



Energy Efficiency Progress and Trajectory

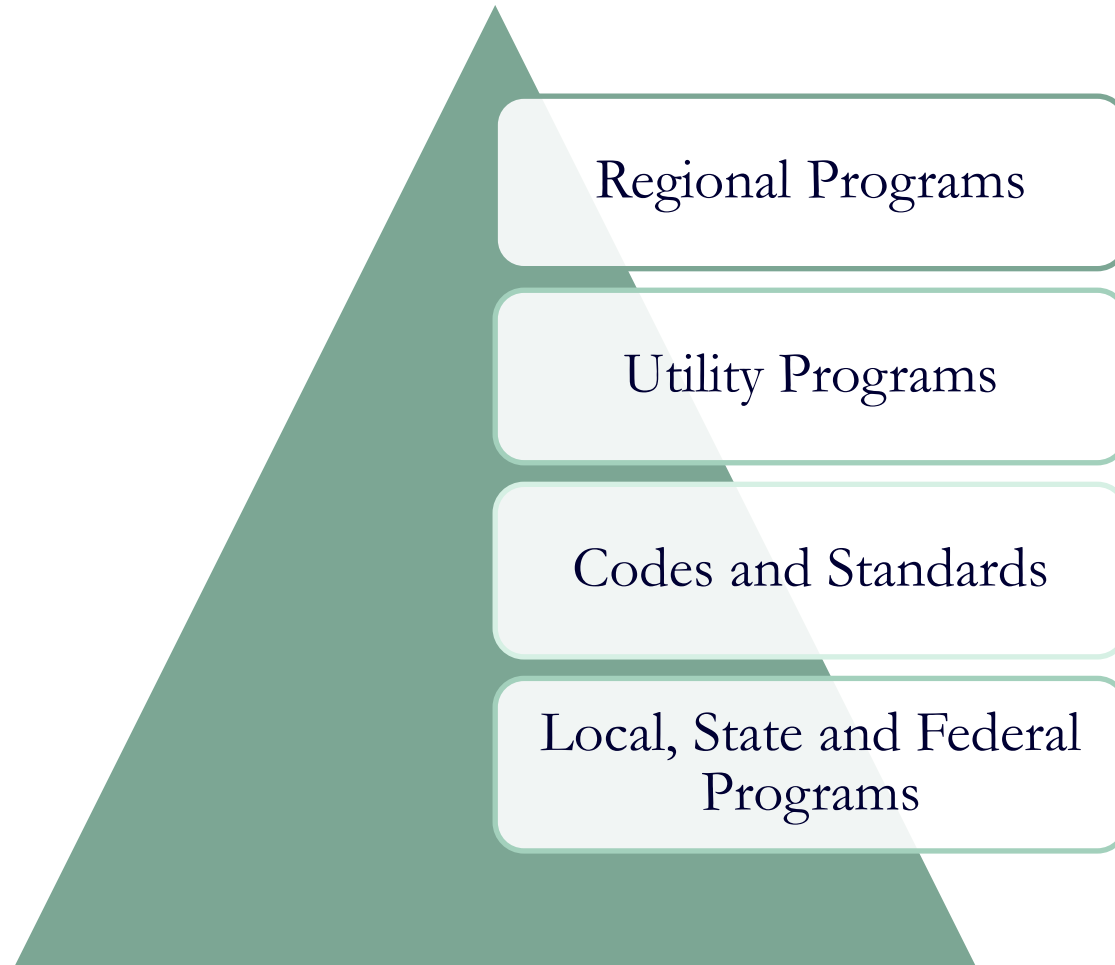
Jason Eisdorfer and Juliet Johnson
Oregon Public Utility Commission

February 14, 2012

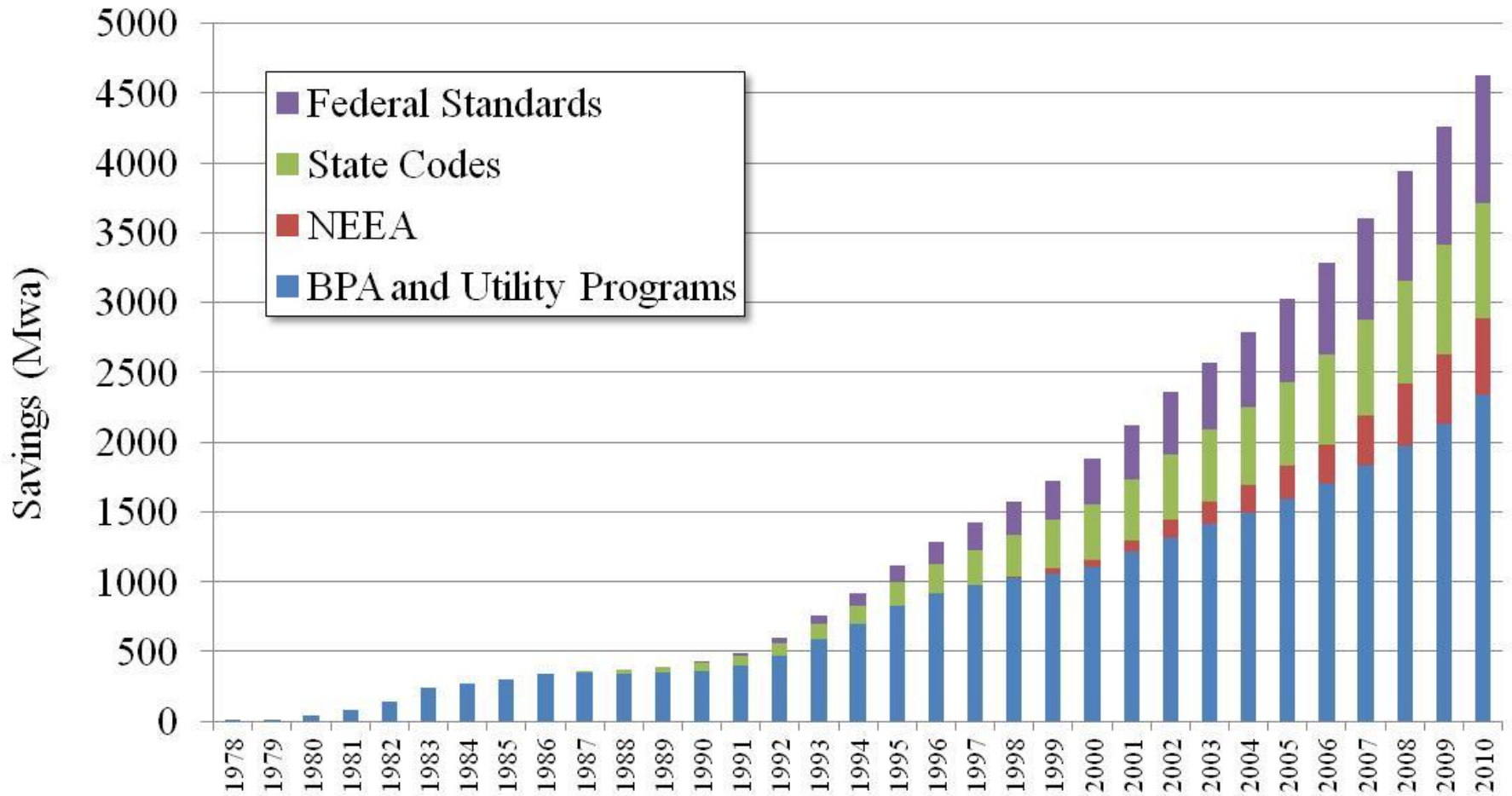


Progress

- Four layers of programs – in operation since late 1970's

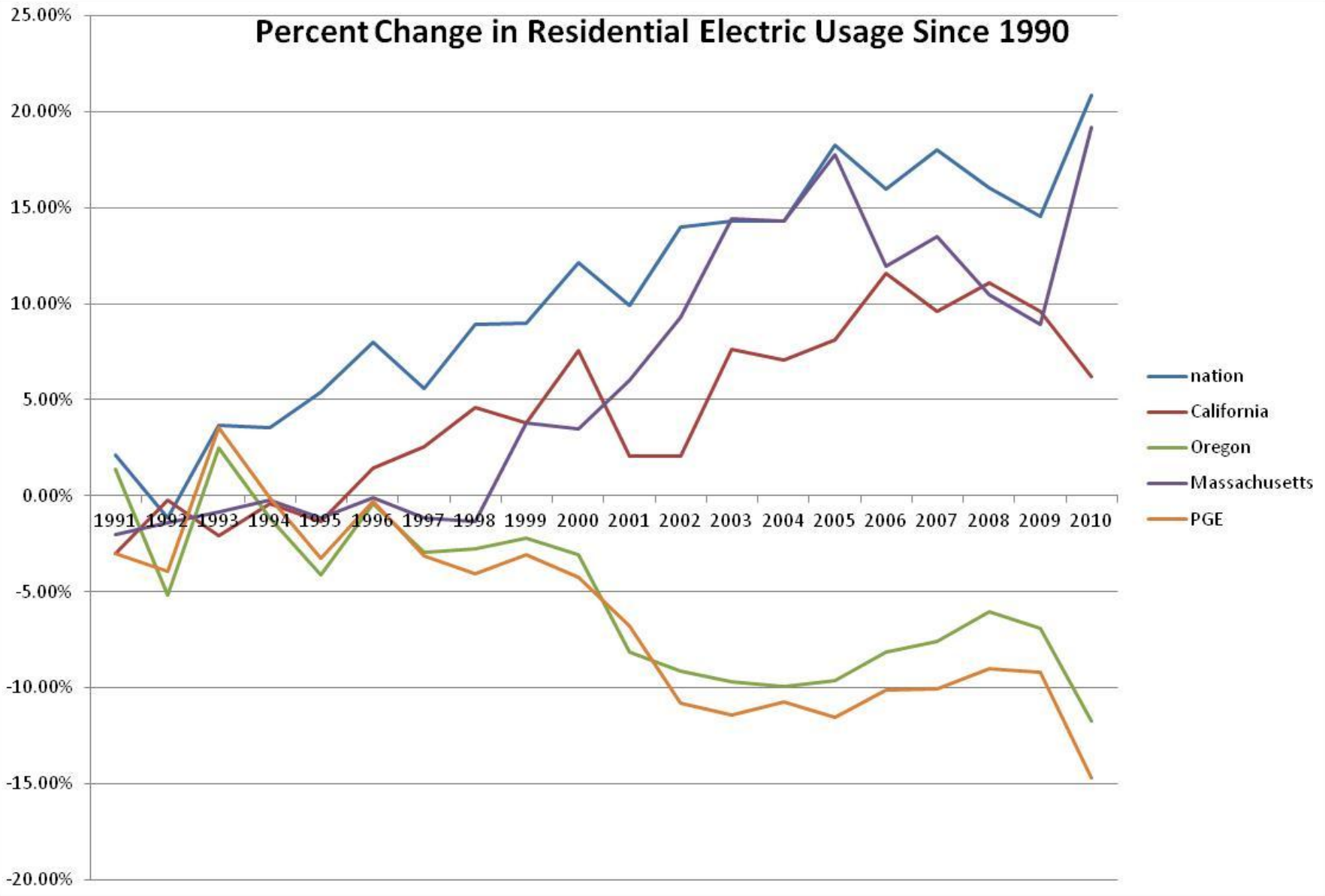


Progress - region



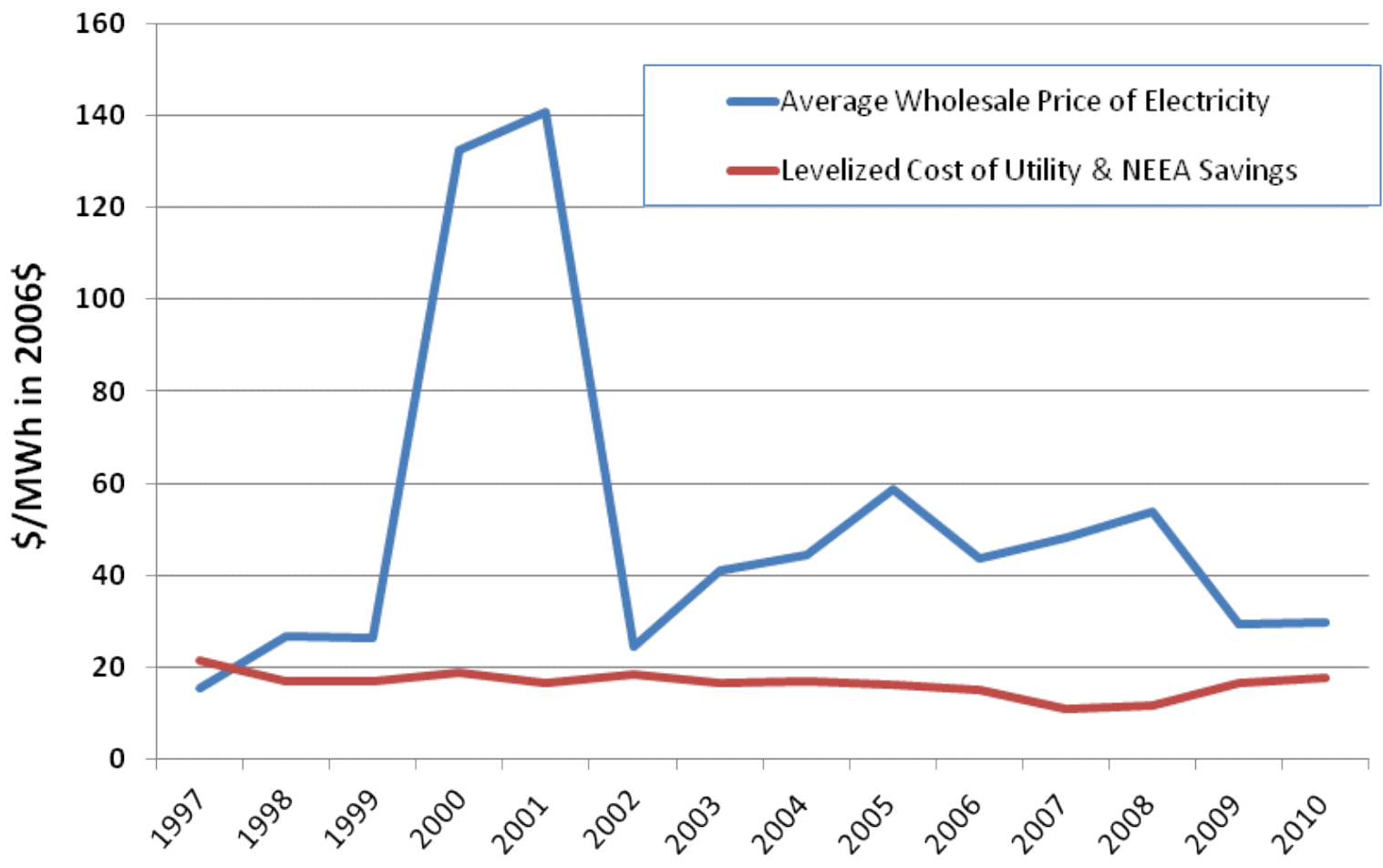
Progress

Percent Change in Residential Electric Usage Since 1990



It was cheaper too

Cost of Savings Versus Market Price of Power



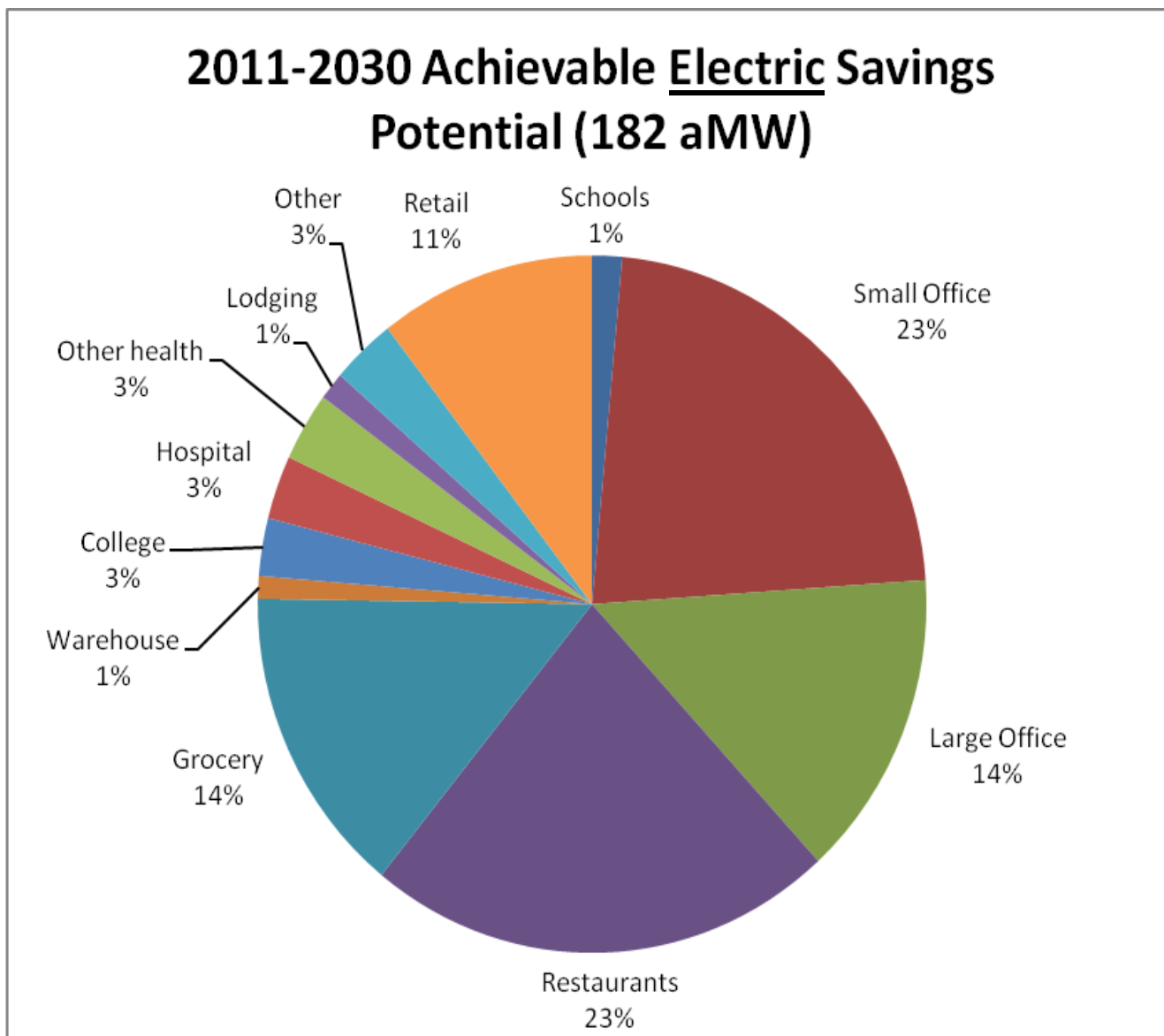
Future Trajectory as a State - Policy

- Achieve all cost effective conservation at a reasonable pace and maintain a consistent high level of program funding
- Look at Council's estimate of where the potential is and go after it
- Advance new, innovative, promising technologies to create more opportunities
- Continue to aggressively pursue and look for new ways to target opportunities; continue to learn and adapt
- Capture all lost opportunity resources – new buildings, new appliances

Where are remaining savings (region)?

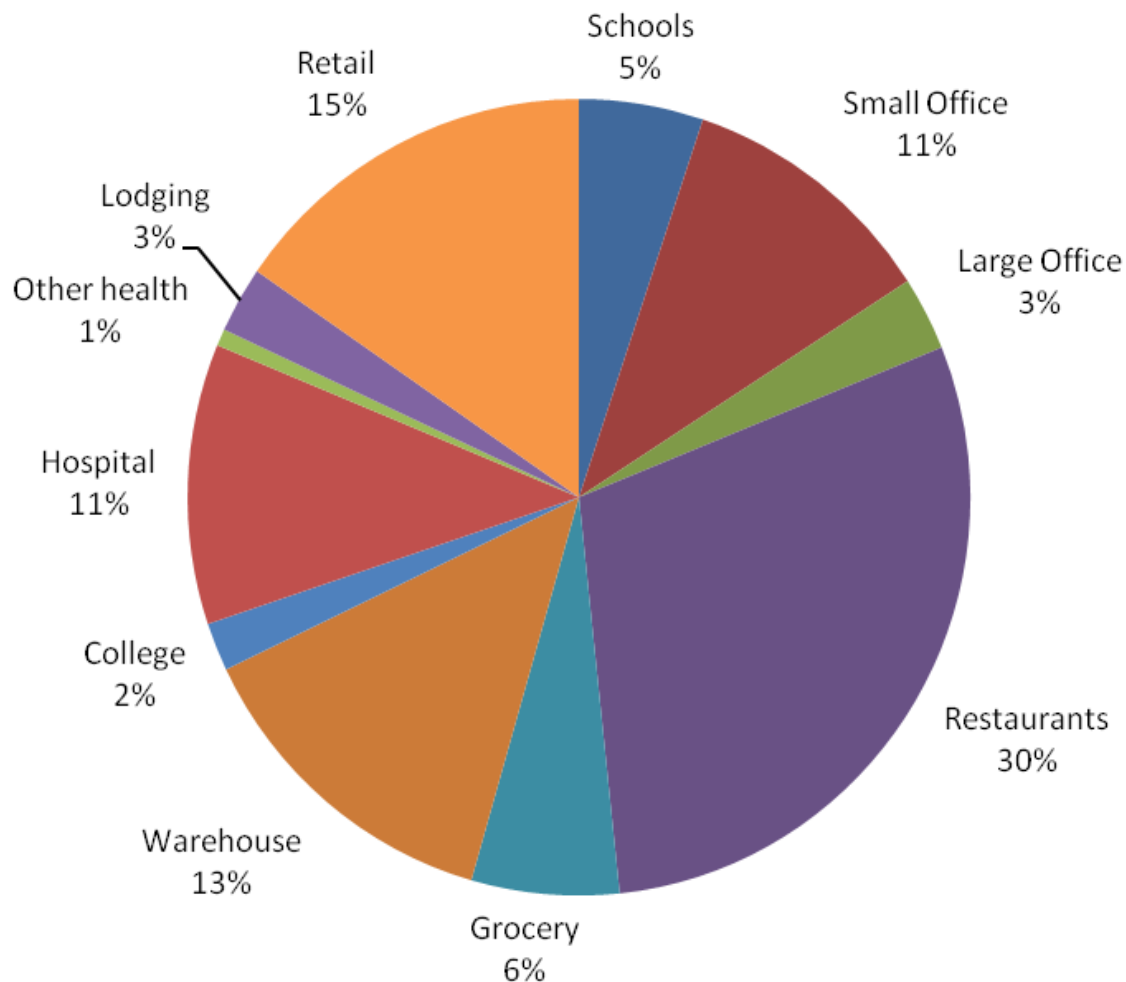
MW _a Achievable End of Period and <12¢/kWh	5th Plan 2005	6th Plan 2009
Consumer Electronics	155	800
Industrial	350	800
<u>Distribution Efficiency</u>	0	400
Residential	2119	2400
Commercial	1183	1400
Agriculture	93	100
Total	3902	5900

Commercial sector – Electric potential



Commercial sector – gas potential

2011-2030 Achievable Gas Savings Potential (35,850 therms)



Distribution Efficiency

- Make the grid more efficient:
 - High efficiency transformer replacement
 - Load balancing
 - Reconductoring
 - Voltage Optimization ←

Voltage Optimization

- Also known as Conservation Voltage Reduction (CVR)
 - Allowed ANSI voltage range = 126-114V
 - Operate in lower end of range and save energy in the grid and in the home
 - A proven cost-effective efficiency measure
- Utilities experimenting with CVR for 30 years but not widely adopted, due to
 - Perceived high costs
 - Concern over negative customer impacts
 - Complexity of its design and implementation

Voltage Optimization

- Northwest Energy Efficiency Alliance (NEEA) – Distribution Efficiency Initiative 2003-2007
 - Load research and pilots with 13 NW utilities
 - Successful pilots Snohomish PUC and Idaho Power
 - 2.5% voltage reduction results in 2% energy savings
- Work must be done on utility side of meter, so it is utilities' responsibility – Energy Trust does not do this
- PUC is pressing utilities on cost effective CVR
- Requiring CVR in action items in utility Integrated Resource Plans