



2010 Code Change Training

The Oregon Energy Efficiency Specialty Code

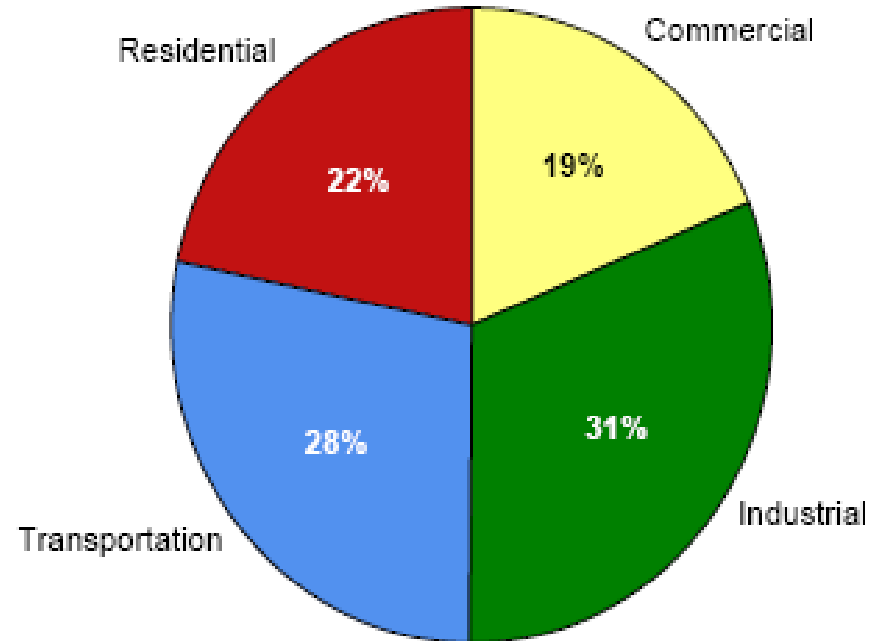


How Buildings Use Energy

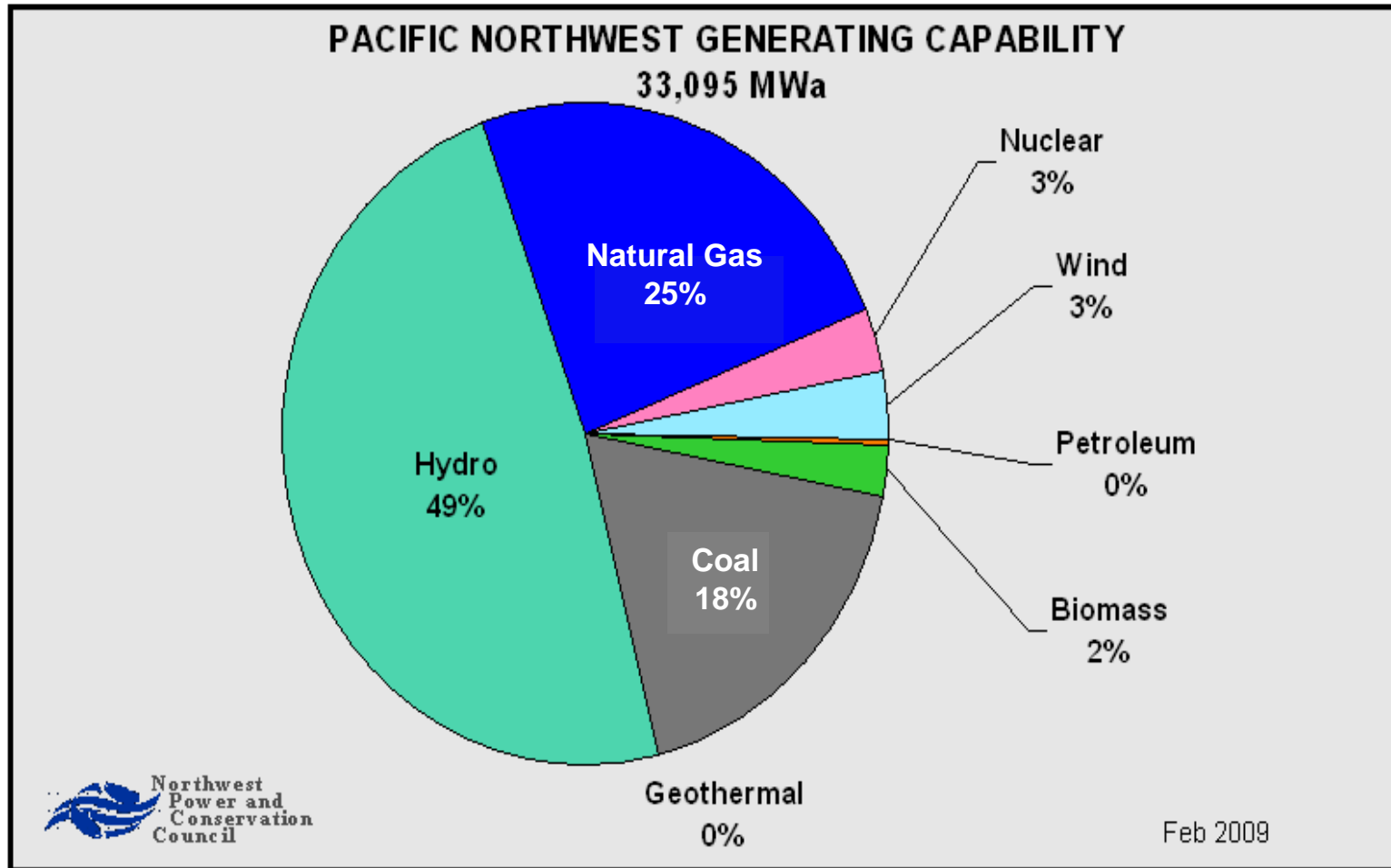
Energy Use in the US

Buildings account for about 40% of total energy use

End-Use Sector Shares of Total Consumption, 2008

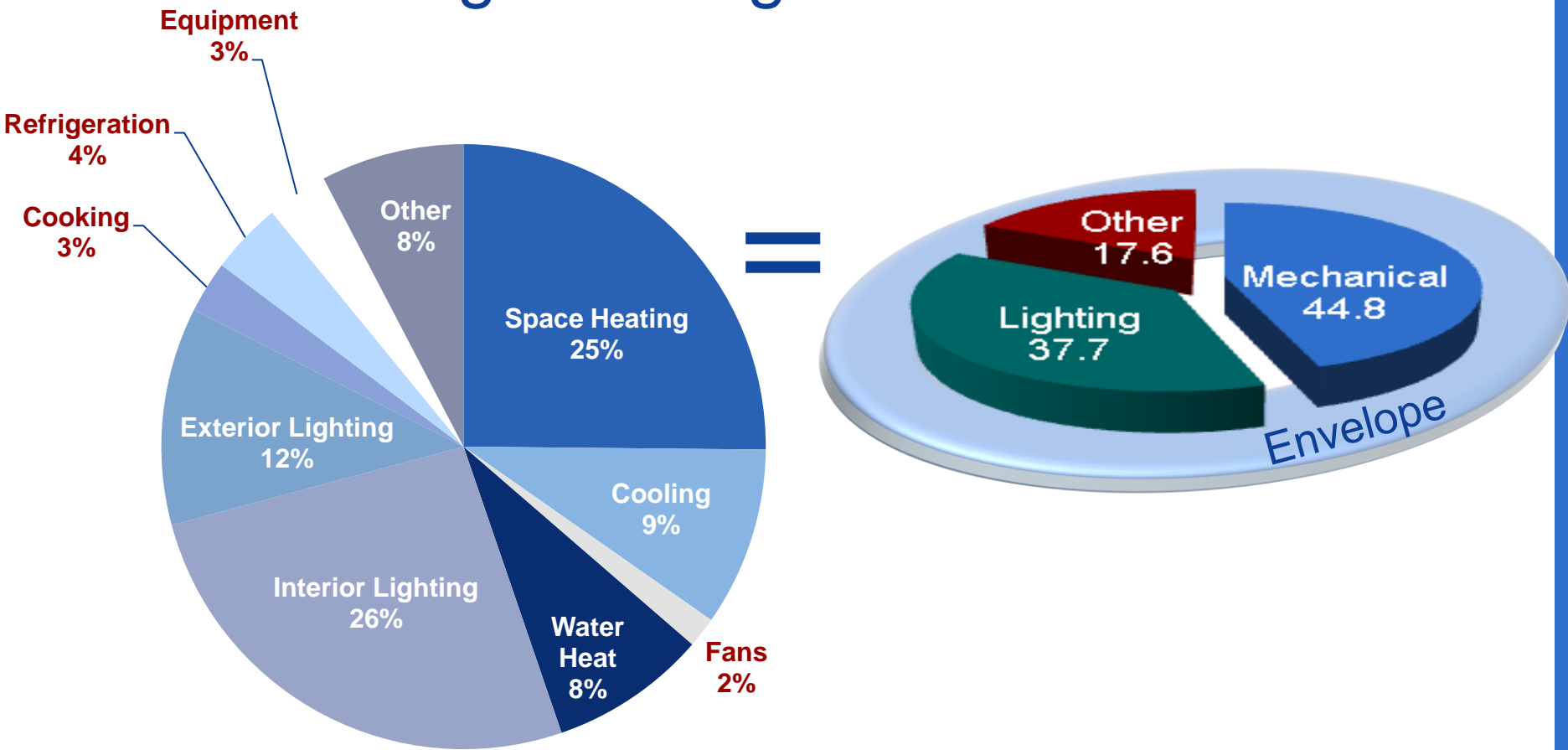


NW Energy Generating Capacity



How Buildings Use Energy

Break down of energy use in commercial buildings in Oregon

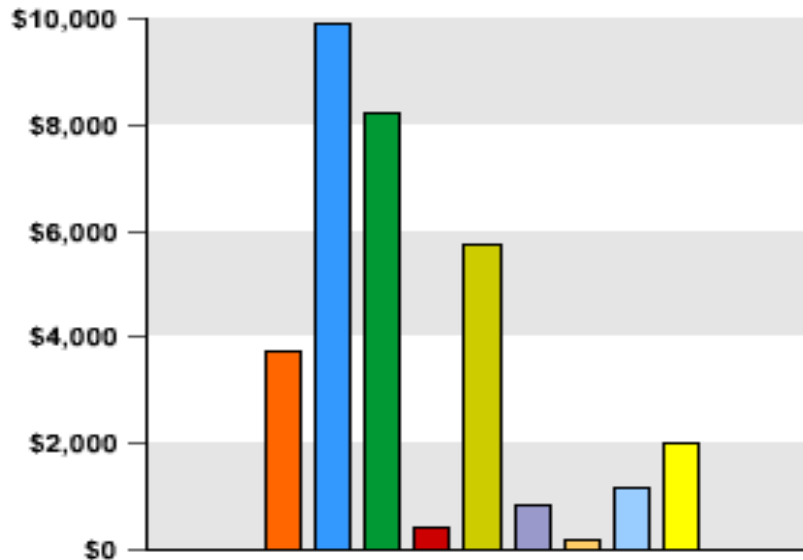


How Buildings Use Energy

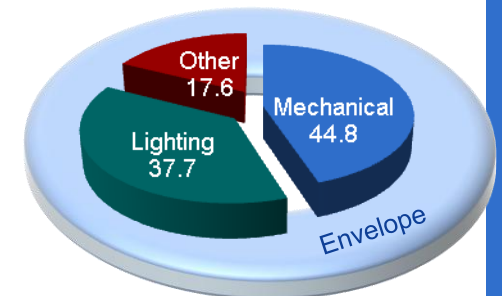
Energy Use for Office Building

- 20,000 sf -

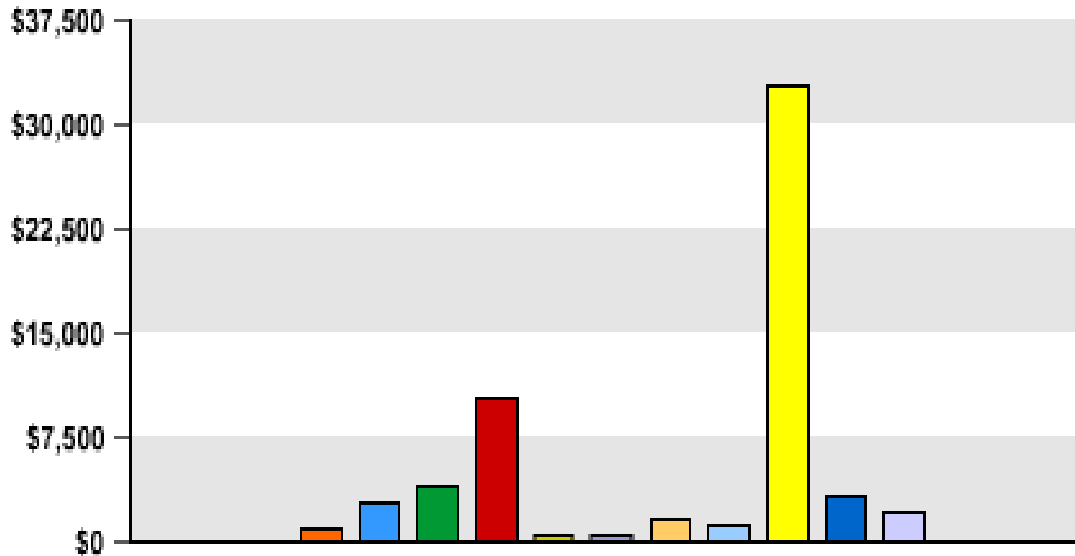
- Electric \$20,250
- Gas \$11,900
- \$/year \$32,150



Cooling (\$3,716)	Outside Lighting (\$820)
Heating (\$9,890)	Refrigeration (\$205)
Inside Lighting (\$8,204)	Ventilation (\$1,149)
Miscellaneous (\$410)	Water Heating (\$2,000)
Office (\$5,743)	



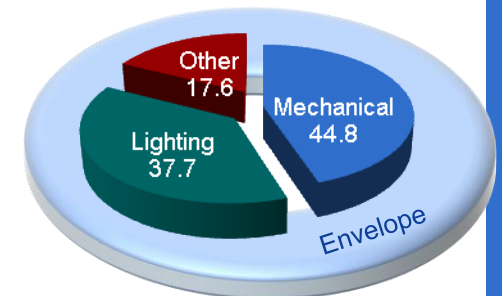
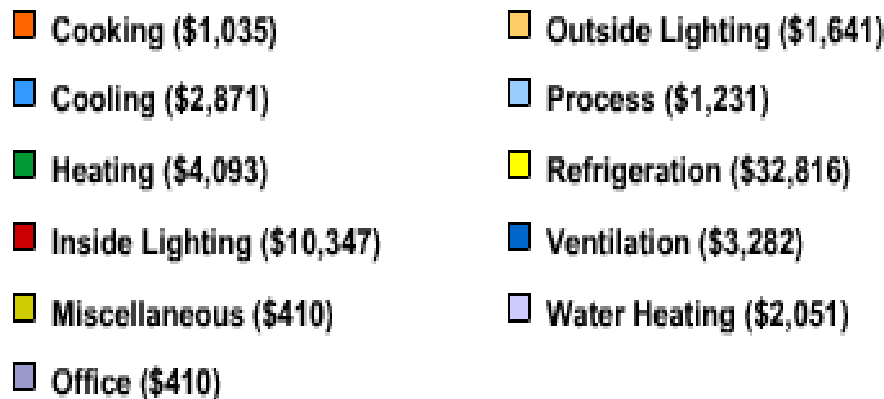
How Buildings Use Energy



Energy Use for Grocery Store

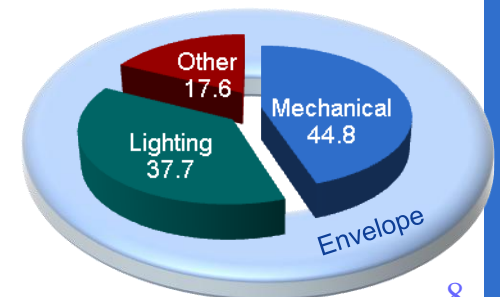
- 20,000 sf -

- Electric \$52,800
- Gas \$9,250
- \$/year \$62,050



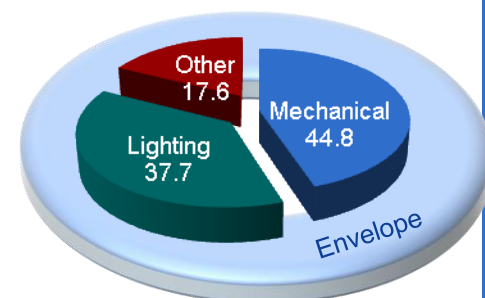
Benefits of Energy Efficiency

What are the Benefits
of Increasing the
Energy Efficiency of Buildings?



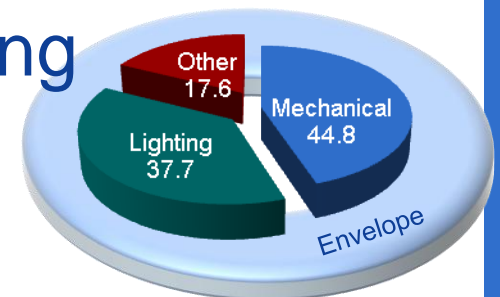
Who Pays and Who Benefits

- Developer or Building Owner → Pays Cost of Energy Efficiency Upgrades
- Occupant or Tenant → Pays Utility Bills; gets savings



Benefits of Energy Efficiency

- Energy efficiency is cost effective
 - investments in energy-efficient equipment cost less than constructing a new power plant*
 - including energy efficiency measures in new construction costs much less than upgrading later*
- Increases energy security
- Lowers utility bills & building operating expenses



Benefits of Energy Efficiency

Blackout in the northeastern states – August 14, 2003

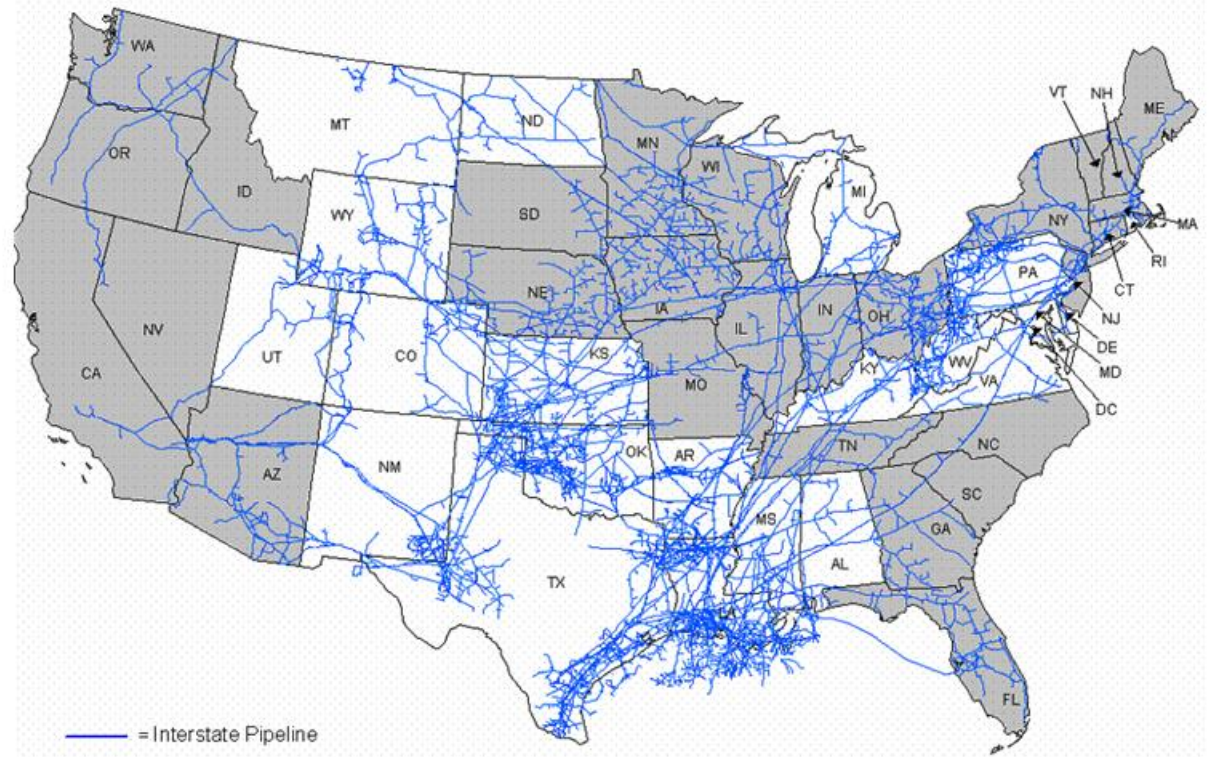


Source: NOAA <http://www.noaanews.noaa.gov/stories/s2015.htm>

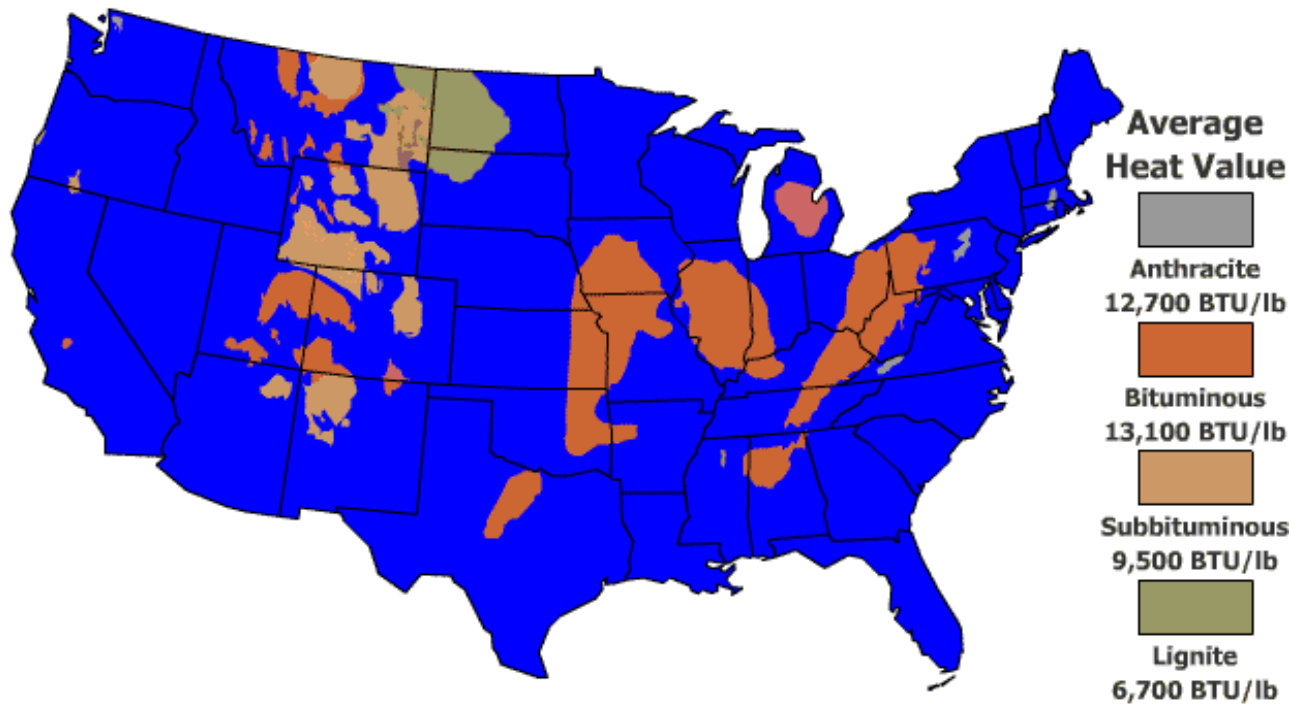
Benefits of Energy Efficiency



Interstate Natural Gas Supply Dependency, 2007



The Two Major Coal Fields of The United States.



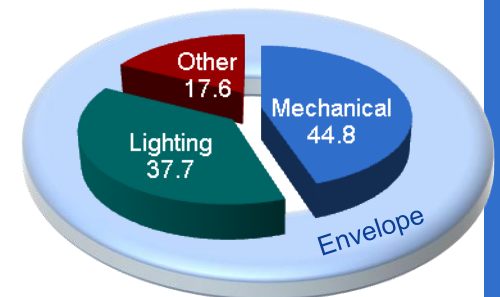
Coal Fields of the U.S.



Benefits of Energy Efficiency

NW Power and Conservation Planning Council's 6th Power Plan

“Conservation will help us meet 80% of new demand over the next 20 years”



Policy Drivers

Why are we here today?

Policy Drivers



SB 79

- Commercial
15-25%
- Residential
10-15%

Minimum Codes

- OEESC
- ORSC
Chapter 11

Reach Code

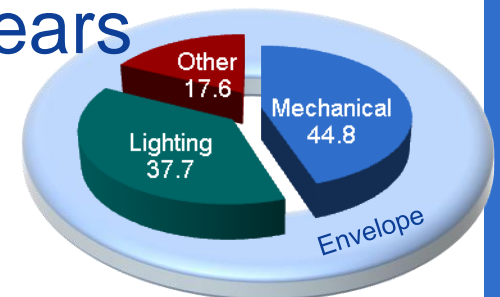
- Optional
- High
performance

Policy Drivers

American Recovery and Reinvestment Act (ARRA) of 2009

All states accepting ARRA funding are required to

- Adopt commercial & residential energy codes equal or greater than 2007 ASHRAE 90.1 / 2009 IECC
- Show 90% compliance within 8 years



Overview of Training

- Administration *including Compliance*
- Building Envelope
Break - 15 minutes
- Mechanical System
- Lighting

