

Energy Wise

It's Good for Business and the Environment

The Government has saved at least £7 million over the past year by making its IT systems greener. Changes including extending the life of PCs, making double-sided printing the default option and making sure computers are turned off at night have helped cut the carbon footprint of central Government computers by 12,000 tonnes – the same as taking 5,000 cars off the road.

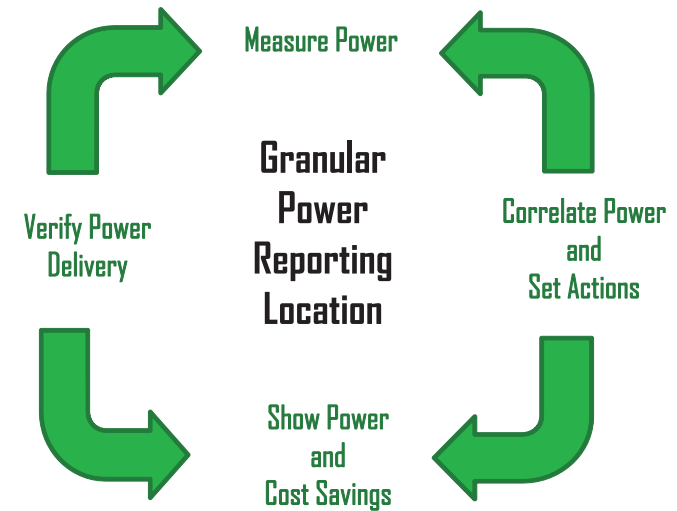
Understanding and controlling the energy usage are now the focus of businesses worldwide. Cisco EnergyWise is an innovative architecture, added to existing Cisco Catalyst switching portfolio, promoting companywide sustainability by reducing energy consumption across an entire corporate infrastructure and affecting more than 50 percent of global greenhouse gas emissions created by worldwide building infrastructure: a much greater effect than the 2 percent generated by the IT industry. Cisco EnergyWise enables companies to measure the power consumption of network infrastructure and network-attached devices and manage power consumption with specific policies, reducing power consumption to realise increased cost savings, potentially affecting any powered device.

With Cisco EnergyWise, companies can

- Reducing energy costs and greenhouse gas emissions (GHG) footprint.
- Monitor the power of all Cisco network-connected devices, from Power over Ethernet (PoE) devices to IP-enabled building controllers.
- Report aggregated power consumption to provide a clearer understanding of an organisation's power-consumption habits.
- Optimise overall power usage based on user-created policies across the entire corporate infrastructure.
- Provide reports of current power conditions and suggests potential changes.
- Regulate companywide energy consumption using scalable domain approach which brings IT and facility networks together.



Figure 1: EnergyWise Intelligent Network Framework



Cisco EnergyWise encompasses a highly intelligent network-based approach to communicate messages that measure and control energy between network devices and endpoints. The network discovers Cisco EnergyWise manageable devices, monitors their power consumption, and takes action based on business rules to reduce power consumption. EnergyWise uses a unique domain-naming system to query and summarise information from large sets of devices, making it simpler than traditional network management capabilities. Cisco EnergyWise's management interfaces allow facilities and network management applications to communicate with endpoints and each other using the network as a unifying fabric. The management interface uses standard SNMP or SSL to integrate Cisco and third-party management systems.

Business Challenges... Technology Solutions

Energy Wise



What are the Benefits of Cisco EnergyWise?

- The network discovers EnergyWise manageable devices, monitors the power consumed, and takes action to reduce power consumption while maintaining business productivity.
- EnergyWise can promote companywide sustainability by reducing energy consumption across an entire corporate infrastructure and affecting more than 50 percent of global greenhouse gas emissions created by worldwide building infrastructure, a much greater effect than the 2 percent generated by the IT industry.
- Power levels and priority levels provide fine-grained control of how network infrastructure and endpoints react to network-based control signals. High-priority devices do not shed load, while lower priority devices can shut down or reduce power.
- Network security is maintained by using authentication between management systems and the network, between clients, and between network devices.
- Device location enables customers to understand power by device type, device label, and device location. For example, a management station can ask the Cisco EnergyWise network to summarise the power of desktop IP phones within a single building. EnergyWise understands which devices are IP phones, where the IP phones reside, and which ones are designated with the desktop label.
- Network intelligence acts as a proxy, allowing easy communication with diverse endpoints and enhanced scalability.

ANS Group Case Study

A case study was undertaken at the ANS Group HQ based in Manchester. A single Catalyst 3560 switch (WS-C3560-48PS-E) was used for the case study. The POE (Power over Ethernet) devices connected to this switch includes 31 IP phones (of varying models) and 8 wireless access-points. The case study was implemented by comparing the power used by the switch over a 1 week period, with and without the EnergyWise configuration enabled.

This allows the EnergyWise team to demonstrate exactly how much power has been saved using the EnergyWise configuration.

Please note: The power usage is measured in kWh using an 'Airforce Climate Control Plug-in Energy Meter'. The energy meter sits in between the switch and the power socket.

EnergyWise Configuration

The EnergyWise configuration used for this Case Study, instructs the switch to supply power to the POE devices between 7am and 9pm, Monday-Friday ONLY. At all other times and days the POE devices will be effectively 'powered off'. There were three POE devices identified by the business that should be exempt from being 'power managed':

- Reception Phone – should never be powered off
- Meeting Room Phone – for staff who need to work outside of hours
- SysCare Help Desk – should never be powered off

Results

- Power consumed 'without' EnergyWise enabled the power consumed by the Catalyst 3560 switch and associated POE devices during the 1 week period 6th August – 13th August was **42.36kWh**.
- Power consumed 'with' EnergyWise enabled the power consumed by the Catalyst 3560 switch and associated POE devices during the 1 week period 19th August – 26th August was **24.38kWh**.

Summary

The EnergyWise configuration helped reduce the power consumed over a 1 week period by 57% (17.98kWh). In monetary terms, this means:

Costs to power switch and associated POE devices for 1 week WITHOUT ENERGYWISE = £5.08*
Costs to power switch and associated POE devices for 1 week WITH ENERGYWISE = £2.93*

This will give ANS Group a saving of over **£100* per year for a single switch**. This saving is greatly increased when there are many switches deployed with Cisco EnergyWise. *Using 12p per kWh



Contact ANS and see if you are EnergyWise ready