



Strategic Plan
Renewable Energy
July 23, 2014

What we're going to do

- Quick background
- Goals
- Strategies
- Feedback and comments from you



Long-term renewable energy goal

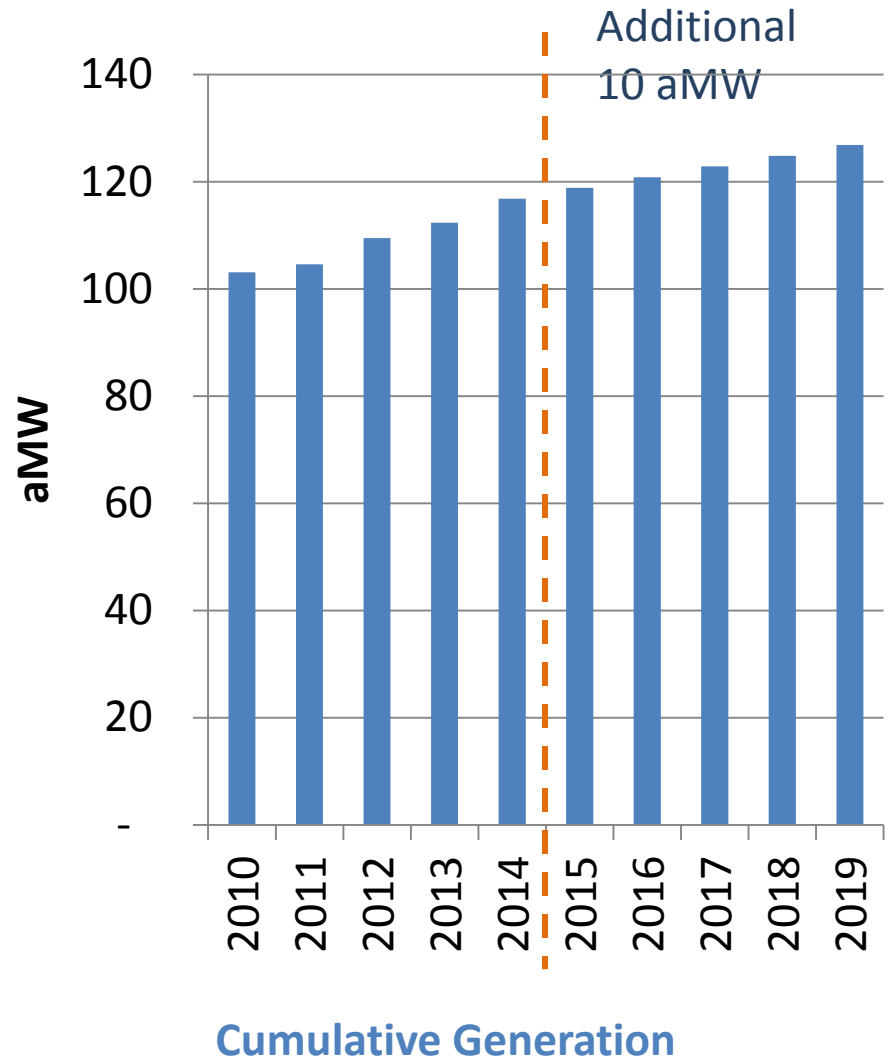
Accelerate the pace at which new, small and mid-scale renewable energy projects (20 MW or less in size) are completed to help Oregon achieve its 2025 goal of meeting at least 8% of retail electrical load from small-scale renewable energy projects



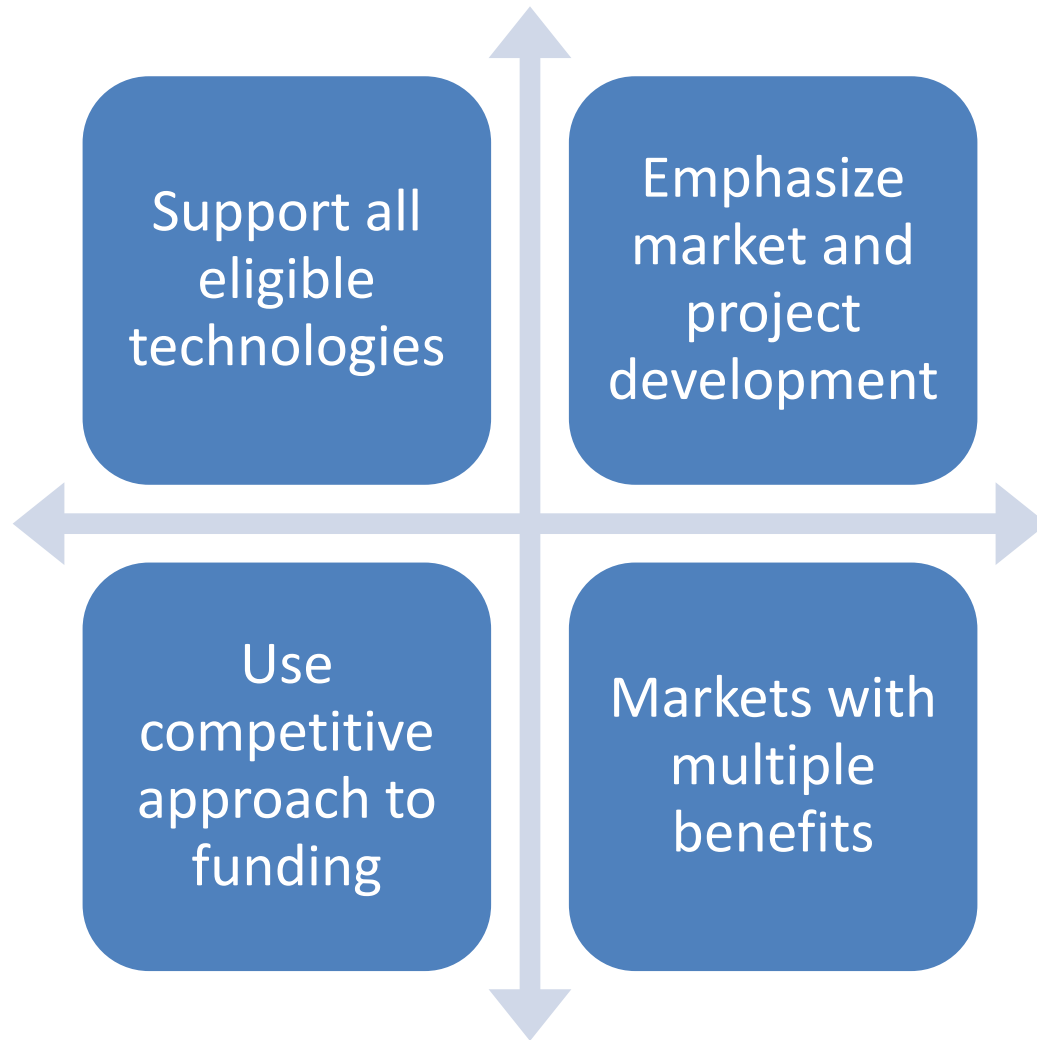
Five Year Renewable Goals

“Sustain a vibrant small to mid scale renewable generation market that produces continual growth in project installations across all five eligible technologies.”

“Between 2015 and 2019, install 10 aMW of renewable energy.”

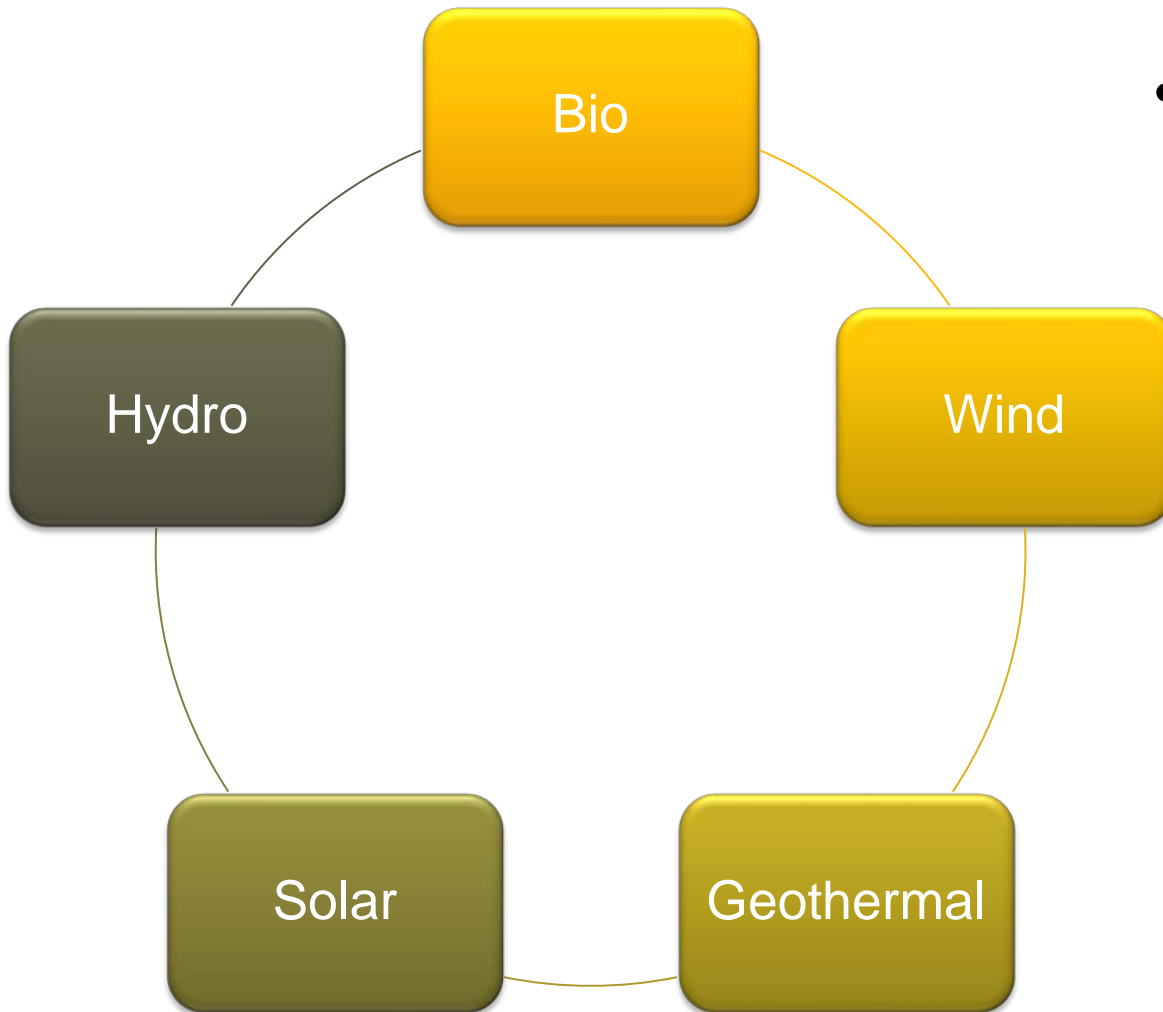


4 Strategies to Meet Renewable Goals



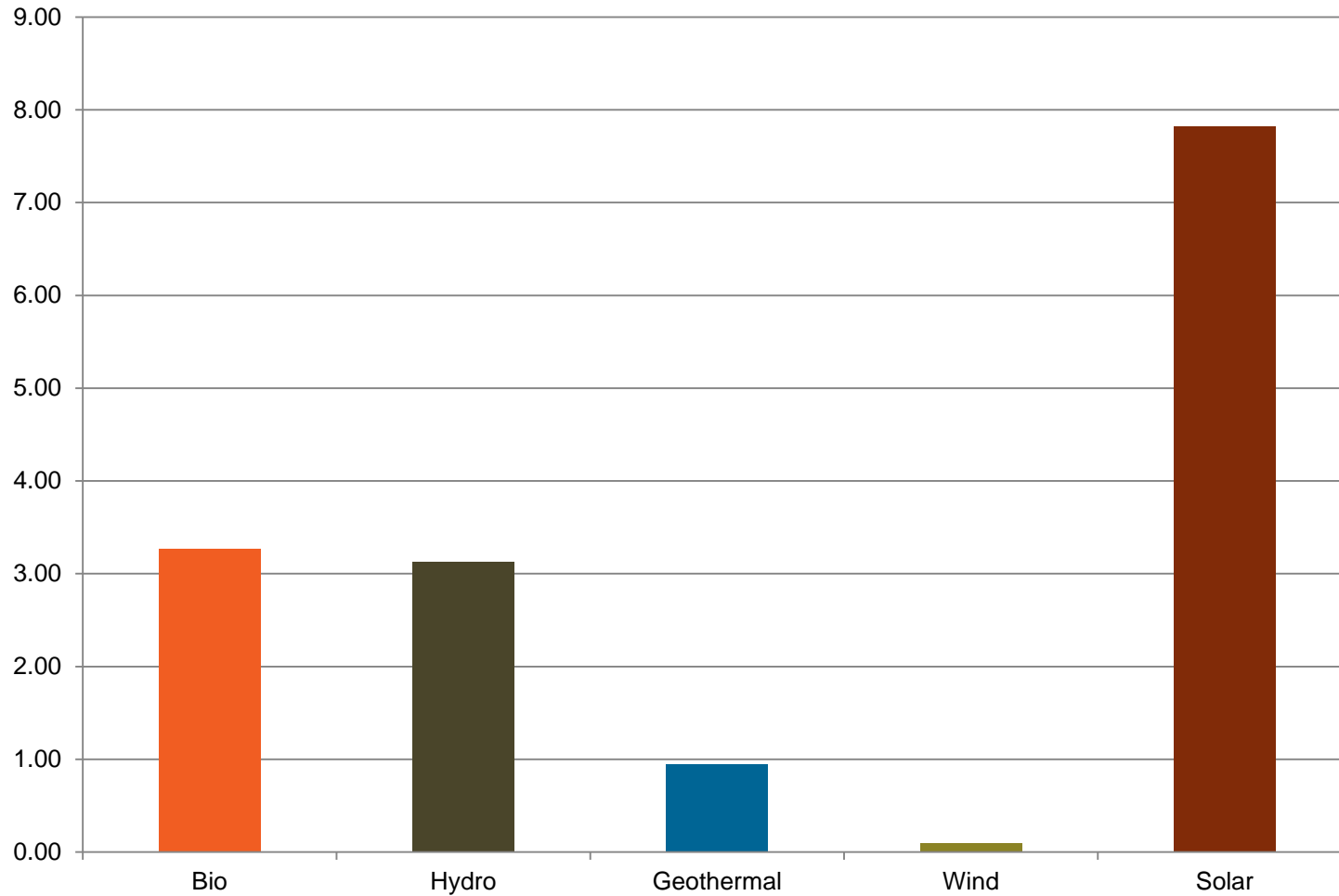
1) Portfolio approach





- Emphasis may shift year to year in action plans and budgets
- Expected focus for coming year: solar, hydro, bio

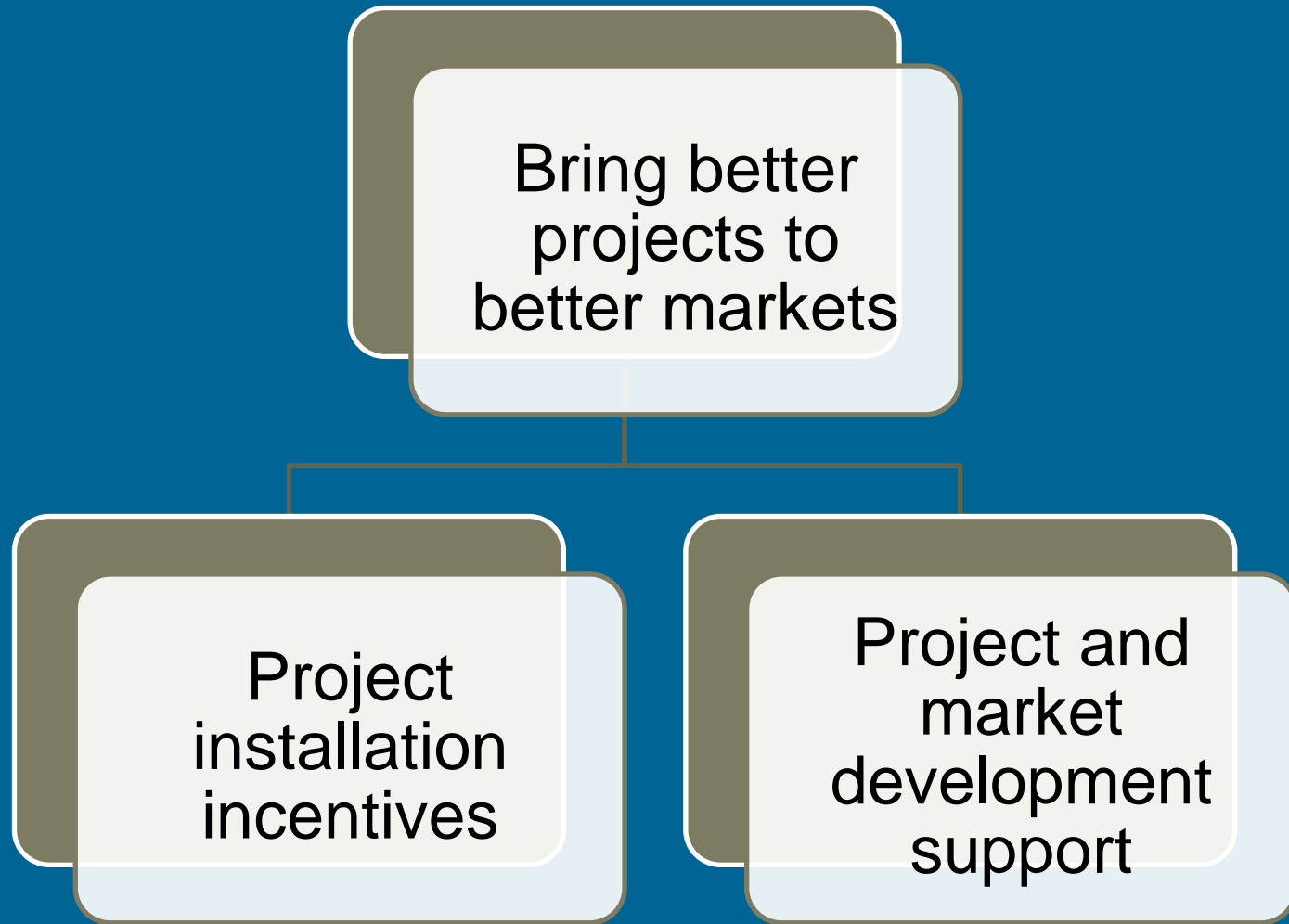
2010 – 2014 aMW by technology



2) Project and Market development



Project and market development



Improve project performance

- ✓ Solar soft costs
- ✓ Bio O & M effort
- ✓ Leverage existing projects

Collaboration/new models

- ✓ Hydro initiative
- ✓ Wind ownership model

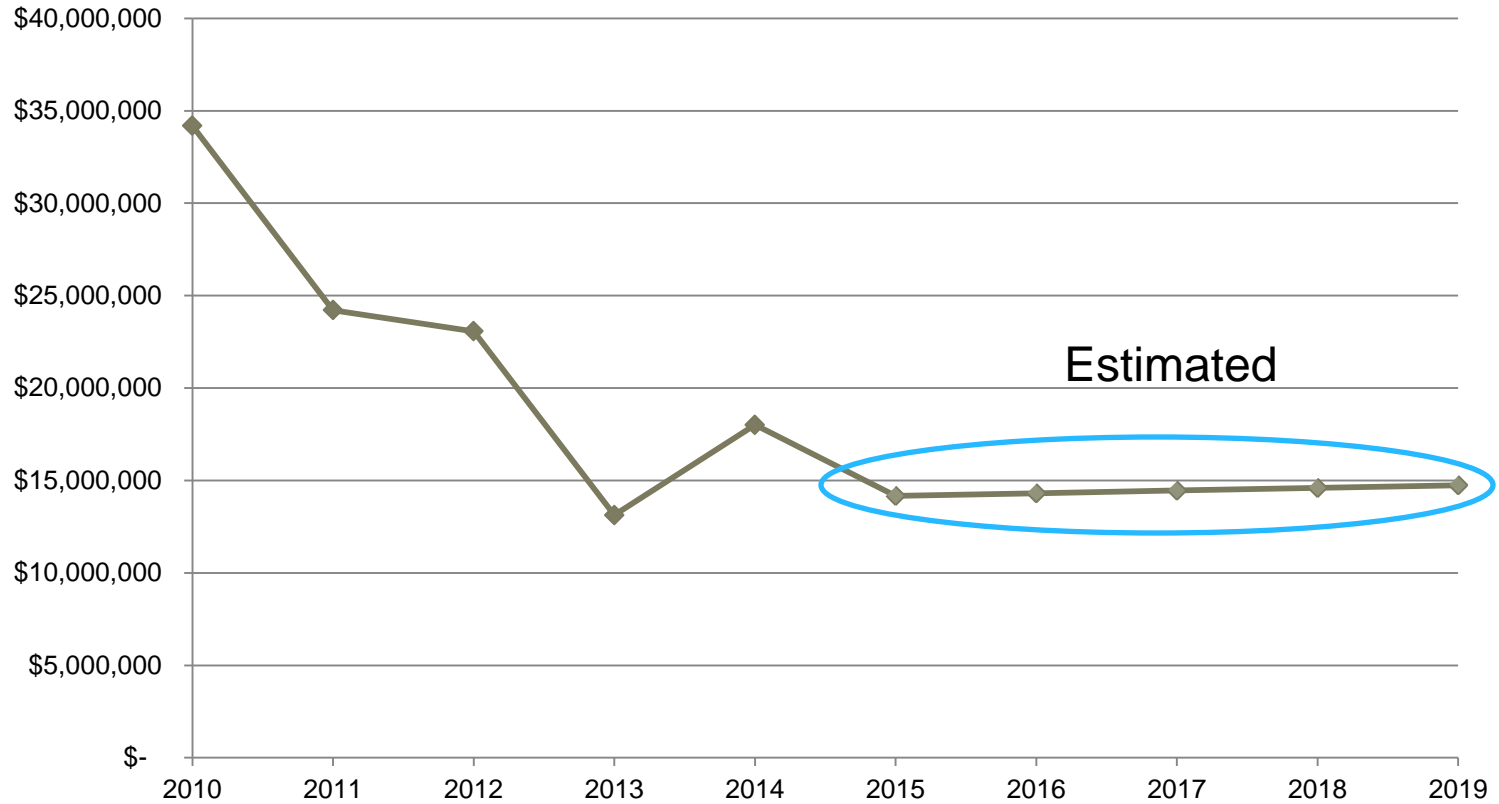
Engagement with market

- ✓ Better understanding of bio feedstocks and policies
- ✓ Education of resource agencies
- ✓ Engagement with ITAC and SWCC

3) Competitive Approaches



Activity budgets 2010 – 2019



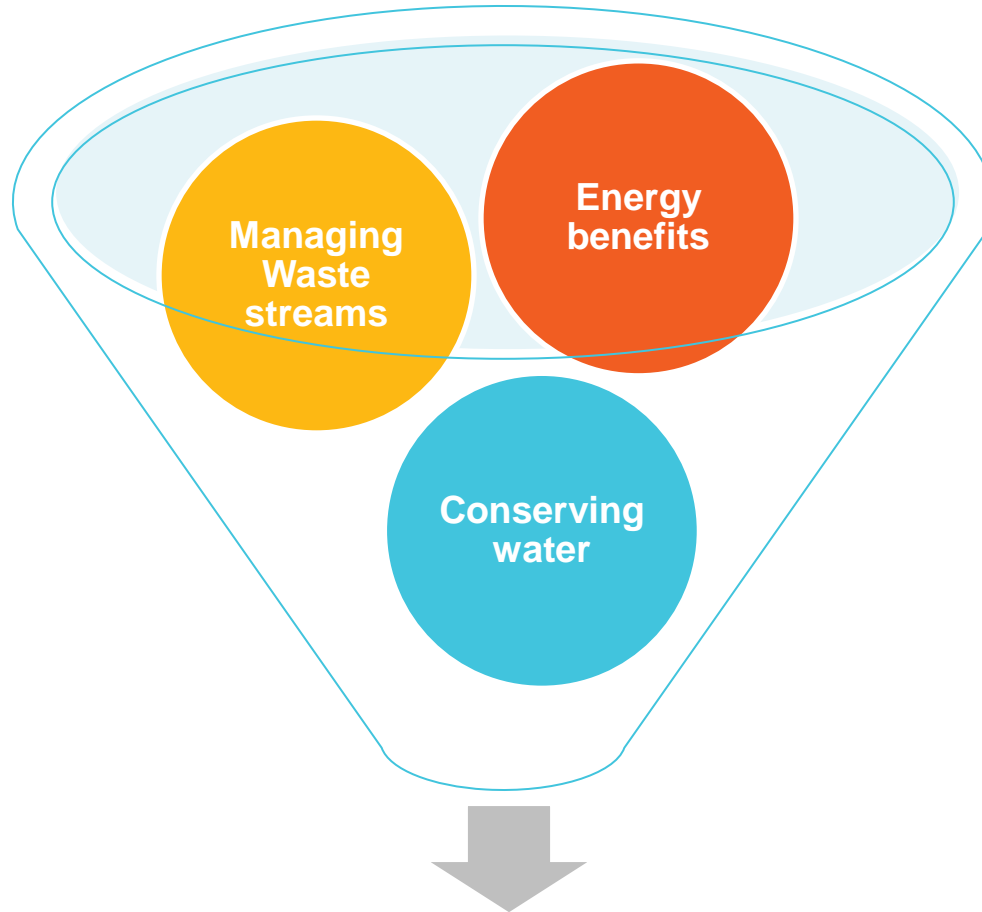
Competitive approaches

- non-solar incentives \$150,000+
- PDA \$40,000+
- Both PAC and PGE
- Larger solar

Effective method of allocating limited \$ and 'focusing the mind'

4) Projects with multiple benefits





Additional dollars, supportive partners, more success

Your turn

- Is there anything missing?
- Are there any strategies that are of low priority for you?
- Are you comfortable with our emphasis on market and project development as our key five year goal?
- Do these strategies reflect the right mix to achieve our energy goals?
- What else?

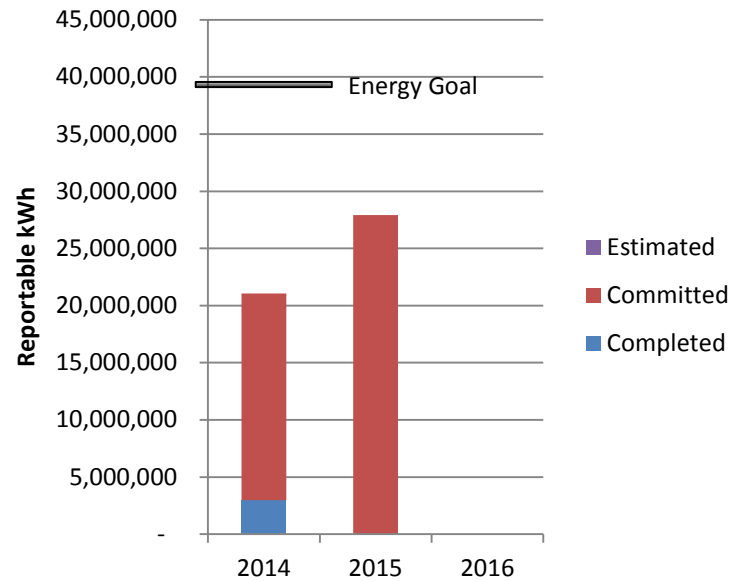


- 2014 Dashboard Q2
- Review forecast generation goal
- Describe variance
- Project pipelines
- 2014 Activity Budget



• Q2 2014 Generation Goal

Generation Pipeline: PGE & PacifiCorp



- 2014 Q2 Dashboard
- 2014 Budget Forecast Generation – 4.49 aMW
 - PGE - 0.85 aMW
 - Pacific Power – 3.64 aMW
- Expected 2014 Generation – 2.2 aMW
 - PGE – 0.61 aMW
 - Pacific Power – 1.59 aMW



- 2014 Q2 Dashboard
- Committed projects - to complete in 2014
 - OIT – 0.87 aMW
 - Three Sisters – 0.35 aMW



- 2014 Q2 Dashboard
- Projects delayed - to complete in 2015
 - Solar Capacity Standard projects – 1.73 aMW
 - Other Renewables – 0.24 aMW
- Projects cancelled
 - Biogas – 0.33 aMW



- New Project Pipeline
- Standard Solar
 - Residential on target to meet or exceed forecast
 - Non-residential behind forecast (12% of goal) but Q2 one of strongest quarters for reservations.
- Other Renewables
 - Weak pipeline, small response to RFPs
 - Expect to have unallocated incentive funds



- **Budget Impacts**
- Unallocated non-solar incentives will be moved to Solar budget.
 - Support standard solar programs
 - Support PGE RFP projects
 - Consider large scale projects for funding
- 2014 Activity budget is expected to be fully allocated.



• PGE Solar RFP

- Announced \$1 million in funding for solar projects April 24, 2014
- Eligibility:
 - 250 – 2000 KW
 - Net-metered
 - Non-residential facility
 - System host commitment
- Funding cap - \$499,000 per project



- PGE Solar RFP
- Projects ranked on their incentive \$/watt DC
- Winning bids receive a 90 day preliminary reservation.
- To retain the reservation the project must submit:
 - Solar resource assessment
 - Design drawings
 - Host contract and notice to proceed



• Results

Capacity (KW)	Incentive Request \$/W	Total Incentive	System Cost	System Cost \$/W
385	0.74	\$ 284,900.00	\$999,999.00	\$2.60
500	0.89	\$ 445,000.00	\$1,325,000.00	\$2.65
500	0.89	\$ 445,000.00	\$1,325,000.00	\$2.65
556	0.90	\$ 499,000.00	\$1,696,044.00	\$3.05
1,941		\$ 1,673,900.00	\$5,346,043.00	



- Next Steps
- Selected top two bidders and offered preliminary reservation.
- Offered remaining bids preliminary reservation based on available funds.



Old Mill Solar Project

Pacific Power 2013S RFP – April 2013

- Seek up to 6.7 MW_{AC}
- Qualifying systems 500 kW – 5.0 MW_{AC}
- Two projects selected to negotiate PPAs
 - Bevans Point Solar
 - Stone House Solar – project terminated

Old Mill Solar project selected to replace terminated project.



Old Mill Solar Project Summary

Size: 6.21 MW_{DC} 5.0 MW_{AC}

Developer: Obsidian Renewables, LLC

Project cost: \$14.6 million

Annual expected generation: 11,400 MWh

Location: Bly, OR

Commercial Operation: Dec. 31, 2015

Proposed Incentive: \$490,000



Technology

- Technology
 - Polycrystalline silicon solar panels
 - Single-axis tracking system
- Energy Production
 - Net energy production – 11,400 MWh
 - Annual energy degradation – 0.7%/yr
 - Capacity factor – 21%



Project Team

Developer: Obsidian Renewables

Financing/Owner/Operator:

- Obsidian Renewables, LLC
- Tax Equity Investor

Construction:

EPC - Swinerton Builders

O&M Services: Swinerton O&M group



Interconnection/PPA

Interconnection

- Located within Pacific Power control area
- System Impact Study – August 2014

PPA

- Currently under negotiation



Siting and Permitting

- Long term site control
 - 70 acres
 - Owned by Obsidian
- Permitting
 - Zoned industrial
 - Received conditional use permit
 - Wetlands Delineation complete
 - No archaeological investigation



Financial Summary

Revenues

Energy Sales	\$ 9,235,189
Grants and Incentives	\$ 1,402,667
System Upgrade Credits	\$ 468,517
<u>Consolidated Tax Benefits</u>	<u>\$ 4,343,870</u>
Total NPV Revenues	\$15,450,242

Expenses

Capitalized Construction Cost	\$14,597,498
Other Expenses	\$ 1,187,930
O&M Cost	\$ 836,486
<u>Taxes</u>	<u>\$ 449,859</u>
Total NPV Expenses	\$17,071,773

Above Market Cost (Total Revenue - Total Project Expense) (\$1,621,531)

Above Market Cost Increased for Tax Impacts (\$2,630,477)



Proposed Incentive

Evaluation Criteria

- **Project Term** 25 years at 8% IRR
- **Above Market Cost (NPV)** \$2,630,477

Incentive Proposal

- **Proposed Incentive:** \$490,000
- **REC Allocation:** 100% for 25 years

