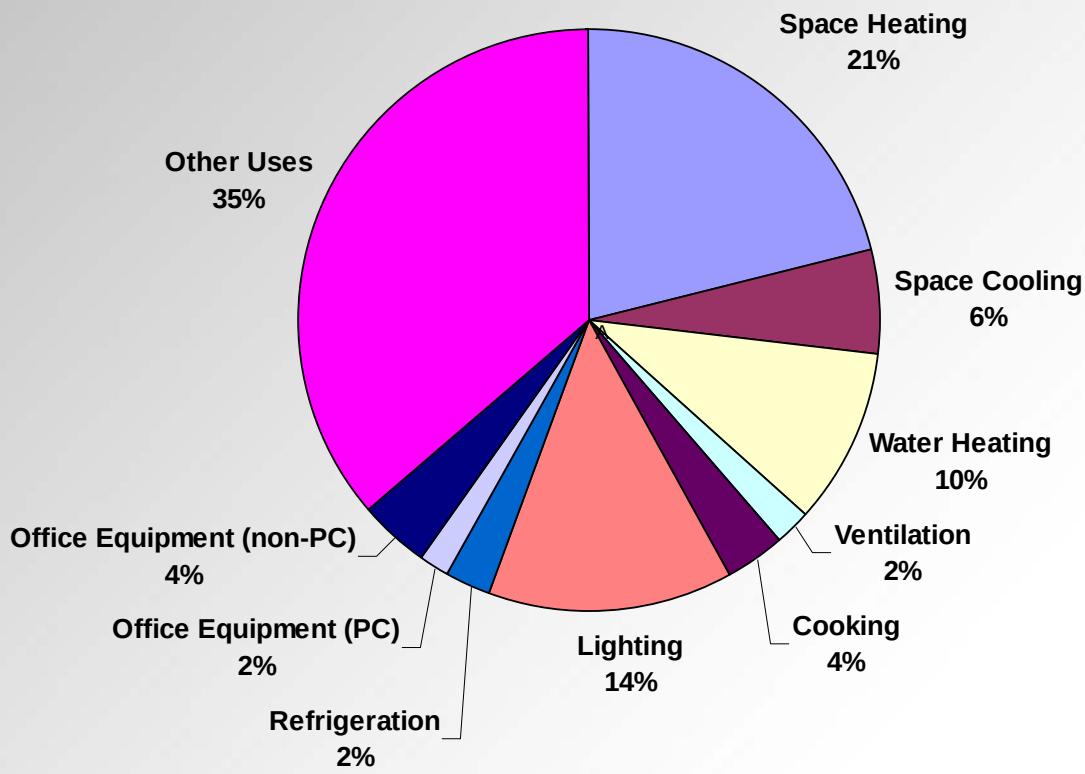
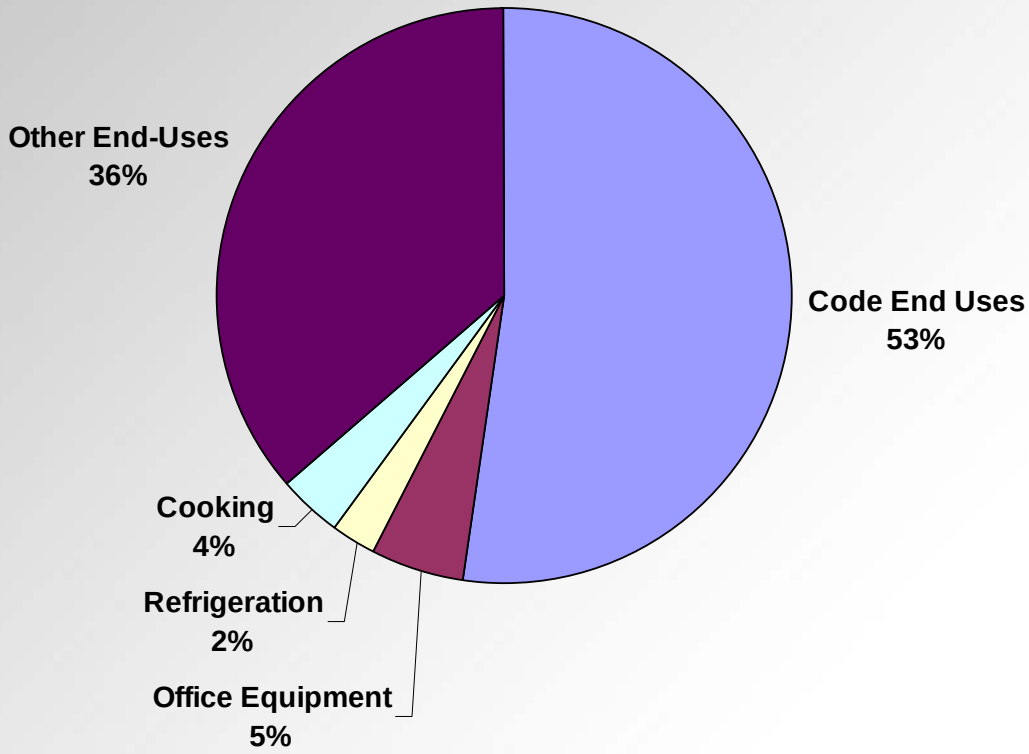
More Energy Efficient Commercial Buildings

Mark Halverson
Pacific Northwest National Laboratory

Commercial End-Uses



Commercial End Uses Covered in Energy Codes



DOE's Goal

- Reduce all slices of the pie to as low a level as technical feasible and economically justified with the ultimate goal of achieving Zero Energy Commercial Buildings

Code Nomenclature I

- Prescriptive

  Simple lookup requirements for building elements

- System Tradeoff

  Simple tradeoffs between prescriptive requirements within a building system

- Performance

  Tradeoffs between prescriptive requirements across the entire building

Code Nomenclature II

- Above Code

  Improving the existing requirements of the code, but staying within the traditional focus of the code

- Beyond Code

  Adding entirely new concepts to the code

Commercial Taxonomy

	Prescriptive	System Tradeoff	Performance
Code	IECC Chapter 8 ASHRAE 90.1	COM*checkEZ* ENVSTD	IECC 806 ASHRAE ECB (simulations)
Above Code	**ASHRAE AEG** **NBI Benchmark**		Energy Star (actual bills)
Beyond Code			LEED (simulations)

DOE's Interest

- Energy savings
  - 30% over ASHRAE Standard 90.1-1999
- Simple and prescriptive
  - Easy and inexpensive
- Informative
  - Lots of "how to" information
- Source of future code change proposals

Our Speakers Today Are

Don Colliver - ASHRAE

- Advanced Energy Guide for Small Offices
  - AKA SP 102 and AEG

Jeff Johnson - New Buildings Institute

- Advanced Buildings -Energy Benchmark for High Performance Buildings
  - AKA E-Benchmark and Benchmark