



**Eugene Water & Electric Board**

***The Future of Utilities in the Pacific Northwest***

***November 10, 2015***

**Eugene Water & Electric Board**

# **The Future of Utilities in the Pacific Northwest**

**Mark Freeman, EMS & CS Manager**

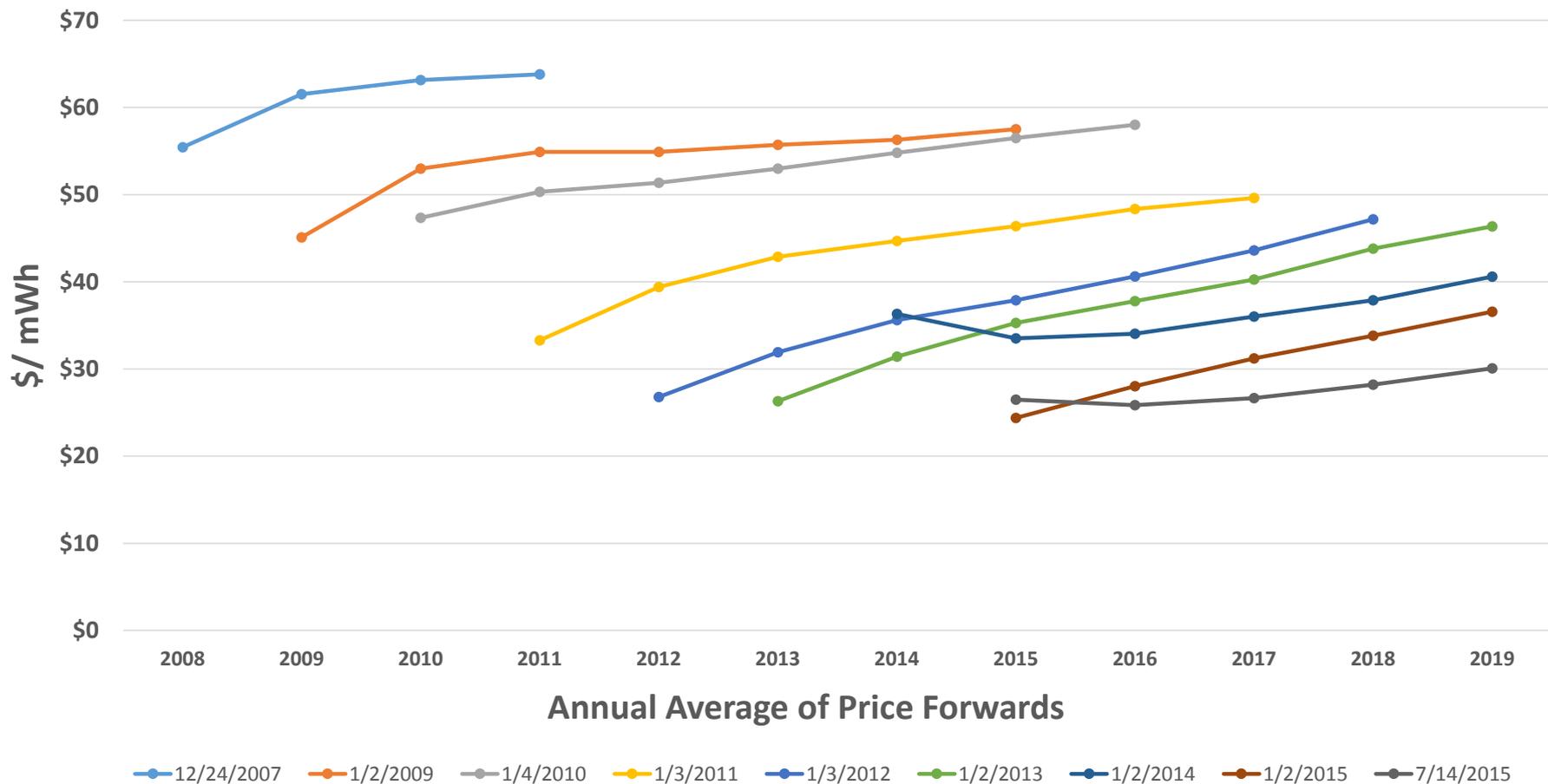
**Dan Morehouse, EMS Program Supervisor C&I**

# Industry Challenges

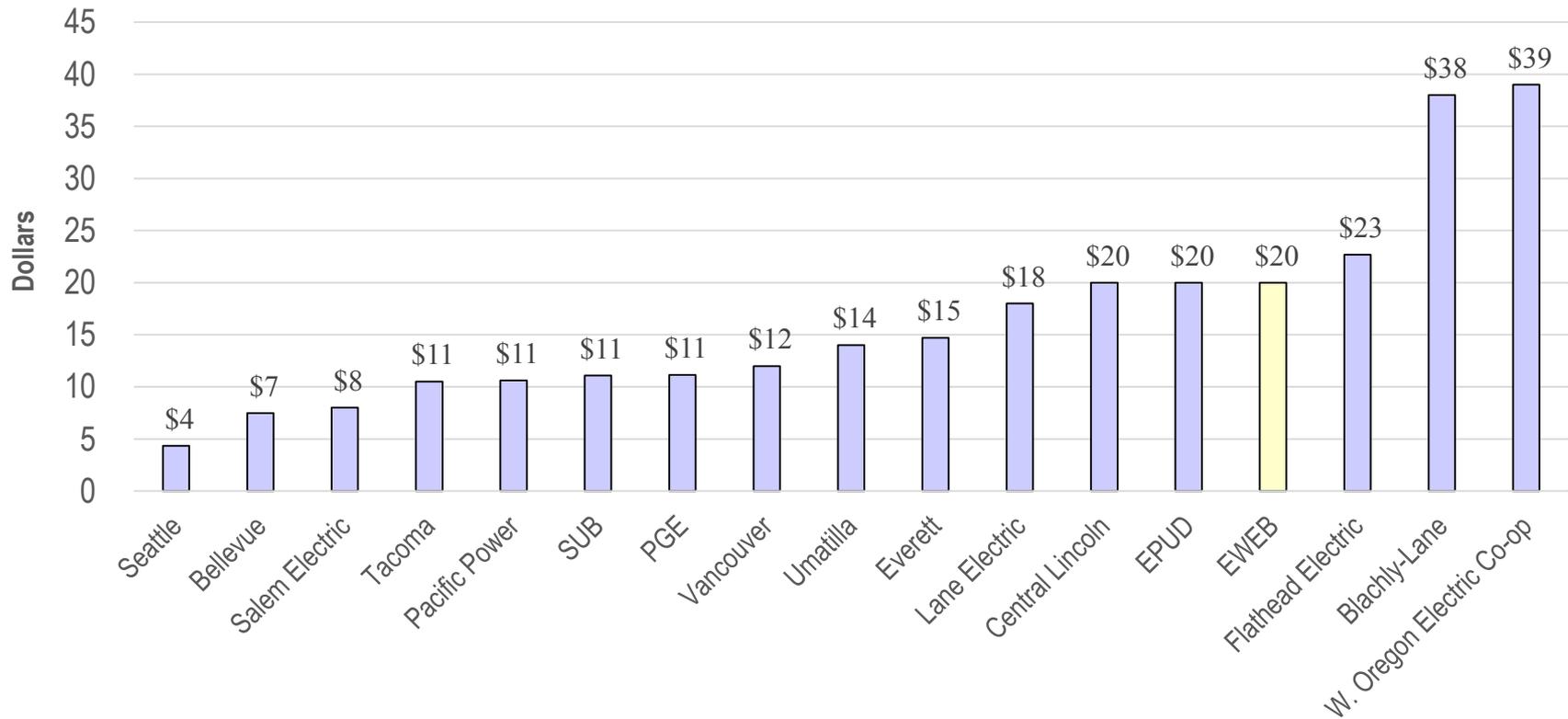
1. **Forecast of energy prices continue to decline in the NW**
2. **Flat or modest load growth**
3. **Increasing RPS requirements (esp CA)**
4. **Integrating renewables and associated system carrying capacity**
5. **Technological advances in storage & DG**
6. **Changing customer priorities**
7. **Aging Infrastructure**
8. **Hydro Relicensing & BPA fish mitigation costs**
9. **Emissions trading & EPA Clean Power Rule**
10. **7<sup>th</sup> Power Plan**
11. **BPA Energy Efficiency Incentives**
12. **Competition from natural gas**

# Forward Price Curves Trends

Annual Views of the FPC from 2007 to 2015



# Basic Charge Comparison (Residential)



# The Big Question:

Why do energy conservation when we are long on power?

- Customer Value – Customer Satisfaction
- Regional Alignment
- Legal/Legislative Requirements
- Load Management
- BPA Reimbursement
- Test/Build DR Capacity

# Triple bottom line case for meeting future growth

Decreasing electricity use for short periods of time in response to ***Demand Response*** **(DR)** temporary system load peaks.

**Modify regular behaviors** to conserve energy such as shutting off equipment when not in use or lower thermostat settings when not home.

***Conservation***

Installing equipment or using building practices to **permanently reduce consumption.**

***Energy Efficiency*** **(EE)**

# Incorporate Demand

Two components of incentives:

- Energy
- Coincident peak demand targets

❖ Examples:

Commercial Lighting Incentives

Commercial VRF

Residential HPWH

# New Technology: Market & Regulatory Drivers

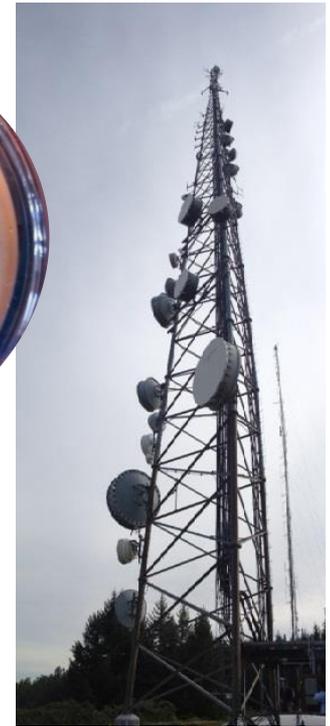
**Sensors &  
Devices**

**Photovoltaics**

**Battery  
Storage**

**Two way  
communications  
& system  
automation**

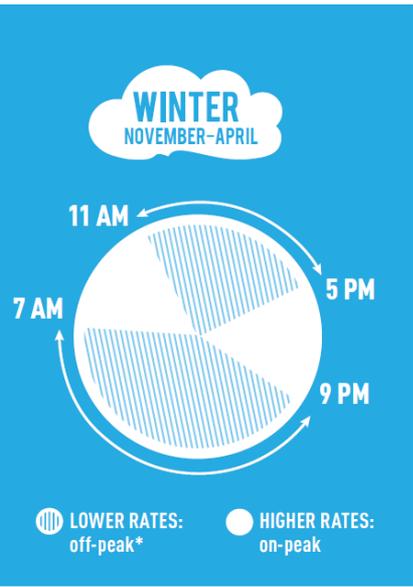
**Electric Vehicles**



# EWEB R&D

**Cold Storage  
Demand  
Response**

**Water  
Heaters as  
Thermal  
Storage**



**Time of Use  
Pricing**

## Community Solar



**Grid Edge  
(Microgrid)  
Demonstration  
Project**

*Rely on us.*

# The Eugene Water & Electric Board

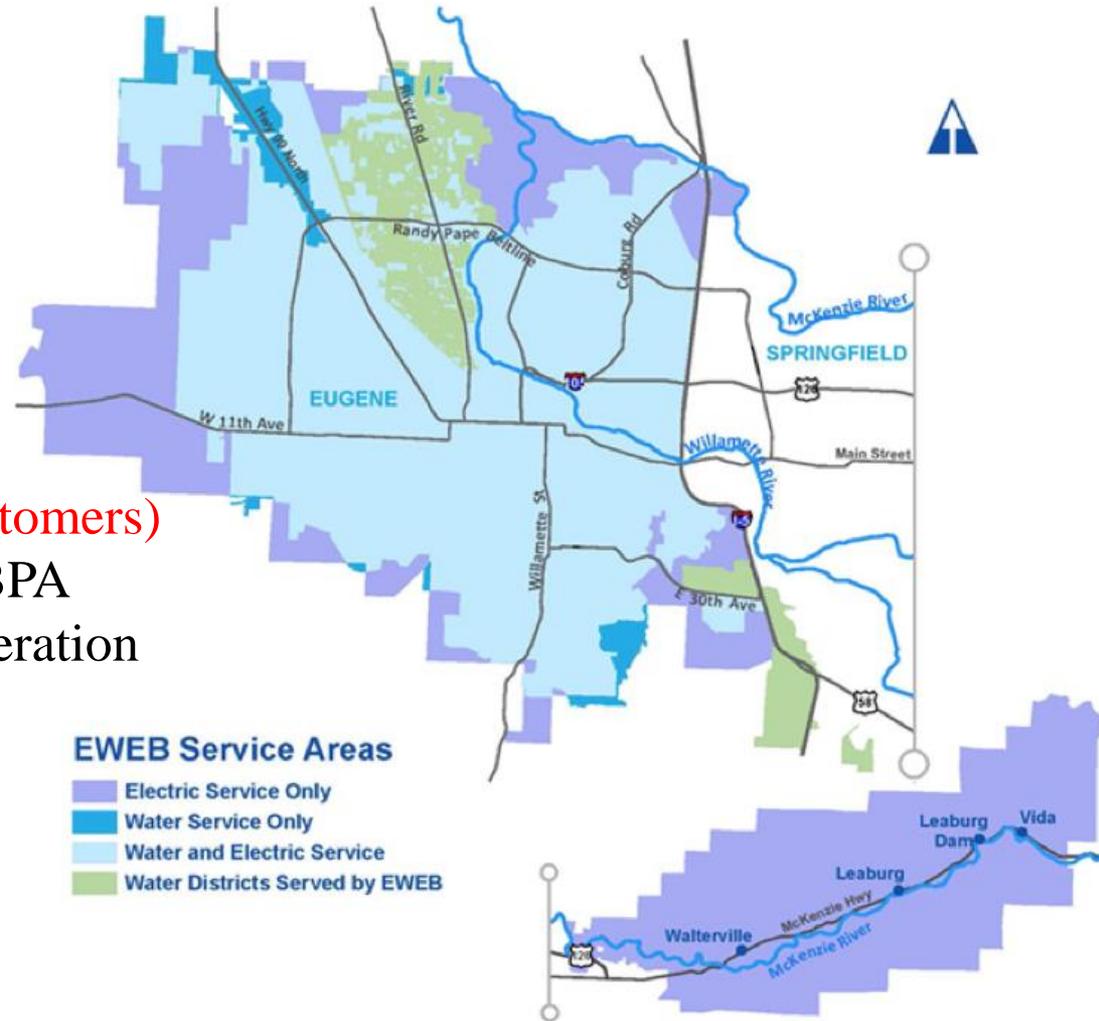
- **Water Utility**

- 52,000 Meters (XX,XXX customers)

- McKenzie River
- 26 Reservoirs

- **Electric Utility**

- 89,000 Meters (XX,XXX customers)
- 70% power purchased from BPA
- 23% owned & co-owned generation
- 7% power contracts



# Market Price Forecasts and Historic Hourly Prices

## Hourly Prices

