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## NO MORE EXCUSES: WINDOWS 7 MAKES IT EASY TO MANAGE COMPUTER POWER CONSUMPTION ORGANIZATION-WIDE

### Here's how you can take advantage of Windows 7's new power management features

The University of Wisconsin at Oshkosh is no stranger to the idea of sustainability. In 2003 it became the first university in the state to join the Environmental Protection Agency's Green Power Partnership. Its green initiatives also earned the university high marks from the Sierra Club, which ranked the university nationally in its Cool Schools survey.

Given this commitment to green, it's no surprise that the university first deployed computer power management back in 2005, and that it was [one of the first Energy Star power management success stories](#).

At that time, the University's computers ran the Windows XP and Windows 2000 operating systems, neither of which included native tools for the central administration of power management features. To implement power management settings on these machines, the University used third-party software from ENERGY STAR called **EZ GPO**.

Now that Windows 7 has CPM client management features built in, it's much easier to administer power management. This case study will show you how the University of Wisconsin at Oshkosh took full advantage of computer power management features on Windows Vista and Windows 7 clients managed by Windows Server 2008.

For detailed information and resources concerning the power management of PCs running Windows XP, please see [the ENERGY STAR website](#).

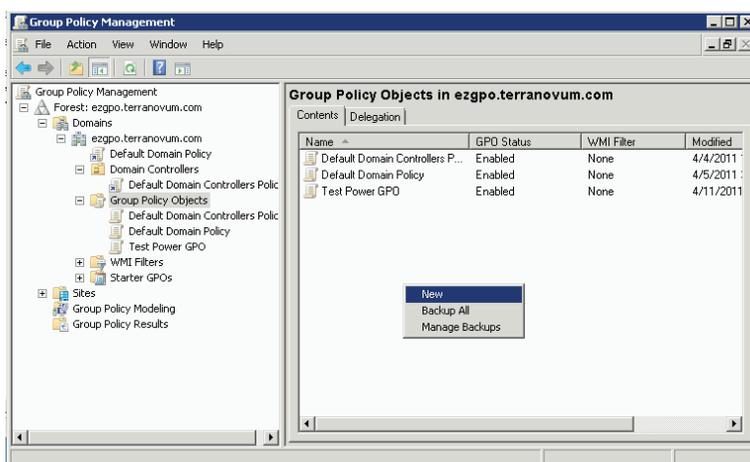
### How to Set Up a Group Policy in Windows 7

The following instructions require that you are running Windows Server 2008 or Windows Server 2008 R2 on the domain controller. For Windows server 2008/2008 R2 to control the clients, clients must be running Windows 7 or Windows Vista.<sup>1</sup>

*Important:* If you don't have the power.admx administrative template installed in the administrative templates folder of the group policy management console, install it from Windows/system32/inf/adm/power.admx into the group policy management console by right-clicking on the administrative templates folder under policies and selecting install, then navigating to the Windows/system32/inf/adm/ folder on the local drive.

On the domain controller, open the group policy management console located at group policy management>forest>domains>group policy objects. Right-click and select "New" to create a new policy. (See Figure 1).

FIGURE 1: Creating a new policy



*Important:* Use the **computer** configuration instead of **user** configuration.

Using a computer configuration ties the sleep settings to the PC itself, so the PC will sleep no matter who is logged in. However, if the sleep settings instead are associated with the user via user configuration, the machine may not sleep when a user logs off. This may be most problematic in organizations where users are logged off automatically for security reasons.

<sup>1</sup> To read about solutions for activating sleep settings in a Windows Server 2003 environment, visit the [ENERGY STAR Low Carbon IT website](#).

## Selecting Your Power Plan

To choose a specific power plan, go to the following location:  
Computer config>policies>administrative templates>system>power management

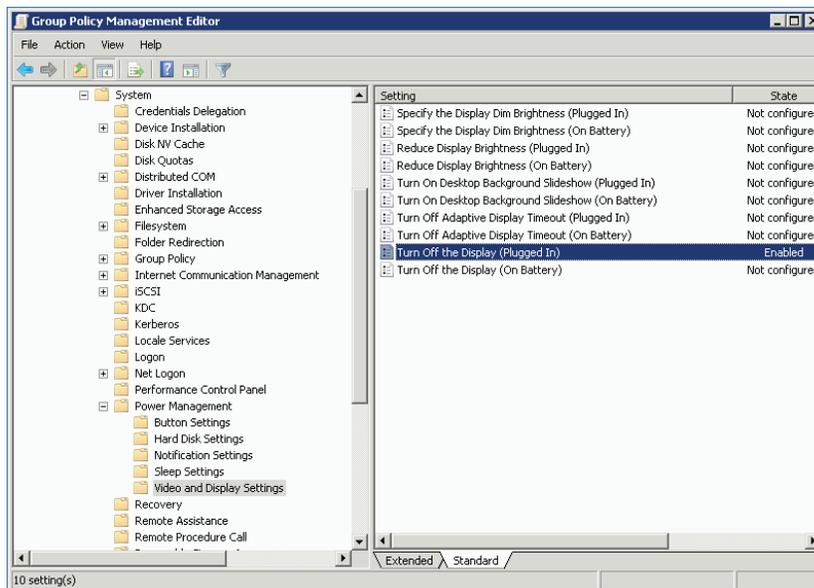
From here, you can select one of three settings: auto, high performance, or power saver. To save the most energy possible, choose power saver. For the vast majority of users, choosing power saver will not affect PC performance.

You also can choose specific settings for whatever power plan is in use, choosing to turn off the display or put the computer to sleep after a set number of seconds. As is true of all policy settings discussed in this case study, this is supported on Windows Vista and later. This edit alters the plan that is active on the machine.

To choose a display setting, go to power management>display settings (see Figure 2). From the settings list, select Display Timeout (Plugged In), as shown in Figure 3. Most importantly, ignore the other settings in the list for now.

Select “enabled” and enter 900 seconds (15 minutes) for system sleep.

FIGURE 2: Navigation to display sleep policy



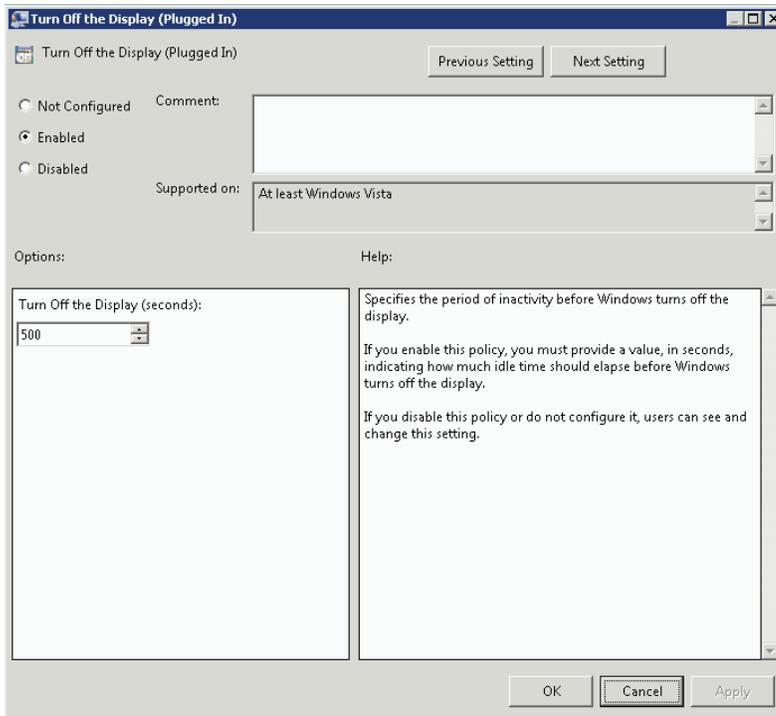
## Don't Confuse Group Preferences with Group Policies

While you can use group preferences to push sleep settings to a Windows XP client, Windows 7 clients can accommodate sleep settings as group policies, which are more flexible. Group preferences overwrite what's in the client control panel and make permanent modifications to the registry. Unlike group preferences, using a group policy does not permanently modify the client system in any way. Policies are pushed down to the PC and the PC implements them only if it is in the assigned Active Directory domain. Policies don't persist over time. Group policies for power management are only understood natively by Windows Vista and Windows 7 machines. Because of these advantages, group policy is always preferable to group preferences.

For example, if a user defeats his or her computer's sleep settings (thereby wasting energy), group policy overrides it. This allows administrators to enforce the policy across all machines and all users. Even if you configure a PC so the user can change the sleep settings, they will revert to the policy settings the next time the user reboots.

(None of this should be confused with [group policy preferences](#), a feature in Windows Server 2008 that allows administrators to manage operating system and application settings.)

**FIGURE 3: Display power timeout settings**



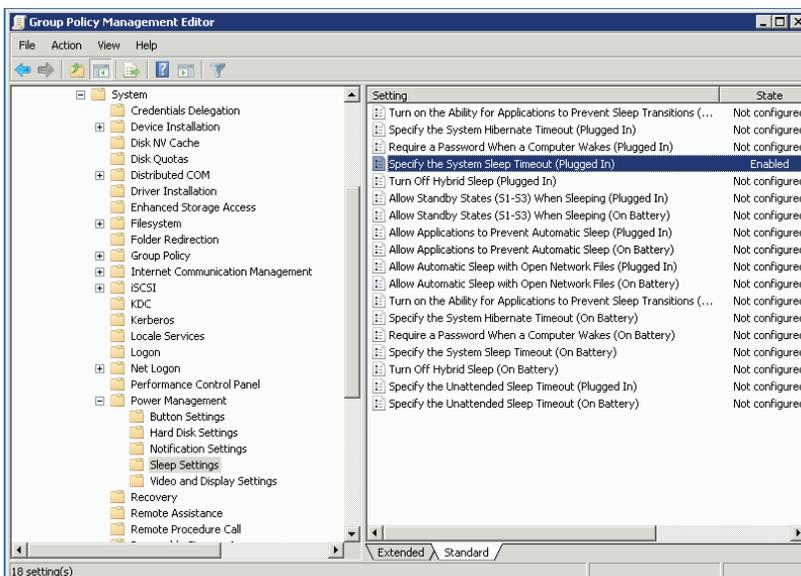
EPA recommends setting computers to enter system standby or hibernate after 30 to 60 minutes of inactivity. To save even more, set monitors to enter sleep mode after 5 to 20 minutes of inactivity. The lower the setting, the more energy you save. The "Turn off hard disks" setting does not save much power, and can be ignored.

To choose a sleep setting:

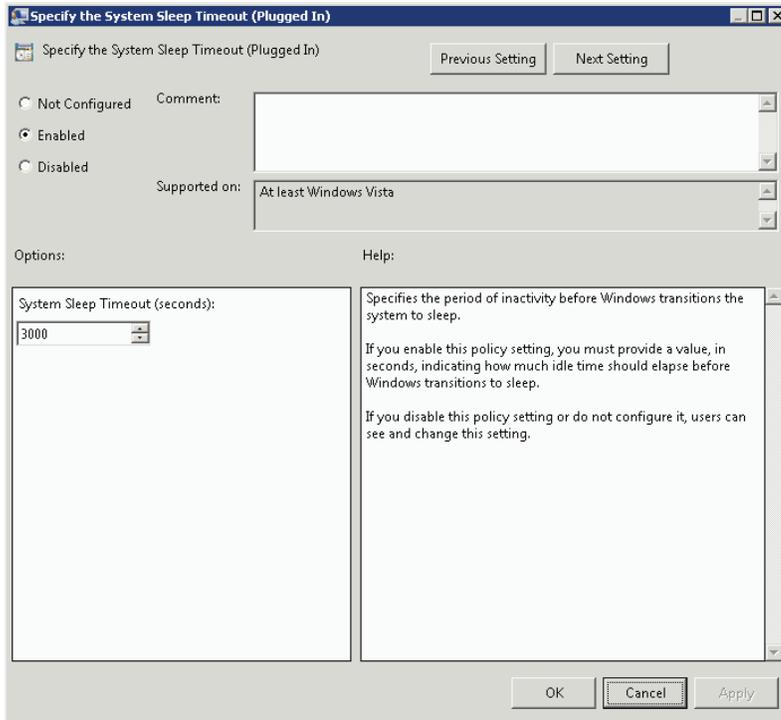
Go to power management > sleep settings (see Figure 4). Select Sleep Timeout (Plugged In) from the list, as shown in Figure 5. Most important, choose "ignore others."

Select "enabled" and enter 1800 seconds (30 minutes) for system sleep. This is within the Energy Star recommended range of 30-60 minutes.

**FIGURE 4: Navigation to PC sleep settings**



**FIGURE 5: PC sleep timeout settings**



Lastly, go to Active Directory users and computers. In Group Policy Objects, apply the policy to the desired groups of computers.

Select "OK." Your power management policy is now applied to your groups.

### ***Rolling Out Windows 7 Savings***

The University of Wisconsin at Oshkosh began its rollout of Windows 7 in June 2010. When the project is completed, roughly 2900 of the university's computers will be running Windows 7. This total includes both faculty and staff machines and PCs for student use in labs.

Because staff and students were in the habit of leaving computers and monitors turned on, EPA estimates that this project will save the university more than \$76,500 annually. Over three years, the useful life of a typical computer, this amounts to well over \$200,000, preventing more than 3,520 tons of CO<sub>2</sub> from being released into the atmosphere. To absorb that much carbon naturally, you'd have to plant more than 725 acres of trees.

You can estimate your savings and reduced carbon emission using the same Energy Star [online calculator](#).