



Energy Trust of Oregon

September 21, 2010

The Thailand Energy Regulatory Commission

The Oregon Public Utility Commission

The Washington Utilities and Transportation Commission

The National Association of Regulatory Commissioners





Presentation Outline

1. Introduction to Energy Trust of Oregon
2. Governance and Structure
3. Program Offerings
4. Results
5. Discussion



Introducing Energy Trust

- 1999 State of Oregon Legislation
- Established 3% public purpose charge
- Purpose - To acquire conservation, efficiency and renewable energy benefits for utility customers
- Only electric utilities
- 3 administrators





2007 Oregon Renewable Energy Act

- Established Renewable Energy Standard
- Allowed supplemental electric efficiency plans and funds
- Linked Energy Trust to utility Integrated Resource Plans
- Extended public purpose charge through 2025





Energy Trust Vision and Purpose

Vision

Energy Trust envisions a high quality of life, a vibrant economy and a healthy environment and climate for generations to come, built with renewable energy, efficient energy use and conservation.

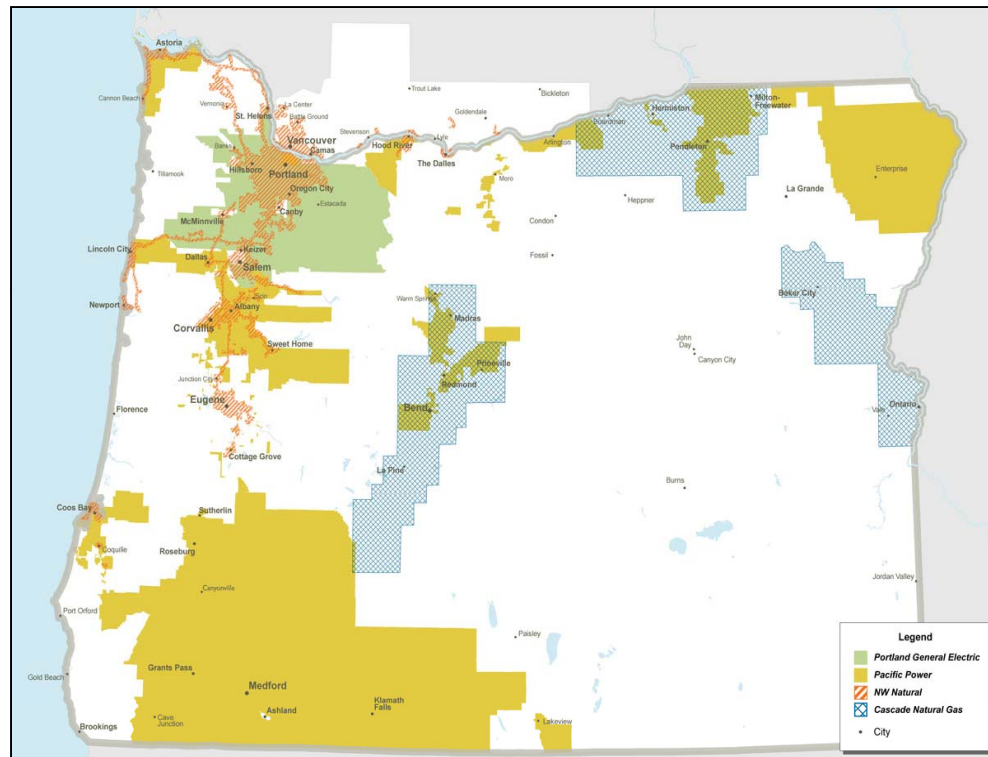
Purpose

Energy Trust provides comprehensive, sustainable energy efficiency, conservation and renewable energy solutions to those we serve.

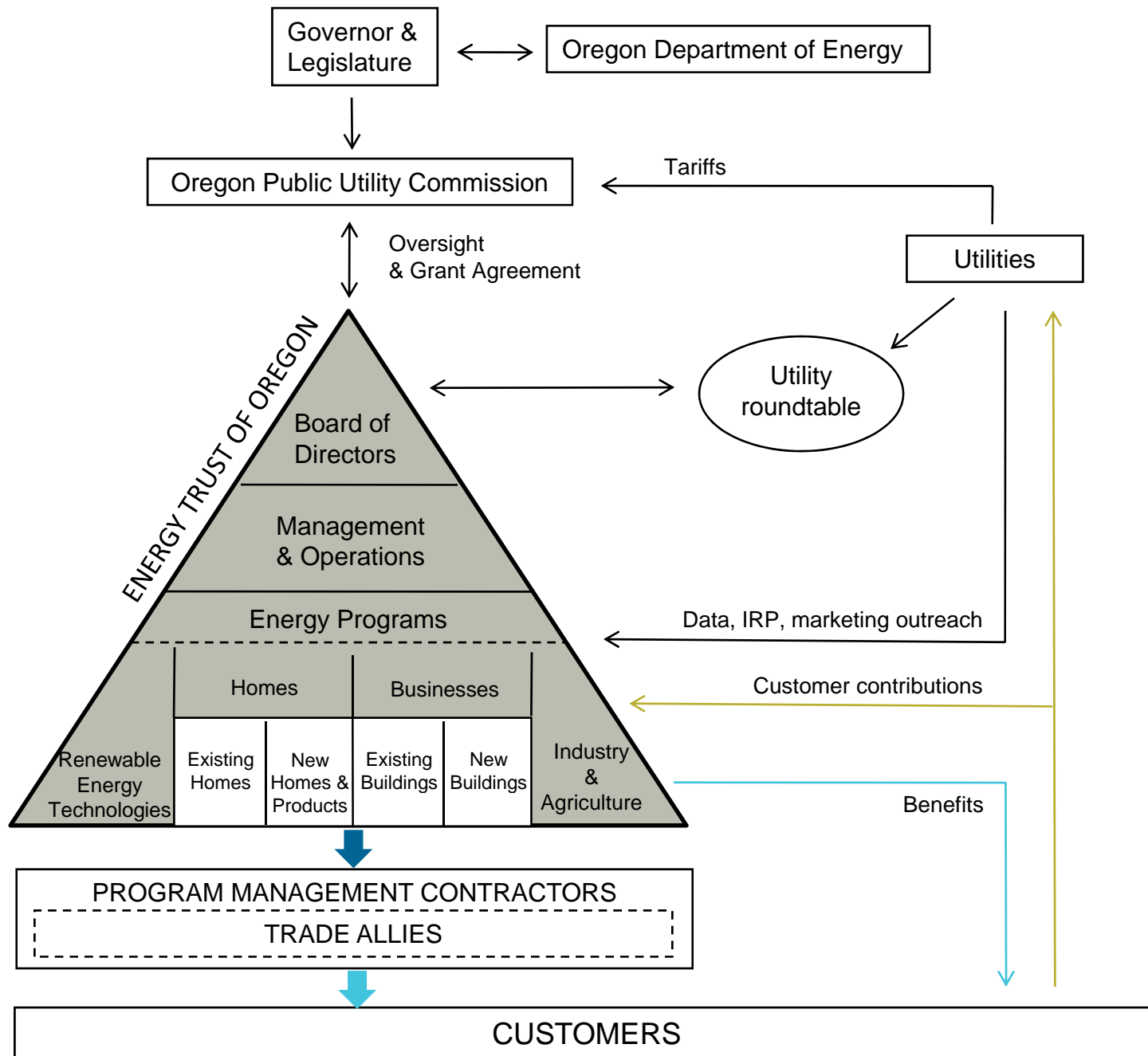


Energy Trust Today

- Services to two gas and two electric utilities
- Most of Oregon, SW Washington (gas)
- ~ 1.3 million customers
- \$120+ million annual budget
- Accountable for meeting utility conservation and efficiency targets



Governance and Structure





OPUC Oversight Role

- Energy Trust contract
- Minimum performance measures
- Budget, action plan, strategic plan review
- Quarterly and annual reports
- Management audit every 5 years
- Legislative liaison
- Ex officio board member
- Advisory councils/committee participation



Utility Participation

- Strategic Roundtable
- Integrated Resource Planning
- Tariff filings
- Data transfer
- Outreach and marketing
- Joint planning and collaboration



Program and Service Highlights



What We Provide

1. Information – What can I do to save energy and use renewable energy in my home or business?
2. Expertise – What technical assistance and objective advice can I get?
3. Dollars – What financial incentives and opportunities are available?





Home Improvements



- Existing, new, manufactured, mobile homes; renters, property owners
- Advice, technical assistance and audits
- Contractor training and referrals
- Kits
- Equipment, weatherization and solar incentives
- Appliance rebates
- Energy Performance Score
- Training



Clean Energy Works Portland/Oregon

- Clean Energy Works Portland - 500 home pilot
- Remove barrier requiring up-front capital
- “Go deeper”
- Energy Advocate role
- Low interest financing over 20 years
- Utility on-bill repayment
- Expansion throughout state through new non-profit, Clean Energy Works Oregon



Business Opportunities



- Existing and new buildings
- Assessments
- Energy modeling, design and technical assistance
- Contractor, designer, architect, builder training and referrals
- Building efficiency, equipment commissioning and solar incentives



Industry and Agriculture Services



- Existing and new facilities
- Technical assistance
- Scoping studies and analyses
- Contractor training and referrals
- Customized solutions
- Cash incentives for qualified improvements



Industrial Energy Improvement



- Encourage industrial facility managers to develop and implement energy management techniques
- Year-long pilot
- First group averaged 7.5% reduced electric use through behavioral changes

Industrial Operations & Maintenance

- Offered limited duration incentive bonus
- “90 by 90” campaign
 - Attracted over 60 new projects
 - Projected savings of 18 million kWh
 - 44 gas saving projects in development through pilot program



Northwest Energy Efficiency Alliance

- Long-term electric efficiency investments in regional market transformation activities
- Influence purchasing practices and behavior change upstream via:
 - Work with manufacturers
 - New technology promotions
 - Training and technical assistance
 - Adoption of new codes and standards
- 8% of Energy Trust budget and historically 1/3 of our savings
- Board and committee representation



Doing more, Faster - !

- Clean Energy Works Pilots
- Solarize Portland
- 0 Power
- Energy Performance Scores
- Stimulus funds
- New technologies
- Codes and standards
- Market intelligence



Results



Cumulative Results

Since 2002:

- Saved 222 average megawatts of electricity, equivalent to powering 187,400 average Oregon homes for a year
- 13.1 million annual therms of natural gas, equivalent to providing gas heat to about 26,000 homes for a year
- Generated 99.7 average megawatts of renewable energy
- Continued growth in awareness, participation, project volume and results

The Lowest Cost Energy We Can Buy

- Acquired savings at an average cost of 2 cents/kWh
- Cost is 2-3 times less than building a new power plant at 8-10 cents/kWh
- Reduced utility loads by 4.3% through 2009





Economic Value Added

- Saved utility customers nearly \$600 million dollars
- Avoided \$1.5 billion in investment
- Generated \$76 million in wages
- Contributed \$11 million in new business income
- Created nearly 2,300 new jobs
- Attracted and supported over 1,700 contractors





Kept our Air Cleaner

- Offset more than 4.3 million tons of carbon dioxide generated by fossil fuels
- Equivalent to taking more than 750,000 cars off the road for one year





High Customer Satisfaction Ratings

- Achieved consistently high customer satisfaction ratings
- 2009 ratings:

<u>Program</u>	<u>% Satisfied/Very Satisfied</u>
Refrigerator Recycling	97%
Existing Buildings	95%
Production Efficiency	94%



Strengths of the Model

- Mission driven
- Stable funding
- Comprehensive services
- Objectivity
- Partnership and leverage
- Low administrative costs
- Accountability
- Transparency





In Conclusion

We are somewhere between:

*“We stand here
confronted with
insurmountable
opportunities.”*

- Amory Lovins, quoting Pogo

and:

*“Do what needs to be
done, and check to see
if it was impossible only
after you are done.”*

- Paul Hawken

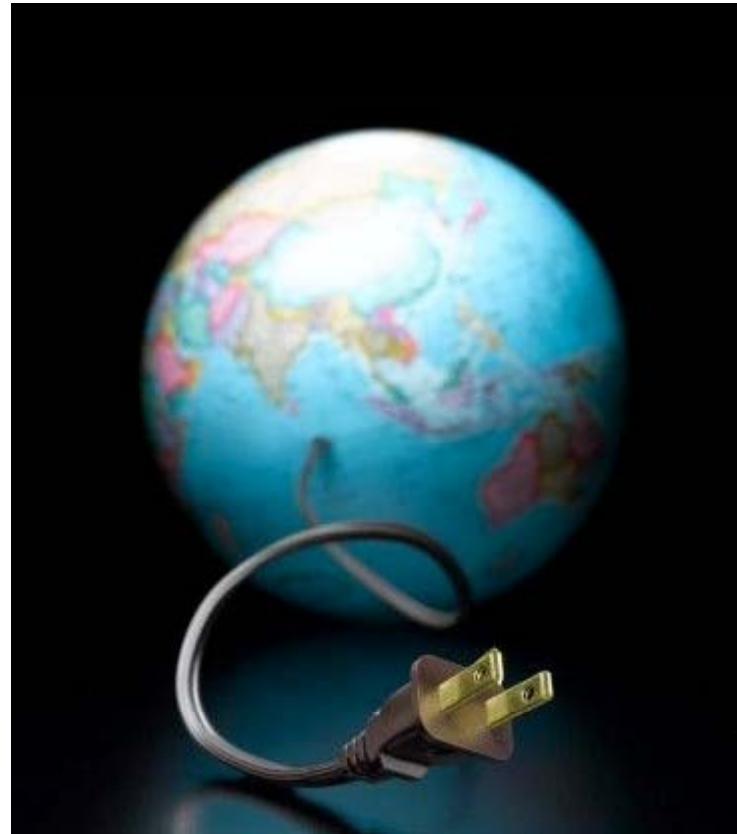




Questions/Discussion



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Back-up Slides

Business Philosophy and Systems



Program Management

- Program Management Contractors for EE delivery
 - Competitive bids
 - Expertise and flexibility
 - Links to strategic plan, action plan and budget
 - Specific contractual goals, budgets, retainage, incentives, coordination
 - 3 year contracts; option to renew for 1-2 more
- Another 200+ people in the field
- In-house management of industrial and renewable energy programs



Consultant and Contractor Roles

- Often, though not exclusively, short term
- Largely competitive
- Examples:
 - Resource Assessments
 - Technical/feasibility studies
 - Quality assurance
 - Evaluation
 - Marketing, advertising and outreach
 - Web site development
 - Some legal research
 - Special IT projects/needs
 - Financial and management auditing



Trade and Program Allies

- 1700 small business contractors
- Majority residential
- Certification
- Training
- Marketing
- Customer Service
- Retail and Program allies





Other Stakeholder Engagement

- Advisory Councils
- Trade associations
- Governments/Regulators
- Non-profit organizations
- Private business initiatives
- Community outreach
- “Natural” partners



Codes and Standards

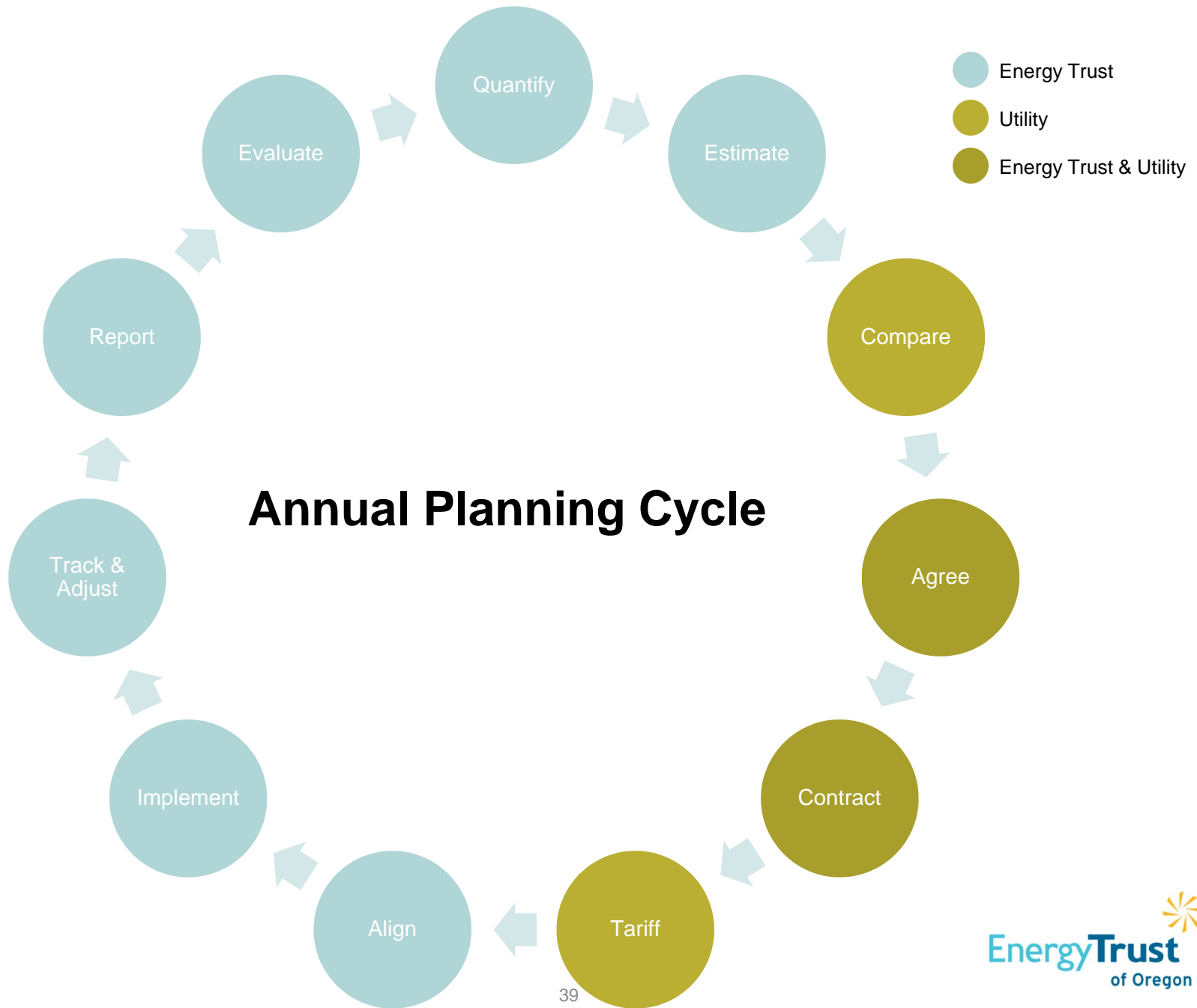
- Assist with state building code development
- Help inform federal equipment standards
- NW Energy Efficiency Alliance (NEEA) funding in support of state code development
- Claim savings when critically influenced and accelerated regulation



Operating Systems

- 3 Primary Systems
 - Contact management (Goldmine)
 - Project tracking (FastTrack)
 - Finance (Great Plains)
- Integrated Solutions Project
- Human Resources Information System
- Sharepoint
- Staff net
- Website

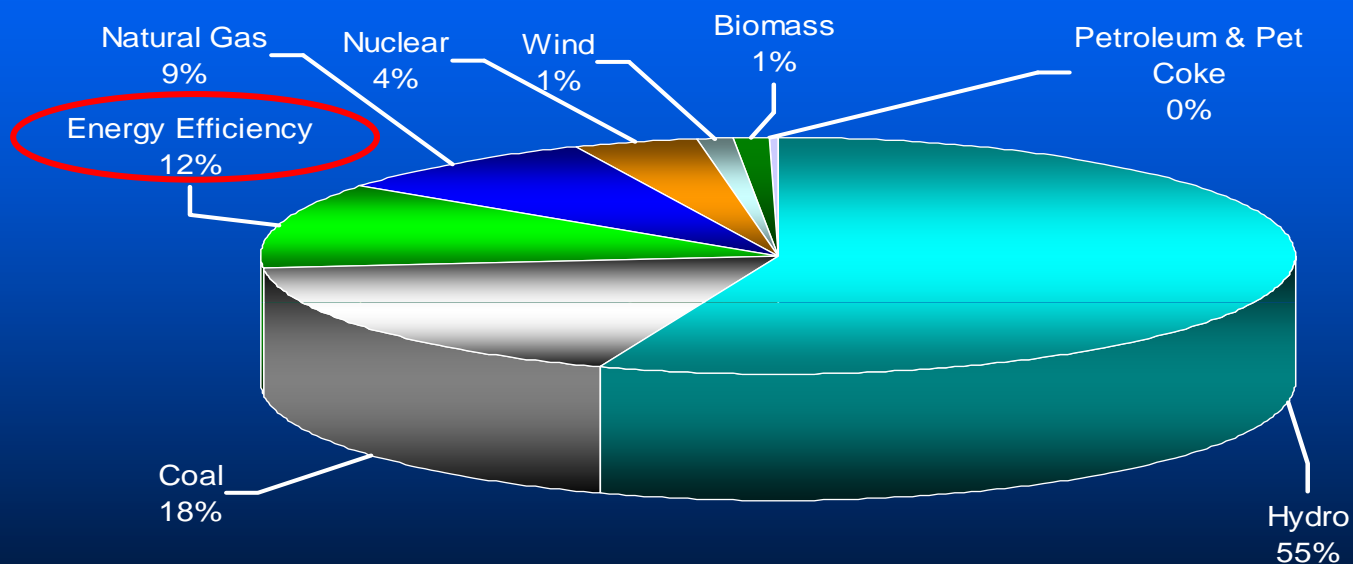
Planning and Goals





The Power Council's Sixth Plan

Energy Efficiency Is The Region's Third Largest Resource



slide 13

Northwest
Power and
Conservation
Council

EnergyTrust
of Oregon



Five Year Strategic Goals

2010 – 2014:

- Save 256 average megawatts of electricity
- Save 22.5 million annual therms
- Achieve 23 average megawatts of renewable energy



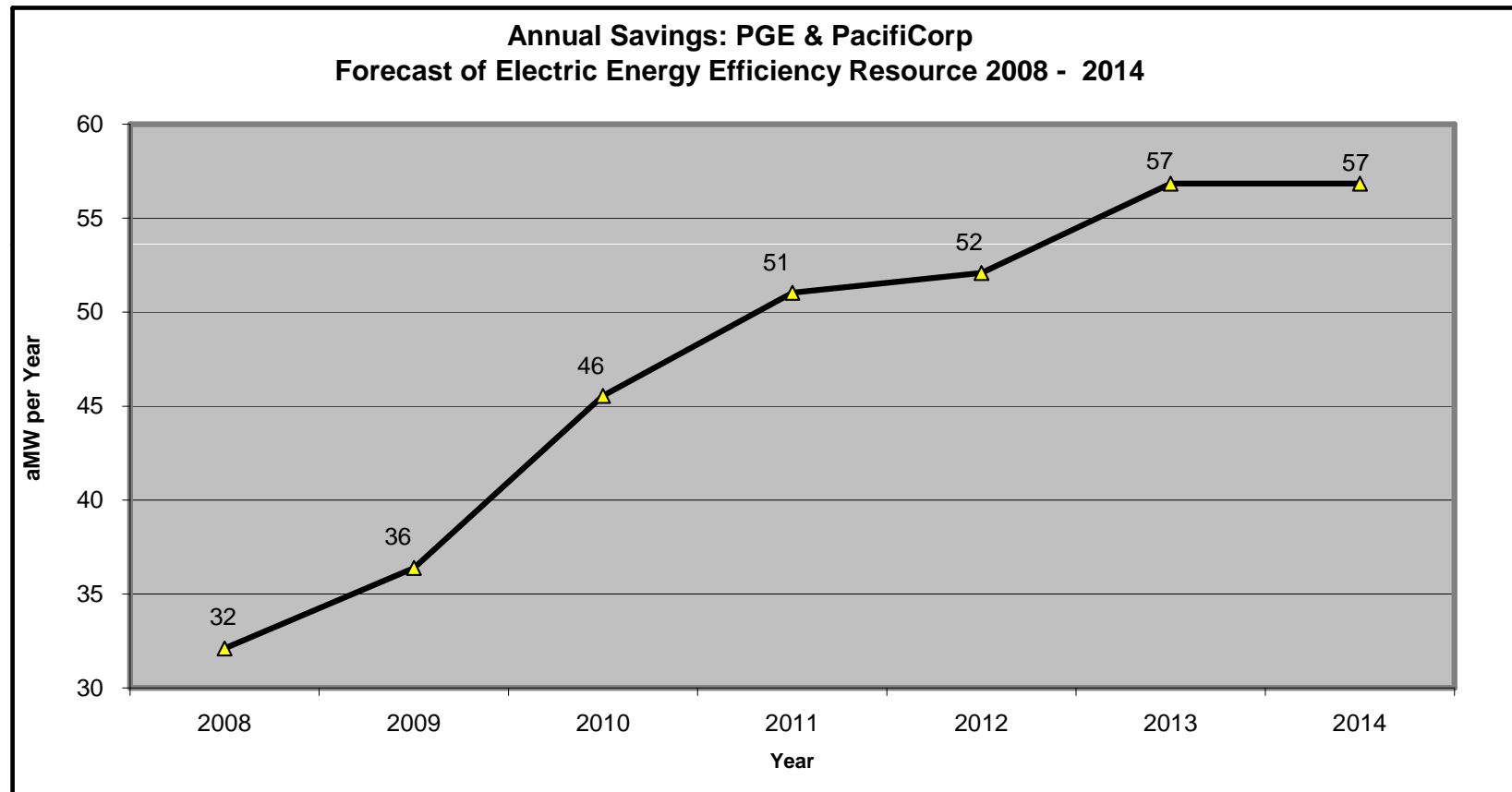
Strategic Plan Five-Year Activities



1. Acceleration
2. Excellent customer service
3. Innovation
4. Balanced investments
5. Industry infrastructure
6. Communications
7. Efficiency and transparency

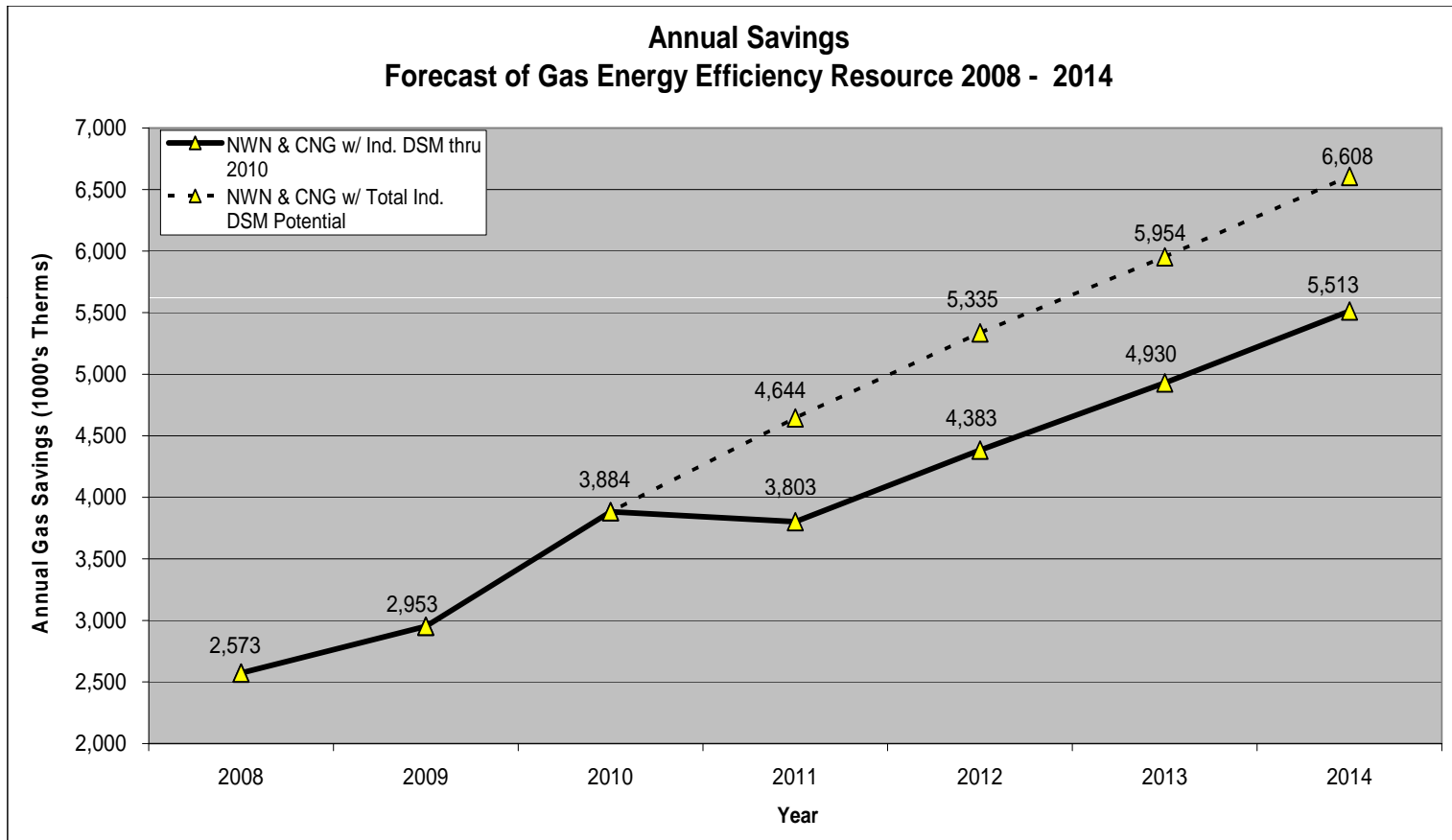


Electric Efficiency Five-Year Goal



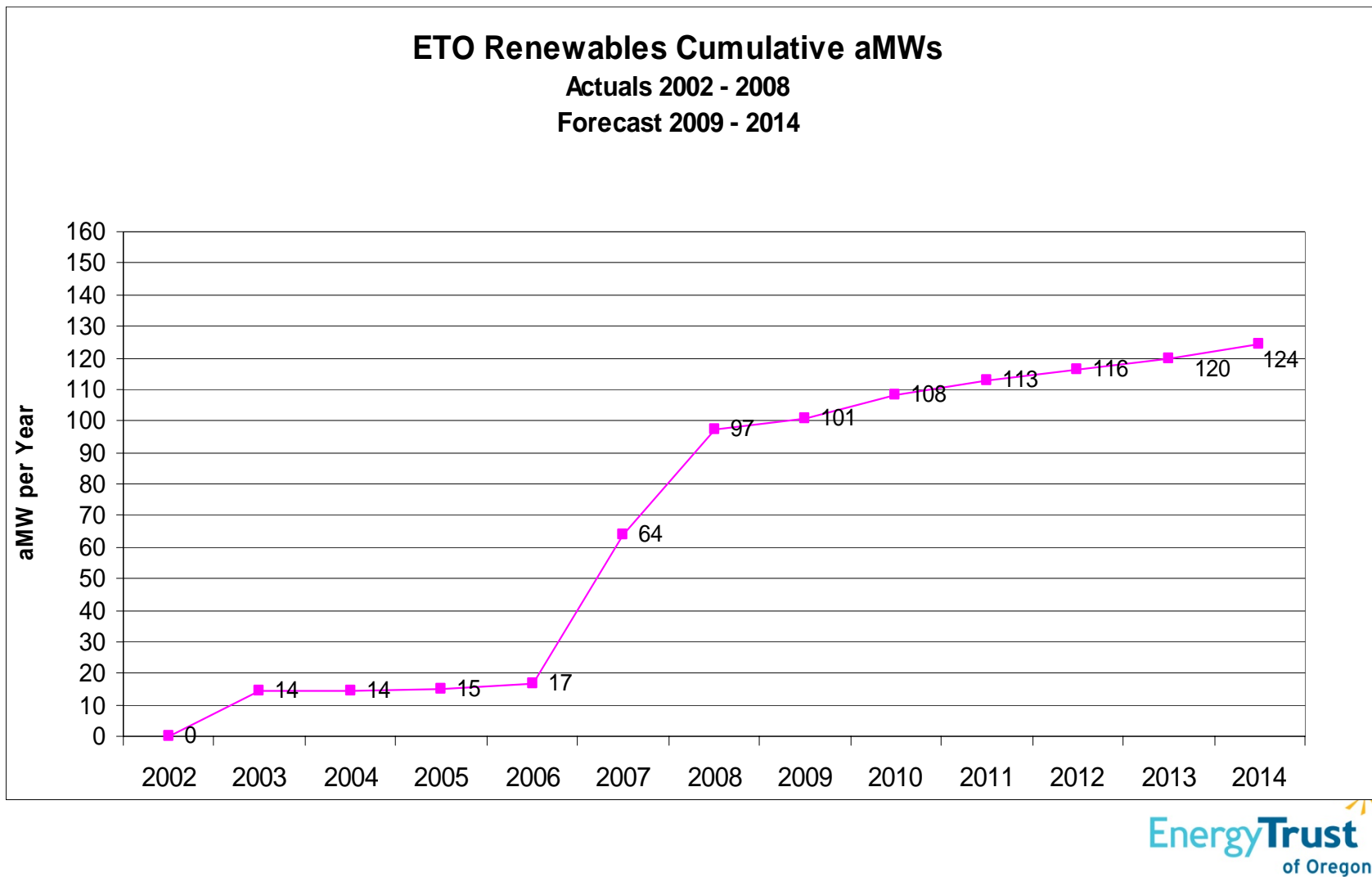


Gas Efficiency Five-Year Goal



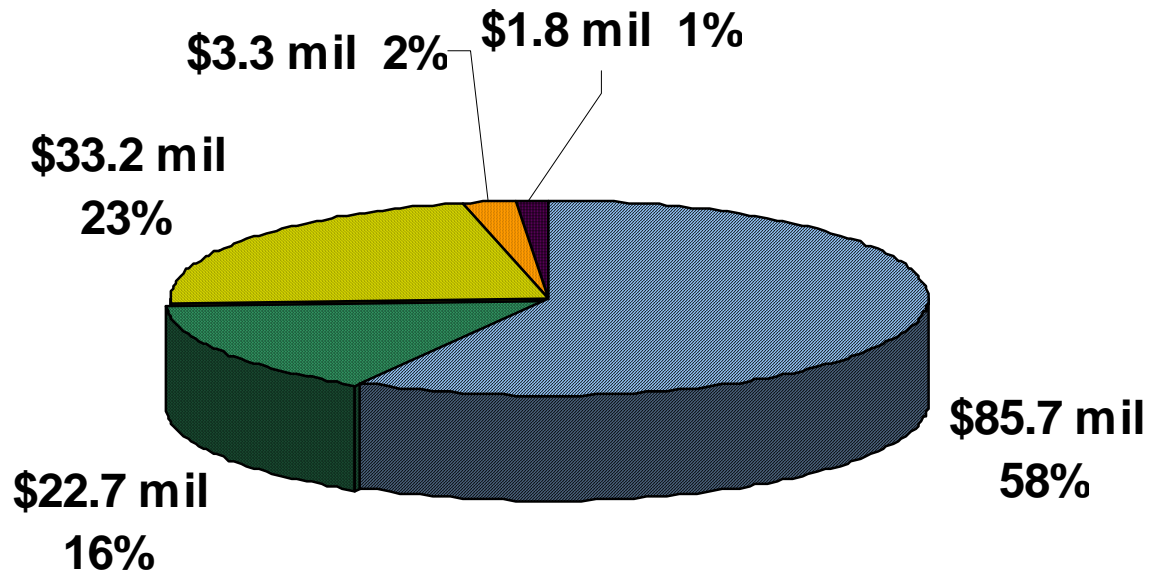


Renewable Energy Five-Year Goal





2010 Budget At-a-Glance



	2008 actual	2009 fcst	2010 budget	2011 projection
Efficiency - electric	48.0	67.9	85.7	98.6
Efficiency - gas	14.6	18.5	22.7	22.6
Renewables	10.2	17.9	33.2	18.6
Administration	1.8	2.7	3.3	3.0
Communications and Outreach	0.9	1.8	1.8	1.8
	\$75.5	\$108.7	\$146.7	\$144.7



Gas Efficiency Savings and Spending

	2009 ETO Stretch	2009 Actual	2009 IRP Goals	2010 ETO Stretch	2010 IRP Goal	2011 ETO Stretch	2011 IRP Goal
Savings in millions annual therms							
NW Natural	2.71	2.69	2.57	2.94	2.94	3.78	3.41
<i>Growth over 2009</i>				9.2%	9.2%	40.5%	26.9%
Cascade	.27	.26	.27	.37	.32	.51	.39
<i>Growth over 2009</i>				45.6%	24%	101%	52.3%
Budget in millions							
NW Natural		\$17.0		\$18.8		\$20.6	
<i>Growth over 2009</i>				5.9%		21.2%	
Cascade		\$1.2		\$2.1		\$2.3	
<i>Growth over 2009</i>				75%		91.7%	
Utility Rate Impacts							
NW Natural		1.25%		4.16%		TBD	
Cascade		1.5%		3.28%		3.87%	

Does not include NW Natural WA or industrial DSM pilot and market transformation estimates.



Electric Efficiency Savings and Spending

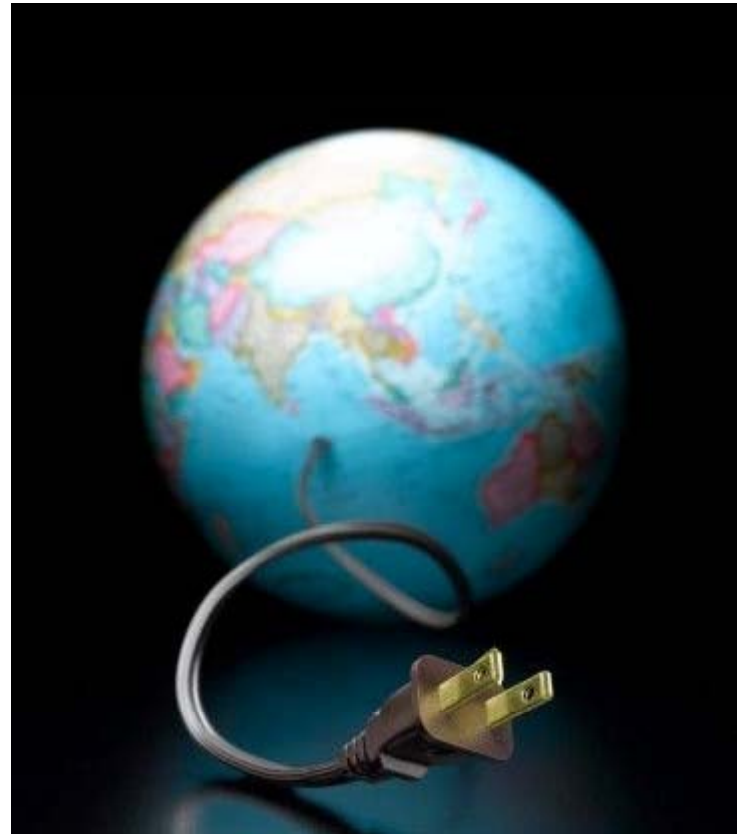
	2009 ETO Stretch	2009 Actual	2009 IRP Goals	2010 ETO Stretch	2010 IRP Goal	2011 ETO Stretch	2011 IRP Goal
Savings in aMW							
PGE	24.5	21.5	24.4	27.1	26.7	31.0	31.3
Growth over 2009				26%	24.2%	46.5%	45.6%
PacifiCorp	14.0	12.5	16.5	17.8	17.0	18.7	18.5
Growth over 2009				42.4%	36 %	50%	48%
Budget in millions							
PGE		\$46.7		\$55.2		\$67.0	
Growth over 2009				18%		43.5%	
PacifiCorp		\$31.7		\$33.6		\$35.1	
Growth over 2009				6%		10.8%	
Utility Rate Impacts							
PGE		2.8%		3.55%		4.27%	
PacifiCorp		2.8%		4.32%		4.32%	



Further Questions/Discussion

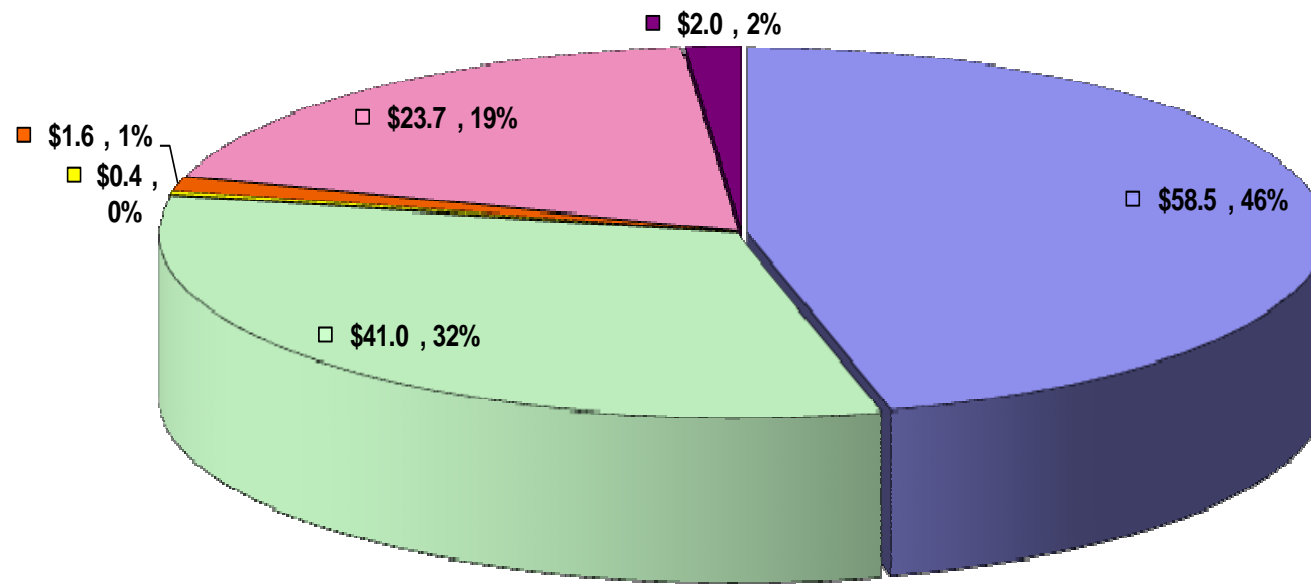


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2010 Revenue by Funding Source



\$ in millions
Total = \$127.2 million



Minimum OPUC Targets and Final Goals



Category	Measures	2010 Proposed Final
Energy Efficiency	Obtain at least 31aMW computed on three-year rolling average 4 Cents / kWh	33.7 – 45.0 aMW 3.5 cents – 2.6 cents//kWh
Natural Gas	Obtain at least 1.8 million annual therms computed on a three-year rolling average Levelized cost not to exceed 60 cents/therm	3.8 – 4.9 million annual therms 50 – 40 cents/annual therm
Renewable Energy	Secure at least 3 aMW computed on a three-year rolling average from small scale projects	4.5 – 9.7 aMW
Financial Integrity	Receive an Unqualified financial opinion from independent auditor on annual financial statements	Accounting conforms with Generally Accepted Accounting Principles
Administrative/Program Support Costs	Keep below 11% of annual revenue	6.7%
Customer Satisfaction	Achieve reasonable rates	Customer satisfaction research results
Benefit/Cost Ratios	Report both utility system and societal perspective on an annual basis	
Incremental Electric Efficiency Funding	Report annually energy savings achieved as a result of SB 838	



Cost-effectiveness Screening

Applies to all efficiency measures, including:

- New programs
- Program renewal
- Individual “prescriptive” measures
- Custom measures
- Measures are “bundled” only where they are tiny, save more energy together or cannot practically be installed or marketed individually



Benefit/Cost Test for Efficiency

Societal: All Benefits to Utility
System and Participant
All costs to everyone

Utility System: All Benefits to
Utility System
Costs of Energy Trust

Tests are applied to programs and measures *if* that measure is a *discrete choice*



Benefit Cost Test Components

- **Energy Trust costs** include incentives, program management and allocated administrative costs
- **Cost to consumer** includes “cash out” plus present value of any added maintenance costs
- **Utility System Benefits** are present value of avoided cost for generation (electric), fuel (gas) and delivery, plus a small amount for deferred T&D construction, with 10% Power Act advantage for efficiency
- Utility costs include a **carbon** estimate
- Societal test includes **non-energy benefits** to consumer or utility system that can readily be quantified
- For **large, clear and hard-to-quantify non-energy benefits**, benefit is estimated as consumer cash out minus 3 years of energy bill savings
- **Tax credits** are deducted from societal cost, often driven by jobs or other non-energy benefits



Renewable Technologies



- Solar, wind, biopower, small hydro, geothermal
- Open solicitation
- Technical and project development assistance
- Feasibility studies
- Contractor training and referrals

Evaluation



Evaluation

Independent third party contractor review to:

- Improve programs
- Advise on need for change
- Gauge progress toward goals

Tools:

- ***Interviews*** with energy users, trade allies, program managers, others
- ***Energy use data*** (before/after, participant vs. other)
- ***Data on other influences*** (weather, occupancy, etc.)



Evaluation

- Evaluation committee
- Fast feedback
- Third-party process and impact evaluations
- Staff responses
- Annual “true-up”
- All measurement and verification reports public



New Trends in Free Riders/Spillover

Market Transformation:

- Viewing more programs as market transformation
- Entails estimating a total market effect, comparing growth in market share to a baseline that assumes a slower growth

Resource Acquisition:

1. Simple method: Interview questions about free riders combined with weighting schemes
2. Establishing Bounds: Variations to set reasonable bounds, usually a midpoint, to provide sufficient precision



Solar Electric & Solar Water Heating

- Free workshops
- Home assessments
- Contractor training and referrals
- Cash incentives
- Financing
- “Solarize” bulk purchase and neighborhood model

