Northwest Power and Conservation Council

December 3, 2008

MEMORANDUM

TO: **Power Committee**

FROM: Massoud Jourabchi

SUBJECT: Demand Forecast for the 6th Plan

In the November 14th teleconference, near and long-term projections of the key national and regional economic drivers were presented. In this month's meeting, a review of the base and alternative economic scenarios and their implications for the energy and peak load forecast will be presented.

Between 2010 and 2030, regional load is projected to grow at annual rate of between 1.2 percent and 2.0 percent depending on the scenario, prior to any new conservation. Summer peak load is projected to grow at annual rate between 2.1 percent and 2.8 percent. The monthly electricity bill for residential customers is projected to grow from $60-$70 to $95-$109 by 2030, growth of about 2 percent per year. The increase in electricity cost due to renewable portfolio standards is projected to be about $1 per megawatt-hour (MWh) for Montana, $3 dollars per MWH for Oregon, and about $2 per MWH for Washington.

Average Annual Growth Rate 2010-2030

Scenario	Energy	Summer Peak	Winter Peak
Low Growth	1.2 percent	2.1 percent	1.3 percent
Base case	1.6 percent	2.5 percent	1.7 percent
High Growth	2.0 percent	2.8 percent	2.0 percent

The current uncertainty about the national economy impacts both the short-term forecast and, to a lesser extent, the long-term forecasts. The impact of the current slow-down in the economy has not been felt in the regional loads. For the first eight months of 2008, regional loads have been growing in spite of the projected slow-down in the economy. Sales of electricity between January and August 2008 have grown by 2.3 percent. Expectations are that sales in the last four months of the year will slow down. The overall annual growth rate for 2008 is projected to be 1.9 percent. For 2009, our forecast shows a slowdown in load growth rate that could go below 1.7 percent. The current base case economic forecast projects a recovery post-2010, in sync with the economic recovery during 2010-2013. The load growth is expected to jump to a 2.2 percent annual rate during 2010-2013. If the current expected recession becomes deeper than anticipated and lasts longer, load growth in 2010 is expected to be negative 0.06 percent.

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Electricity Demand Forecast
Draft
6th Power and Conservation Plan

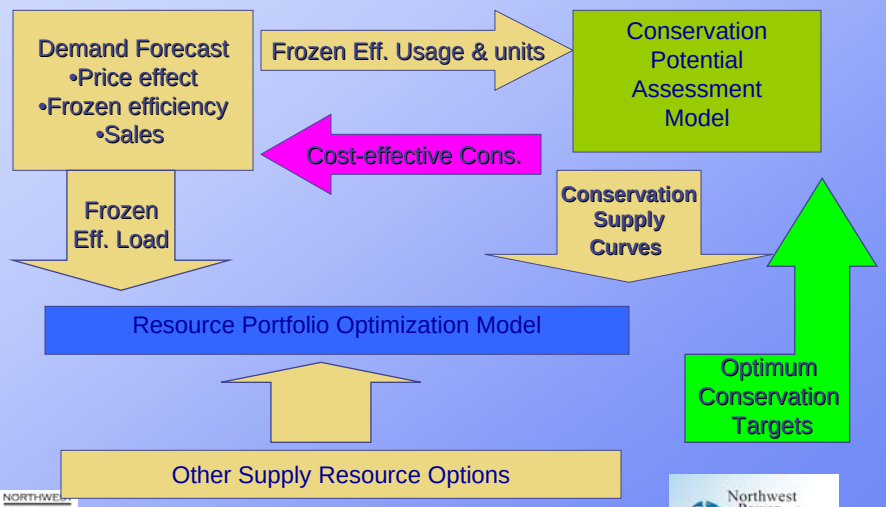
December 18, 2008

Massoud Jourabchi

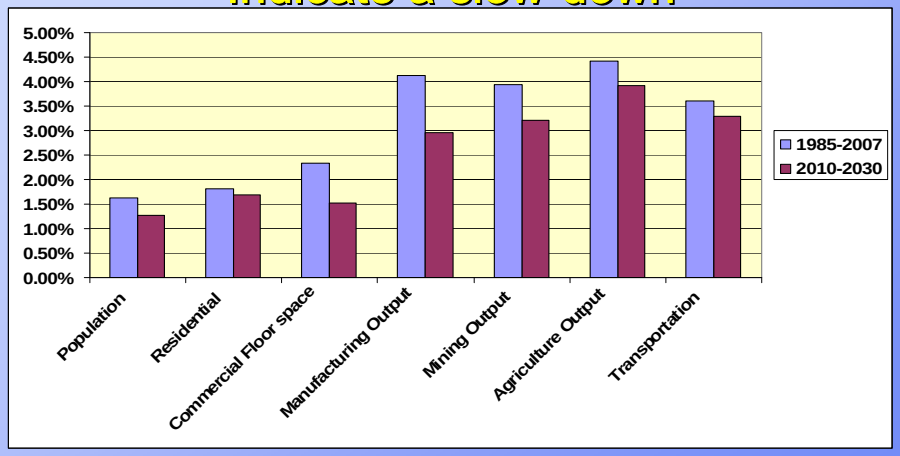
This Presentation Covers

- Review of the Planning Process
- Overview of Economic Forecasts
- Demand and Peak Load Forecasts
- Estimating Residential Electricity Bills
- Changing Mix In Residential Loads
- Next steps

Council's Planning Process



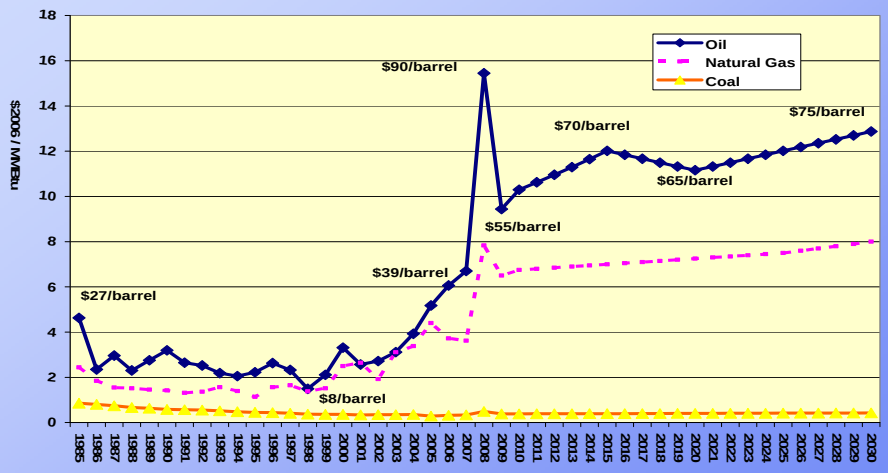
Comparison of Growth Rates in Key Economic Drivers Indicate a slow-down



Historic, Base Case and Alternative Scenarios Growth Rates can be summarized as

Sectoral Driver	1985-2007 Actual	2010-2030 Low Case	2010-2030 Base Case	2010-2030 High Case
Population	1.60%	0.60%	1.30%	2.20%
Residential	1.90%	0.60%	1.70%	2.20%
Commercial Floor space	2.30%	0.90%	1.50%	1.90%
Manufacturing Output $	4.10%	2.30%	3.00%	3.90%
Agriculture Output $	4.40%	3.00%	3.90%	5.00%
Light Vehicle Sales		0.50%	1.40%	2.20%
Plug-in electric Vehicle penetration rate by 2030	NA	10%	30%	40%
Inflation rate	2.20%	1.70%	1.90%	3.50%
Fuel Prices		Council's Low Forecast	Council Base Forecast	Council High Forecast

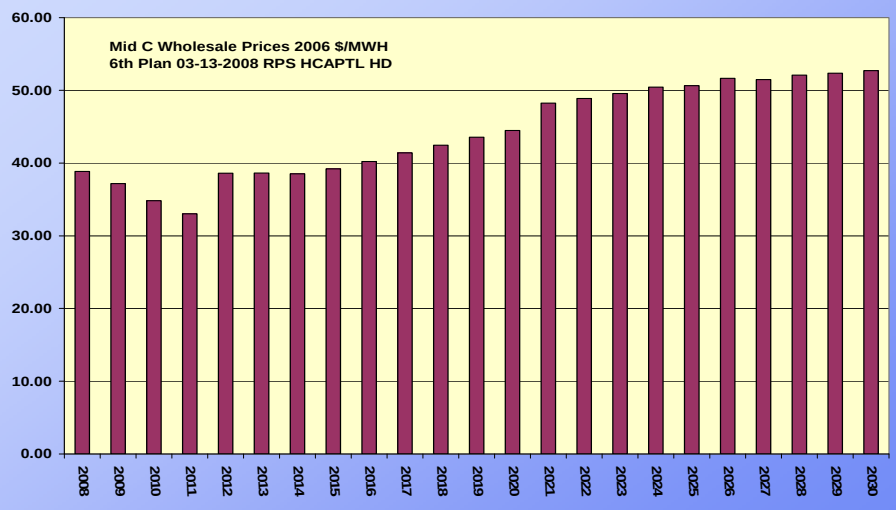
Projected Fuel Prices

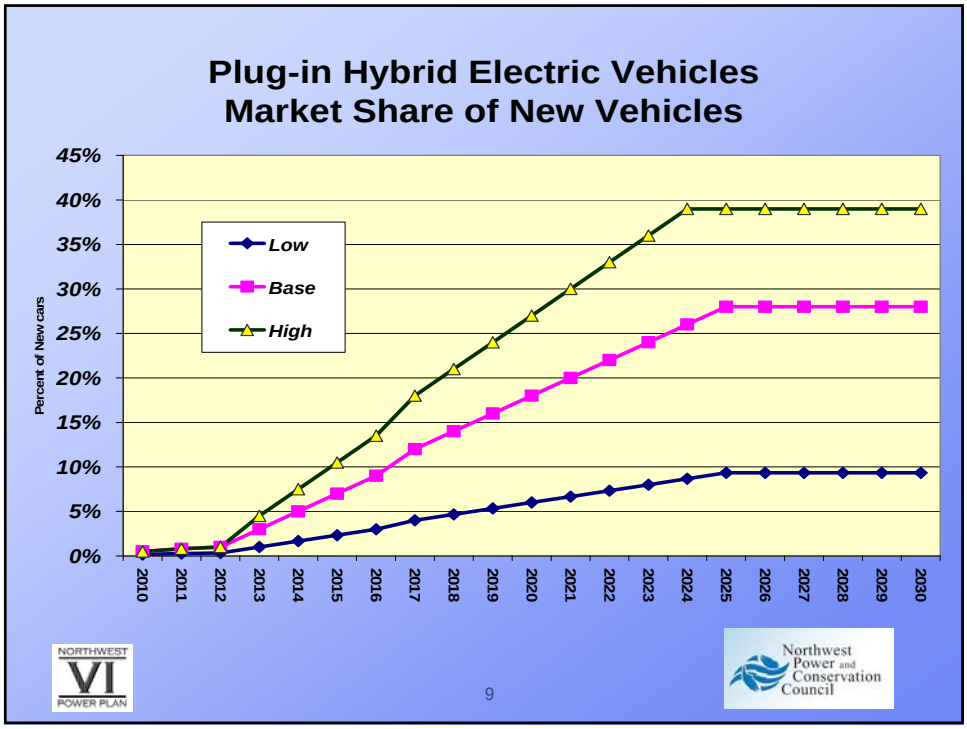


Council's Fuel Price Forecast

Range In Annual Growth Rate 2010-2030	Low Case	Base	High Case
Oil	-1.11%	1.1%	2.0%
Natural Gas	-1.3%	0.9%	1.7%
Coal	-0.5%	0.5%	1.2%

Draft Wholesale Electricity Prices 2006$/Mwh




Plug-in Hybrid Electric Vehicles
Market Share of New Vehicles
Percent of New cars
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
Low
Base
High
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
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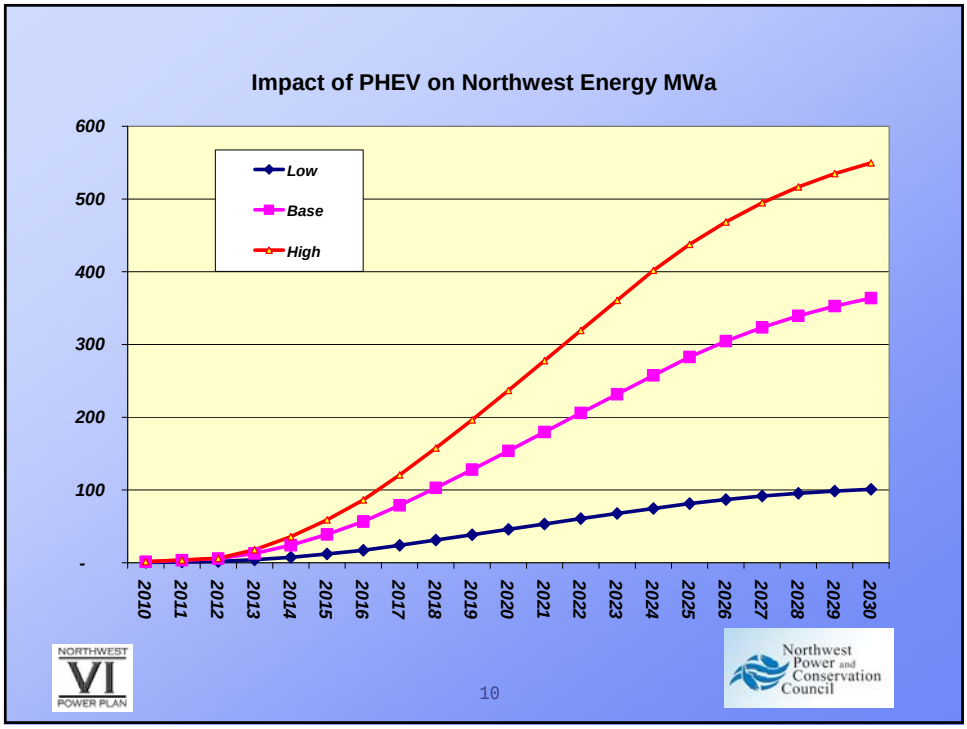
Impact of PHEV on Northwest Energy MWa
600
500
400
300
200
100
-
Low
Base
High
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
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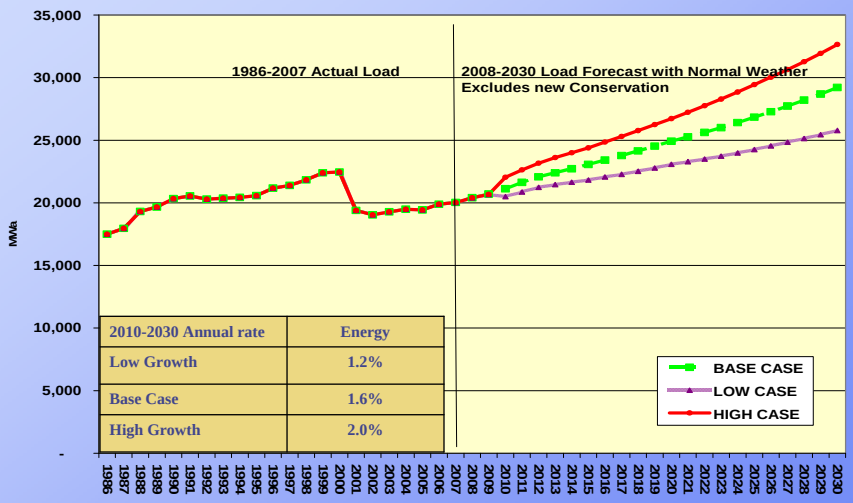
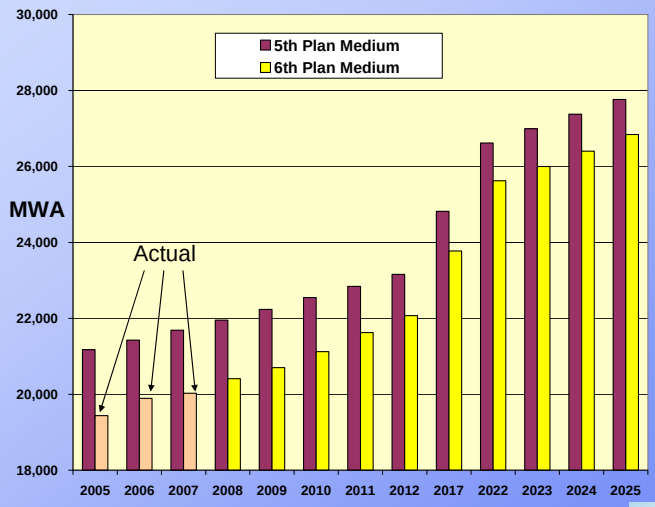
Load Forecast (Price Effect Forecast)

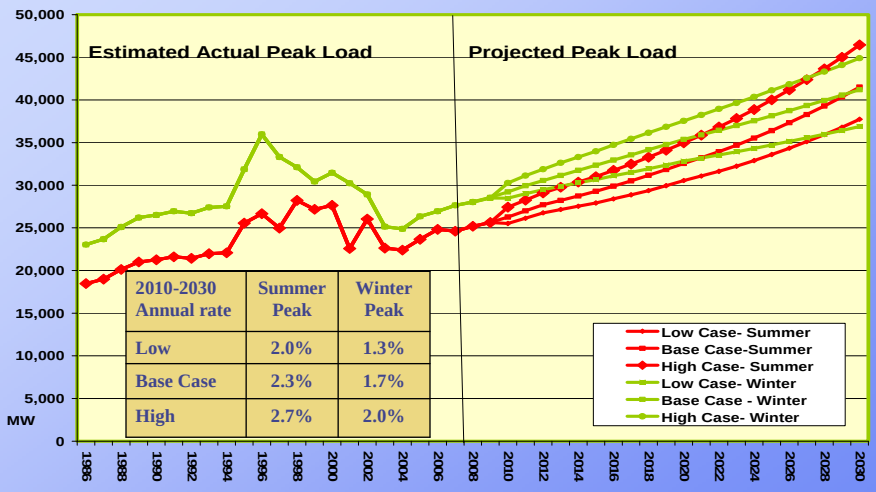


2010-2030 Annual rate	Energy
Low Growth	1.2%
Base Case	1.6%
High Growth	2.0%

Comparison of the 5th and 6th Plan forecasts reflects slow path of recovery



Regional Peak Load Projections



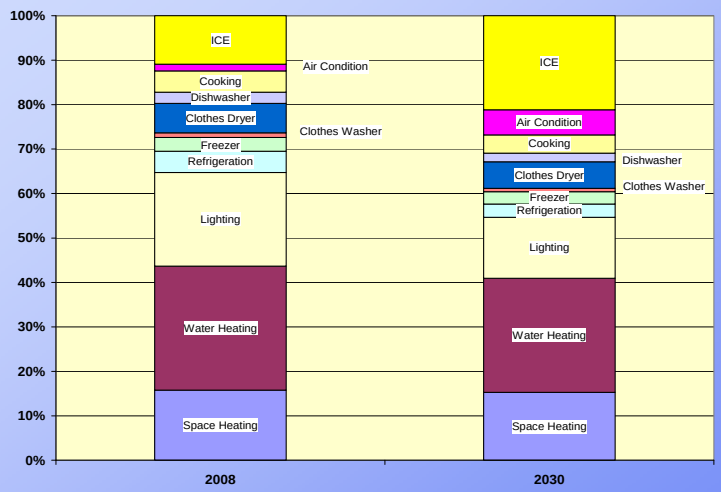
2010-2030 Annual rate	Summer Peak	Winter Peak
Low	2.0%	1.3%
Base Case	2.3%	1.7%
High	2.7%	2.0%

Summary of Projected Growth Rate for 2010-2030

Scenario	Energy	Summer Peak	Winter Peak
Low Growth	1.2%	2.0%	1.3%
Base Case	1.6%	2.3%	1.7%
High Growth	2.0%	2.7%	2.0%

Residential Customers Monthly Bill /Household 2006$				
	Oregon	Washington	Idaho	Montana
1986	73	72	81	62
2007	80	82	68	81
2020	86	87	74	87
2025	98	99	85	99
2030	106	108	94	109
Increase in Monthly Bills				
1986-2000	-0.3%	-0.5%	-0.8%	0.1%
2000-2007	2.1%	3.1%	0.1%	3.6%
2010-2030	2.1%	2.3%	2.3%	2.2%
Increase in Bills For Same Level of Sales				
2010-2030	1.5%	1.4%	1.4%	1.1%

Changing Consumption Pattern in Residential Sector



Increase in AC Load and Information, Communication and Entertainment (ICE) end-use is one reason for projected increase in Sales in Residential Sector

Next Steps

- Finalize Electricity Wholesale Price Forecast
- Incorporate findings of current analysis on Industrial and ICE demand
- Incorporate DFAC feedback
- Release for public comment