

What is Energy Star?

ENERGY STAR® qualified products and practices help you save money and reduce greenhouse gas emissions by meeting strict energy efficiency guidelines set by the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Energy. You can help reduce electricity usage and its environmental impact by power managing or turning off your product when it is not in use for extended periods of time, particularly at night and on weekends.¹



What are the potential benefits of the new Energy Star® specification?

Desktops, Notebooks, and Workstations manufactured after July 1, 2009 that display the ENERGY STAR® label meet the more stringent 5.0 requirements. Because of these requirements, your computer has a highly efficient power supply and other hardware specific features that, based on EPA estimates, could annually:

- Save you up to 130 kWh of electricity.
- Prevent up to 200 lbs of green house gas emissions (enough to fill a large room).

Moreover, Energy Star compliant computers can save even more energy by using ENERGY STAR® power management features, which allow the computer to enter a very low power mode when not in use for a specified period of time. The EPA estimates that these power management features, when enabled on ENERGY STAR® qualified computers, could save you up to 500kWh of electricity annually. This is equivalent to:

- Saving greenhouse gas emissions by taking your car off the road for 3 weeks.
- Planting a grove of trees 70ft. by 70ft.

ENERGY STAR® compliant systems combined with power management settings can provide Dell customers the greatest TCO savings²!

How is Dell partnering with the EPA?

Dell has been an ENERGY STAR® partner for more than a decade, demonstrating an ongoing commitment to energy efficiency. For the past several years, Dell has worked with the EPA to help the agency develop effective, new ENERGY STAR® standards for computers. Our shared goal is to promote an industry standard that cost-effectively promotes significant energy savings without sacrificing performance. In addition, Dell has been an active participant and proponent of ENERGY STAR® power management programs that help enterprises reduce their computing electricity use.



Dell's unique build-to-order model can increase efficiency and eliminate waste while allowing systems to be built to the customer's specifications.

The new ENERGY STAR® Version 5.0 specification for computers went into effect on July 1, 2009.

WHAT IS NEW WITH ENERGY STAR 5.0?

- Added Thin Clients (see Energy Star 5.0 specification for details)
- Added DT category
- Added NB category
- Desktop-Derived Server renamed Small-Scale Server
- PSU requirements:
 - Internal - 82/85/82 (efficiencies at 20%/50%/100% of rated output)
- External - meets Energy Star EPS 2.0
- Energy allowances more restrictive

ENERGY STAR 4.0 HISTORY

- EPA mandating more stringent requirements. No grandfathering of current products.
- Intent is to make Energy Star prestigious (20-25 percent attainment) and drive innovation.
- Focus areas include:
 - Power supply efficiency (more efficient conversion from the wall plug)
 - Off-mode, Sleep-mode, and Idlemode wattages
- ENERGY STAR 4.0 idle-mode power-budget varies by configuration; richer configurations have a greater energy allowance
 - Desktops: Category A, B, C
 - Notebooks: Category A, B
 - Workstation: TEC & Desktop Category C

ENERGY STAR 3.0 HISTORY

- Energy Star computer guidelines unchanged since July 2000.
- Most computers shipped today meet
- Energy Star 3.0 criteria:
 - Enter sleep mode (S3) after 30 minutes of inactivity
 - If shipped with network capability, shall sleep on networks and respond to wake events.

FOR MORE INFORMATION ABOUT ENERGY STAR AND DELL'S ENERGY SMART PROGRAM VISIT:

www.dell.com/EnergySmart

ENERGY STAR 5.0				
Effective July 1, 2009				
Internal Power Supply Efficiency	Load	20% 50% 100%	Power Factor	
	DT, WS:	82 85 82	0.9 @ 100% Load	
External Power Supply	>87% Averaged Efficiency, < 0.5W No-Load			
TEC Criteria	ETEC = (8760/1000) * (Poff * Toff + Psleep * Tsleep + Pidle * Tidle) Operating Mode Weights: NB = 60/10/30% DT = 55/5/40%			
TEC Limits	Notebooks	Category A	<40.0 kWh	
		Category B	<53.0 kWh	
		Category C	<88.5 kWh	
	Desktops	Category A	< 148 kWh	
		Category B	<175 kWh	
		Category C	<209 kWh	
		Category D	<234 kWh	
Idle Mode Equivalent (Dell reference only)	Notebooks	Category A	<12.1 Watts	
		Category B	<17.9 Watts	
		Category C	<30.7 Watts	
	Desktops	Category A	<38.8 Watts	
		Category B	<44.3 Watts	
		Category C	<56.3 Watts	
		Category D	<63.4 Watts	
Workstations	TEC Power (PTEC): ≤ 0.28 * [PMax + (# HDDs * 5)] W Note: Where Pmax is the maximum power drawn by the system as tested per the test procedure, and #HDD is the number of installed hard drives in the system.			
DESKTOPS				
Category A – Those not meeting category B, C, or D as defined below				
Category B – Required: 1) GTEQ to 2 Cores, 2) GTEQ 2 Gigabytes of System Memory				
Category C – Required: 1) Greater than 2 Cores, 2) GTEQ 2 Gigabytes System Memory and/or a Discrete GPU				
Category D – Required: 1) Greater than 4 Cores, 2) Greater than 4 Gigabytes System Memory, 3) A Discrete GPU GT 128 Bit FBW				
NOTEBOOKS				
Category A – Those not meeting category B or C as defined below				
Category B – Defined as notebooks with a discrete GPU				
Category C – Defined as notebooks. Required: 1) GT EQ 2 Cores, 2) a discrete GPU with GT 128 bit Frame Buffer, 3) GT 2 Gb System Memory				
QUALIFYING PRODUCTS				
Products Covered by Version 5.0 Specification Products				
Desktop Computers • Integrated Desktop Computers • Notebook Computers • Workstations • Game Consoles				
• Small-Scale Servers • Thin Clients				
Not Covered by Version 5.0 Specification				
Computer Servers (as defined in Version 1.0 Computer Server specification) • Handhelds, PDAs, and Smartphones				

¹ An ENERGY STAR label is not a guarantee that your system is saving energy. Always check to ensure that the ENERGY STAR features are enabled.

Additional power management specific information is available at www.energystar.gov/powermanagement

² Please see the Energy Calculator at www.dell.com/energysmart