

# SIX GOING ON SEVEN

## Data Aggregation and Analysis of 2010-2012 Regional Efficiency Achievements

### LETTER FROM BPA

As we move past the midpoint of the 6<sup>th</sup> Power Plan the Northwest is beginning to focus on the development of the 7<sup>th</sup> Power Plan. Given the Power Plan's importance to the region and our utility customers, BPA is committed to supporting this work. To do so we have aggregated and analyzed the region's 6<sup>th</sup> Power Plan achievements at a level of detail we have never seen before. It is our hope that this data will provide an empirical foundation to help identify key topics for discussion during the development of the 7<sup>th</sup> Power Plan.



### WHO PARTICIPATED

**97 percent** of the region (based on power sales) submitted sector, end-use, and technology specific achievement data for 2010-2012. This includes:

**135**

PUBLIC UTILITIES  
(OUT OF 136)

**5**

INVESTOR-OWNED UTILITIES  
(OUT OF 6)

**NEEA**

### PROJECT OVERVIEW

The project was strategically designed in four phases to provide critical data.



#### LITERATURE REVIEW

6<sup>th</sup> Power Plan development documents were reviewed to get a solid understanding of the type of data stakeholders would need during a planning process.



#### MARKET RESEARCH

Speaking directly with utilities about their experience with specific technologies will help us interpret the data analysis results.



#### DATA COLLECTION

Collecting regional energy savings data helped us understand what was achieved, where we had major successes, and areas for improvement.



#### DATA ANALYSIS

Our data analysis process aggregated the data in a way that made it possible to compare it to the 6<sup>th</sup> Power Plan forecasts.



A REVIEW OF THE LITERATURE SOURCES WILL BE AVAILABLE SOON ON BPA'S EE HOME PAGE: [www.bpa.gov/Energy/N](http://www.bpa.gov/Energy/N)

### WHAT WE DID WITH PARTICIPANT DATA

We received enough data to fill over **160,000 rows in an Excel spreadsheet** that varied in detail and granularity. Our four step approach for aggregating the data resulted in a database tool that allows us to slice and dice the data in a variety of useful ways.



#### DATA CLEANING

We applied consistent formatting to all utility data sets and removed unnecessary items. No adjustments to savings were made.



#### DATA MAPPING

We mapped all utility data to common end-uses and some specific measure categories to make aggregation possible.



#### DATABASE DEVELOPMENT

The mapped data were loaded into an Microsoft Access database tool that links to Excel for easy reporting.

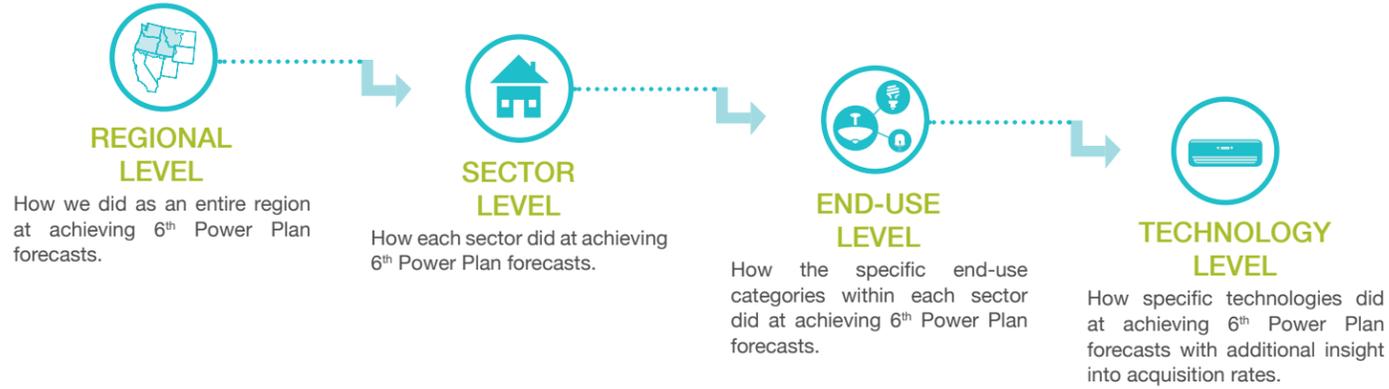


#### DATA ANALYSIS

The database tool enabled us to compare regional savings achievements to the 6<sup>th</sup> Power Plan at a variety of levels.



# THE DIFFERENT LEVELS IN WHICH WE COMPARED REGIONAL ACHIEVEMENTS AGAINST THE 6<sup>TH</sup> POWER PLAN FORECASTS\*

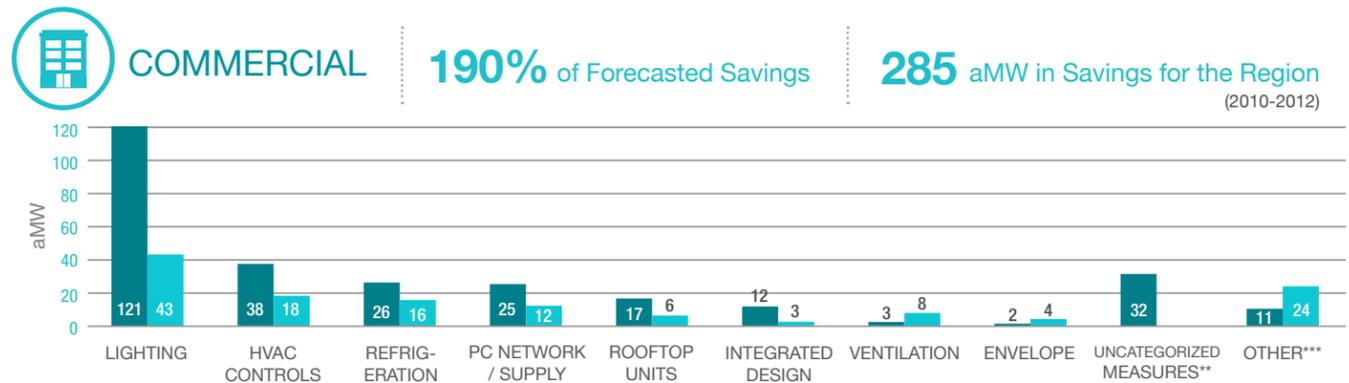
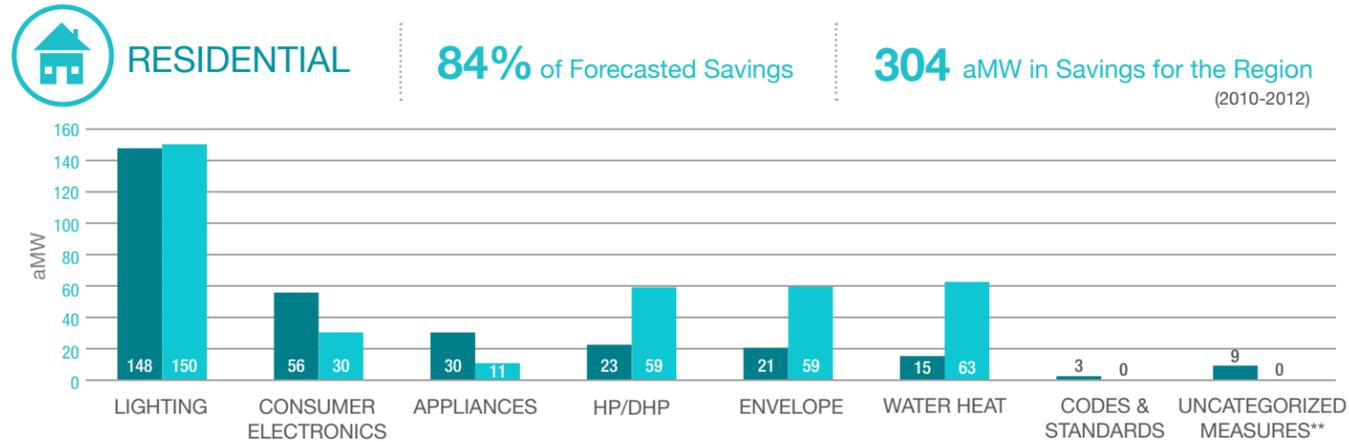


\*The total sector 6<sup>th</sup> Plan forecasts used to estimate the % of forecasted savings are based on the Utility Target Calculator ([www.nwcouncil.org/energy/powerplan/6/assessmentmethodology/](http://www.nwcouncil.org/energy/powerplan/6/assessmentmethodology/)), while the 6<sup>th</sup> Plan forecasts for each end-use are based on the Utility Potential Calculator ([www.bpa.gov/energy/n/utilities\\_potential.cfm](http://www.bpa.gov/energy/n/utilities_potential.cfm)).

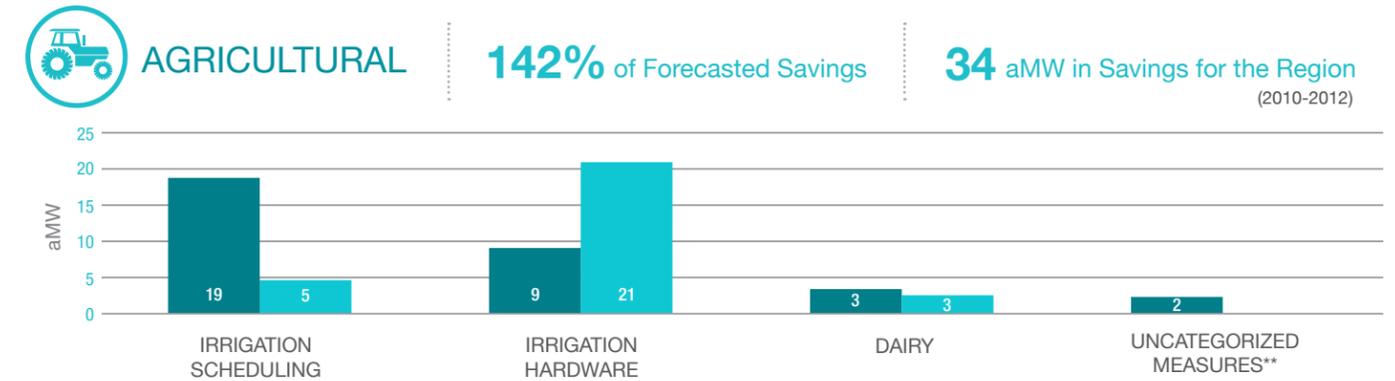
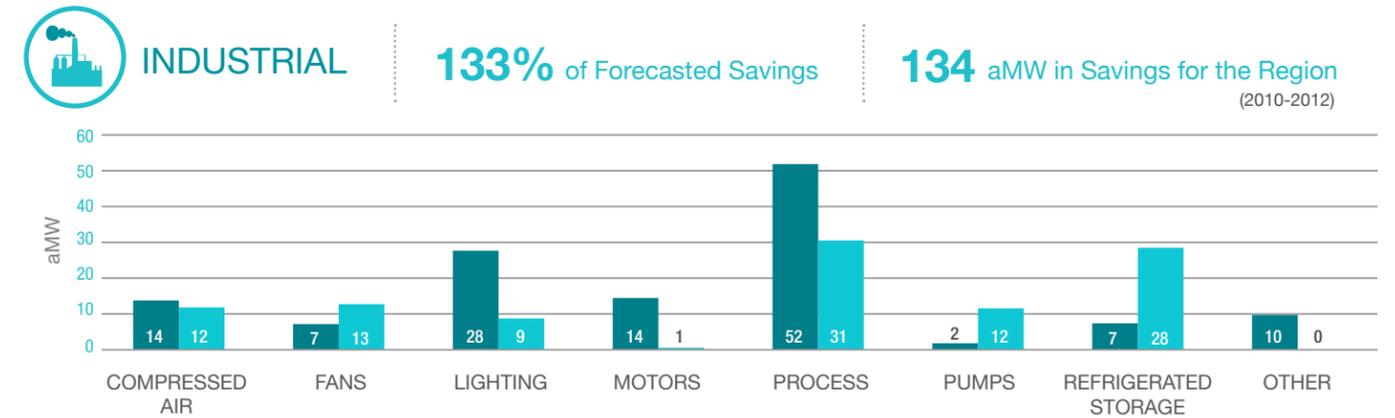
## WHAT WE FOUND



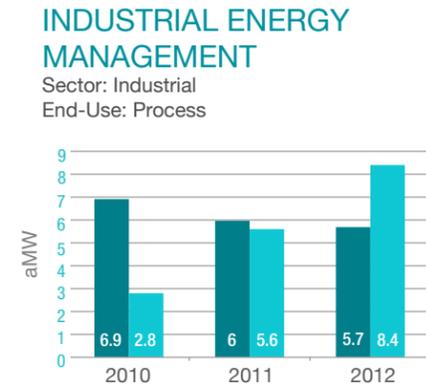
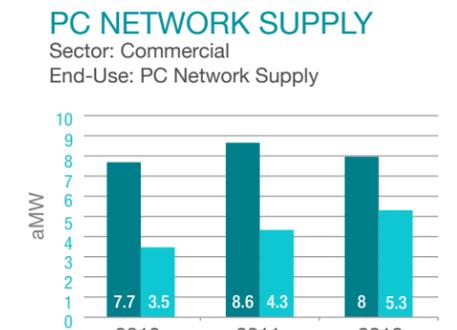
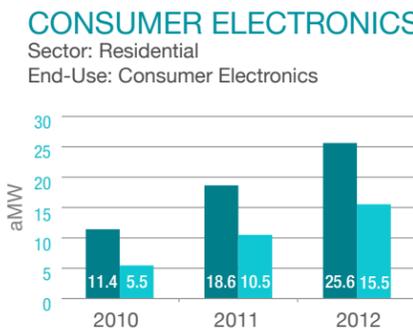
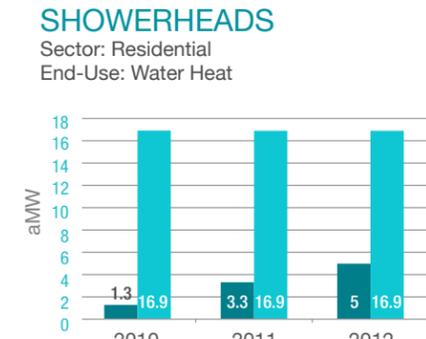
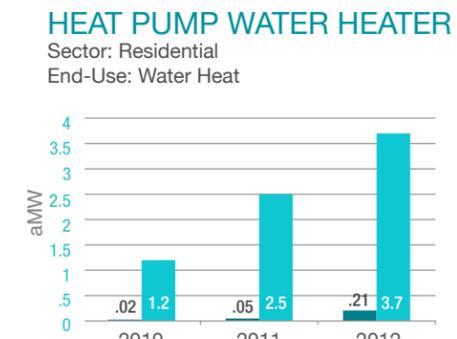
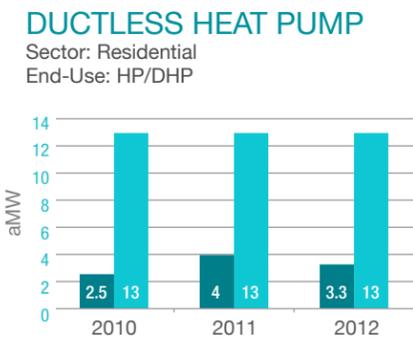
## END-USE ACHIEVEMENTS



\*\*Uncategorized Measures: measures that were present in the utility data that could not be mapped to the 6<sup>th</sup> Power Plan.  
\*\*\*Other Includes: Codes & Standards, Food Service, Exterior Lighting, Traffic, Chillers, Water Heat, Ventilation and Waste Water.



## INDIVIDUAL TECHNOLOGY ACHIEVEMENTS





## READY TO SEE MORE? .....



### 6<sup>TH</sup> PLAN COMPARISONS

Use the database tool to view more regional efficiency achievements against the 6<sup>th</sup> Power Plan by year, sector, end-use, and some technologies.



### REGIONAL ACHIEVEMENTS

The database tool can also be used to summarize and view the distribution of savings for the region. Utilities can use this to compare their own distribution against.

## DATABASE TOOL PARAMETERS

1.

The tool is constructed in Microsoft Access.

2.

The data and results are linked to an Excel spreadsheet so that users can choose to view the data in Excel or Access.

3.

The database contains pre-set queries that summarize the data in a variety of ways.

4.

The Excel spreadsheet contains a macro that allows the user to create custom queries of their choice.

5.

All data in the database is reported at the regional level and data cannot be summarized for each individual utility at this time.

## WHAT'S NEXT .....



### LAUNCH DATABASE TOOL

Following the 11/21/13 Conservation Resources Advisory Committee meeting, we will incorporate any feedback received and load the final database tool on BPA's EE home page [December 11, 2013](http://www.bpa.gov/energy/N).  
[www.bpa.gov/energy/N](http://www.bpa.gov/energy/N)



### COMPLETE MARKET RESEARCH

Market research will be conducted to better understand regional achievements and will focus on emerging technologies.



### PRODUCE FINAL REPORT

A final report will be released to summarize the findings of this project and will incorporate the market research results.

## QUESTIONS & COMMENTS? .....

For more information, please contact the project manager, **Danielle Gidding** (503-230-7314, [dngidding@bpa.gov](mailto:dngidding@bpa.gov)) or management sponsor **Josh Warner** (503-230-5857, [jpwarner@bpa.gov](mailto:jpwarner@bpa.gov)).