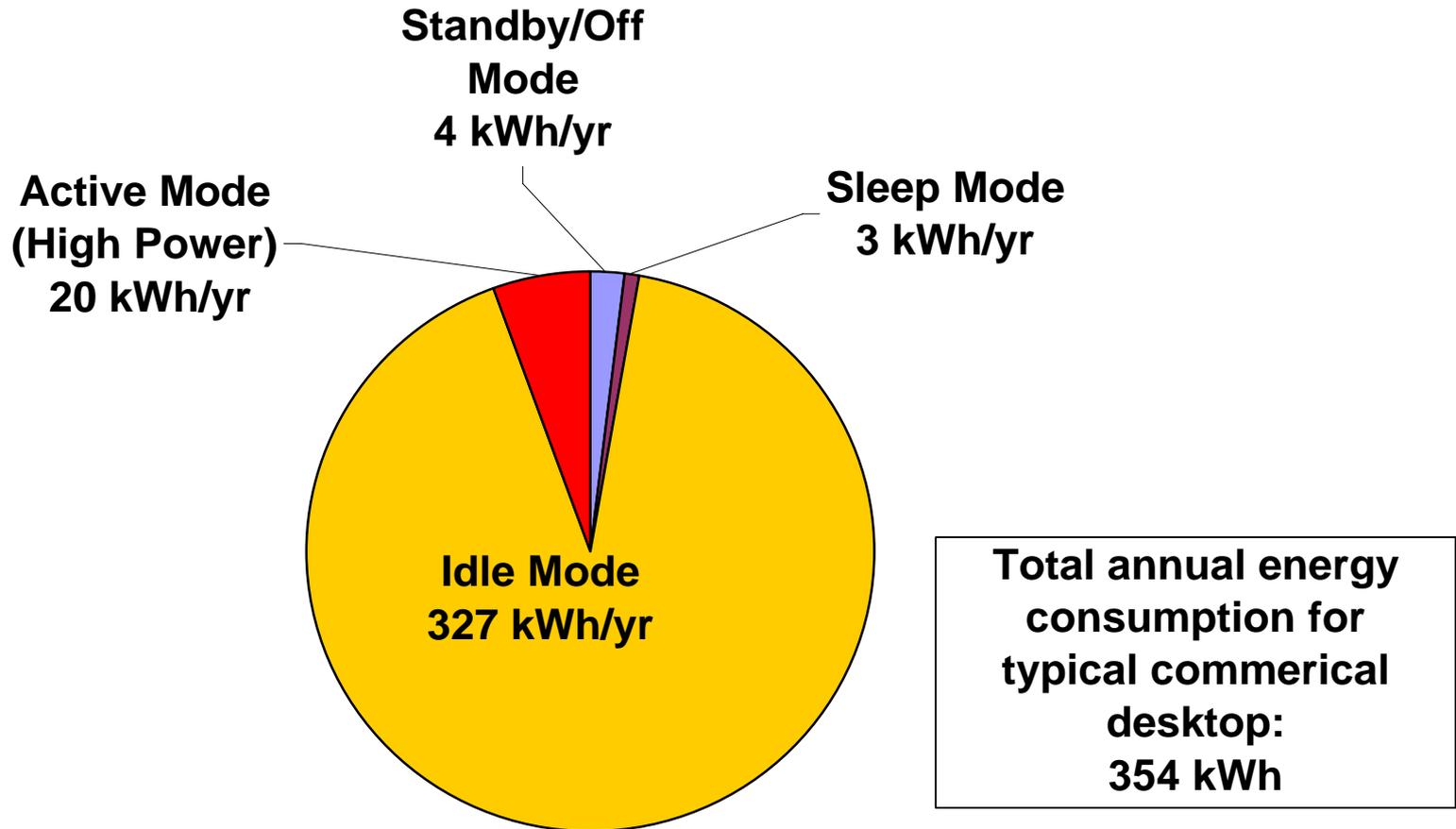


Proposed Computer ENERGY STAR Specification



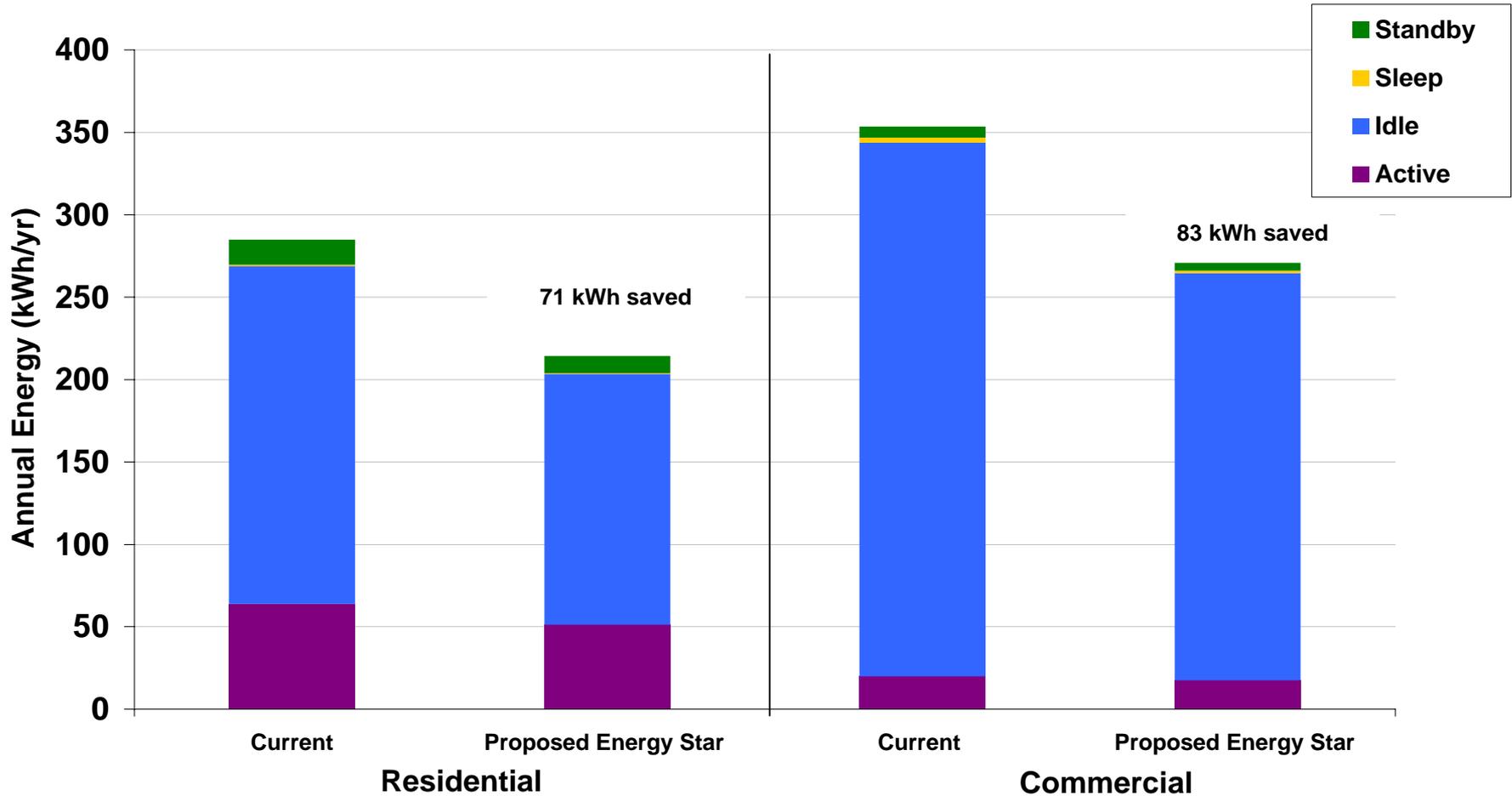
Noah Horowitz
Senior Scientist, NRDC

Why Include Idle Mode?



Idle State over 90% of total energy use in commercial desktops

Desktop Computer Energy Savings: Majority in Idle Mode



Definition of Idle Mode

Computer is fully operational (not asleep) with all internal hardware and monitor connected; operating system fully loaded; no hard drive or optical drive activity occurring; no ethernet, modem, or wireless network connection established; no keyboard or mouse activity; no additional USB or Firewire devices connected

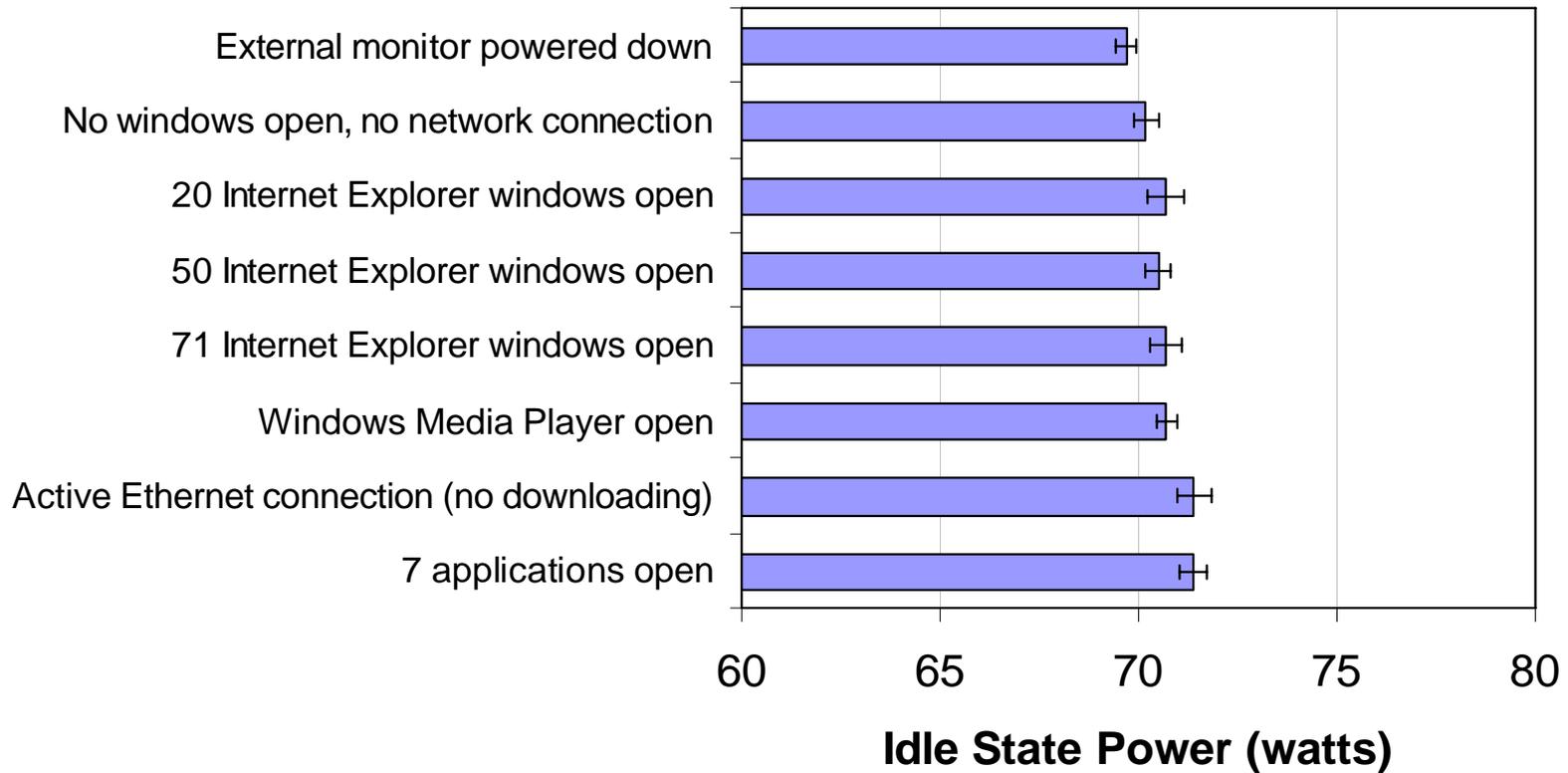
Proposed test procedure:

- Start up a computer not connected to the Internet, network, or any peripherals other than the keyboard monitor and mouse
- Bring up the windows screen, wait 20 minutes and then record the average power over a set time interval
- Monitor is asleep (after 15 minutes)

Real-World Examples of Idle Mode

- Test procedure is expected to approximate the power used by the computer in the following situations:
 - Any situation where time is being logged in “System Idle Process” in the Windows Task Manager
 - Any situation where there is no hard drive activity and CPU utilization is less than 10%
 - User viewing document on the computer screen (not making changes). No email or data transfer is occurring.
- Many instances not considered Idle Mode:
 - Downloading/sending email
 - Saving file to hard drive
 - Manipulating images in visual editing program

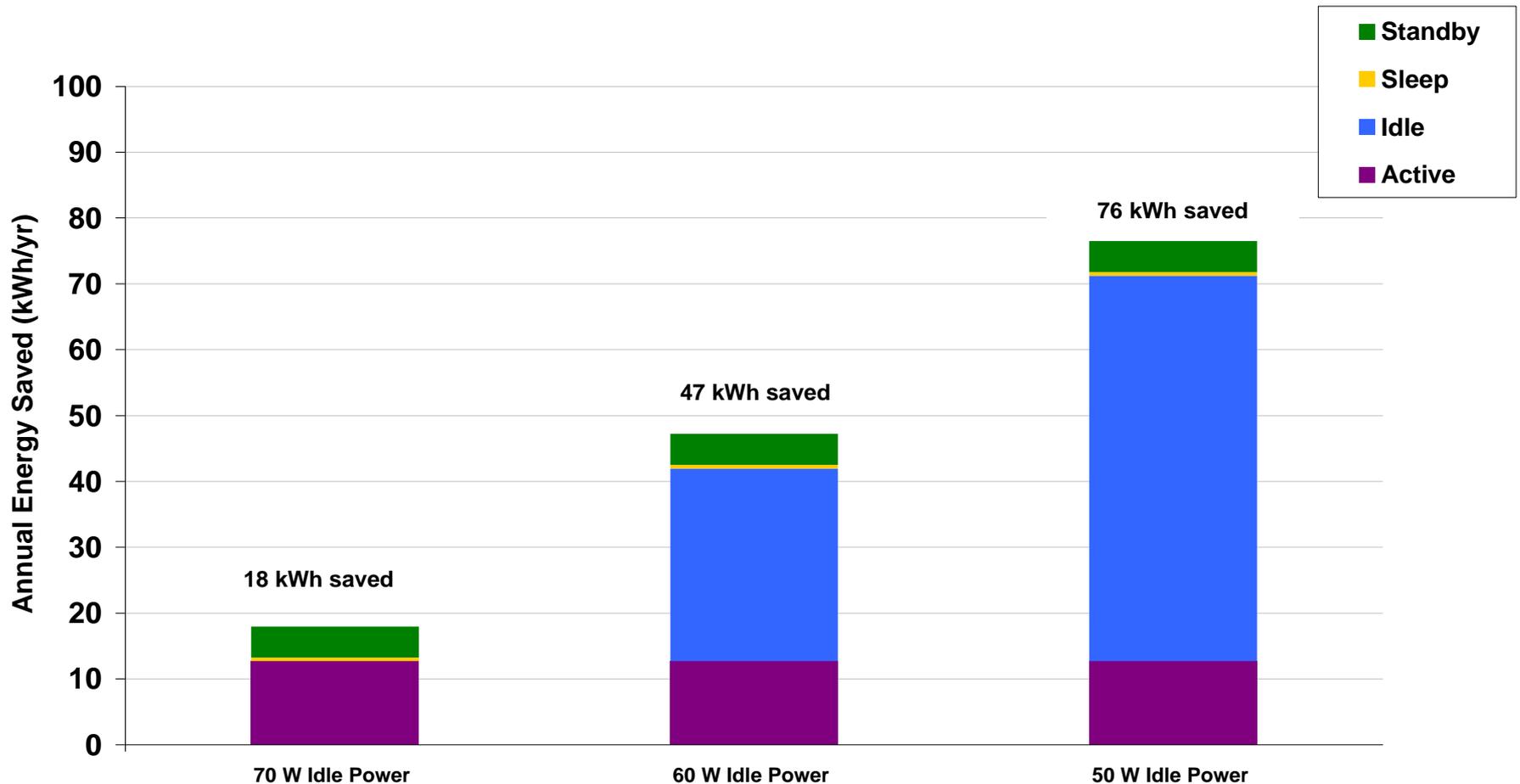
User-Influenced Variations in Idle State Power



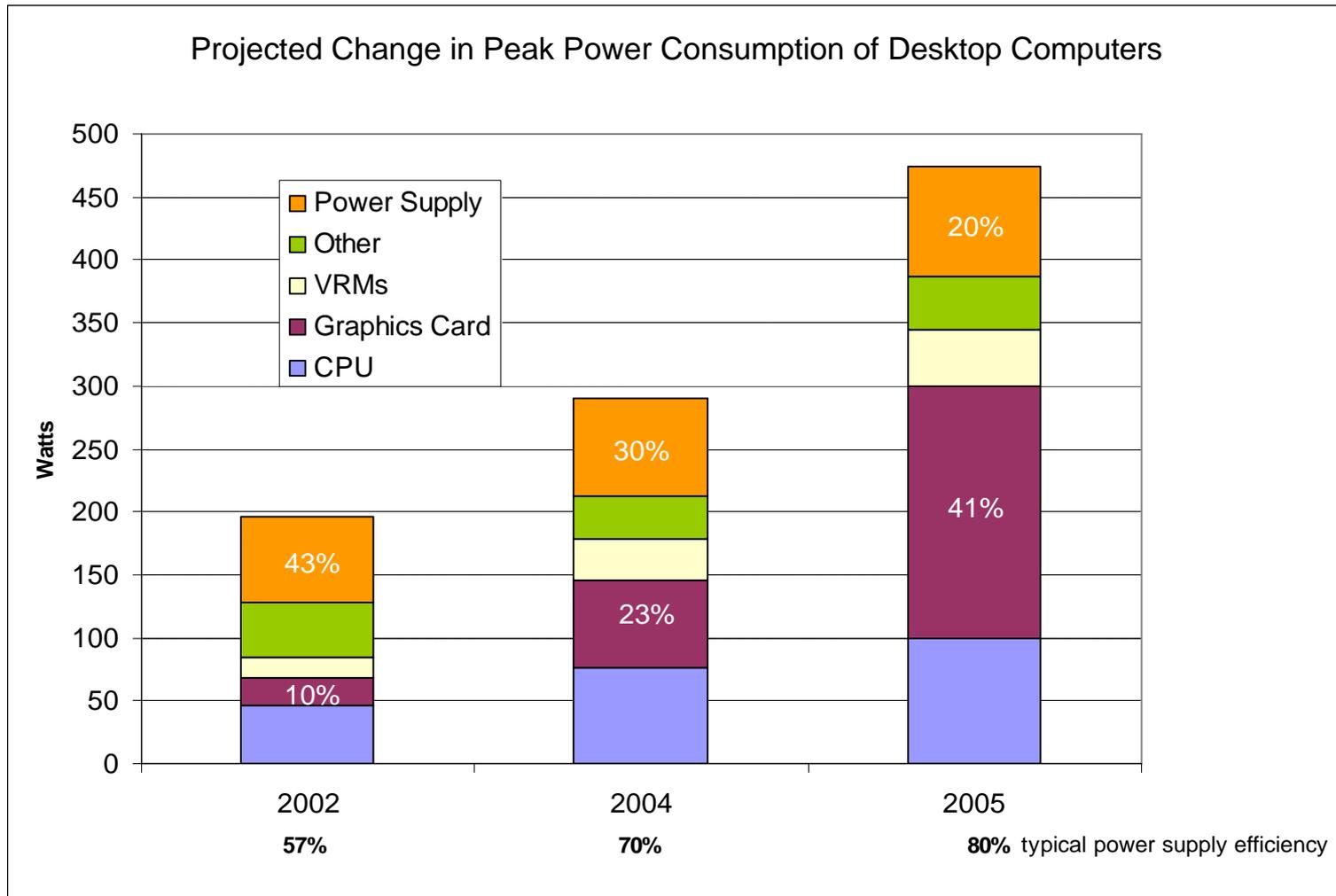
< 2% variation from case with no windows open, no Ethernet connection

Computer configuration: AMD Athlon 3500+ (CnQ disabled), 1024 MB memory, 120 GB HD, NVIDIA GeForce 4 MX440 video card, RaidMAX stock power supply, Windows XP SP2

Range of Idle Mode Energy Savings in Residential Desktop Computer



Power Demand of Components is Increasing



3 Year National Savings Impacts: 100% Market Meets ENERGY STAR

Total 3 year Cumulative National Energy Savings (billions kWh)	Total 3 year Cumulative National Carbon Dioxide Savings (million tons CO₂)	Total 3 year Cumulative National Value of Electricity Saved per year (millions of dollars)	Equivalent Number of American Households Powered for One Year
20.4	13.7	1488.5	1,995,376