Strategies for conserving laptop battery power

Have you ever run out of battery power on your mobile PC during a meeting or a class? Sufficient battery life is a persistent challenge for mobile PC users. Windows offers several ways to help maximize the battery life of your mobile computer.

Optimize your power settings

The display and hard disk on your mobile PC are the two biggest consumers of battery power. By choosing a power plan (called a power scheme in Windows XP) you can extend your battery life. A power plan is a collection of hardware and system settings that control how your mobile PC manages power.

Windows 7 has two default power plans:

- **Balanced**: Automatically balances performance with energy consumption on capable hardware.
- **Power saver**: Saves energy by reducing your computer's performance where possible.

To Change your power plan

1. Click the battery meter icon, located in the notification area on the Windows taskbar.
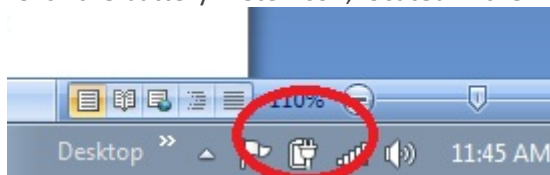
2. Select either the **Balanced** or **Power saver** power plan.

Take advantage of low-power states

Windows 7 provides the following battery-saving states: sleep and hibernation (which is like deep sleep)

Sleep (Standby)

In a sleep state (standby), your display and hard disk turn off, and all open programs and files are saved in random access memory (RAM)—your computer's temporary memory—rather than to the hard disk. Information stored in RAM is cleared when the computer turns off, so it's a good idea to save your work before placing your system in standby mode. Otherwise, you may lose data if you lose power, you swap batteries, or your system crashes.

To put your computer into a sleep state:

- click **Start** button, click the arrow to the right of the **Shut down** button, and then click **Sleep**. This action saves all open documents and programs and puts your computer to sleep while still allowing the computer to quickly resume full-power operation (typically within several seconds) when you want to start working again.
- To wake your computer, press the power button on your computer.

Sleep (standby) is particularly useful when you're using your mobile PC intermittently during the day. For example, when driving between clients' offices during the day, put your computer to sleep or on standby to maximize the life of your battery and maintain quick access to open programs, files, and documents. When you want to use your computer again, it wakes up quickly, and your desktop is restored exactly as you left it.

Hibernation

In hibernation, your computer saves everything to your hard disk and then shuts down. When you restart the computer, your desktop is restored exactly as you left it. Hibernation uses less power than the sleep state (standby), but it takes a bit longer to resume.

To put your computer in hibernation:

1. Click **Start**, click the arrow to the right of the **Shut down** button, and then click **Hibernate**.

Adjust screen brightness

You can also conserve battery by reducing the screen brightness. To adjust your screen brightness, refer to the instructions from your mobile PC manufacturer. Every computer is slightly different, but you can usually use a combination of keys, a function key, or a software tool to dim the screen.
Even better than dimming the screen is blanking it completely when you're not using your computer. You can further minimize power consumption by reducing the amount of time the computer is idle before the screen goes blank.

Turn off wireless

Another significant drain on your battery power is your wireless card. You should turn off your wireless device when you're using your mobile PC but are not connected to a wireless network. You can either remove your Wi-Fi card or press the manual hardware button on your computer if you're using a Centrino-based mobile PC. Refer to the instructions from your mobile PC manufacturer to learn where the manual hardware button is.

Additional power saving tips

In addition to adjusting power settings to maximize battery life, consider the following tips to minimize power consumption when you're away from electrical outlets.

- **Turn off scheduled tasks.** If you use scheduled tasks to run programs or scripts, or if you schedule other tasks to occur automatically at a preset time, specify that these tasks won't be performed when the computer is running on battery power.
- **Keep the use of tools in the notification bar to a minimum.** Try to minimize your CPU's usage. Look at the notification area of the taskbar and close any tools (or utilities) that are not necessary. Often, these tools are installed on the computer when you first receive it. Windows 7 users can also click the up arrow at the end of the notification area to see tools and utilities that are hidden but available. The notification bar, shown below, is on the bottom right of your computer desktop.
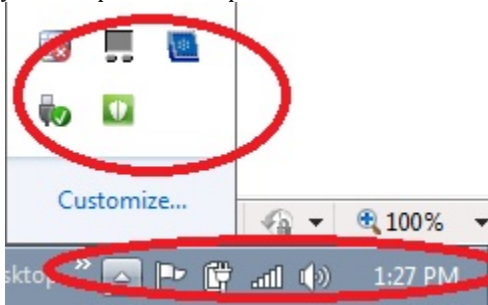
  - **Limit power-intensive activities.** Avoid watching a DVD or playing online games on your mobile PC when you need to conserve battery power.
  - **Charge your battery often**. When you're on the road, be sure to carry a power cord and plug your computer in whenever you have the chance.
  - **Completely drain nickel-based batteries**. If you're using an older laptop (at least 3 years old) with a nickel hydride battery, be sure to completely drain it and recharge it monthly to ensure that it will hold its charge. Most newer mobile PCs use lithium ion batteries, which don't need to be drained to maximize their capacity.
  - **Consider purchasing an additional battery.** Buying an extra battery is a good investment for your peace of mind. Battery prices vary widely. You can significantly increase the power available to you if you're willing to splurge a little. Contact the manufacturer of your mobile PC to find a replacement battery.

By adjusting your mobile PC settings to conserve battery power and by implementing these tips, you can relieve the stress and inconvenience of running out of battery power.