

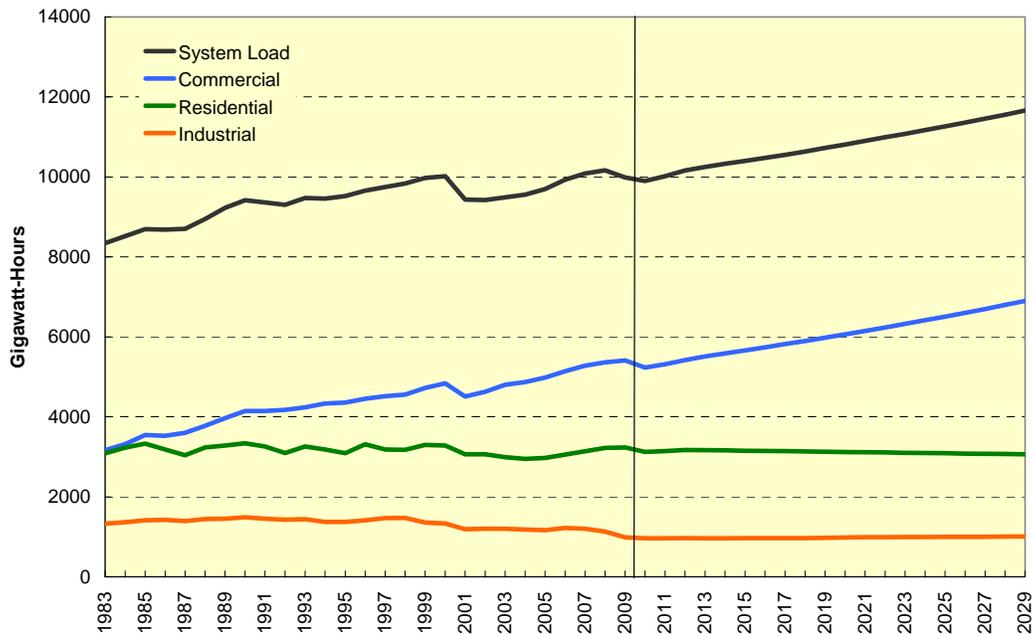
System Load Forecast – April 2010

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Key Points

- Weather-adjusted load for 2009 was 1139.5 aMW, nearly identical to the forecast.
- Forecasts of the economy have changed little since the forecast was revised in March 2009.
- Economic forecasts now project a somewhat slower recovery from the recession.
- Most experts assign a very low probability to a double-dip recession.
- In the past, the beginning of load recovery has lagged the end of recession.
- The rate of load growth during the recovery period will be lower than in past recessions.
- Load is forecast to bottom out this year and regain its previous high by mid-2013.

Load History & Forecast by Customer Class



Summary

System load mirrors the health of the local economy. Economic indicators continued to send mixed signals through the first quarter of 2010. Measures that signal a declining economy seem at least to be falling more slowly, with others leveling off. A majority of experts on the economy expects definite improvement by the end of 2010. Much depends on job market recovery.

System load growth began to slow in 2008, as projected by the November 2007 load forecast. The slowdown in load growth turned sharply negative in mid-October 2008. Consumption (weather adjusted) dropped for all customer classes. Industrial load had greatest percentage drop, with industries that supply the construction sector suffering the most.

Both the national and the local outlooks have changed only somewhat since the long-range load forecast was revised in March 2009. At that time, the local economy was projected to begin improving by the second quarter 2010; this is still the case, though system load may not bottom out until slightly later in the year. System load during the first quarter has been slightly lower than projected in March 2009, and even with an improving economy by the end of 2010, annual system load for 2010 is still expected to be lower than in 2009.

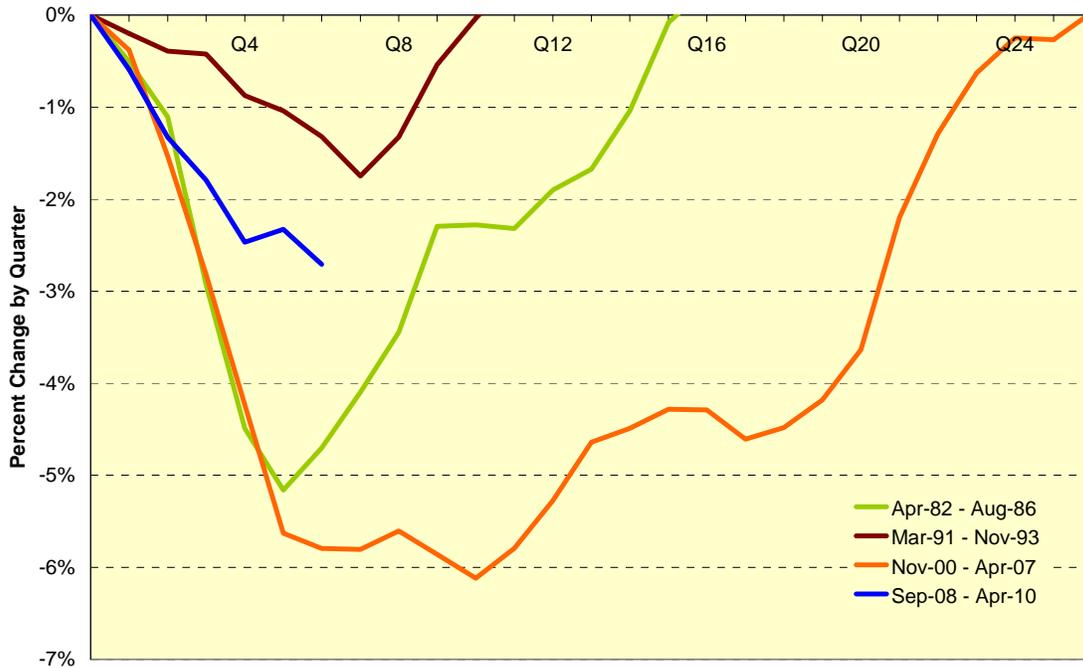
The system load forecast is the sum of forecasts for the three main classes of customers: residential, commercial, and industrial (plus an amount for own use and system losses). The commercial class is the largest and the fastest growing at a rate of about 1.4% annually. The growth rate for the residential class is slightly negative at -0.1%, and for industrial, slightly positive at 0.2%. The system growth rate is 0.8%.

The Recession

System load growth depends on local economic activity, which in turn is affected by the national and international economies. There now seems to be general agreement among experts that the *national* economy began expanding in July 2009 and that the danger of a double-dip recession is past. Even so, the National Bureau of Economic Research's Business Cycle Dating Committee was reluctant to declare an end date for the recession when it met in April 2010. IHS Global Insight assigns a 15% probability to its pessimistic double-dip scenario. The highly reliable Economic Cycle Research Institute's Weekly Leading Index for April 16 suggests that the recovery may be slowing over the next few months, though not enough to result in a double-dip. As of April 8, the monthly Leading Index produced by The Puget Sound Regional Forecaster continues to signal an expansion of the *regional* economy.

The graph below shows how changes in load during this recession compare with the effect of load of past recessions and their recovery periods. We do not yet know if we have reached the bottom of the current recession, though the rate of decline in load has definitely slowed. The depth of current load loss is not nearly as bad as in the early 1980s when the federal government induced a downturn in order to get inflation under control; load fell for five quarters and took ten quarters to regain its previous high. The recession of the early 1990s, which was fueled by the savings and loan scandal, caused a more modest drop in load; it fell for seven quarters and recovered in three. The recession of the early 2000s hit the service area particularly hard, both because the service area is home to many high-technology firms and because the West coast energy crisis resulted in steep rate hikes; load dropped for ten quarters and took over six years to reach its previous level. Each recession has its own causes and effects. In the current case, the housing and credit markets collapsed as a result of easy credit and lax oversight of the financial sector, leading to high levels of unemployment for a sustained period.

Different Rates of Decline & Recovery for Each Recession



In spite of the many independently produced leading indexes that are designed to signal significant changes in the economy, it is difficult to predict the turning point that marks the return to load growth. In past recessions, load troughs have tended to lag the end dates for national recessions. Although considerable expert opinion argues that the national recession ended in July 2009, an official end has not yet been called.

Load Troughs Often Lag National Recession End Dates

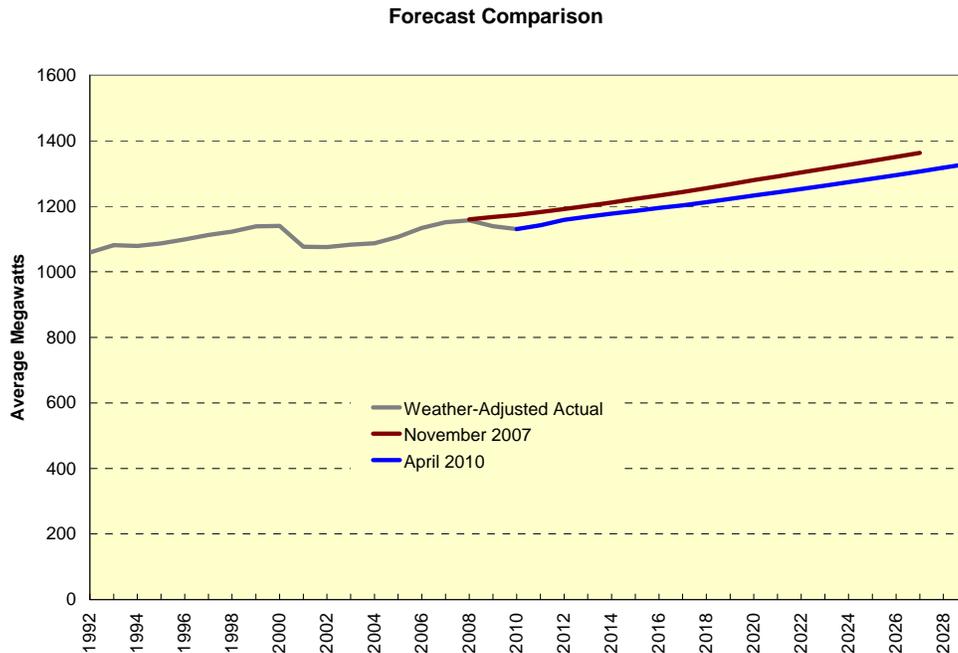


The Load Forecast

The March 2009 revision to the load forecast has tracked system load well. Weather-adjusted observed load for 2009 was 1139.5 average megawatts, compared to the forecast of 1139.3 aMW. As of the end of April 2010, average annual load stands at 1131.2 aMW—2.6% lower than the 12-month average high of 1162.3 aMW (weather-adjusted) attained in September 2008. The revenue impact of negative load growth in 2009 was more than offset by actual system load (1157.5 aMW), which was higher than expected because of colder than normal weather in 2009.

The so-called Great Recession has interrupted the usual pattern of positive system load growth. The load forecast that was developed in November 2007 anticipated a slowdown in the local economy; indeed, December 2007 was subsequently declared the beginning of the recession nationally. That slow-growth forecast tracked system load growth closely until mid-October 2008, when load began dropping precipitously, prompting adjustments to the load forecast in November 2008 and again in March 2009, as downward revisions on the national and local economic outlooks became available from IHS Global Insight and Dick Conway and Associates.

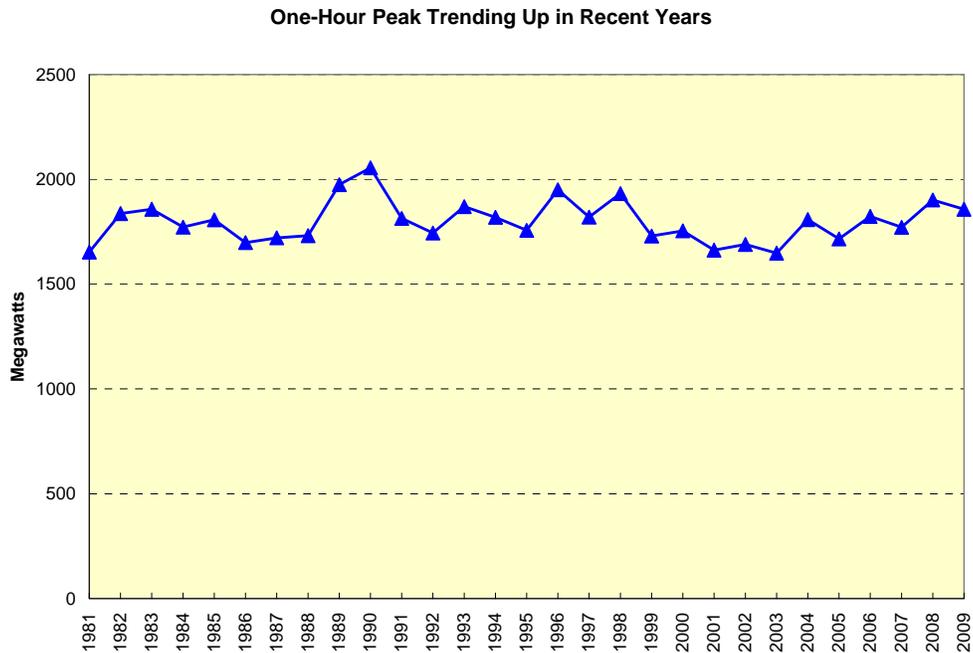
The graph below compares the November 2007 load forecast with the new April 2010 forecast. Load is expected to begin growing again during 2010. System load will reach its prerecession level by mid-2013. The long-range load growth rate is 0.8%.



System Load Forecast, April 2010

Year	aMW	Year	aMW	Year	aMW	Year	aMW
2010	1126	2015	1187	2020	1234	2025	1286
2011	1143	2016	1195	2021	1245	2026	1296
2012	1160	2017	1204	2022	1255	2027	1307
2013	1169	2018	1214	2023	1265	2028	1319
2014	1178	2019	1224	2024	1275	2029	1331

The forecast of the one-hour peak is slightly higher in the near-term, compared to the March 2009 forecast. This is a consequence of an upward trend in peak observed in recent years.



Load Forecast Methodology

The forecast of system load is the sum of the load forecasts for the residential, commercial/government, and industrial sectors. The industrial sector is further broken down into aerospace, metals, stone/clay/glass, shipping, food processing, and other manufacturing. The forecast of load for each sector is derived from regression analyses against economic and demographic variables for the service area. The forecast also takes into account information about specific large, primarily industrial, customers.

Residential

Residential load growth is driven mainly by the number of households in the service area. As elsewhere throughout the western United States, consumption per household in City Light’s service area has been declining steadily. Residential load is expected to continue to decline at a low rate of -0.1% annually over the next twenty years, though it will increase in the near term as the local economy recovers. Many factors contribute to the long-range trend: the changing mix of housing stock as multifamily housing gains a greater share of the total number of dwelling units; the declining number of occupants per household; the conversion of space and water heat from electricity to natural gas; the installation of more efficient appliances; the effect of energy efficient building codes, etc. As in other recessions, household formation has declined throughout the Puget Sound region during this recession, largely due to the lack of jobs for current residents and a slowdown in migration from other parts of the country. Although rental vacancy rates are high in the service area at this time, they will go down as the job market rebounds.

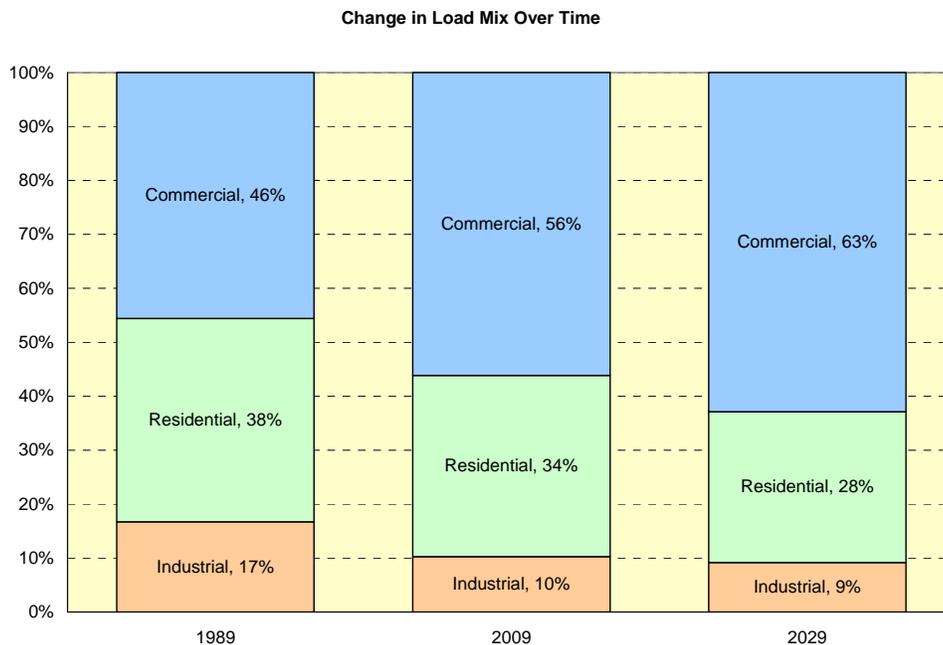
Commercial

Commercial load growth is driven by employment. The commercial sector, including government, is the fastest growing sector; it is expected to grow at an annualized rate of 1.4% over the next twenty years. Despite current record-high office and retail vacancy rates, Seattle is the commercial center for the State and will continue to grow in the long run. Substantial commercial construction in the years leading up to the recession has left the service area with ample space for rapid expansion when the job market improves. Load for this sector has suffered much less during this recession than during the dot.com bust earlier in this decade.

Industrial

Each of six industries—aerospace, metal melting, stone/glass/clay, food processing, shipbuilding, and other manufacturing—are forecast separately. Most of these sectors are dominated by a handful of large firms, along with a varying number of smaller firms. The largest firms are tied more closely to the national and global economies than to the local economy. Industrial load declined more than other sectors during the current recession, with large firms that support construction activity being hit particularly hard. The forecasts for each of the industrial sectors take into account information on specific large individual firms, in addition to statistical analyses of historical data and forecasts of explanatory variables. Industrial load has been in decline in the service area for many years, in economic times both good and bad. This is in large part due to relocations from the service area in response to the real estate market. Industrial load is expected to grow at an average annual rate of 0.2% in the long run, as the larger firms, where much of the load was lost, return to economic health. As after previous recessions, a portion of industrial load will be lost permanently.

Due to the different growth rates of each sector, system load will become even more heavily dominated by commercial consumption over time. This will have a gradual affect on load shape, with commercial cooling increasing summer load. The graph below shows the change in mix at twenty-year intervals.



It should be noted that the load forecast does not take on the issue of climate change directly, though any effects to-date are picked up in the linear regression analysis and projected into the future. Climate change scenarios are examined in the Integrated Resource Plan, from both the load and resource sides of the equation. Also, there are no assumptions about the widespread adoption of electric vehicles and plug-in hybrids in this forecast because of the uncertainty about the timing and magnitude of such a load. An analysis of plug-in hybrid vehicles summarized in the 2008 Integrated Resource Plan indicates that we expect that such load will build gradually over time, based on past rates of new vehicle registrations.