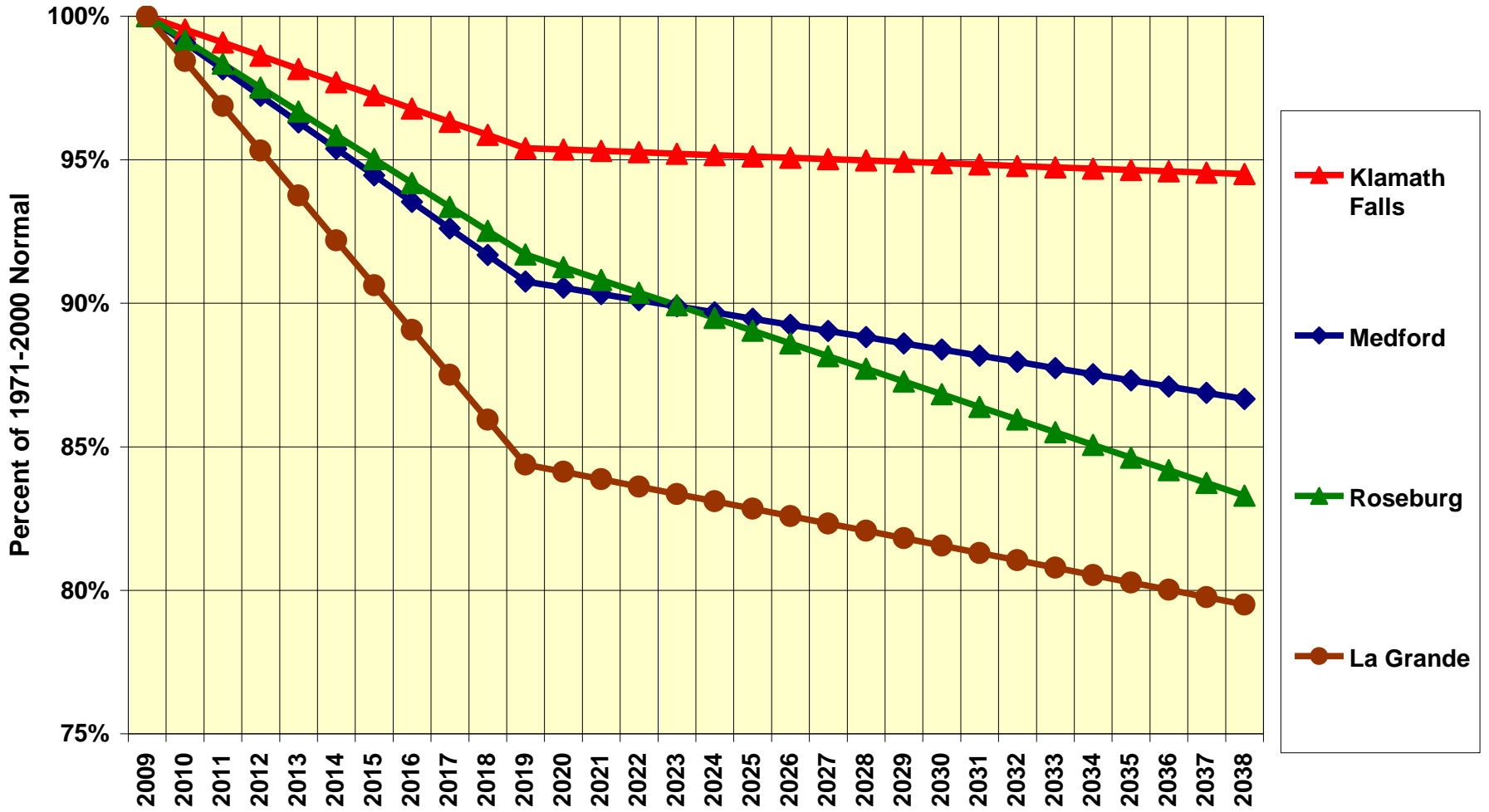


La Grande HDD Trends

excluding Summer



Oregon Degree Day Trends



APPENDIX 3.6

ALTERNATE DEMAND SCENARIOS SUMMARY OF ASSUMPTIONS

Appendix 3.6 – Sensitivities

Demand Influencing (Direct)

Summary of Assumptions

Model Sensitivities		DEMAND INFLUENCING - DIRECT								
		Reference Case	Low Cust Growth	High Cust Growth	Cold Day 20yr Weather Std	CNG Vehicles	1HDD Lower Weather Std	Northern Migration	Stagnant Growth	Global Warning
INPUT ASSUMPTIONS										
Customer Growth Rate										
Residential	WA/ID	2.2%								
Residential	Medford	2.6%								
Residential	Roseburg	3.6%								
Residential	Klamath	1.9%	50% Decrease in Cust Growth Rates	50% Increase in Cust Growth Rates						
Residential	La Grande	1.4%						???	???	
Commercial	WA/ID	2.3%								
Commercial	Medford	1.2%								
Commercial	Roseburg	2.1%								
Commercial	Klamath	1.9%								
Commercial	La Grande	0.6%								
Use per Customer		Flat				15% Growth Cumulative				
Weather										
Planning Standard		Coldest Day			Coldest 20yrs		Coldest-1HDD			???
Prices										
Price curve		Expected								
Elasticity		None								
Carbon Adder (\$/Ton)		None								
Coal to Gas Adder (\$/Dth)		None								
Cdn Imports Decline Adder										
Drilling Constraints (\$/Dth)										
First Year Unserved										
WA/ID		2027	N/A	2019	N/A	2026	2028			
Medford		2017	2025	2015	2018	2016	2017			
Klamath		2018	N/A	2015	2018	2017	2019	???	???	???
La Grande		N/A	N/A	2019	2024	2022	2025			

= Did Not full cycle model

Appendix 3.6 – Demand Scenarios

Summary of Assumptions

Scenarios	<u>Expected Case</u>	<u>Low Growth & High Prices</u>	<u>High Growth & Low Prices</u>	<u>Green Future</u>	<u>Alternate Weather Std</u>	<u>Supply Constraints</u>
INPUT ASSUMPTIONS						
Customer Growth Rate	Reference Case Cust Growth Rates	50% Decrease in Cust Growth Rates	50% Increase in Cust Growth Rates	Reference Case Cust Growth Rates	Reference Case Cust Growth Rates	Reference Case Cust Growth Rates
Use per Customer	Flat + Price Elast.	Flat + Price Elast.	Flat + Price Elast.	Flat + Price Elast.	Flat + Price Elast.	Flat + Price Elast.
Weather Planning Standard	Coldest Day	Coldest Day	Coldest Day	Coldest Day	CD 20 yrs	Coldest Day
Prices						
Price curve	Expected	High	Low	Expected	Expected	High
Elasticity	Low	High	Low	High	Low	Expected
Carbon Adder (\$/Ton)	\$5-\$67	\$5-\$67	\$5-\$67	\$37-\$140	\$5-\$67	\$5-\$67
Coal to gas adder (\$/Dth)	\$.50-\$1.00	\$.50-\$1.00	\$.50-\$1.00	\$.50-\$1.00	\$.50-\$1.00	\$.50-\$1.00
Drilling Constraints (\$/Dth)	None	\$0.30	None	\$0.30	None	\$0.30
Declining Canada Gas (\$/Dth)	None	None	None	None	None	\$.20-\$3.00
RESULTS						
First Year Unserved						
WA/ID	2023	N/A	2016	N/A	N/A	2029
Medford	2018	N/A	2015	2027	2020	2027
Klamath	2021	N/A	2016	N/A	2021	N/A
La Grande	N/A	N/A	2022	N/A	N/A	N/A

APPENDIX 3.7

ALTERNATE DEMAND SCENARIOS DESCRIPTIONS

Appendix 3.7

Avista 2009 Natural Gas IRP Demand Forecast Sensitivities and Scenarios Update

A. Definitions

Dynamic Demand Methodology – Avista’s demand forecasting approach wherein we 1) identify key demand drivers behind natural gas consumption, 2) perform sensitivity analysis on each demand driver, and 3) combine demand drivers under various scenarios to develop alternative potential outcomes for forecasted demand.

Demand Influencing Factors – Factors that directly influence the volume of natural gas consumed by our core customers.

Price Influencing Factors – Factors that, through price elasticity response, indirectly influence the volume of natural gas consumed by our core customers.

Reference Case – A baseline point of reference that captures the basic inputs for determining a demand forecast in SENDOUT which includes number of customers, use per customer, daily weather temperatures and natural gas prices.

Sensitivities – Focused analysis of a specific natural gas demand driver and its impact on forecasted demand relative to the Reference Case when underlying input assumptions are modified.

Scenarios – Combination of natural gas demand drivers that make up a demand forecast.

B. Reference Case Input Assumptions

Customer growth rates reflect roll up of underlying county level growth rate analysis utilizing Global Insights forecast data (see **Tables & Graphs**, *Figure 1* below). Initial use per customer is based on historical analysis of last three years data. Peak Day weather reflects coldest average daily temperature experienced over available weather data. Natural gas price curve derived from independent consultant forecast (Wood Mackenzie, an industry information & analysis consultant) with first five years modified to include blend of recent market prices (Nymex forward prices). The resulting real price forecast (2009\$) is included in *Figure 2*.

C. Sensitivities

The following Sensitivities were performed on identified demand drivers against the reference case for consideration in Scenario development. Note that Sensitivity assumptions reflect incremental adjustments we estimate are not captured in the underlying reference case forecast.

Low & High Customer Growth – In our low customer growth Sensitivity, annual customer growth rates under perform the reference rate of growth by 50% over our 20 year planning horizon while annual customer growth rates exceed the reference rate by 50% in our high growth Sensitivity (*Figure 1*).

Coldest Day 20yrs Weather Standard – Peak Day weather temperature reduced to coldest average daily temperature (HDDs) experienced in the most recent 20 years in each region. Note this sensitivity only affects our WA/ID, Medford and Roseburg service regions as Klamath Falls and La Grande have experienced a coldest day on record within the last 20 years.

Low & High Prices – To capture a wide band of alternative prices forecasts, we use the Northwest Power and Conservation Council’s “very low” and “very high” natural gas price forecast scenarios with first five years modified to include blend of recent market prices (Nymex forward prices) consistent with our Expected price forecast (*Figure 2*).

Expected, Low, and High Elasticity – For our expected elasticity Sensitivity, we incorporate reduced consumption in response to higher natural gas prices utilizing a price elasticity study prepared by the American Gas Association. We then consider a lower response rate to the study as well as a higher response. We also consider a wider band of response in especially volatile prices defined as annual price increases exceeding 30% (*Figure 3*).

Carbon Mitigation 1 – Utilizes carbon cost adders quantified by independent analysis from Wood Mackenzie. They identify both an adder reflecting carbon allowances as well as an adder to capture the effect of increased natural gas demand as more gas turbines come online to replace coal plants and back up wind generation. The allowance adder escalates from \$5/ton in 2012 to \$67/ton by 2030 while the increased demand adder climbs from \$.50/mmbtu to \$1.00 over our planning horizon (*Figure 4*).

Carbon Mitigation 2 – Recognizing significant uncertainty exists regarding the amount, scope, and timing of carbon regulation, we utilize a second alternate range of cost adders to develop a high carbon cost case. We escalate an allowance adder from \$37/ton in 2012 to \$140/ton by 2030 as forecasted in a Pacific Northwest electric utility’s integrated resource plan. The increased demand adder is consistent with our **Carbon Mitigation 1** case.

Canadian Imports Decline – Beginning in 2015, we apply an estimate of \$.20/mmbtu *incremental* adder each year to regional natural gas prices to capture upward price

pressure because of decreased Canadian imports more severe than generally anticipated. The cumulative cost added by the end of our planning horizon is \$3.00/mmbtu. After discussion with the TAC, we dropped further analysis of our initial most severe imports decline case of \$.50/mmbtu incremental each year as we concluded this type of price increase would support several supply responses (including frontier gas pipelines) which would curtail such a long term price increase.

Drilling Constraints – This price adder estimates the impact from increased costs to comply with potential increased environmental regulations. Significant uncertainty exists regarding potential costs, impacts on production and timing of more stringent regulation. Also, it is very difficult to ascertain to what degree these types of costs are already captured in forward market prices and various price forecasts. In light of this challenge, we have assumed a \$.30/mmbtu adder in each year from 2012 to 2030 for this Sensitivity recognizing the wide range of actual outcomes.

Following are other Sensitivities we evaluated:

Compressed Natural Gas (CNG) Vehicles – CNG vehicles assumed to produce a 15% cumulative incremental demand over our 20 year planning horizon. Our assumption utilized market consumption estimates from an independent analysis on CNG vehicle viability. The analysis indicates significant challenges exist to widespread adoption but did provide a scenario for significant market penetration (10% in 10 years). Although we concur significant system demand from CNG vehicle purchases in our service territories is unlikely at this time, we were motivated to run this sensitivity to learn how our system would respond to an emerging application that would grow significant new natural gas demand. This sensitivity, although instructive on understanding underlying incremental change in demand, is not currently used in any Scenario.

1HDD Lower Weather Standard – Peak Day weather temperature is reduced by 1 heating degree (Fahrenheit) in each service region. This sensitivity, although instructive on understanding underlying incremental change in demand, is not used in any Scenario.

Northern Migration – Economic and water issues in south western states spur increased migration to Pacific Northwest states. After discussion, it was determined that the **High Customer Growth** sensitivity would likely encompass this sensitivity's demand impacts therefore we did not pursue further analysis.

Stagnant Growth – Current economic conditions spur much slower and possibly negative customer growth rates for an extended period with a return to trend rates at some point. It was noted that we have not experienced widespread negative growth in our actual recent data. Our significant residential customer base has historically been very stable and not prone to extreme boom or bust cycles in four of our five service regions. Medford/Roseburg would appear most vulnerable to a severe impact though a sustained negative growth trend appears remote. Also noted were the very low long term growth

rates in our **Low Customer Growth** sensitivity. After discussion, it was determined that the **Low Customer Growth** sensitivity would likely encompass this sensitivity's demand impacts therefore we did not pursue further analysis.

Global Warming – Adjust the regional peak day weather temperatures lower to account for global warming. Although we have developed analysis supporting adjustment to historical average daily temperatures for our forecasted average daily temperatures, we searched unsuccessfully for information that would provide a basis for adjusting peak day temperatures. Our data does suggest more volatile temperatures recently but is inconclusive on a trend of lower (or higher) peak temperatures. One TAC member provided information from a study that could not conclude global warming influenced peak day temperatures. Another TAC member offered reliable assessments of global warming applied to specific service regions would be challenging given local weather dynamics and conjectured overall global warming weather dynamics might produce possible peak day cooling trends for regions situated in transition areas. After discussion and feedback, we determined that a reliable basis for global warming temperature adjustment is too uncertain. We also believe the **Coldest Day 20yrs Weather Standard** sensitivity may encompass many possible demand impacts for this sensitivity therefore we did not pursue further analysis.

The following two DSM Sensitivities were also conducted:

DSM Accelerated – Federal stimulus funded residential audit programs and tax credits in combination with our program rebates induce increased conservation in 2010 beyond what is assumed in the IRP base case.

DSM Delayed – A combination of reduced customer disposable income from the economic recession and a freeze in customer incentives due to Avista budget constraints result in a reduction in energy-efficiency measures from what is assumed in the IRP base case.

D. Scenarios

After identifying the above demand drivers and analyzing the various Sensitivities, we have developed the following demand forecast Scenarios:

Expected Case – This Scenario we believe represents the most likely demand forecast modeled. We assume service territory customer growth rates consistent with the reference case, a weather standard of coldest day on record in each service territory, our middle range natural gas price forecast (Consultant #1), low price elasticity, and the CO2 cost adders from our **Carbon Mitigation 1 (CM1)** Sensitivity. The Scenario does not include incremental cost adders for declining Canadian imports or drilling restrictions beyond what is incorporated in the selected price forecast.

Low Growth & High Prices – This Scenario models an extended period of slow economic growth in part resulting from high energy prices. We assume customer growth rates 50% lower than the reference case, coldest day on record weather standard, our high natural gas price forecast, high price elasticity, and CO2 adders from our **Carbon Mitigation 1 Sensitivity (CM1)**. The Scenario also includes an incremental cost adder for drilling restrictions.

High Growth & Low Prices – This Scenario models a rapid return to robust growth in part spurred on by low energy prices. We assume customer growth rates 50% higher than the reference case, coldest day on record weather standard, our low natural gas price forecast, low price elasticity, and CO2 adders from **CM1**. The Scenario does not include incremental cost adders for declining Canadian imports or drilling restrictions beyond what is incorporated in the selected price forecast.

Green Future – This Scenario models a moderate return to economic growth consistent with our Expected Case while striving for environmentally friendly objectives. We assume service territory customer growth rates consistent with the reference case, a weather standard of coldest day on record in each service territory, and our middle range natural gas price forecast but with price adjustments including the CO2 cost adders from **CM2**, and drilling restrictions. We also assume our high elasticity response to rising prices.

Coldest Day 20Yr Weather Standard – This Scenario models all the same assumptions as the **Expected Case** Scenario except for the change in the weather planning standard from coldest day on record to coldest day in 20 years for each service territory. As noted in the Sensitivity analysis, this change does not affect the Klamath Falls and La Grande service territories which have each experienced their coldest day on record within the last 20 years.

Supply Constraints – This Scenario models an extended period of slow economic growth in part resulting from high energy prices. We assume customer growth rates 50% lower than the reference case, coldest day on record weather standard, our high natural gas price forecast, medium price elasticity, and CO2 adders from our **Carbon Mitigation 1 Sensitivity (CM1)**. The Scenario also includes incremental cost adders for declining Canadian imports and drilling restrictions.

E. Tables & Graphs

Figure 1 – Customer Growth Rates

Customer Growth Rates		Reference Case	Low Cust Growth	High Cust Growth
Residential	WA/ID	2.2%		
Residential	Medford	2.6%		
Residential	Roseburg	3.6%		
Residential	Klamath	1.9%	50% Decrease in Cust Growth Rates	50% Increase in Cust Growth Rates
Residential	La Grande	1.4%		
Commercial	WA/ID	2.3%		
Commercial	Medford	1.2%		
Commercial	Roseburg	2.1%		
Commercial	Klamath	1.9%		
Commercial	La Grande	0.6%		

Figure 2 – Henry Hub Natural Gas Price Forecasts (2009\$)

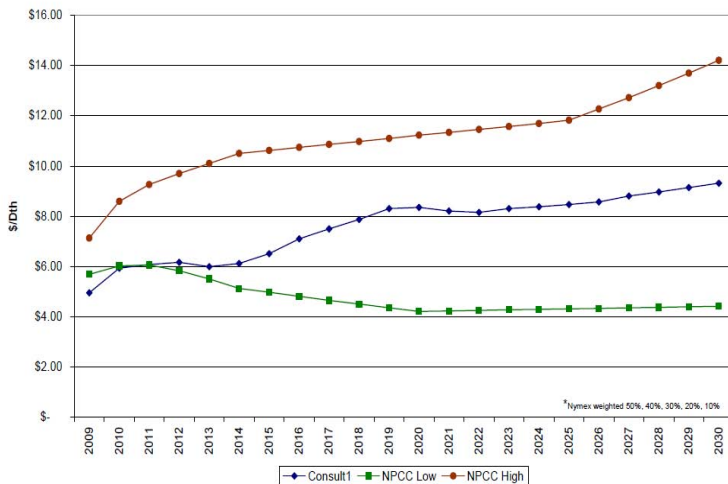
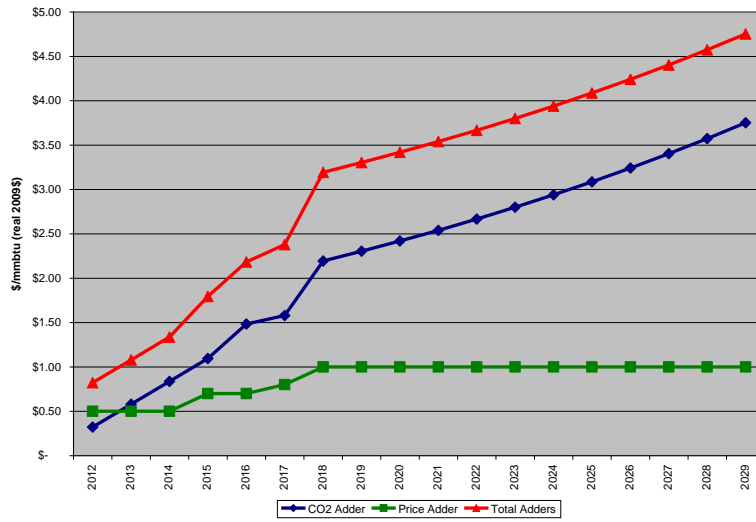


Figure 3 – Price Elasticity Factors

	Real Price annual increase within 30%	Real Price annual increase exceeds 30%
High	Negative .20	Negative .30
Expected	Negative .13	Negative .13
Low	No response	Negative .10

Figure 4 –Carbon Cost Adders (Carbon Mitigation 1)



APPENDIX 3.8

ANNUAL AND PEAK DAY DEMAND DATA

Appendix 3.8 - Annual Demand, Average Day Demand and Peak Day Demand (Net of DSM)

Case	Gas Year	Annual Demand Klamath (MDth)	Daily Demand Klamath (MDth/day)	Peak Day Klamath (MDth/day)	Annual Demand La Grande (MDth)	Daily Demand La Grande (MDth/day)	Peak Day La Grande (MDth/day)	Annual Demand Medford/Roseburg (MDth)	Daily Demand Medford/Roseburg (MDth/day)	Peak Day Medford/Roseburg (MDth/day)
High	2009-2010	1,340.72	3.673	12.577	770.71	2.112	7.882	6,720.22	18.412	70.11
High	2010-2011	1,362.56	3.733	12.668	756.85	2.074	7.843	6,740.68	18.468	70.34
High	2011-2012	1,412.17	3.858	13.097	760.50	2.078	7.989	6,931.09	18.937	72.20
High	2012-2013	1,456.60	3.991	13.610	763.86	2.093	8.135	7,164.78	19.630	75.56
High	2013-2014	1,488.65	4.078	14.156	766.61	2.100	8.260	7,412.83	20.309	78.80
High	2014-2015	1,523.77	4.175	14.535	766.98	2.101	8.383	7,667.70	21.007	82.16
High	2015-2016	1,560.02	4.262	14.852	769.78	2.103	8.478	7,918.70	21.636	85.40
High	2016-2017	1,593.14	4.365	15.232	770.41	2.111	8.600	8,146.22	22.318	88.84
High	2017-2018	1,627.06	4.458	15.610	770.44	2.111	8.726	8,352.58	22.884	92.14
High	2018-2019	1,658.91	4.545	15.991	770.55	2.111	8.847	8,538.84	23.394	95.27
High	2019-2020	1,695.62	4.633	16.369	777.50	2.124	8.973	8,773.99	23.973	98.26
High	2020-2021	1,730.59	4.741	16.750	784.74	2.150	9.095	9,000.59	24.659	101.30
High	2021-2022	1,768.46	4.845	17.132	793.60	2.174	9.217	9,218.80	25.257	104.32
High	2022-2023	1,807.17	4.951	17.514	802.96	2.200	9.345	9,461.76	25.923	107.35
High	2023-2024	1,848.58	5.051	17.906	812.32	2.219	9.473	9,710.37	26.531	110.41
High	2024-2025	1,886.39	5.168	18.297	820.97	2.249	9.604	9,928.93	27.203	113.50
High	2025-2026	1,925.47	5.275	18.690	829.89	2.274	9.733	10,147.89	27.802	116.43
High	2026-2027	1,965.33	5.384	19.081	839.46	2.300	9.865	10,362.38	28.390	119.25
High	2027-2028	2,005.57	5.480	19.475	850.19	2.323	9.993	10,590.38	28.935	122.07
High	2028-2029	2,042.90	5.597	19.868	856.91	2.348	10.126	10,784.57	29.547	124.89

Case	Gas Year	Annual Demand Oregon (MDth)	Daily Demand Oregon (MDth/day)	Peak Day Demand Oregon (MDth/day)	Annual Demand WA/ID (MDth)	Daily Demand WA/ID (MDth/day)	Peak Day WA/ID (MDth/day)	Annual Demand Total System (MDth)	Daily Demand Total System (MDth/day)	Peak Day Demand Total System (MDth/day)
High	2009-2010	8,831.658	24.196	90.573	26,676.459	73.086	279.384	35,508.117	97.283	369.957
High	2010-2011	8,860.098	24.274	90.855	26,733.275	73.242	279.897	35,593.373	97.516	370.752
High	2011-2012	9,103.768	24.874	93.286	27,127.241	74.118	287.303	36,231.009	98.992	380.589
High	2012-2013	9,385.241	25.713	97.310	27,650.283	75.754	294.956	37,035.525	101.467	392.265
High	2013-2014	9,668.089	26.488	101.221	28,293.395	77.516	302.748	37,961.483	104.004	403.969
High	2014-2015	9,958.455	27.283	105.081	28,962.324	79.349	310.536	38,920.778	106.632	415.616
High	2015-2016	10,248.502	28.001	108.731	29,516.994	80.648	316.840	39,765.497	108.649	425.571
High	2016-2017	10,509.774	28.794	112.673	30,027.442	82.267	324.559	40,537.216	111.061	437.231
High	2017-2018	10,750.075	29.452	116.477	30,622.956	83.899	332.552	41,373.031	113.351	449.029
High	2018-2019	10,968.303	30.050	120.108	31,253.974	85.627	340.559	42,222.276	115.677	460.667
High	2019-2020	11,247.113	30.730	123.605	31,976.453	87.367	348.961	43,223.567	118.097	472.566
High	2020-2021	11,515.923	31.550	127.147	32,697.751	89.583	357.585	44,213.675	121.133	484.732
High	2021-2022	11,780.858	32.276	130.671	33,441.452	91.620	366.311	45,222.310	123.897	496.982
High	2022-2023	12,071.896	33.074	134.206	34,206.603	93.717	375.171	46,278.499	126.790	509.377
High	2023-2024	12,371.274	33.801	137.784	35,016.400	95.673	384.021	47,387.674	129.475	521.805
High	2024-2025	12,636.299	34.620	141.397	35,754.261	97.957	393.081	48,390.560	132.577	534.478
High	2025-2026	12,903.252	35.351	144.854	36,578.506	100.215	402.133	49,481.758	135.566	546.987
High	2026-2027	13,167.164	36.074	148.198	37,341.572	102.306	411.069	50,508.736	138.380	559.267
High	2027-2028	13,446.137	36.738	151.536	38,196.855	104.363	420.723	51,642.992	141.101	572.258
High	2028-2029	13,684.391	37.491	154.883	38,985.923	106.811	430.079	52,670.314	144.302	584.962

Appendix 3.8 - Annual Demand, Average Day Demand and Peak Day Demand (Net of DSM)

Case	Gas Year	Annual Demand Klamath (MDth)	Daily Demand Klamath (MDth/day)	Peak Day Klamath (MDth/day)	Annual Demand La Grande (MDth)	Daily Demand La Grande (MDth/day)	Peak Day La Grande (MDth/day)	Annual Demand Medford/Roseburg (MDth)	Daily Demand Medford/Roseburg (MDth/day)	Peak Day Medford/Roseburg (MDth/day)
Low	2009-2010	1,337.12	3.663	12.583	773.82	2.120	7.862	6,701.22	18.360	70.10
Low	2010-2011	1,345.15	3.685	12.641	763.00	2.090	7.870	6,686.26	18.319	70.38
Low	2011-2012	1,314.43	3.591	12.224	732.83	2.002	7.569	6,487.96	17.727	67.93
Low	2012-2013	1,272.33	3.486	11.775	699.75	1.917	7.235	6,295.55	17.248	65.62
Low	2013-2014	1,266.76	3.471	11.695	690.64	1.892	7.226	6,307.21	17.280	65.29
Low	2014-2015	1,272.43	3.486	11.781	683.19	1.872	7.249	6,347.52	17.390	66.17
Low	2015-2016	1,278.76	3.494	11.729	677.97	1.852	7.203	6,386.87	17.450	66.53
Low	2016-2017	1,282.85	3.515	11.784	671.00	1.838	7.212	6,415.18	17.576	67.31
Low	2017-2018	1,287.63	3.528	11.853	663.81	1.819	7.226	6,436.69	17.635	68.13
Low	2018-2019	1,291.00	3.537	11.902	656.79	1.799	7.232	6,450.39	17.672	68.79
Low	2019-2020	1,298.30	3.547	11.974	655.74	1.792	7.247	6,502.85	17.767	69.51
Low	2020-2021	1,304.16	3.573	12.046	654.74	1.794	7.264	6,548.36	17.941	70.24
Low	2021-2022	1,312.31	3.595	12.121	655.32	1.795	7.280	6,590.31	18.056	70.98
Low	2022-2023	1,321.46	3.620	12.204	656.35	1.798	7.302	6,650.98	18.222	71.75
Low	2023-2024	1,332.74	3.641	12.288	657.49	1.796	7.323	6,716.34	18.351	72.53
Low	2024-2025	1,341.30	3.675	12.368	657.99	1.803	7.346	6,765.18	18.535	73.30
Low	2025-2026	1,351.12	3.702	12.453	658.96	1.805	7.367	6,818.80	18.682	74.04
Low	2026-2027	1,361.43	3.730	12.527	660.31	1.809	7.386	6,871.65	18.826	74.70
Low	2027-2028	1,372.00	3.749	12.598	662.70	1.811	7.401	6,933.82	18.945	75.34
Low	2028-2029	1,380.59	3.782	12.670	661.89	1.813	7.419	6,972.19	19.102	75.98

Case	Gas Year	Annual Demand Oregon (MDth)	Daily Demand Oregon (MDth/day)	Peak Day Demand Oregon (MDth/day)	Annual Demand WA/ID (MDth)	Daily Demand WA/ID (MDth/day)	Peak Day WA/ID (MDth/day)	Annual Demand Total System (MDth)	Daily Demand Total System (MDth/day)	Peak Day Demand Total System (MDth/day)
Low	2009-2010	8,812.164	24.143	90.540	26,243.358	71.900	274.715	35,055.522	96.043	365.255
Low	2010-2011	8,794.406	24.094	90.889	26,102.370	71.513	274.092	34,896.775	95.608	364.981
Low	2011-2012	8,535.216	23.320	87.721	25,009.310	68.331	262.543	33,544.526	91.652	350.264
Low	2012-2013	8,267.626	22.651	84.635	23,916.075	65.523	249.615	32,183.701	88.175	334.250
Low	2013-2014	8,264.603	22.643	84.207	23,748.996	65.066	248.402	32,013.599	87.708	332.608
Low	2014-2015	8,303.142	22.748	85.203	23,718.724	64.983	248.483	32,021.865	87.731	333.685
Low	2015-2016	8,343.596	22.797	85.462	23,602.714	64.488	245.559	31,946.310	87.285	331.021
Low	2016-2017	8,369.023	22.929	86.310	23,459.001	64.271	244.962	31,828.023	87.200	331.272
Low	2017-2018	8,388.128	22.981	87.207	23,381.299	64.058	244.815	31,769.427	87.040	332.021
Low	2018-2019	8,398.186	23.009	87.923	23,329.666	63.917	244.158	31,727.851	86.926	332.080
Low	2019-2020	8,456.890	23.106	88.732	23,341.516	63.775	244.151	31,798.406	86.881	332.883
Low	2020-2021	8,507.259	23.308	89.551	23,347.980	63.967	244.216	31,855.238	87.275	333.768
Low	2021-2022	8,557.939	23.446	90.385	23,371.023	64.030	244.378	31,928.962	87.477	334.764
Low	2022-2023	8,628.789	23.641	91.257	23,406.708	64.128	244.685	32,035.498	87.768	335.942
Low	2023-2024	8,706.566	23.788	92.136	23,475.594	64.141	244.863	32,182.160	87.929	336.999
Low	2024-2025	8,764.479	24.012	93.017	23,492.075	64.362	245.064	32,256.554	88.374	338.081
Low	2025-2026	8,828.883	24.189	93.858	23,567.569	64.569	245.288	32,396.452	88.757	339.146
Low	2026-2027	8,893.386	24.365	94.608	23,610.600	64.687	245.235	32,503.986	89.052	339.843
Low	2027-2028	8,968.526	24.504	95.334	23,735.620	64.851	245.845	32,704.146	89.356	341.179
Low	2028-2029	9,014.674	24.698	96.070	23,821.781	65.265	246.380	32,836.455	89.963	342.450

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Case	Gas Year	Annual Demand Klamath (MDth)	Daily Demand Klamath (MDth/day)	Peak Day Klamath (MDth/day)	Annual Demand La Grande (MDth)	Daily Demand La Grande (MDth/day)	Peak Day La Grande (MDth/day)	Annual Demand Medford/Roseburg (MDth)	Daily Demand Medford/Roseburg (MDth/day)	Peak Day Medford/Roseburg (MDth/day)
Coldest in 20	2009-2010	1,352.83	3.706	12.714	782.49	2.144	7.980	6,705.62	18.372	67.86
Coldest in 20	2010-2011	1,355.22	3.713	12.632	762.62	2.089	7.865	6,647.39	18.212	67.27
Coldest in 20	2011-2012	1,385.92	3.787	12.901	761.53	2.081	7.953	6,742.72	18.423	68.40
Coldest in 20	2012-2013	1,410.62	3.865	13.230	759.82	2.082	8.045	6,872.22	18.828	70.51
Coldest in 20	2013-2014	1,426.96	3.909	13.581	758.04	2.077	8.121	7,016.72	19.224	72.53
Coldest in 20	2014-2015	1,447.85	3.967	13.822	754.18	2.066	8.196	7,164.50	19.629	74.64
Coldest in 20	2015-2016	1,449.60	3.961	13.802	742.36	2.028	8.116	7,215.42	19.714	75.43
Coldest in 20	2016-2017	1,468.46	4.023	14.038	738.99	2.025	8.189	7,341.97	20.115	77.55
Coldest in 20	2017-2018	1,487.99	4.077	14.274	735.26	2.014	8.263	7,454.14	20.422	79.58
Coldest in 20	2018-2019	1,505.78	4.125	14.509	731.58	2.004	8.336	7,552.67	20.692	81.51
Coldest in 20	2019-2020	1,527.98	4.175	14.746	734.54	2.007	8.410	7,695.62	21.026	83.35
Coldest in 20	2020-2021	1,548.51	4.242	14.981	737.71	2.021	8.484	7,830.69	21.454	85.22
Coldest in 20	2021-2022	1,571.74	4.306	15.218	742.47	2.034	8.558	7,959.91	21.808	87.07
Coldest in 20	2022-2023	1,595.92	4.372	15.458	747.77	2.049	8.634	8,111.05	22.222	88.94
Coldest in 20	2023-2024	1,622.47	4.433	15.705	753.01	2.057	8.713	8,267.14	22.588	90.84
Coldest in 20	2024-2025	1,645.98	4.510	15.953	757.65	2.076	8.793	8,400.13	23.014	92.76
Coldest in 20	2025-2026	1,670.60	4.577	16.202	762.63	2.089	8.874	8,535.62	23.385	94.57
Coldest in 20	2026-2027	1,695.99	4.647	16.450	768.16	2.105	8.954	8,668.45	23.749	96.32
Coldest in 20	2027-2028	1,721.59	4.704	16.699	774.78	2.117	9.034	8,813.14	24.080	98.06
Coldest in 20	2028-2029	1,744.75	4.780	16.948	777.78	2.131	9.114	8,928.54	24.462	99.81

Case	Gas Year	Annual Demand Oregon (MDth)	Daily Demand Oregon (MDth/day)	Peak Day Demand Oregon (MDth/day)	Annual Demand WA/ID (MDth)	Daily Demand WA/ID (MDth/day)	Peak Day WA/ID (MDth/day)	Annual Demand Total System (MDth)	Daily Demand Total System (MDth/day)	Peak Day Demand Total System (MDth/day)
Coldest in 20	2009-2010	8,840.943	24.222	88.557	26,134.146	71.600	252.675	34,975.090	95.822	341.233
Coldest in 20	2010-2011	8,765.222	24.014	87.771	25,834.207	70.779	249.428	34,599.430	94.793	337.199
Coldest in 20	2011-2012	8,890.171	24.290	89.251	25,908.593	70.789	252.868	34,798.763	95.079	342.119
Coldest in 20	2012-2013	9,042.658	24.774	91.781	26,089.316	71.478	256.456	35,131.974	96.252	348.237
Coldest in 20	2013-2014	9,201.719	25.210	94.236	26,382.370	72.280	260.127	35,584.089	97.491	354.363
Coldest in 20	2014-2015	9,366.538	25.662	96.656	26,700.351	73.152	263.800	36,066.888	98.813	360.456
Coldest in 20	2015-2016	9,407.379	25.703	97.348	26,513.151	72.440	262.175	35,920.530	98.144	359.523
Coldest in 20	2016-2017	9,549.419	26.163	99.778	26,687.201	73.116	265.710	36,236.620	99.278	365.489
Coldest in 20	2017-2018	9,677.386	26.513	102.120	26,936.822	73.800	269.412	36,614.208	100.313	371.532
Coldest in 20	2018-2019	9,790.033	26.822	104.355	27,217.476	74.568	273.119	37,007.509	101.390	377.474
Coldest in 20	2019-2020	9,958.131	27.208	106.505	27,574.517	75.340	277.060	37,532.648	102.548	383.565
Coldest in 20	2020-2021	10,116.912	27.718	108.682	27,929.417	76.519	281.155	38,046.329	104.237	389.837
Coldest in 20	2021-2022	10,274.121	28.148	110.851	28,303.189	77.543	285.316	38,577.310	105.691	396.167
Coldest in 20	2022-2023	10,454.739	28.643	113.033	28,693.670	78.613	289.555	39,148.409	107.256	402.588
Coldest in 20	2023-2024	10,642.620	29.078	115.255	29,123.372	79.572	293.788	39,765.991	108.650	409.043
Coldest in 20	2024-2025	10,803.760	29.599	117.502	29,491.036	80.797	298.156	40,294.796	110.397	415.659
Coldest in 20	2025-2026	10,968.847	30.052	119.649	29,931.132	82.003	302.521	40,899.979	112.055	422.170
Coldest in 20	2026-2027	11,132.598	30.500	121.722	30,324.657	83.081	306.816	41,457.255	113.582	428.538
Coldest in 20	2027-2028	11,309.498	30.900	123.795	30,804.986	84.167	311.768	42,114.484	115.067	435.563
Coldest in 20	2028-2029	11,451.065	31.373	125.869	31,234.040	85.573	316.548	42,685.105	116.945	442.417

Appendix 3.8 - Annual Demand, Average Day Demand and Peak Day Demand (Net of DSM)

Case	Gas Year	Annual Demand Klamath (MDth)	Daily Demand Klamath (MDth/day)	Peak Day Klamath (MDth/day)	Annual Demand La Grande (MDth)	Daily Demand La Grande (MDth/day)	Peak Day La Grande (MDth/day)	Annual Demand Medford/Roseburg (MDth)	Daily Demand Medford/Roseburg (MDth/day)	Peak Day Medford/Roseburg (MDth/day)
Supply Constrained	2009-2010	1,352.83	3.706	12.714	782.49	2.144	7.980	6,740.51	18.467	70.44
Supply Constrained	2010-2011	1,278.99	3.504	11.685	718.19	1.968	7.265	6,321.62	17.320	64.58
Supply Constrained	2011-2012	1,293.12	3.533	11.747	708.91	1.937	7.231	6,345.09	17.336	64.63
Supply Constrained	2012-2013	1,304.49	3.574	11.900	700.97	1.920	7.223	6,413.14	17.570	65.80
Supply Constrained	2013-2014	1,308.74	3.586	12.074	693.53	1.900	7.205	6,497.34	17.801	66.90
Supply Constrained	2014-2015	1,327.55	3.637	12.284	690.16	1.891	7.269	6,634.70	18.177	68.82
Supply Constrained	2015-2016	1,318.29	3.602	12.118	673.93	1.841	7.109	6,632.97	18.123	68.71
Supply Constrained	2016-2017	1,327.77	3.638	12.228	667.32	1.828	7.117	6,715.59	18.399	70.09
Supply Constrained	2017-2018	1,339.61	3.670	12.357	661.43	1.812	7.136	6,793.69	18.613	71.49
Supply Constrained	2018-2019	1,346.42	3.689	12.440	654.00	1.792	7.129	6,843.05	18.748	72.52
Supply Constrained	2019-2020	1,362.04	3.721	12.586	654.74	1.789	7.159	6,954.23	19.001	73.83
Supply Constrained	2020-2021	1,376.22	3.770	12.736	655.65	1.796	7.192	7,057.83	19.337	75.18
Supply Constrained	2021-2022	1,392.05	3.814	12.877	657.68	1.802	7.220	7,154.14	19.600	76.47
Supply Constrained	2022-2023	1,409.39	3.861	13.027	660.53	1.810	7.254	7,271.79	19.923	77.79
Supply Constrained	2023-2024	1,429.64	3.906	13.191	663.80	1.814	7.295	7,398.16	20.214	79.19
Supply Constrained	2024-2025	1,448.58	3.969	13.378	667.16	1.828	7.350	7,510.15	20.576	80.74
Supply Constrained	2025-2026	1,466.90	4.019	13.542	670.11	1.836	7.392	7,616.65	20.868	82.05
Supply Constrained	2026-2027	1,483.51	4.064	13.675	672.48	1.842	7.417	7,709.81	21.123	83.12
Supply Constrained	2027-2028	1,500.33	4.099	13.804	675.79	1.846	7.441	7,813.03	21.347	84.16
Supply Constrained	2028-2029	1,514.46	4.149	13.932	675.91	1.852	7.464	7,888.96	21.614	85.19

Case	Gas Year	Annual Demand Oregon (MDth)	Daily Demand Oregon (MDth/day)	Peak Day Demand Oregon (MDth/day)	Annual Demand WA/ID (MDth)	Daily Demand WA/ID (MDth/day)	Peak Day WA/ID (MDth/day)	Annual Demand Total System (MDth)	Daily Demand Total System (MDth/day)	Peak Day Demand Total System (MDth/day)
Supply Constrained	2009-2010	8,875.829	24.317	91.131	26,220.981	71.838	274.582	35,096.810	96.156	365.713
Supply Constrained	2010-2011	8,318.804	22.791	83.526	24,370.873	66.770	249.938	32,689.676	89.561	333.464
Supply Constrained	2011-2012	8,347.110	22.806	83.606	24,138.467	65.952	249.057	32,485.577	88.758	332.663
Supply Constrained	2012-2013	8,418.607	23.065	84.919	24,061.976	65.923	249.092	32,480.583	88.988	334.012
Supply Constrained	2013-2014	8,499.604	23.287	86.182	24,097.684	66.021	249.288	32,597.288	89.308	335.471
Supply Constrained	2014-2015	8,652.408	23.705	88.372	24,367.409	66.760	252.452	33,019.816	90.465	340.824
Supply Constrained	2015-2016	8,625.187	23.566	87.934	23,966.825	65.483	247.261	32,592.011	89.049	335.195
Supply Constrained	2016-2017	8,710.677	23.865	89.432	23,962.795	65.651	248.159	32,673.472	89.516	337.591
Supply Constrained	2017-2018	8,794.731	24.095	90.985	24,059.442	65.916	249.642	32,854.172	90.011	340.626
Supply Constrained	2018-2019	8,843.468	24.229	92.090	24,111.136	66.058	250.065	32,954.604	90.287	342.155
Supply Constrained	2019-2020	8,971.000	24.511	93.574	24,327.999	66.470	252.100	33,298.999	90.981	345.673
Supply Constrained	2020-2021	9,089.708	24.903	95.113	24,546.519	67.251	254.368	33,636.227	92.154	349.481
Supply Constrained	2021-2022	9,203.881	25.216	96.562	24,768.553	67.859	256.440	33,972.435	93.075	353.002
Supply Constrained	2022-2023	9,341.713	25.594	98.075	25,015.271	68.535	258.726	34,356.984	94.129	356.801
Supply Constrained	2023-2024	9,491.598	25.933	99.680	25,309.744	69.152	261.179	34,801.342	95.086	360.859
Supply Constrained	2024-2025	9,625.883	26.372	101.468	25,580.405	70.083	264.248	35,206.287	96.456	365.715
Supply Constrained	2025-2026	9,753.664	26.722	102.988	25,876.686	70.895	266.741	35,630.349	97.617	369.729
Supply Constrained	2026-2027	9,865.800	27.030	104.212	26,089.390	71.478	268.463	35,955.190	98.507	372.675
Supply Constrained	2027-2028	9,989.157	27.293	105.406	26,381.226	72.080	270.804	36,370.383	99.373	376.210
Supply Constrained	2028-2029	10,079.331	27.615	106.587	26,617.492	72.925	272.932	36,696.823	100.539	379.519

Appendix 3.8 - Annual Demand, Average Day Demand and Peak Day Demand (Net of DSM)

Case	Gas Year	Annual Demand Klamath (MDth)	Daily Demand Klamath (MDth/day)	Peak Day Klamath (MDth/day)	Annual Demand La Grande (MDth)	Daily Demand La Grande (MDth/day)	Peak Day La Grande (MDth/day)	Annual Demand Medford/Roseburg (MDth)	Daily Demand Medford/Roseburg (MDth/day)	Peak Day Medford/Roseburg (MDth/day)
Green Future	2009-2010	1,352.83	3.706	12.714	782.49	2.144	7.980	6,741.43	18.470	70.44
Green Future	2010-2011	1,322.71	3.624	12.228	743.67	2.037	7.609	6,529.13	17.888	67.58
Green Future	2011-2012	1,343.88	3.672	12.378	737.69	2.016	7.626	6,582.61	17.985	68.10
Green Future	2012-2013	1,359.14	3.724	12.585	731.27	2.003	7.646	6,668.88	18.271	69.59
Green Future	2013-2014	1,369.85	3.753	12.853	726.87	1.991	7.678	6,785.74	18.591	71.22
Green Future	2014-2015	1,389.73	3.807	13.079	723.25	1.982	7.748	6,929.01	18.984	73.27
Green Future	2015-2016	1,329.73	3.633	12.265	679.89	1.858	7.197	6,687.18	18.271	69.54
Green Future	2016-2017	1,334.58	3.656	12.315	670.76	1.838	7.168	6,747.63	18.487	70.59
Green Future	2017-2018	1,343.21	3.680	12.404	663.19	1.817	7.163	6,810.42	18.659	71.75
Green Future	2018-2019	1,351.14	3.702	12.502	656.30	1.798	7.165	6,865.35	18.809	72.88
Green Future	2019-2020	1,364.03	3.727	12.612	655.70	1.792	7.174	6,963.67	19.026	73.98
Green Future	2020-2021	1,378.49	3.777	12.766	656.74	1.799	7.209	7,068.61	19.366	75.36
Green Future	2021-2022	1,396.32	3.826	12.932	659.70	1.807	7.252	7,174.33	19.656	76.79
Green Future	2022-2023	1,414.95	3.877	13.099	663.13	1.817	7.295	7,298.19	19.995	78.22
Green Future	2023-2024	1,434.44	3.919	13.254	666.02	1.820	7.331	7,420.96	20.276	79.57
Green Future	2024-2025	1,453.74	3.983	13.446	669.52	1.834	7.388	7,534.69	20.643	81.14
Green Future	2025-2026	1,471.58	4.032	13.603	672.23	1.842	7.426	7,638.86	20.928	82.42
Green Future	2026-2027	1,489.50	4.081	13.753	675.18	1.850	7.460	7,738.24	21.201	83.59
Green Future	2027-2028	1,507.06	4.118	13.892	678.81	1.855	7.489	7,845.01	21.434	84.69
Green Future	2028-2029	1,522.62	4.172	14.039	679.51	1.862	7.522	7,927.56	21.719	85.84

Case	Gas Year	Annual Demand Oregon (MDth)	Daily Demand Oregon (MDth/day)	Peak Day Demand Oregon (MDth/day)	Annual Demand WA/ID (MDth)	Daily Demand WA/ID (MDth/day)	Peak Day WA/ID (MDth/day)	Annual Demand Total System (MDth)	Daily Demand Total System (MDth/day)	Peak Day Demand Total System (MDth/day)
Green Future	2009-2010	8,876.748	24.320	91.133	26,221.195	71.839	274.583	35,097.943	96.159	365.716
Green Future	2010-2011	8,595.502	23.549	87.421	25,259.066	69.203	262.017	33,854.568	92.752	349.438
Green Future	2011-2012	8,664.177	23.673	88.109	25,154.544	68.728	263.103	33,818.721	92.401	351.212
Green Future	2012-2013	8,759.288	23.998	89.820	25,151.067	68.907	264.291	33,910.356	92.905	354.111
Green Future	2013-2014	8,882.456	24.335	91.754	25,324.607	69.382	266.502	34,207.063	93.718	358.256
Green Future	2014-2015	9,041.999	24.773	94.100	25,619.898	70.192	270.087	34,661.898	94.964	364.187
Green Future	2015-2016	8,696.807	23.762	89.000	24,196.578	66.111	250.522	32,893.384	89.873	339.522
Green Future	2016-2017	8,752.969	23.981	90.069	24,097.903	66.022	250.100	32,850.873	90.002	340.169
Green Future	2017-2018	8,816.822	24.156	91.321	24,130.278	66.110	250.658	32,947.100	90.266	341.979
Green Future	2018-2019	8,872.791	24.309	92.542	24,206.037	66.318	251.448	33,078.828	90.627	343.990
Green Future	2019-2020	8,983.401	24.545	93.766	24,368.029	66.579	252.675	33,351.429	91.124	346.441
Green Future	2020-2021	9,103.833	24.942	95.333	24,592.457	67.377	255.025	33,696.291	92.319	350.358
Green Future	2021-2022	9,230.341	25.289	96.977	24,854.409	68.094	257.696	34,084.751	93.383	354.673
Green Future	2022-2023	9,376.272	25.688	98.618	25,127.755	68.843	260.384	34,504.027	94.532	359.002
Green Future	2023-2024	9,521.418	26.015	100.150	25,407.768	69.420	262.620	34,929.186	95.435	362.770
Green Future	2024-2025	9,657.962	26.460	101.977	25,685.438	70.371	265.800	35,343.400	96.831	367.777
Green Future	2025-2026	9,782.670	26.802	103.451	25,972.245	71.157	268.163	35,754.915	97.959	371.614
Green Future	2026-2027	9,902.917	27.131	104.806	26,211.486	71.812	270.278	36,114.403	98.944	375.083
Green Future	2027-2028	10,030.878	27.407	106.074	26,518.640	72.455	272.852	36,549.518	99.862	378.927
Green Future	2028-2029	10,129.690	27.753	107.398	26,784.852	73.383	275.441	36,914.543	101.136	382.839

