EnergyTrust of Oregon

Fall Trade Ally Forums
November 2017
# Breakout Topics & Locations

## Breakout Session A: 9:50 – 10:50

<table>
<thead>
<tr>
<th>Mainstage</th>
<th>Fireside</th>
<th>Joshua Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential Measure and Program Updates</td>
<td>CCB Code Training</td>
<td>Solar Program and Measure Updates</td>
</tr>
<tr>
<td>Scott Leonard</td>
<td>Howard Asch</td>
<td>Jeni Hall</td>
</tr>
</tbody>
</table>

## Breakout Session B: 11:00 – 12:00

<table>
<thead>
<tr>
<th>Mainstage</th>
<th>Fireside</th>
<th>Joshua Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing Multifamily Measure and Program Updates</td>
<td>Connected Thermostats: Smart and Sensible or Dumb and Dumber</td>
<td>Solar Program and Measure Updates</td>
</tr>
<tr>
<td>Kate Scott</td>
<td>Dan Wildenhaus</td>
<td>Jeni Hall/OSEIA</td>
</tr>
</tbody>
</table>
Who is here this morning?
Program Areas of Emphasis

Benefit customers and ratepayers by achieving energy goals and operating effectively.
Drive forward organizational diversity, equity and inclusion strategies and activities

- Adopt organizational diversity, equity and inclusion operations plan
- Propose board-level policy
- Establish specific goals across the organization
- Apply diversity, equity and inclusion lens to our internal operations and how we deliver programs
- Develop and deepen relationships with organizations that serve diverse customer groups
- Develop systems and process for demographic data collection and use
2018 Draft Budget
Revenues

PGE $101.64 million 54.7%
Pacific Power $59.24 million 31.9%
NW Natural $21.32 million 11.5%
Cascade Natural Gas $2.17 million 1.2%
Avista $1.14 million 0.6%
Other $0.23 million 0.1%

Total 2018 revenue $185.7 million, down 3.7%

Ro1; comparisons are draft 2018 budget to 2017 budget
2018 Draft Budget Expenditures

- **Electric Efficiency**: $147.29 million (73.8%)
- **Gas Efficiency**: $29.77 million (14.9%)
- **Renewable Generation**: $13.51 million (6.8%)
- **Management & General**: $4.84 million (2.4%)
- **Communications & Outreach**: $4.20 million (2.1%)

**Total Budget**: $199.6 million

Up 0.5% from 2017

The 2018 budget utilizes reserves to cover planned expenses in excess of anticipated revenue.

Ro1; comparisons are draft 2018 budget to 2017 budget
2018 Draft Budget Expenditures Detail

- Incentives: 58%
- External Program Delivery: 31%
- Internal Program Delivery: 11%

- Renewable Generation $13.53 million
- Gas Efficiency $29.77 million
- Electric Efficiency $147.20 million
2018 Electric Savings by Program

- Savings up 0.2%
- $154.3 million in total costs, including customer incentives, services and delivery

NEEA 13%
Existing Buildings 29%
Residential 13%
Production Efficiency 34%
New Buildings 11%

56.52 aMW goal
3.0 cents/kWh

Ro1; comparisons are draft 2018 budget to 2017 budget

aMW: average megawatts
Cost per kilowatt hour is levelized
2018 Renewable Energy Programs

<table>
<thead>
<tr>
<th></th>
<th>$ Million</th>
<th>aMW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solar</td>
<td>$10.23</td>
<td>2.18</td>
</tr>
<tr>
<td>Other Renewables</td>
<td>$3.91</td>
<td>0.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$14.15</strong></td>
<td><strong>2.18</strong></td>
</tr>
</tbody>
</table>

- Generation down 24%
- $14.15 million in total costs, including customer incentives, services and delivery
- Other Renewables expenditures include:
  - Project development assistance payments for potential generation in future years (63%)
  - Staff, professional services, outreach and other allocated costs (37%)

Ro1; comparisons are draft 2018 budget to 2017 budget
Budget Outreach Schedule

October & November

Draft budget online, Nov. 1
Trade ally forums, Nov. 2-16
Recorded webinar online, Nov. 7
Board of Directors, Nov. 8
OPUC public meeting, Nov. 16
RAC/CAC updates, Nov. 17

Public comments due Nov. 17
Comments reviewed, final adjustments

December

Final proposed budget online, Dec. 8
Board of Directors, Dec. 15,
Action on Final Proposed 2018-19 Budget and Action Plan

+ www.energytrust.org/about/budget

Send comments to info@energytrust.org
Thank You

info@energytrust.org
1.866.368.7878
Unemployment rates near historic lows

Local Area Unemployment Statistics

(Unemployment Rate)

August 2017
- Grants Pass, OR MSA (Seasonally Adjusted): 5.9%
- Medford, OR MSA (Seasonally Adjusted): 5.1%
- Douglas County (Seasonally Adjusted): 5.3%

Source: Oregon Employment Department Qualityinfo.org
Labor force continues to expand

Local Area Unemployment Statistics

(Civilian Labor Force)

August 2017
- Grants Pass, OR MSA (Seasonally Adjusted): 35,855
- Medford, OR MSA (Seasonally Adjusted): 104,641
- Douglas County (Seasonally Adjusted): 46,953

Source: Oregon Employment Department Qualityinfo.org
Total employment reached record levels this year.

Local Area Unemployment Statistics

(Number of Employed)

Source: Oregon Employment Department Qualityinfo.org
Three out of four jobs added in Jackson County last year were in industries with average wages higher than the average of $40,311 per year.
The Housing Crisis Is a Building Crisis

“…the construction industry is one of its most important sources of higher-paying low-skill jobs. The construction industry is responsible for substantial spillover effects in the broader economy, …”
Oregon's Housing Industry Recovering
Employment Change Relative to Pre-Great Recession Peak

Latest Data: Sep '16, QCEW  |  Source: BLS, Oregon Employment Dept., Oregon Office of Economic Analysis
According to this statistically representative sample of 3 contestants, what is everyone’s least favorite Jeopardy category?
Answer: What is Economics?
“The median age of a home buyer nationally”
“The median age of a home buyer nationally”

36

(almost a millennial)
“The average change in price when a seller buys a new home”
“The average change in price when a seller buys a new home”

11% increase
Source: U.S. Census Bureau
U.S. Homeownership Rate by Age

Source: U.S. Census Bureau
After a calamitous decline, construction is adding jobs faster than other industries.

Source: Oregon Employment Department QualityInfo.org
Despite recent gains, employment is still far from the pre-recession peak.
Even with recent uptick in employment, still a long way from pre-recession peak

Douglas County Construction
(not seasonally adjusted)

Source: Oregon Employment Department QualityInfo.org
Construction:
- fall 2006 – spring 2013: -59%
- spring 2013 – spring 2017: +24%

2016 Annual Average Wages:
- All industries: $38,731
- Construction: $44,176
- Specialty trades: $44,895

Source: U.S. Census Bureau, Residential Construction Branch
Josephine County Residential Unit Building Permits
1990-2015

Recent series low in 2011
Jackson County Residential Unit Building Permits
1981-2016

Recent series low in 2009
Douglas County Inventory of Homes for Sale
Josephine County Average Home Price 1996-2017

|$253,300
|$246,200
|$0
|$50,000
|$100,000
|$150,000
|$200,000
|$250,000
|$300,000

Portland S & P Case Shiller Home Price Index

Monthly from July 2007 (peak) to July 2017

Annual Rate of Change

-20.00% -15.00% -10.00% -5.00% 0.00% 5.00% 10.00% 15.00% 20.00%

Jackson County Median Home Sales Price

$279,865

$255,175
Douglas County Median Home Sales Price
Effective Negative Equity = Less than 20% Equity

Source: Zillow Effective Negative Equity, Q1 2017
U.S. Rent Burden Increasing Over Time

Source: Harvard Joint Center for Housing Studies
Jackson County rent affordability index

Data from Zillow.com affordability index; rental index values compared to median household income
Renter Cost Burden By County

Rent Burden = Spending more than 30% of Gross Income on Rent

Source: Harvard Joint Center for Housing Studies
2016 to 2017 Average Apartment Rent Growth

Source: Zillow

$1,166
$1,085
$1,537
$1,329
$1,259
$1,578
$1,551
$1,140
$1,139
$1,377
$1,364
$1,298
$1,181
$1,210
$695
$925
$1,512
$695
$1,210
$1,102
$1,193

Percent Change in Multifamily Rent (2016-2017)

-11.0% - 0.0%
0.1% - 5.0%
5.1% - 10.0%
10.1% - 12.0%
12.1% - 16.0%
No data

Source: Zillow, ZRI Time Series Multifamily, August 2016-2017
Zillow Rental Price Index all types

Josephine County
Jackson County
Linear (Josephine County)
Linear (Jackson County)
Help Wanted in the Rogue Valley

Results from the 2016 Job Vacancy Survey
The Rogue Valley had roughly 3,000 job vacancies at any given time in 2016.

We surveyed 1,300 private employers in Jackson and Josephine counties with two or more employees during 2016.

If they were hiring, we asked about each vacancy’s:

✓ Job title
✓ Full- or part-time status
✓ Permanent or temporary status
✓ Starting wage or salary
✓ Educational and experience requirements
Nearly two-thirds of responses from businesses about their primary challenge filling vacancies fall into three categories.

### Primary Reason Provided by Employer

<table>
<thead>
<tr>
<th>Difficult-to-Fill Vacancies</th>
<th>Share with Reasons Provided</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of applicants</td>
<td>12,067</td>
</tr>
<tr>
<td>Lack of qualified candidates</td>
<td>4,953</td>
</tr>
<tr>
<td>Unfavorable working conditions</td>
<td>3,554</td>
</tr>
<tr>
<td>Low wages</td>
<td>2,724</td>
</tr>
<tr>
<td>Lack of work experience</td>
<td>2,324</td>
</tr>
<tr>
<td>Lack of soft skills</td>
<td>1,853</td>
</tr>
<tr>
<td>Other</td>
<td>1,762</td>
</tr>
<tr>
<td>Lack of certification</td>
<td>860</td>
</tr>
<tr>
<td>Location</td>
<td>588</td>
</tr>
<tr>
<td>Lack of technical skills</td>
<td>583</td>
</tr>
<tr>
<td>Right fit</td>
<td>547</td>
</tr>
<tr>
<td>Lack of training</td>
<td>133</td>
</tr>
<tr>
<td>Reason not provided</td>
<td>733</td>
</tr>
<tr>
<td><strong>Total with reasons provided</strong></td>
<td><strong>31,948</strong></td>
</tr>
<tr>
<td><strong>Total all difficult-to-fill vacancies</strong></td>
<td><strong>32,681</strong></td>
</tr>
</tbody>
</table>

- Difficult-to-fill vacancies paid an average of almost $3 per hour more than job openings filled without difficulty.
- Difficult-to-fill vacancies were also more likely to require previous work experience.
Health care and construction had the largest number of job vacancies.

<table>
<thead>
<tr>
<th>Industry</th>
<th>Vacancies</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Industries</td>
<td>2,992</td>
</tr>
<tr>
<td>Health care and social assistance</td>
<td>547</td>
</tr>
<tr>
<td>Construction</td>
<td>526</td>
</tr>
<tr>
<td>Administrative, management, and waste services</td>
<td>396</td>
</tr>
<tr>
<td>Leisure and hospitality</td>
<td>346</td>
</tr>
<tr>
<td>Retail trade</td>
<td>267</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>244</td>
</tr>
<tr>
<td>Transportation, warehousing, and utilities</td>
<td>189</td>
</tr>
<tr>
<td>Wholesale trade</td>
<td>127</td>
</tr>
<tr>
<td>Professional and technical services</td>
<td>109</td>
</tr>
<tr>
<td>Other services</td>
<td>105</td>
</tr>
<tr>
<td>Natural resources and mining</td>
<td>63</td>
</tr>
<tr>
<td>Financial activities</td>
<td>59</td>
</tr>
<tr>
<td>Information</td>
<td>14</td>
</tr>
</tbody>
</table>
Similarly, construction and the combined health care occupations represented the largest number of vacancies by occupational group.

<table>
<thead>
<tr>
<th>Occupation Group</th>
<th>Vacancies</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Occupations</td>
<td>2,992</td>
</tr>
<tr>
<td>Construction and Extraction</td>
<td>473</td>
</tr>
<tr>
<td>Transportation and Material Moving</td>
<td>277</td>
</tr>
<tr>
<td>Office and Administrative Support</td>
<td>276</td>
</tr>
<tr>
<td>Sales and Related</td>
<td>247</td>
</tr>
<tr>
<td>Installation, Maintenance, and Repair</td>
<td>218</td>
</tr>
<tr>
<td>Food Preparation and Serving Related</td>
<td>206</td>
</tr>
<tr>
<td>Production</td>
<td>189</td>
</tr>
<tr>
<td>Health Care Support</td>
<td>183</td>
</tr>
<tr>
<td>Health Care Practitioners and Technical</td>
<td>138</td>
</tr>
<tr>
<td>Business and Financial Operations</td>
<td>131</td>
</tr>
<tr>
<td>Community and Social Service</td>
<td>123</td>
</tr>
<tr>
<td>Building and Grounds Cleaning and Maintenance</td>
<td>123</td>
</tr>
<tr>
<td>Personal Care and Service</td>
<td>103</td>
</tr>
<tr>
<td>Farming, Fishing, and Forestry</td>
<td>77</td>
</tr>
<tr>
<td>Arts, Design, Entertainment, Sports, and Media</td>
<td>50</td>
</tr>
<tr>
<td>Management</td>
<td>49</td>
</tr>
<tr>
<td>Computer and Mathematical</td>
<td>40</td>
</tr>
<tr>
<td>Education, Training, and Library</td>
<td>38</td>
</tr>
<tr>
<td>Architecture and Engineering</td>
<td>28</td>
</tr>
<tr>
<td>Life, Physical, and Social Science</td>
<td>14</td>
</tr>
<tr>
<td>Protective Service</td>
<td>9</td>
</tr>
</tbody>
</table>

Rogue Valley Job Vacancies by Occupation Group, 2016
Rogue Valley businesses reported job vacancies in 130 different occupations- many in construction fields.

Top 20 Rogue Valley Occupations With the Highest Number of Job Vacancies, 2016

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Vacancies</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Occupations</td>
<td>2,992</td>
</tr>
<tr>
<td>Construction Laborers</td>
<td>112</td>
</tr>
<tr>
<td>Carpenters</td>
<td>101</td>
</tr>
<tr>
<td>Cashiers</td>
<td>99</td>
</tr>
<tr>
<td>Social and Human Service Assistants</td>
<td>99</td>
</tr>
<tr>
<td>Retail Salespersons</td>
<td>96</td>
</tr>
<tr>
<td>Bus Drivers, School or Special Client</td>
<td>93</td>
</tr>
<tr>
<td>Team Assemblers</td>
<td>82</td>
</tr>
<tr>
<td>Heavy and Tractor-Trailer Truck Drivers</td>
<td>81</td>
</tr>
<tr>
<td>Office and Administrative Support Workers, All Other</td>
<td>81</td>
</tr>
<tr>
<td>Registered Nurses</td>
<td>80</td>
</tr>
<tr>
<td>Personal Care Aides</td>
<td>80</td>
</tr>
<tr>
<td>Roofers</td>
<td>72</td>
</tr>
<tr>
<td>Nursing Assistants</td>
<td>70</td>
</tr>
<tr>
<td>Landscaping and Groundskeeping Workers</td>
<td>70</td>
</tr>
<tr>
<td>Accountants and Auditors</td>
<td>69</td>
</tr>
<tr>
<td>Bus and Truck Mechanics and Diesel Engine Specialists</td>
<td>69</td>
</tr>
<tr>
<td>Medical Assistants</td>
<td>61</td>
</tr>
<tr>
<td>Cement Masons and Concrete Finishers</td>
<td>58</td>
</tr>
<tr>
<td>Automotive Service Technicians and Mechanics</td>
<td>57</td>
</tr>
<tr>
<td>Combined Food Preparation and Serving Workers, Including Fast Food</td>
<td>55</td>
</tr>
</tbody>
</table>
At this point, it doesn’t seem like those experienced construction workers from the boom years are coming back to fill Oregon’s recent construction vacancies.

Although many of the former construction workers from 2007 still employed in Oregon no longer hold a job in construction, many are now employed in similar industries. About 43 percent of the non-construction jobs are in industries with significant hands-on physical work, such as waste management, transportation, warehousing, manufacturing, agriculture, and forestry.

Only 57 percent of the construction workers from the boom years were still working in Oregon as of 2014. We don’t know how many of those who are no longer working in Oregon are either unemployed, retired, or working outside the state. But, we do know that only about half of those still working in Oregon remain employed in construction. The rest are employed in a variety of other industries. It seems that the recent uptick in hiring demand for construction labor is doing little to persuade those former construction workers to come back to their former industry.
Household Net Worth as a percent of GDP

Highest on Record

Source: Federal Reserve Flow of Funds Report

http://www.calculatedriskblog.com/
Real Estate Value and Debt vs. GDP

- Previous Bubble: Fueled Through Debt
- Current Value Increase with Debt Reduction

Source: Federal Reserve Flow of Funds

http://www.calculatedriskblog.com/
Total Debt at Record High

Source: Federal Reserve Bank New York
Oregon is expected to add 45,700 jobs in 2018, with growth spread across nearly all sectors.

Expected Job Changes by Industry Sector Over The Year (2Q 2017 - 2Q 2018)

Source: OED analysis using OEA Forecast, May 2017
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