Policies to Reduce Standby Power in the United States

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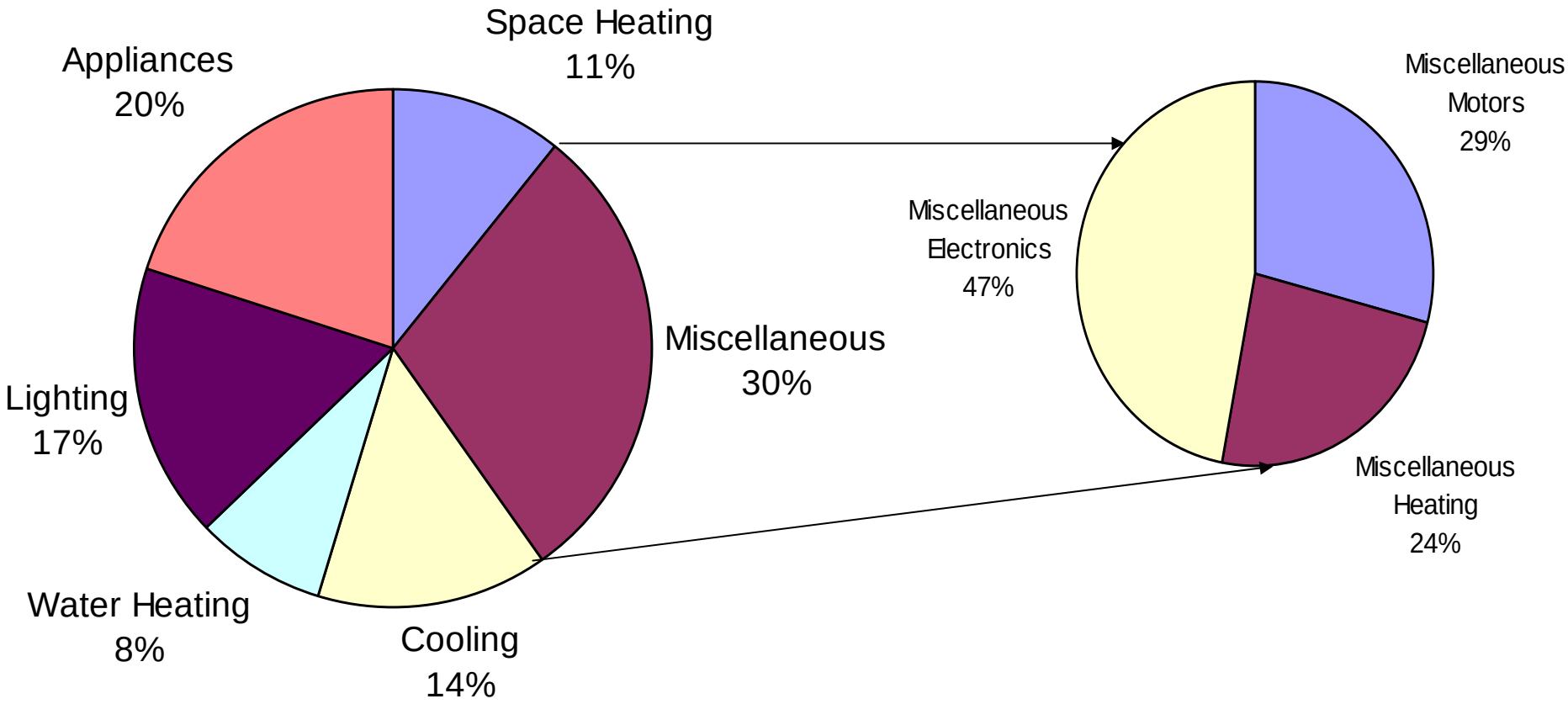
Why Standby Matters

- Standby power accounts for 5-11% of residential electricity consumption in the United States

- Standby power accounts for 110 billion kilowatt hours (kWh) of annual U.S. electricity consumption and $11 billion in annual energy costs.

- New technologies are available that make it possible to reduce standby power while maintaining all features that consumers want.

Summary of National Residential Electricity Consumption by End Use for 2006



- 2006 projected U.S. national residential electricity consumption: **1,353 TWh**
- 2020 projected U.S. national residential electricity consumption: **1,691 TWh**

End Use Consumption Estimate is from EIA's Annual Energy Outlook 2006, Report #:DOE/EIA-0383(2006)

Many Groups Trying to Cut Standby

- Regulations
  - US DOE
  - State of California (and other states)
- Voluntary Programs
  - Energy Star
  - Government purchasing specifications
    - Federal (Executive Order)
    - States and communities
  - Utility programs
  - Set-top boxes (DTAs)
- Labels
- Coverage, effectiveness, schedules differ

Department of Energy (US DOE)

- Capture standby in tests and standards for white goods
- Develop standards for external power supplies and battery chargers
- Regulate standby in new products (microwave ovens)

California

(California Energy Commission)

Standby regulations apply to:

- External power supplies
- Compact audio
- DVD players/recorders
- TVs

EPA's Standby Strategy

- Add standby requirements to new and/or revised specifications, where applicable
- Use IEC 62301 (International Standard) test method and standby definition
  - Work to ensure that test procedure and definition reflect advances in technology, realistically capture energy use, and support new policies
- Coordinate with U.S. DOE, the Federal Energy Management Program (FEMP), and other international organizations/programs

EPA's Standby Strategy *(cont.)*

- Select specification levels based on test data (levels must be supported by test data that represents the U.S. market)
- Target a one-watt specification level, noting that:
  - Levels may be higher in some cases due to special performance considerations (e.g., fax machines, large-format devices, networked products), or
  - A duty cycle approach that includes standby may be preferred for some product areas
- Verify manufacturer data on selected products through ENERGY STAR compliance testing initiative

Government Purchasing Specifications

- Established by presidential executive order (2001)
- Federal government purchases only 10% of IT equipment but strongly influences market
- Early success in lowering standby
- Many local governments use same specifications as part of Energy Star

Future Policies

- Greater integration & coordination across standards and programs (DOE, EPA, California …)
- Focus on annual energy use
  - Increased attention to all low power modes
  - Links between active modes and low power modes
  - Consideration of network-induced power consumption
- Coverage of more products