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March 1, 2016

MEMORANDUM

TO: Council members

FROM: Massoud Jourabchi

SUBJECT: NW Economic, Electricity Sales and Revenue Trends

BACKGROUND:

Presenter: Massoud Jourabchi

Summary: Council staff monitors regional economic trends as well as electricity sales and revenues of utilities in the region. At the March 2016 Power Committee meeting staff will present an analysis of recent trends in gross state product and employment as indicators of the overall condition of the regional economy. Staff will present data on both actual and weather normalized regional electricity sales/loads, utility revenues and average prices over the past several years. Staffs analysis indicates that although economic activities and regional employment have recovered to pre-recessionary levels, electricity sales continue to be flat, hovering at about 19,600 average megawatts per year. However, while the consumption of electricity has not increased, regional electric utility revenues have grown at an inflation adjusted rate of 2.4% per years since 2010. Total 2014 revenues from the sale of electricity in the region are now just over \$13 billion dollars. Data shows that the region continues to expand its economy, while keeping the consumption of electricity stable and maintaining a regional average cost per megawatt-hour lower than most other states.

Relevance: Section 839b(e)(3)(D) of Northwest Power Act requires a demand forecast of at least twenty years.

Workplan: In order to maintain analytical capabilities of demand forecasting tools, Council staff monitors economic conditions, electricity sales, loads, and prices at state level.

Background: Tracking sales and loads enable forecasting models to be calibrated to actual observed data.

Northwest Economic Trends and Electric Utility Sales and Revenues in 2014

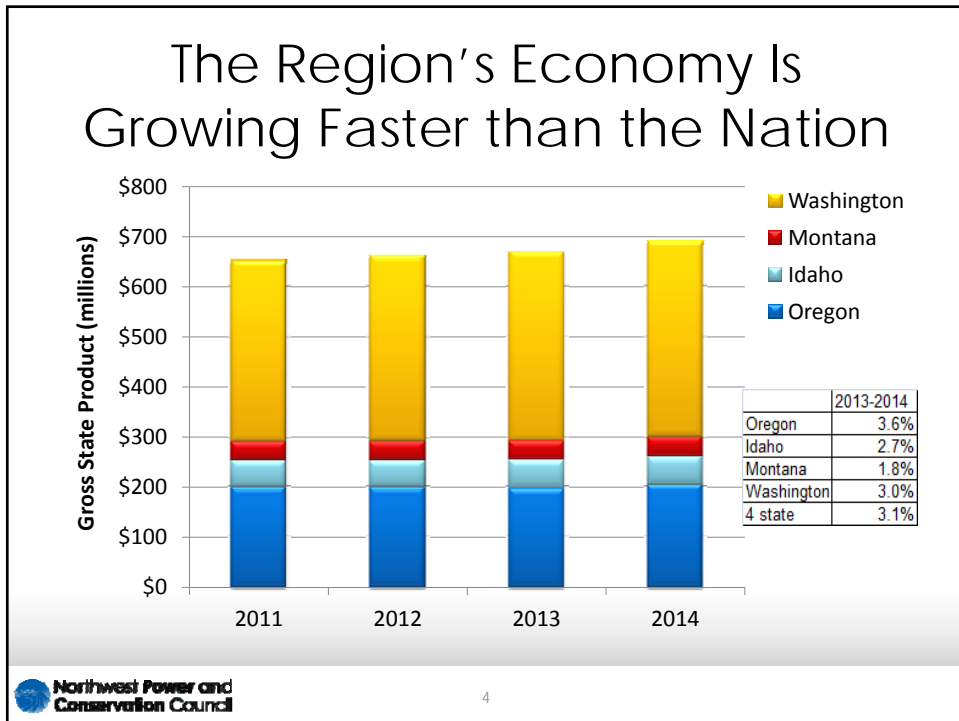
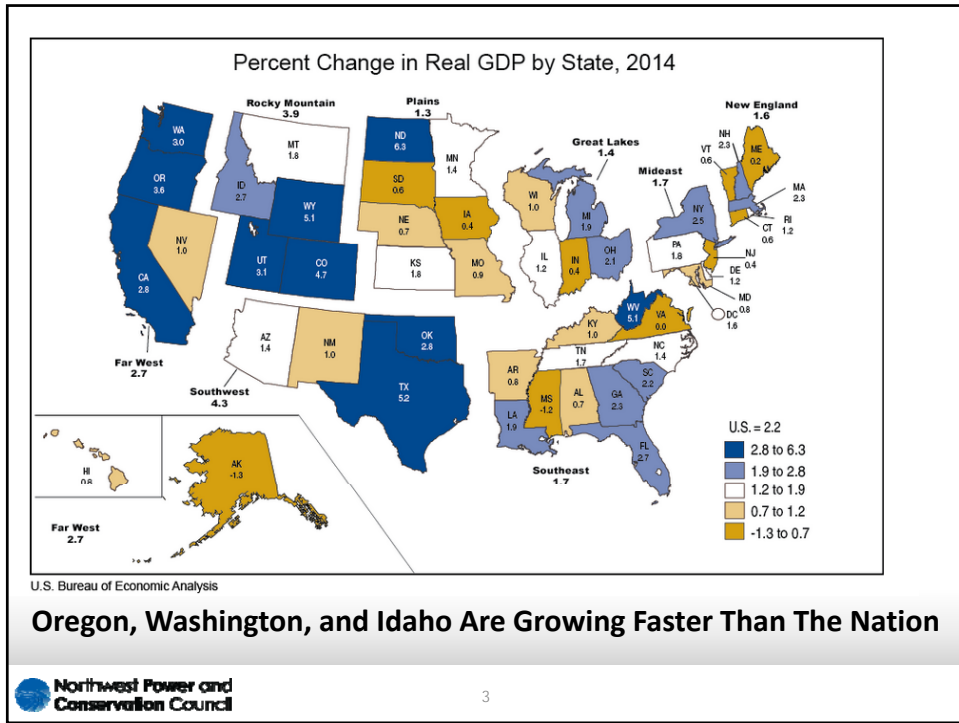
Massoud Jourabchi
March 2016



In Today's Presentation

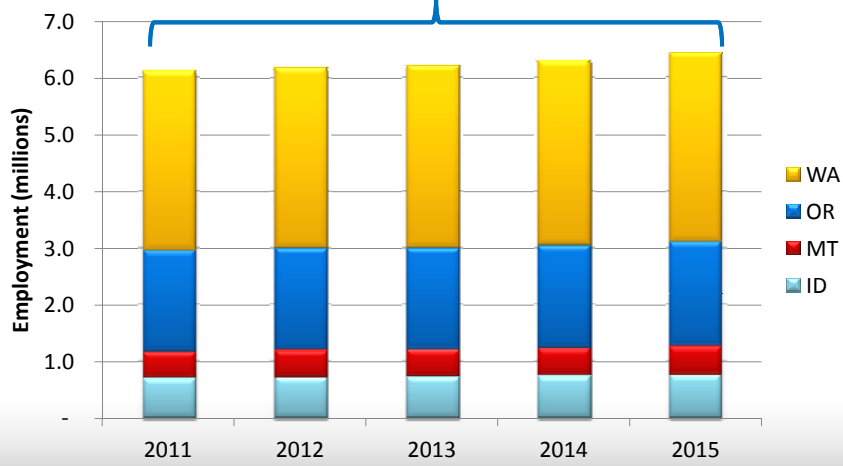
- **Economic Trends of Northwest States**
 - Gross state product
 - Employment
- **Electricity Sales and loads**
 - Actual
 - Adjusted for temperature
- **Sales and Revenues by Sector**
- **Doing more with less**



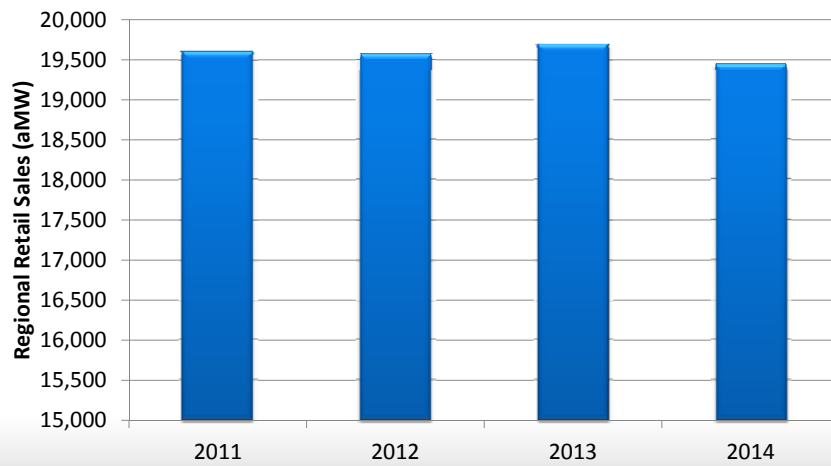


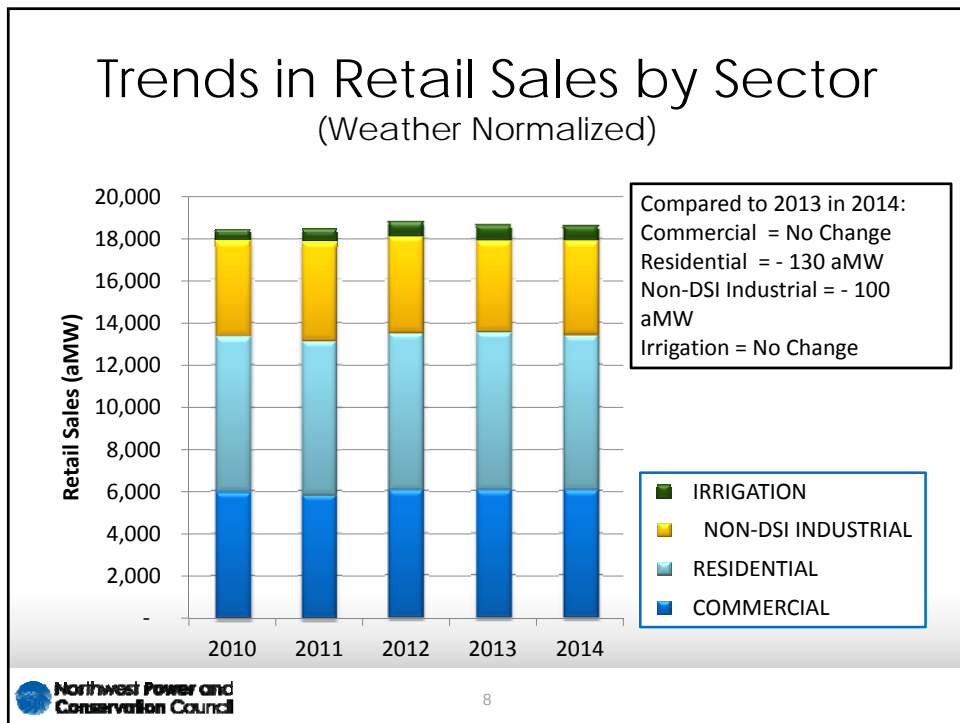
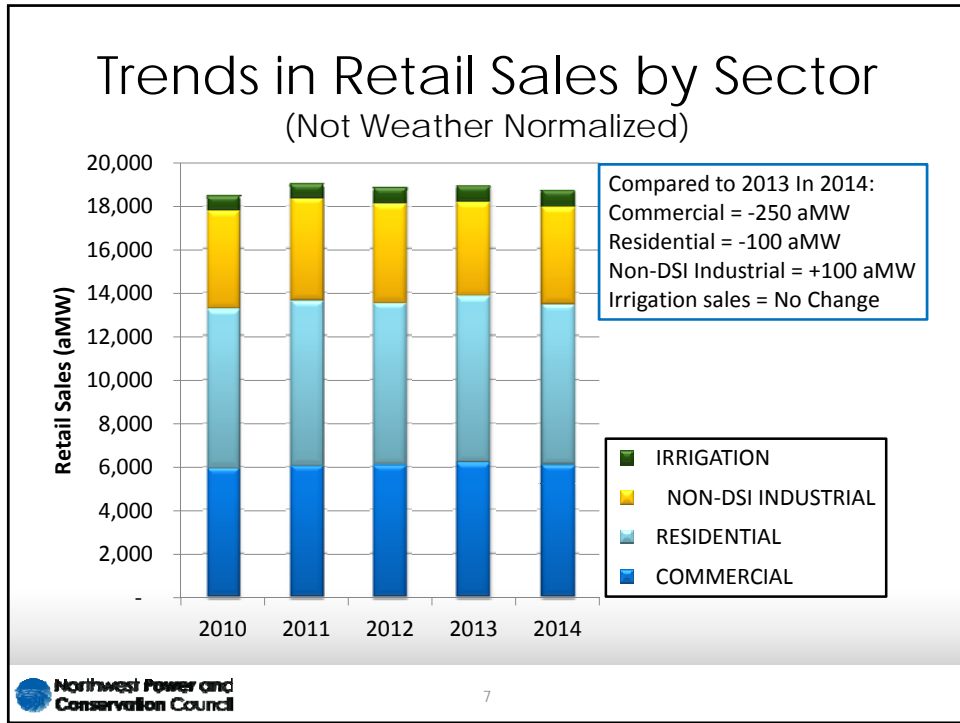
Regional Employment Has Increased

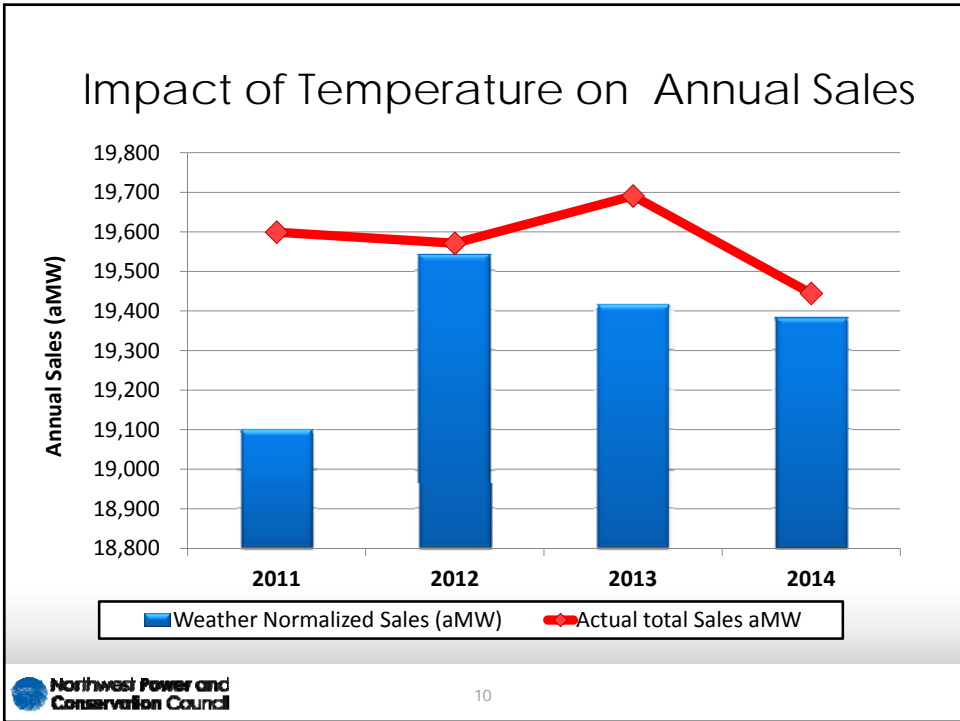
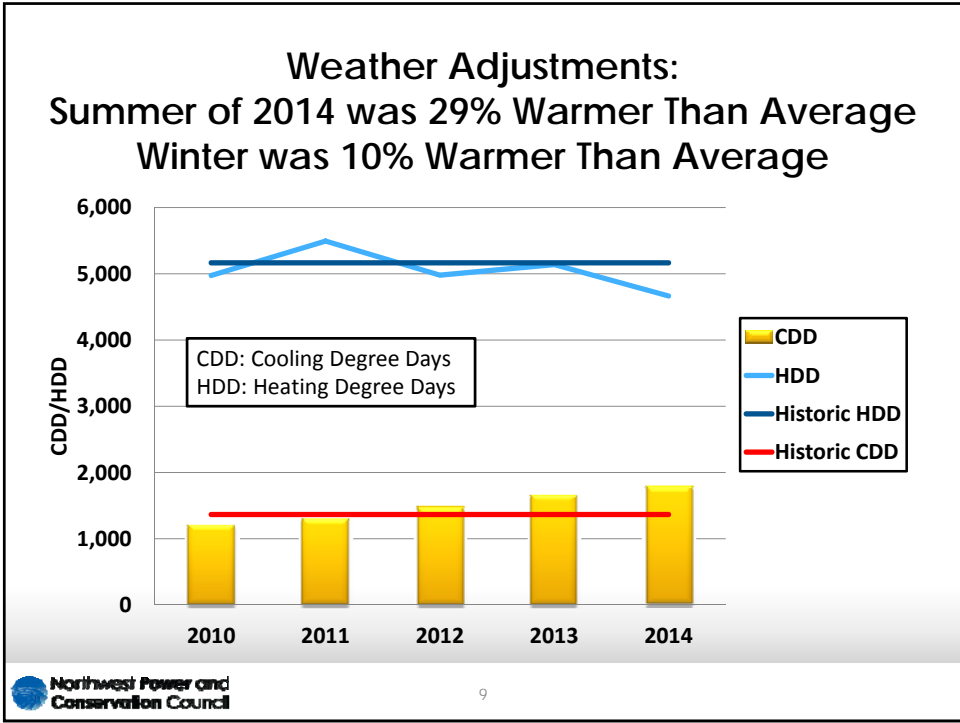
Since 2010 employment increased by over 363,000

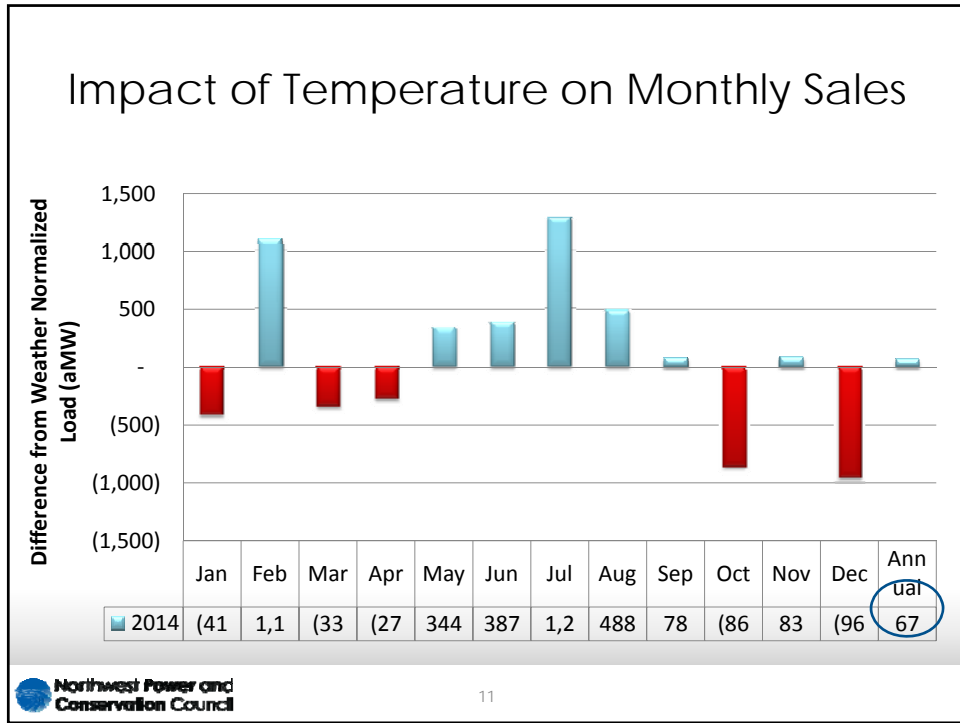


2014 Regional Electricity Retail Sales Were Lower Than the Three Prior Years





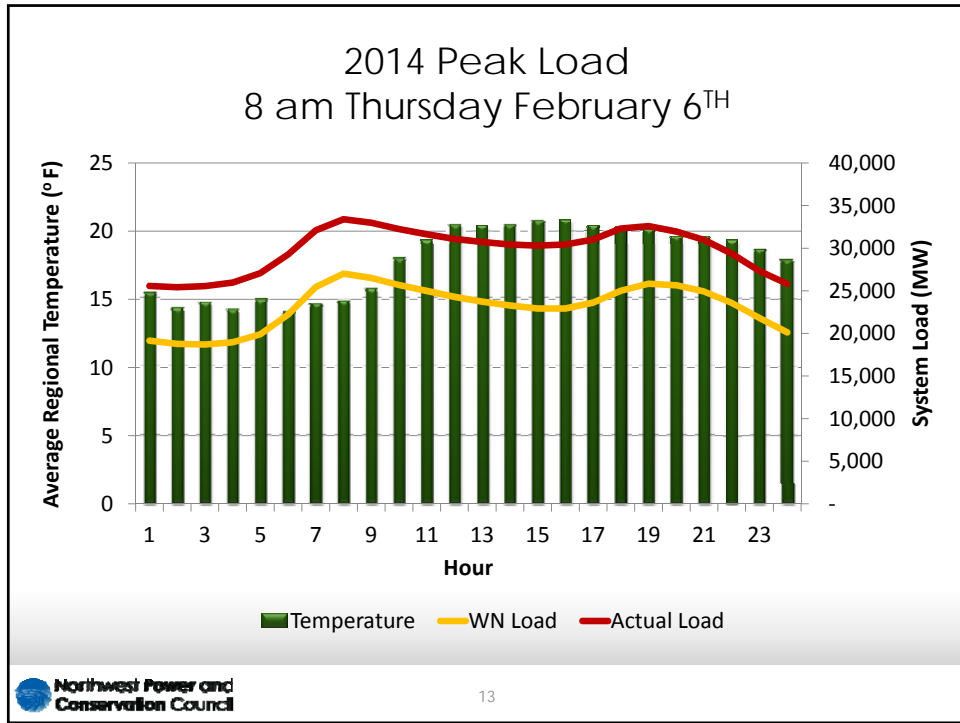




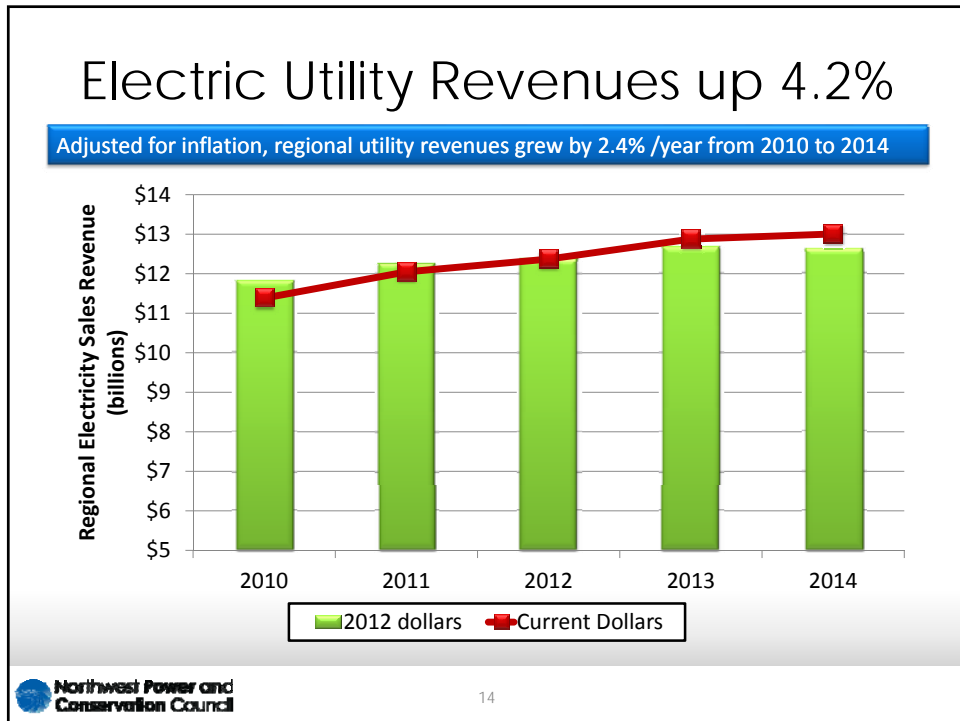
2014 Peak Load

- Peak regional load occurred on 8 AM Thursday February 6th
- Average Regional Temperatures = 15 °F
- A weather system kept average regional daily temperatures in the 14 - 15 °F range for three consecutive days

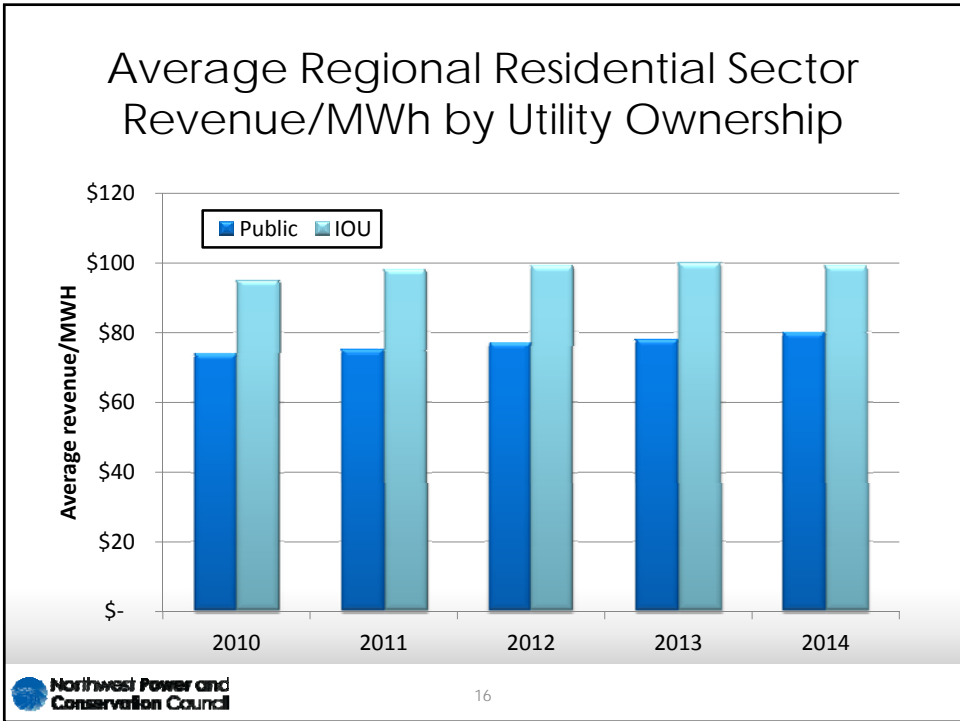
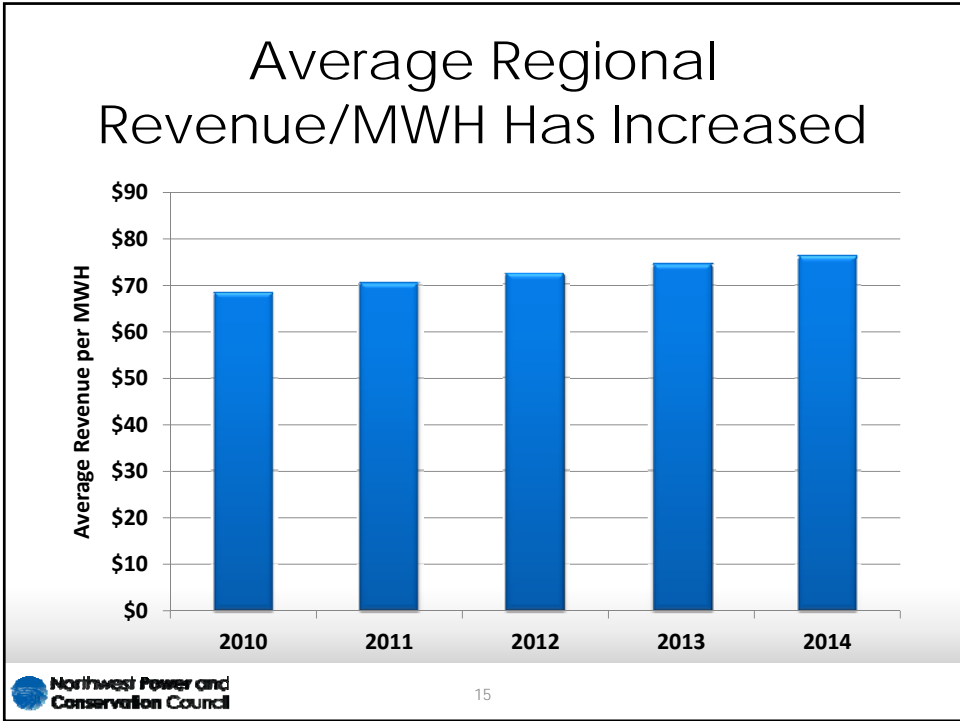
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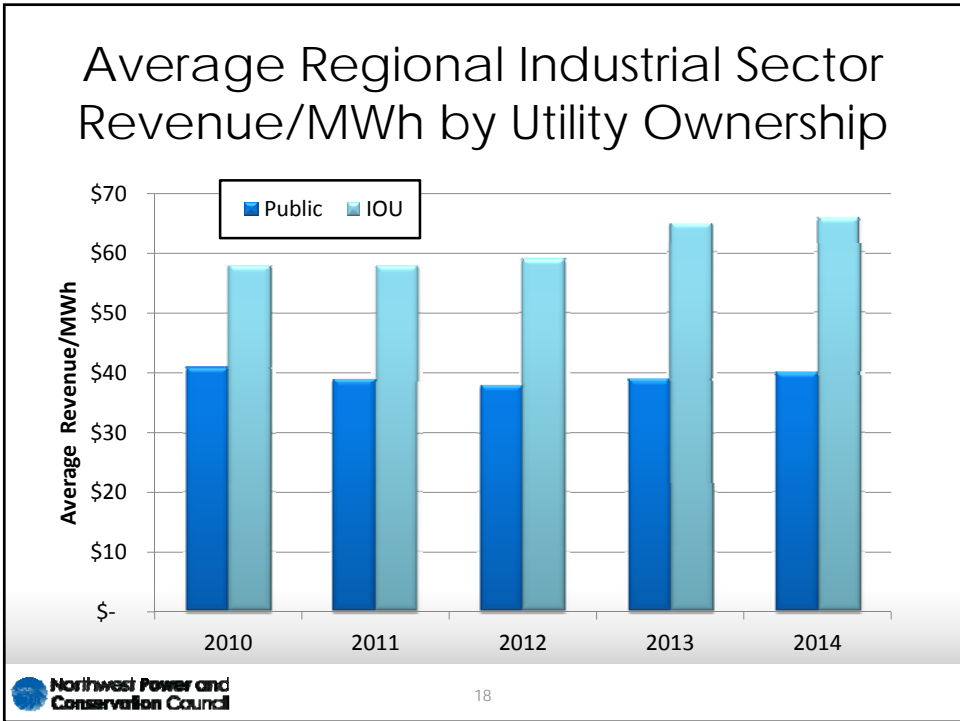
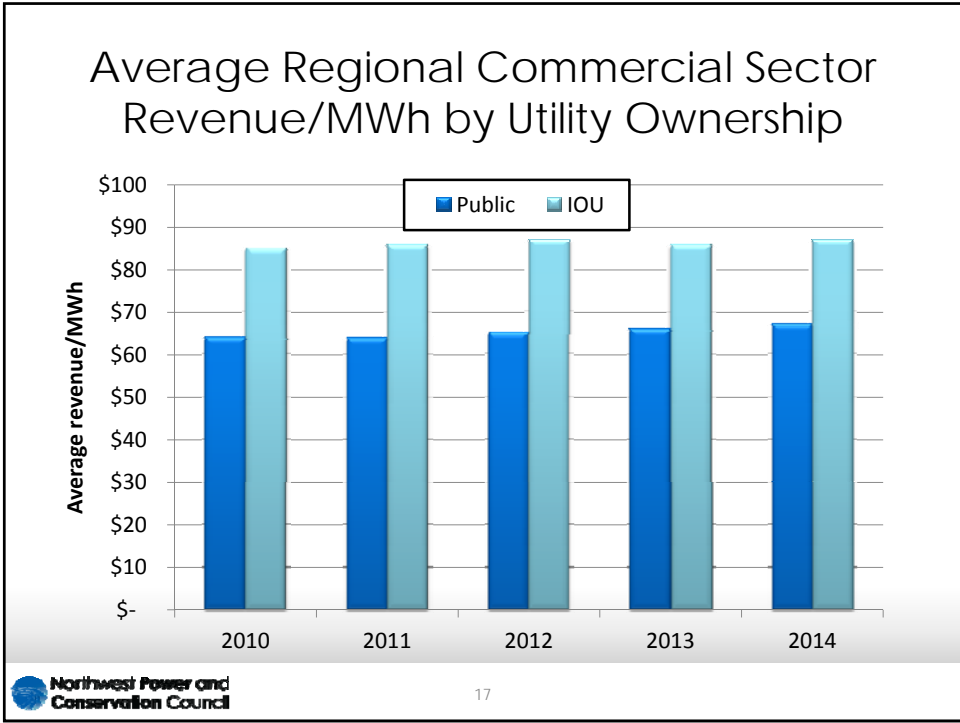


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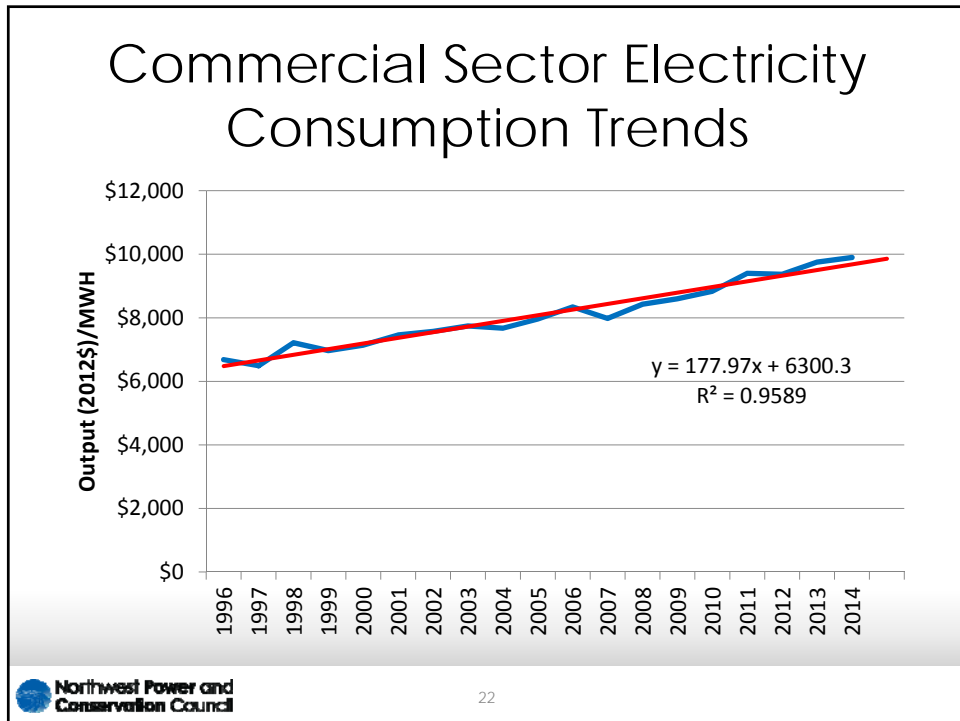
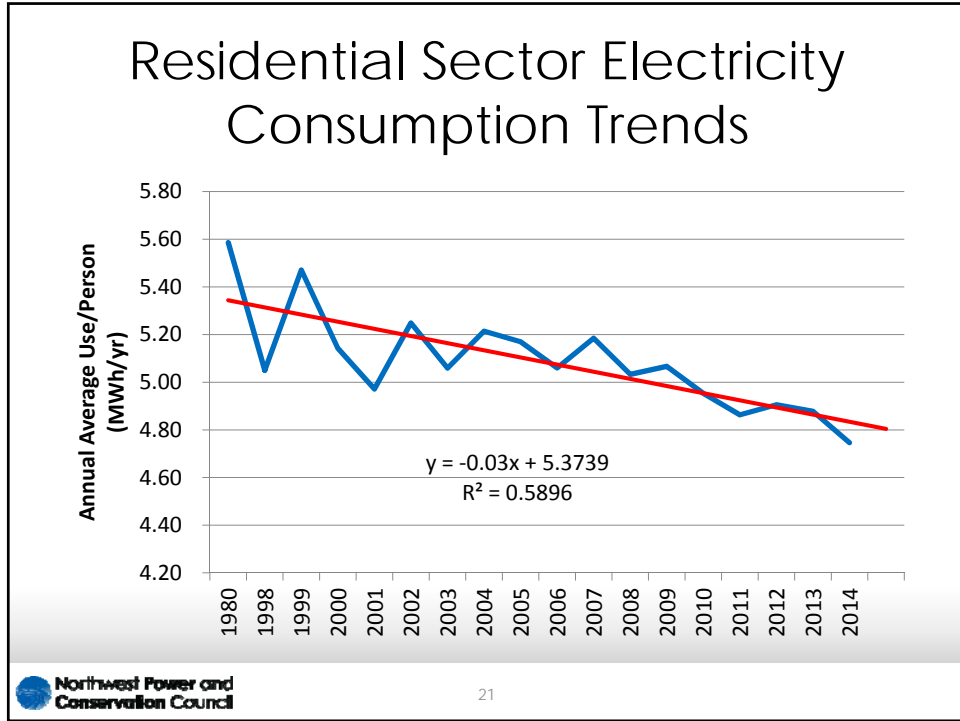


NW States Have Some of Lowest Cost Electricity in the Country

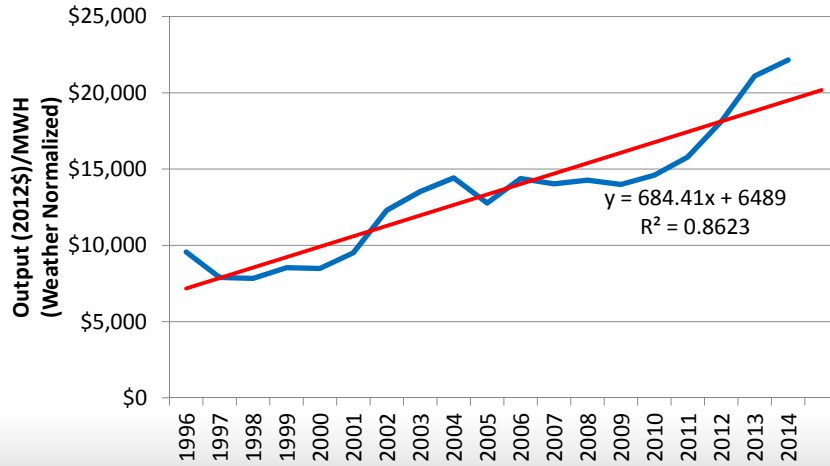
National Rank of Electricity Prices by Sector (1= Most Expensive)				
2014	Residential	Commercial	Industrial	All sectors
Idaho	47	52	37	48
Montana	44	32	51	41
Oregon	40	41	46	40
Washington	52	51	52	52

Indicators That the Region is Doing More with Less Electricity

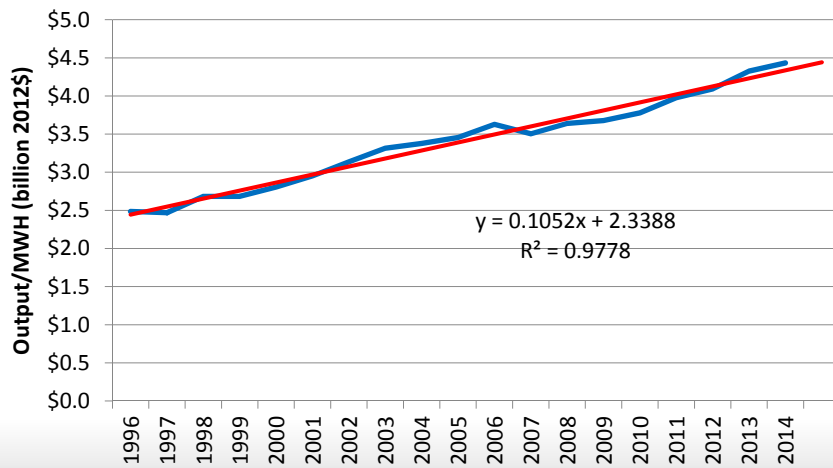
- Trends in weather normalized electricity sales:
 - Residential sector electricity *consumption per household*
 - Commercial sector *output per MWH* of electricity consumption
 - Manufacturing sector *output per MWH* of electricity consumption
 - Total *regional gross product per MWH* of electricity consumption



Trends in Non-DSI Manufacturing Sector Electricity Consumption



Trends in Regional Economic Output



Summary

- **Regional Economy Is Expanding**
- **Employment has returned and exceeded pre-recessionary levels**
- **Electricity sales are fairly flat**
- **Utility revenues are increasing**
- **Region continues to produce more goods and services using less electricity**