Demand Forecasts

Demand forecasts are an estimate of how much energy customers will use in the future. When compared with an assessment of the company's existing resources, the gap between the two identifies "resource need." For this IRP, we developed two sets of demand forecasts, because economic conditions changed so dramatically during the two years in which this analysis was conducted.

I. Methodology

The demand forecast PSE develops for the IRP is an estimate of energy sales, customer counts, and peak demand over a 20-year period. These estimates are designed for use in long-term planning for resources and delivery systems. The 20-year horizon helps us anticipate needs so we can develop timely responses. Updates based on the most current information are used in developing near-term annual revenue forecasts and operational plans.

To produce forecasts of energy demand and customer growth PSE employs econometric models that use historical data to explain changes in energy use per customer and customer counts. Significant inputs include information about regional and national economic growth, demographic changes, weather, prices, seasonality, and other customer usage and behavior factors. Known large load additions or deletions are also included.

Electricity and gas are assumed as inputs into the production of various economic activities in the forecast models. For residential customers, typical energy uses include space heating, water heating, lighting, cooking, refrigeration, dish washing, laundry washing, and various other plug loads. Commercial and industrial customers use energy for production processes, heating, ventilation, and air conditioning (HVAC), lighting, and computers.

To forecast energy sales and customer counts, customers are divided into classes and service levels that use energy for similar purposes and at comparable retail rates. The different classes are modeled separately using variables specific to their usage patterns.

- Electric customer classes include residential, commercial, industrial, streetlights, resale, and transportation.
- Gas customer classes include firm (residential, commercial, industrial, commercial large volume, and industrial large volume), interruptible (commercial and industrial interruptible), and transportation (commercial firm, commercial interruptible, industrial firm and industrial interruptible).

Peak load forecasts are developed using econometric equations that relate observed monthly peak loads to weather-sensitive delivered loads for both residential and nonresidential sectors. They account for deviations of actual peak hour temperature from normal peak temperature for the month; day of the week effects; and unique weather events such as a cold snap or El Nino season.

For a detailed description of electric and gas peak models, and the methodology used to produce the annual energy and hourly electric forecasts, see Appendix E, Load Forecasting Models.

II. Key Assumptions

Economic activity has a significant effect on energy demand. During this 2-year planning cycle, it has been particularly challenging to develop assumptions about national and regional economic trends due to continually changing conditions during 2008. These included a series of abrupt declines throughout the second half of the year.

We adopted the first set of long-term growth assumptions for the national and regional economies in early 2008; these were based on 2007 data and Global Insight reports. By early 2009, we decided it was necessary to develop a second set of assumptions to reflect the possibility of more pessimistic economic conditions persisting into the future. It was not possible to apply the second set of forecasts to all parts of the IRP analysis in the time remaining, but the updated 2009 Low Growth forecast described here was incorporated in the 2009 Trends and 2009 Business As Usual scenarios. We also learned that despite high contrast between the near-term results of the two sets of assumptions, long-term differences in demand were relatively minor.

A. Economic Growth

Because the Puget Sound region is a major commercial and manufacturing center with strong links to the national and state economies, the performance of these economies has a direct affect on the industries in our service territory and the businesses that support them. For this reason, our service territory forecast begins with assumptions about what is happening in the broader U.S. economy. We rely on Global Insight's biannual publication "The 30-Year Focus," a long-term forecast of the U.S. economy, for this information. This forecast is supplemented by a monthly publication, "U.S. Economic Outlook," in which Global Insight updates national economic conditions for a shorter, 10-year forecast time period. Ultimately, PSE forecasts economic and demographic conditions for each county in the service territory using a system of econometric equations that relates national to regional economic conditions.

National Economic Outlook

Global Insight forecasts for U.S. economic growth changed substantially during the two years we were developing demand forecasts for this IRP, especially over the first five

years of the planning horizon. The charts below show how GDP and employment growth forecasts changed between 2007 and 2009.

Figure 4-1
Global Insight U.S. Unemployment Rate Forecast 2000-2017

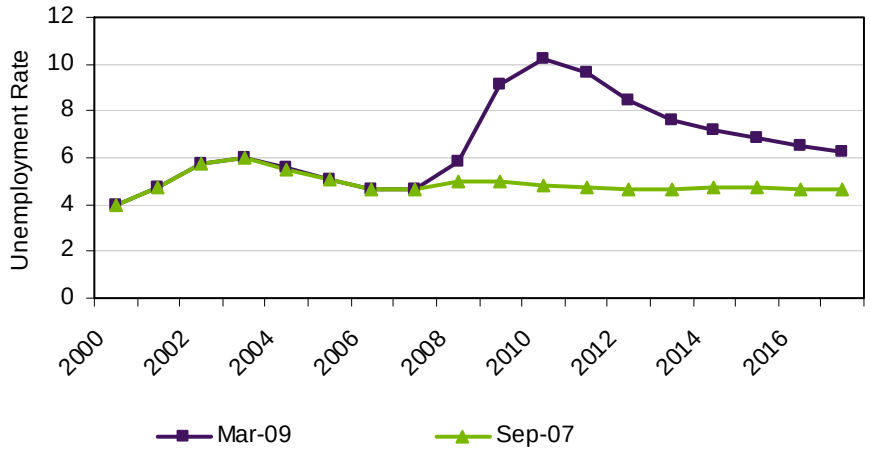
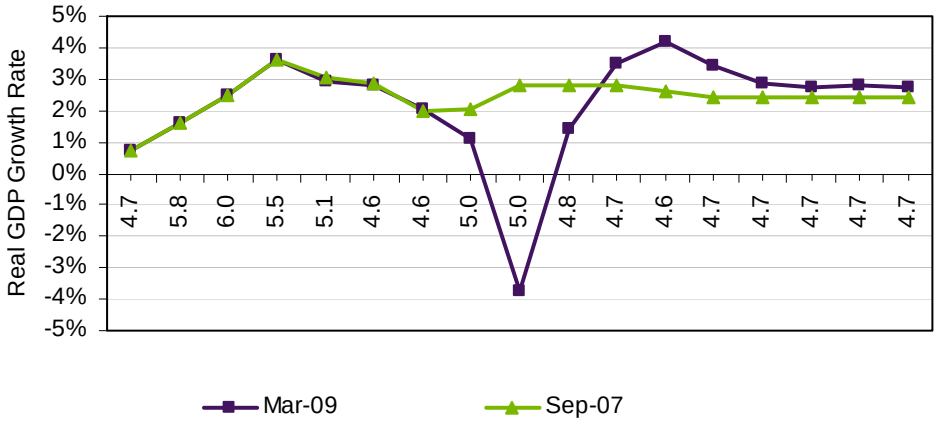


Figure 4-2
Global Insight U.S. Real GDP Growth Forecast 2001-2017



In the fall of 2007, Global Insight forecast that U.S. gross domestic product (GDP) would grow at an average rate of 2.5% per year over the next 20 years. Growth in equipment spending and advances in technology were projected to result in higher productivity and efficiencies, even though the percentage of employed Americans would decline as the population ages. Oil prices were expected to stay relatively flat at $65 per barrel in the

short term, but to increase over the long term to $80 by 2037 because of rising costs to find, produce, process, and distribute product in an environment in which new material was becoming increasingly scarce. The forecast also assumed a decline in the value of the dollar relative to other currencies (depreciating 0.2% annually), raising U.S. exports but increasing the cost of imported goods and services.

By early 2009, Global Insight's macroeconomic forecast had reduced near-term U.S. GDP growth rates to -3.7% for 2009 and 1.4% for 2010. It also projected unemployment of more than 10% for 2010, with no return to 2007 unemployment levels in the next 10 years.

Regional Economic Outlook

The first set of regional economic assumptions PSE developed was based on the 2007 Global Insight forecast described above. These assumptions were used to create the forecast scenario now identified as the 2007 Base Case. It projected employment in the electric service territory to grow at an annual rate of 1.3%, compared to the 15-year historical rate of 1.8%. Factors contributing to the slightly slower long-term growth in employment included slower national employment growth due to lower national population growth, lower regional population growth due to space constraints, and the expectation that The Boeing Company's strong historical employment growth would not necessarily persist into the future. Manufacturing employment growth of -0.5% was projected in this scenario. Despite the slower rate of growth, it projected that local employers would create more than 500,000 jobs between 2007 and 2027, and the inflow of more than 800,000 new residents would increase the population of our service territory to almost 4.5 million.

Corresponding high and low scenarios were developed in June 2008, prior to the worst of the downturn, and were based on assumptions contained in the March, 2008 Global Insight reports. Because they are more reflective of 2007 conditions than 2008, they are identified here as the 2007 High and Low Growth forecast scenarios.

To derive the 2007 Low Growth assumptions, PSE calculated the ratio between Global Insight's March 2008 baseline and pessimistic outlooks for each major national economic variable (such as total U.S. employment). These ratios were then used to scale down the equivalent regional variable (such as regional employment). Then these sets of revised

variables were used to calculate the load forecast scenario. A similar approach was taken to calculate the 2007 High Growth scenario, with a ratio calculated between Global Insight's optimistic and baseline projections for each economic variable.

The two new scenarios PSE developed in early 2009, namely the 2009 Base Case Update and the 2009 Low Growth Update, were derived using a similar methodology. For the 2009 Base Case update, the ratio between economic variables in Global Insight's March 2008 30-year baseline forecast and the February 2009 baseline from the U.S. Economic Outlook was used to scale down regional variables. A similar approach was used to calculate the 2009 Low Growth update; here, the ratio between the original baseline scenario economic variables and the February 2009 pessimistic forecast from the U.S. Economic Outlook was used to scale down regional variables.

B. Energy Prices

Retail energy prices—what customers pay for energy—are included as explanatory variables in the demand forecast models because they affect the efficiency level of newly acquired appliances, their frequency and level of use, and the type of energy source used to power them. The energy price forecasts draw on information obtained from internal and external sources.

Although wholesale energy prices have dropped since mid-2008, PSE chose not to revise the energy price forecasts prepared for the original 2007 Base Case scenario after reviewing their influence on results. Declines in wholesale energy prices do affect retail rates, but their impact on energy usage is minor compared to the impacts of the economic recession. Recent estimates of residential price elasticity for both electric and gas are close to -0.05, implying that a 10% change in the retail rates would reduce residential energy consumption by 0.5%. In comparison, the difference between the economic conditions in the 2007 Base Case and 2007 High Growth scenarios lead to an increase of 2.5% in the demand forecast.

Electricity

PSE projects that over the next 20 years, nominal retail electric rates will grow between 2.2% and 2.6% per year. In the near term, the retail price forecast assumes rate increases resulting from PSE's General Rate Cases and from Power Cost Only Rate Cases. For long-term retail rates, each usage class's annual retail rate growth is estimated using Global Insight's forecast of the growth of regional rates.

According to Global Insight, long-term real electricity prices (i.e., nominal prices adjusted for inflation) will remain flat or grow only moderately over time. Slower growth in regional prices is due to competitive pressures moderating nominal costs and an increase in the efficiency of new generation technologies. Global Insight expects that energy-producing fuel costs will vary by region as real natural gas prices are projected to stay relatively flat after 2009, while prices of both coal and oil decline slowly in the long term. The diverging trends for natural gas and coal will cause variations in average fuel cost trends between the regions, depending on the relative weights of coal and gas in each region's generating fuel mix. Most new generation in our region is projected to come from gas-fired facilities, with small amounts from coal and wind. As the region increasingly relies on gas for new generation, marginal electric prices throughout the region will become similar and average electric price differentials across the region will gradually narrow.

Natural Gas

PSE expects the rise in nominal retail gas rates to be slightly higher than the long-term rate of inflation: 2.5% per year over the next 20 years. Two components make up gas retail rates: the cost of gas and the cost of distribution, known as the distribution margin. The near-term forecast of gas rates includes PSE's purchased gas adjustment of October 2006, and an increase due to a General Rate Case in 2007. Forecasted gas costs reflect Kiodex gas prices for the 2007-2011 period and Global Insight projections beyond that. The distribution margin is based on PSE's projection for the near term and Global Insight's for the longer term.

According to Global Insight, long-term real natural gas prices will fluctuate by only small amounts. Major increases in LNG imports are enhancing supply competition and will continue to reduce prices from 2008 levels. Prices will still be strong by historical standards, because of rising costs of new domestic supplies and evolution of gas demand away from the more price-sensitive uses.

C. Other Assumptions

Weather

The billed sales forecast is based on normal weather defined as the average monthly weather using a historical time period of 30 years, ending in 2006.

Loss Factors

Based on current analysis, the electric loss factor remains at 6.7% and the gas loss factor remains at 0.8%.

Major Accounts

The assumptions that went into the 2007 Base Case forecast were that two major corporations in PSE's service area planned to add facilities starting in 2007 that would eventually increase electric consumption by more than 40 aMW. Since then, several large companies in the region have announced layoffs and may be planning to reduce and/or delay previously planned major expansions. Both the 2007 and 2009 Low Growth forecasts model this possibility by estimating the impact that large reductions in employment at Boeing and Microsoft would have on demand.

III. Electric and Gas Demand Forecasts

Demand forecasts starting in 2008 serve as the basis for establishing resource need in this IRP. The charts and tables below incorporate demand-side resources implemented prior to 2008 (primarily energy efficiency and conservation) and include estimated conservation acquisition for 2008 and 2009, but do not include anticipated additional demand-side resources thereafter. PSE analyzed the five scenarios described below in order to capture a range of possible economic futures.

2007 Base Case. This scenario assumes that the U.S. economy grows smoothly over time at an annual real GDP growth rate of 2.5% from 2008 to 2027, with no major shocks or disruptions. It projects employment in the electric service territory to grow at an annual rate of 1.3%, and manufacturing employment growth to decline by an annual rate of -0.5%. Despite a slower rate of growth than the 15-year historical rate of 1.8%, it projects that local employers will create more than 500,000 jobs between 2007 and 2027, and that the inflow of more than 800,000 new residents will increase the population of our service territory to almost 4.5 million.

2007 Low Growth assumes a slower national GDP growth rate of 2.0%, higher inflation rates, and lower productivity. It also assumes significant cutbacks in Boeing and Microsoft employment. For PSE's service territory, this scenario projects a 20-year annual employment growth rate of 0.8% and a decline in the manufacturing employment growth rate of -5.4%. Personal income, population, and housing permits assumptions are also lower than in the 2007 Base Case.

2007 High Growth assumes a faster national GDP growth rate of 3.2%, a lower inflation rate, and higher productivity growth. For PSE, this scenario includes a 20-year annual employment growth rate of 1.9% and a manufacturing employment growth rate of 0.5%. In addition, upward adjustments were made to assumptions about personal income, population, and housing permits.

2009 Base Case update assumes that the U.S. economy is in recession during 2009, experiences a mild rebound in 2010, and expands into strong growth in 2011 and 2012. Annual real GDP growth rate is forecast at 2.3% from 2008 to 2019. In this forecast, PSE's electric service territory employment levels drop by a total of -1.6% over the next 2 years, 2008-2010. The 20-year growth rate is projected to be 1.2%, only slightly lower than the 2007 Base Case due to a bounce back in employment beginning in 2011. The decline in 20-year manufacturing employment growth rate averages -0.8%, slightly more

than the -0.5% forecast in the 2007 Base Case. This forecast also has slightly lower long-term growth rates for the income and population growth.

2009 Low Growth update assumes that the U.S. economy is in deep recession during 2009, experiences zero growth in 2010, and rebounds in 2011. This forecast assumes a slower average annual GDP growth rate of 1.7% from 2008 to 2019, and assumes significant cutbacks in regional Boeing and Microsoft employment. This forecast estimates an even deeper total drop in employment for PSE's service territory, -2.5%, from 2008 to 2010. Similarly, it forecasts lower personal income, number of households, and building permits in the near term (2008-2010) than either of the 2007 forecasts. However, the long-term 10-year annual employment growth rate of 1.0%, is actually slightly higher than the 2007 Low Growth forecast of 0.9%.

Figure 4-3
Forecast of U.S. GDP Growth Rate by Scenario

	2009	2010	2011	2012	2013	2014	2015	2016
Scenarios								
2007 Base	2.8%	2.8%	2.8%	2.6%	2.4%	2.4%	2.4%	2.4%
2007 Low	0.9%	3.2%	2.8%	2.6%	2.0%	2.0%	2.0%	2.2%
2007 High	3.7%	3.6%	3.7%	3.2%	3.0%	3.0%	2.8%	3.0%
2009 Base	-3.7%	1.4%	3.5%	4.2%	3.4%	2.8%	2.7%	2.8%
2009 Low	-4.7%	-0.6%	3.1%	3.5%	3.1%	2.7%	2.5%	2.6%

Figure 4-4
Forecast of U.S. Unemployment Rate by Scenario

	2009	2010	2011	2012	2013	2014	2015	2016
Scenarios								
2007 Base	5.0	4.8	4.7	4.6	4.7	4.7	4.7	4.7
2007 Low	5.8	5.6	5.2	5.0	5.1	5.1	5.1	5.0
2007 High	5.3	5.2	4.8	4.6	4.6	4.6	4.5	4.4
2009 Base	9.2	10.2	9.6	8.5	7.6	7.2	6.9	6.5
2009 Low	9.4	11.2	10.8	9.8	8.9	8.3	8.0	7.6

A. Electric Forecast

Figures 4-5 and 4-6 show electric sales and peak growth forecasts for all 5 scenarios over the first 10 years of the planning horizon. Highlights with reference to the 2007 Base Case scenario are discussed on the following pages.

Figure 4-5
Annual Electric Sales Forecasts 2008-2017

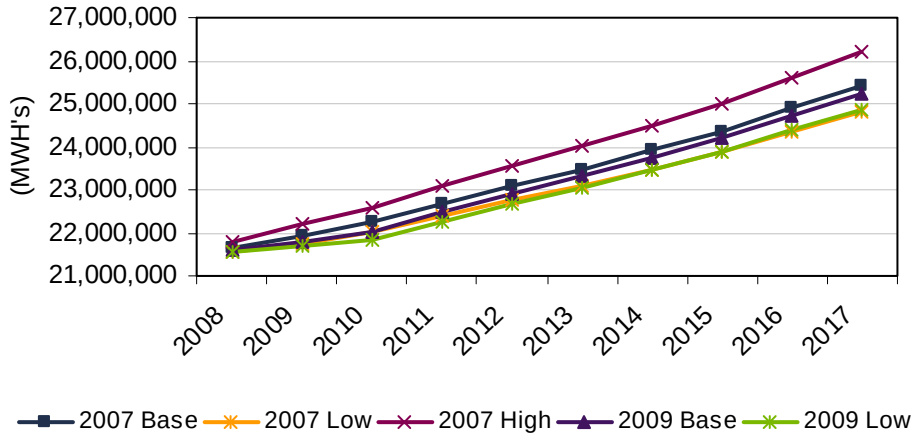
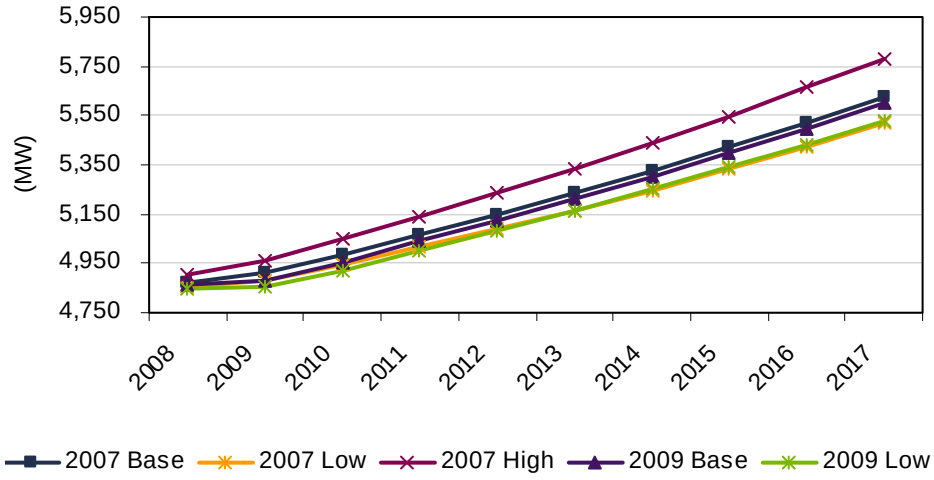


Figure 4-6
Electric Peak (Normal: 23°F) Forecast 2008-2017



Electric Forecast Highlights (2007 Base Case)

1. Total electric firm sales are expected to grow at an average annual rate of 1.95% per year, from 2,471 aMW in 2008 to 3,566 aMW by 2027.

The growth rate is projected to be a moderate 1.8% between 2008 and 2017 due to reduced near-term economic growth, higher retail rates, and increased conservation. The long-term growth rate of sales returns to slightly above 2.1% per year growth for the remainder of the period, 2017-2027.

2. Commercial sales are expected to grow faster than residential sales, increasing from 44% of total sales in 2008 to 48% of total sales in 2027.

Commercial billed sales related to nonmanufacturing employment are expected to grow the fastest in the future, while industrial sales are expected to continue to decline gradually as they have for the past decade (with the exception of 2001) due in part to flat or declining manufacturing employment.

Slower growth in residential sales is caused by several factors: a projected increase in the rate of construction of multifamily housing, which uses less energy per customer compared to single-family housing, the use of more efficient appliances, the expectation that new single-family homes are likely to use gas for space and water heating, and increases in the retail rate. These factors are expected to combine to create a flat or declining average residential use per customer during the forecast period. Residential sales as a percentage of total sales are projected to decline from 49% in 2008 to 47% in 2027.

3. The number of electric customers is predicted to grow at an average rate of 1.9% per year, reaching 1,536,493 by 2027.

Even though commercial customer growth rates are higher, the residential sector is expected to account for the majority of customer growth in absolute numbers. Multi-family residential housing units, which have a lower number of persons per household than single family units, are expected to be constructed at a higher rate in the future. Since multi-family units tend to have a lower average number of persons per household, this leads to a customer growth rate that is higher than the population growth rate. As of December 2007, residential customers accounted for 88% of PSE's total customer base.

4. Peak hourly loads for electric are expected to grow by 1.7% per year over the next 20 years to 6,747 MW from 4,875 MW, slower than the growth in billed energy.

Peak load growth is projected to grow more slowly than total energy use because residential sales (which place the most upward pressure on peak load events) are growing more slowly than commercial sales.

In general, compared to the 2007 IRP, the 2007 Base Case forecast of energy load is lower by about 61 aMW by 2025. It has a lower starting point for 2008 and a lower long-term growth rate than that estimated in the 2007 IRP because of increased near-term conservation, the impacts of higher retail prices, and the fact that even in late 2007, the growth rates experienced in the previous two years were expected to moderate somewhat.

The following tables summarize electric demand forecast results.

Figure 4-7
Electric Sales Forecast Scenarios in aMW

	2008	2009	2010	2015	2020	2025	2027	AARG
Scenarios								
2007 Base	1,103,111	1,160,637	1,097,081	1,073,934	1,094,469	9,655,477	9,473,354	12.0%
2007 Low	1,116,438	1,178,512	1,127,696	1,105,321	1,119,594	9,894,575	9,674,420	12.0%
2007 High	1,131,165	1,200,943	1,156,065	1,135,647	1,141,534	10,147,312	9,883,852	12.1%
2009 Base	1,147,846	1,225,680	1,180,836	1,160,546	1,161,970	10,399,581	10,091,304	12.1%
2009 Low	1,165,372	1,251,654	1,201,622	1,181,123	1,184,568	10,651,234	10,295,643	12.2%
2007 IRP	2,519	2,567	2,605	2,852	3,140	3,483	NA	1.9%

Figure 4-8
Electric Sales Forecasts by Class in aMW (2007 Base Case)

	2008	2009	2010	2015	2020	2025	2027	AARG
2007 Base								
Total	2,471	2,503	2,539	2,782	3,088	3,422	3,566	1.9%
Residential	1,219	1,223	1,235	1,352	1,488	1,631	1,690	1.7%
Commercial	1,087	1,120	1,146	1,271	1,443	1,637	1,721	2.4%
Industrial	154	150	147	145	141	138	136	-0.6%
Other	11	12	12	13	15	17	18	2.4%

Figure 4-9
Electric Customer Count Forecast by Class (2007 Base Case)

	2008	2009	2010	2015	2020	2025	2027	AARG
2007 Base								
Total	1,068,658	1,090,671	1,112,801	1,225,931	1,349,180	1,481,346	1,536,493	1.9%
Residential	943,860	962,919	982,042	1,078,921	1,183,801	1,295,233	1,341,358	1.9%
Commercial	117,917	120,747	123,638	139,196	156,693	176,361	184,895	2.4%
Industrial	3,749	3,738	3,715	3,638	3,577	3,512	3,488	-0.4%
Other	3,132	3,268	3,406	4,176	5,109	6,240	6,753	4.1%

Figure 4-10
Annual Electric Peak Forecast (2007 Base Case)

	2008	2009	2010	2015	2020	2025	2027	AARG
Normal	4,875	4,910	4,987	5,421	5,945	6,509	6,747	1.7%
Extreme	5,322	5,361	5,442	5,815	6,397	7,014	7,274	1.7%
2007 IRP	4,991	5,054	5,116	5,557	6,047	6,616	6,856	1.7%

Figure 4-11
Residential Normalized Electric Use per Customer in MWh,
Current IRP (2007 Base Case) compared to 2007 IRP (Base Case)

	2008	2009	2010	2015	2020	2025	2027	AARG
Current IRP	11.319	11.128	11.019	10.984	11.020	11.034	11.044	-0.1%
2007 IRP	11.535	11.448	11.332	11.201	11.144	11.103	11.086	-0.2%

B. Gas Forecasts

Figures 4-12 and 4-13 below map the gas forecasts for all 5 scenarios to show sales and peak day forecasts, excluding conservation, for the first 10 years of the planning horizon. Highlights are discussed on the following pages.

Figure 4-12
Gas Sales Forecast Scenarios, 2008-2017

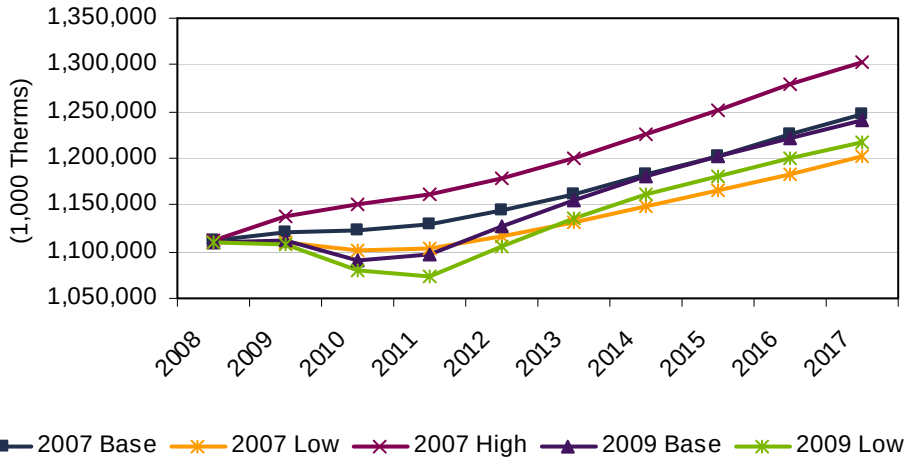
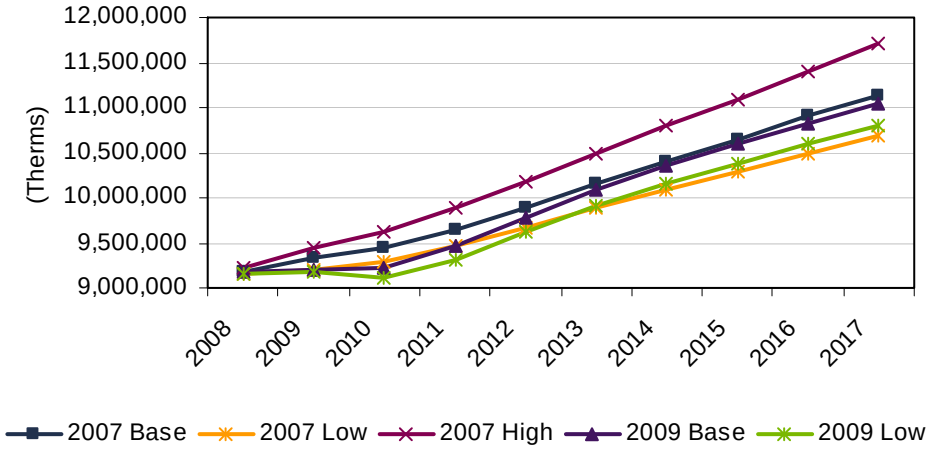


Figure 4-13
Gas Peak Day Forecast Scenarios 2008-2017



Gas Forecast Highlights (2007 Base Case)

1. Natural gas sales are expected to grow at an average rate of 1.5% per year over the next 20 years, from 1.1 billion therms in 2008 to 1.5 billion therms in 2027.

For 2008-2011 we expect a lower growth rate in gas billed sales as customers react to higher retail rates and moderating economic conditions compared to 2006 and 2007. As the long-term gas retail rates approach the rate of inflation and economic conditions normalize, billed sales are expected to return to a long-term growth rate of 1.7% per year.

While overall sales volume will increase over the long-term, some sectors (industrial, interruptible, and transportation) are expected to decline slightly, continuing a 10-year trend of slowing manufacturing employment and increasing retail prices. A slight decline in residential use per customer due to more efficient equipment, a projected increase in multifamily housing, and conservation is offset by a steady increase in the number of customers due to population growth and conversion from electric to gas.

2. The gas customer count is expected to increase at a rate of 2.7% per year over the next 20 years, reaching 1,220,805 by 2027.

This forecast reflects slower population growth (hence slower demand for housing), an increase in the percentage of multi-family units, and a declining pool of potential conversion customers. This leads to a forecast that is lower compared to the 10-year historical growth rate of 3.4%.

Residential accounts are expected to increase at a rate of 2.7% per year over the next 20 years, and to represent 93% of our total customer base in 2027, up 1% from 92% in 2008.

While the number of potential conversion customers is expected to decline, this is expected to be partially offset by increasing penetration of gas into multifamily buildings (townhomes and condominiums) and new single-family homes.

Commercial sector accounts are expected to grow at an average annual rate of approximately 2.3% per year during the next two decades, and to account for roughly 6.6% of the overall customer base in 2027.

3. Peak day firm gas requirements are expected to increase at an average rate of 2.2% per year over the next 20 years, from 9.2 million therms in 2008 to 13.9 million therms in 2027.

Gas peak day growth rates are slightly higher than those for total billed sales because faster sales growth is predicted for the weather-sensitive residential and commercial sectors. The primary drivers of peak growth across all sectors are an expanding customer base and changes in use per customer. Rising base loads are contributing to peak demand because gas is increasingly being used for purposes other than heating (such as cooking, clothes drying, and fireplaces). This effect is slightly offset by higher appliance efficiencies, and by the increasing use of gas in multifamily housing, where per-customer use is lower.

The residential sector accounts for about 68% of the peak daily requirement; the commercial and industrial sectors account for 28% and 4%, respectively. Large-volume commercial and industrial customers are included in this forecast.

Compared to the gas peak day forecast from the 2007 IRP, this forecast is lower for the first part of the 20 year forecast, but approaches the peak forecast of the 2007 IRP by 2026. This deviation is caused by the residential billed sales forecast, the primary driver of the peak day forecast. The residential sales forecast used in the current IRP incorporates a larger increase in the residential rate, driving usage per customer down, as well as the impact of an economic slowdown.

The tables below summarize gas demand forecast results.

Figure 4-14
Gas Sales Forecast Scenarios

(in 1,000 Therms)	2008	2009	2010	2015	2020	2025	2027	AARG
Scenarios								
2007 Base	1,111,254	1,121,613	1,123,839	1,203,114	1,314,592	1,433,345	1,484,798	1.5%
2007 Low	1,109,852	1,110,046	1,101,629	1,165,372	1,262,230	1,359,958	1,403,013	1.2%
2007 High	1,112,567	1,137,602	1,151,642	1,251,654	1,388,043	1,539,144	1,605,294	1.9%
2009 Base	1,110,399	1,112,499	1,091,649	1,201,622	1,307,474	1,419,166	1,469,964	1.5%
2009 Low	1,110,168	1,107,962	1,079,941	1,181,123	1,275,578	1,376,919	1,422,570	1.3%
2007 IRP	1,149,455	1,168,951	1,188,846	1,290,536	1,371,050	1,460,106	NA	1.4%

Figure 4-15
Gas Sales Forecast by Class (2007 Base Case)

(in 1,000 Therms)	2008	2009	2010	2015	2020	2025	2027	AARG
Total	1,111,254	1,121,613	1,123,839	1,203,114	1,314,592	1,433,345	1,484,798	1.5%
Residential	548,203	554,265	560,740	633,674	707,285	784,602	818,050	2.1%
Commercial	248,549	260,381	266,643	290,886	330,076	373,349	391,994	2.4%
Industrial	38,794	38,885	38,715	37,384	36,243	35,090	34,719	-0.6%
Interruptible	65,685	63,120	60,597	53,319	50,973	48,873	48,497	-1.6%
Transportation	210,024	204,961	197,143	187,852	190,016	191,432	191,538	-0.5%

Figure 4-16
Gas Customer Count Forecasts by Class (2007 Base Case)

	2008	2009	2010	2015	2020	2025	2027	AARG
Total	740,006	760,422	782,330	895,389	1,021,462	1,161,457	1,221,680	2.7%
Residential	683,384	702,534	723,163	829,646	948,455	1,080,436	1,137,235	2.7%
Commercial	53,478	54,774	56,084	62,799	70,190	78,329	81,801	2.3%
Industrial	2,588	2,573	2,555	2,462	2,372	2,286	2,254	-0.7%
Interruptible	430	417	405	361	324	285	270	-2.4%
Transportation	125	124	123	121	121	121	121	-0.2%

Figure 4-17
Gas Peak Day Forecast (2007 Base Case)

(in 1,000 therms)	2008	2009	2010	2015	2020	2025	2027	AARG
Total	9,188,260	9,327,545	9,449,453	10,651,234	11,915,522	13,276,635	13,867,904	2.2%
Residential	6,220,587	6,293,857	6,405,370	7,262,438	8,113,093	9,013,734	9,404,215	2.2%
Commercial	2,539,278	2,601,260	2,620,798	2,938,377	3,331,902	3,767,104	3,955,685	2.4%
Industrial	354,889	357,808	358,684	365,209	375,203	390,020	399,453	0.6%
Losses	73,506	74,620	75,596	85,210	95,324	106,213	110,943	2.2%
2007 IRP	9,612,505	9,882,527	10,164,267	11,444,406	12,499,945	13,535,248	NA	2.0%

IV. Comparison of Selected IRP Forecasts with May 2008 Scenarios

The gas and electric portfolios recommended in this IRP were based on the 2009 Low Growth forecast described in this chapter. The company, however, continually updates demand forecasts for a variety of purposes. The most recent scenario was developed in April and May of 2009, too late for inclusion in this analysis. Here we compare this 2009 Revised Base scenario with the 2009 Low Growth forecast used in the IRP.

[A discussion of the differences between the 2009 Revised Base scenario and the 2009 Low Growth forecast will be added to the final draft. Some text will also be added to describe the impact of current economic conditions on loads and load growth.]

Figure 4-18
Annual Electric Sales Forecast 2008-2017

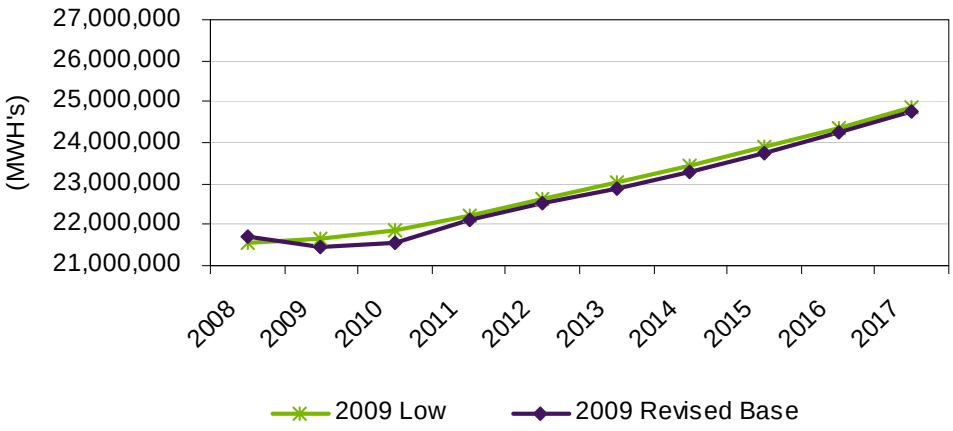


Figure 4-19
Electric Peak Forecast 2008-2017

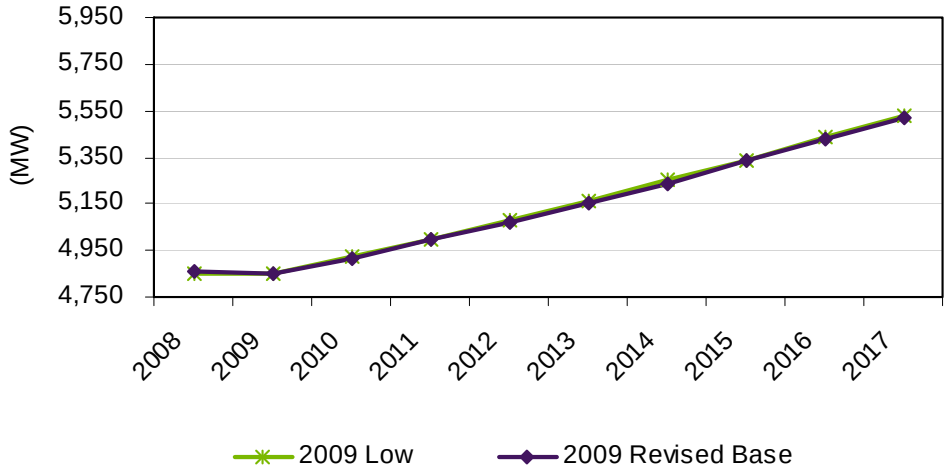


Figure 4-20
Annual Gas Sales Forecast 2008-2017

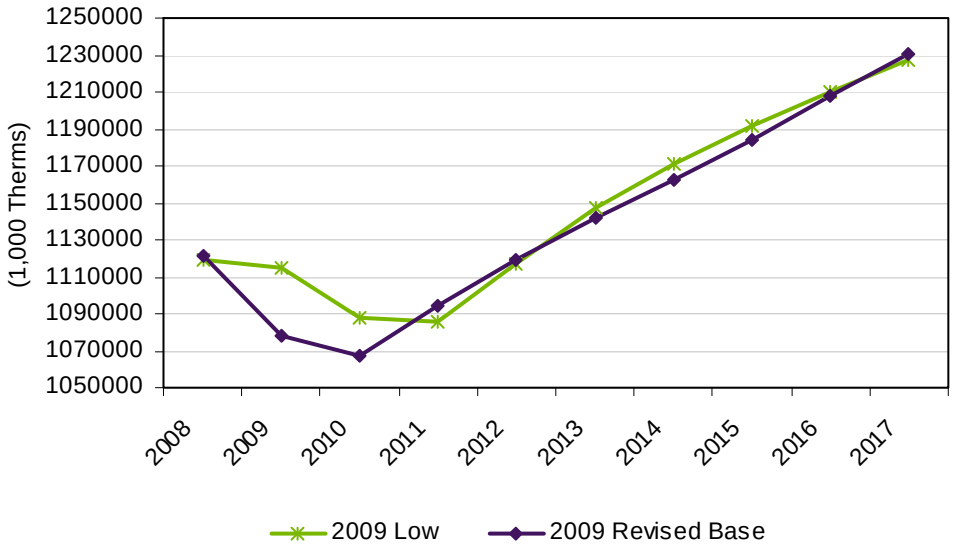


Figure 4-21
Gas Peak Day Forecast 2008-2017