

LOAD FORECAST FOR INTEGRATED RESOURCE PLAN

As a general matter load forecasts are required to conduct an Integrated Resource Plan (IRP). First, to establish a baseline of regional resources, load, and transmission for the planning period. Second, to establish the resource needs of the utility for portfolio analysis. As a practical matter, long-term load forecasts must be fixed at the beginning of the IRP analysis.

At City Light, a long-range load forecast of system load and system peak is produced annually. Load forecasts are used throughout the utility for a variety of planning purposes, such as the operating plan, the transmission and distribution capacity plan, the revenue forecast, and assessments of energy efficiency potential. It is also distributed to many external entities with planning functions, such as the Bonneville Power Administration, the Western Electricity Coordinating Council, and the Pacific Northwest Utilities Conference Committee. A forecast of load is needed for calculating the amount of renewable resources and cost-effective energy efficiency necessary for compliance with Washington State Initiative 937 (I-937) and for producing the IRP required by Washington law (RCW 19.280).

The forecast of system load is based on normal weather assumptions and forecasts of selected economic and demographic variables for the service area. Primary drivers of load growth include service area employment and the number of households. Employment and number of households are expected to continue growing in the long run, though occasional periods of economic slowdown are likely. Overall, the Seattle area economy is robust, supported by industries such as aerospace, software, and electronic commerce.

The 2016 IRP uses a long-range load forecast accepted by Seattle City Light’s Risk Oversight Committee in June 2015. This forecast was based, in part, on national (IHS Global Insight) and regional (Puget Sound Regional Forecaster) forecasts of economic data available at that time, reflecting continued national and regional economic growth. Figure 1 shows Seattle City Light’s long-term system load forecast used in the IRP. This load forecast includes historical achieved energy efficiency, but is without new programmatic energy efficiency. This is necessary so that the energy efficiency resource can be evaluated in the same way as generating resources. In essence, this reflects load growth that would occur if there were no more new energy efficiency programs in the utility’s future.

The load forecast finalized in June of 2015 reflects growth in the commercial sector, stability in the industrial sector, and an expected continued decline in residential load. With increases in urban density, a higher percentage of the population residing in multi-family housing, continued technological gains in energy-efficient appliances, lighting, and building designs, and ever-stricter codes and standards for new construction, constraints on future load growth are expected.

**Figure 1:
Seattle City Light
Long-Term Load
Forecast**

(does not include
new programmatic
energy efficiency)

