

# Internal Power Supplies



## **Opportunities for Addressing Internal Power Supplies**

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Power Supplies” on 10 Nov. 2004*

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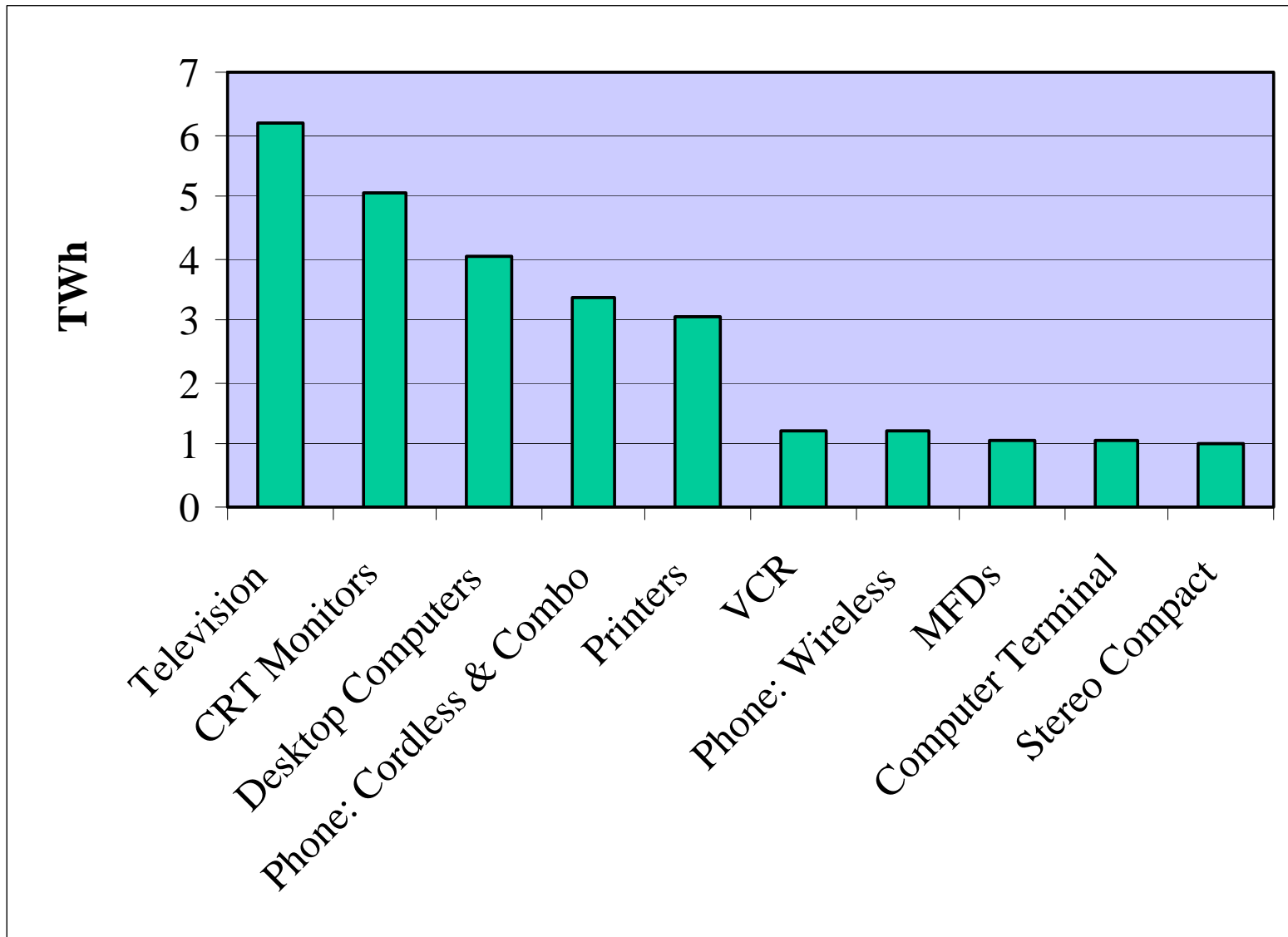
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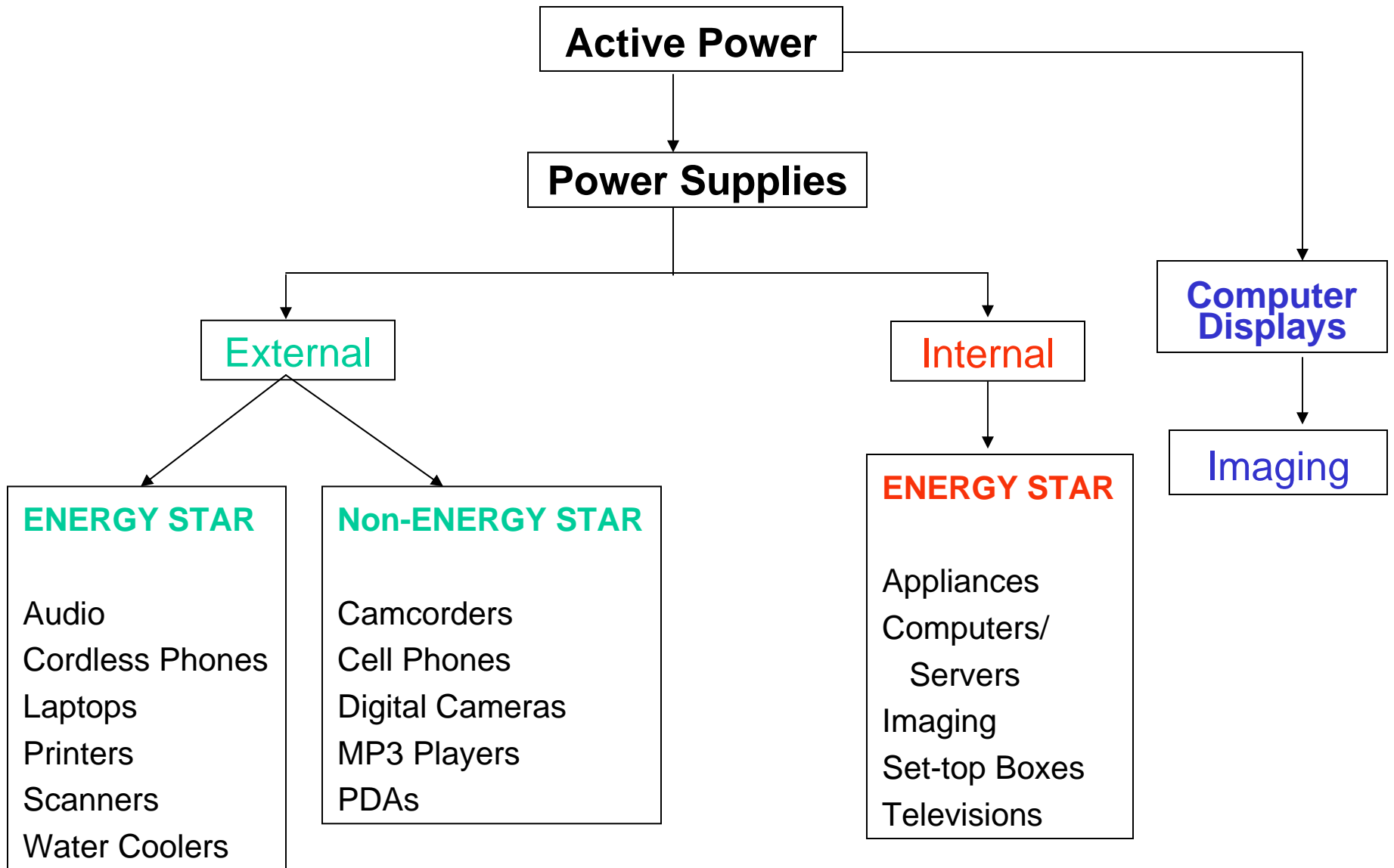
# Top 10 Product Opportunities Ranked by PS Energy Savings



# Opportunities Beyond Low Power Modes



- Products with high potential savings from power supplies are already covered by ENERGY STAR --  
**But...**
  - OE and CE do not address **active power** (monitors are exception; imaging equipment a possibility)
  - **Enabling rates** low for some ENERGY STAR qualified devices (e.g., desktop computers)
  - Participation in ENERGY STAR is low for some product categories (e.g., cordless phones)
- Most of these products use **internal power** supplies
  - Except for some CE (cordless phones) and OE (printers, scanners)



# Internal Power Supplies: Opportunities and Challenges



- Internal power supplies
  - Recognize efficiency across multiple modes of operation
  - Wide range of home electronics and office equipment to be considered (e.g., computers)
  - More complex and challenging than external power supplies
  - Currently addressing on a product-by-product basis



# ENERGY STAR for Computers



- Existing computer specification needs to be updated:
  - Last revised in July 2000; 98% of models comply. Label no longer differentiates.
  - Power management enabling rate only about 5% in commercial sector — probably also low in residences.
  - Specification does not currently address active (“on”) mode.

# Initial Thoughts: Phased Approach



## Tier 1

Set sleep and off power limits, and address active mode via power supply efficiency.

## Tier 2

- I) Fix the “network problem” with power management.
- II) Seek more comprehensive approach; recognize products that use energy efficiently across all modes. Either by a **prescriptive approach** or a **performance approach**.

# ENERGY STAR Tier 1 Initial Ideas



- Efficient Power Supply

**Internal PS** – efficiency levels of 67% at 20% loading; 80% at 50% loading and 75% at 100% loading

**External PS** – must meet EPA ENERGY STAR external power supply specification.

- Updated Power Levels

**Sleep** — Desktop, Laptop, Workstation: < 5W; Integrated Computer: <9W (*achieved via Instantly Available PC (IAPC) and other technologies*)

**Off** — Desktop: < 2W; Laptop: < 1W; Workstation: < 2W; Integrated Computer < 5W; *Federal Energy Management Program (FEMP) “standby” levels*



# EPA's Next Steps for Computers



- Discuss Tier 1 ideas with input and participation from all interested stakeholders, including European Union (EU).
- Get stakeholder input on eventual Tier 1 first draft and discuss target effective date for Tier 1 – early 2006.