



leeds metropolitan university



Powering the Institutional Plan

Leeds Metropolitan University

The Green University

Times On Line 18 May 2008

“A survey last year by the People & Planet student environmental group that put the university at No 1 in its eco-friendly league table shows it is getting its message across and it is the only university to make our top 50. Leeds Metropolitan has always been a trendsetter. In 2003, it became the first university in England to achieve the ISO 14001 international standard for environmental management.”



The Green University

Sustainable Policy

“Sustainability is development which meets the needs of the present without compromising the ability of future generations to meet their own needs” .”

“Leeds Metropolitan University recognises that in order to realise this definition we must look at our social, economic and environmental impacts and give each area equal weighting. As student will be our biggest impact in each of these areas we are committed to improving our sustainable development by a programme of continuous improvement.”



Drivers

- Economic
- Environmental Survival
- Social responsibility
- Legislation
- Regulation



Legs & Regs

- Waste Electrical & Electronic Equipment legislation (WEEE)
- Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Directive (RoHS)
- Energy Using Products Directive (EuP)
- Carbon Reduction Commitment
- Display Energy Certificate
- Energy Performance Certificate



Future Legislation

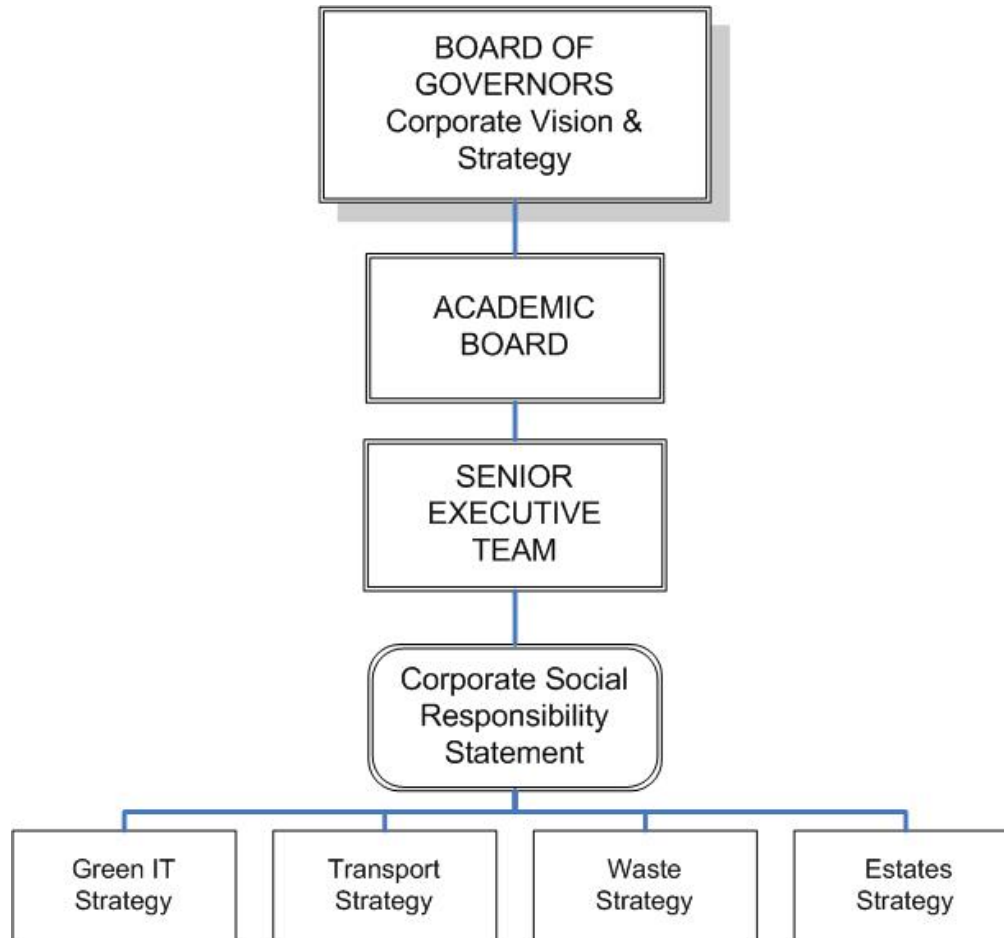
- Climate Change Bill: A Government White Paper on Reducing Carbon emission
 - ❑ 32% reduction by 2030
 - ❑ 60% reduction by 2050 (may increase to 80%)

Play YouTube video <http://www.youtube.com/watch?v=IY3F9TT2jDs>

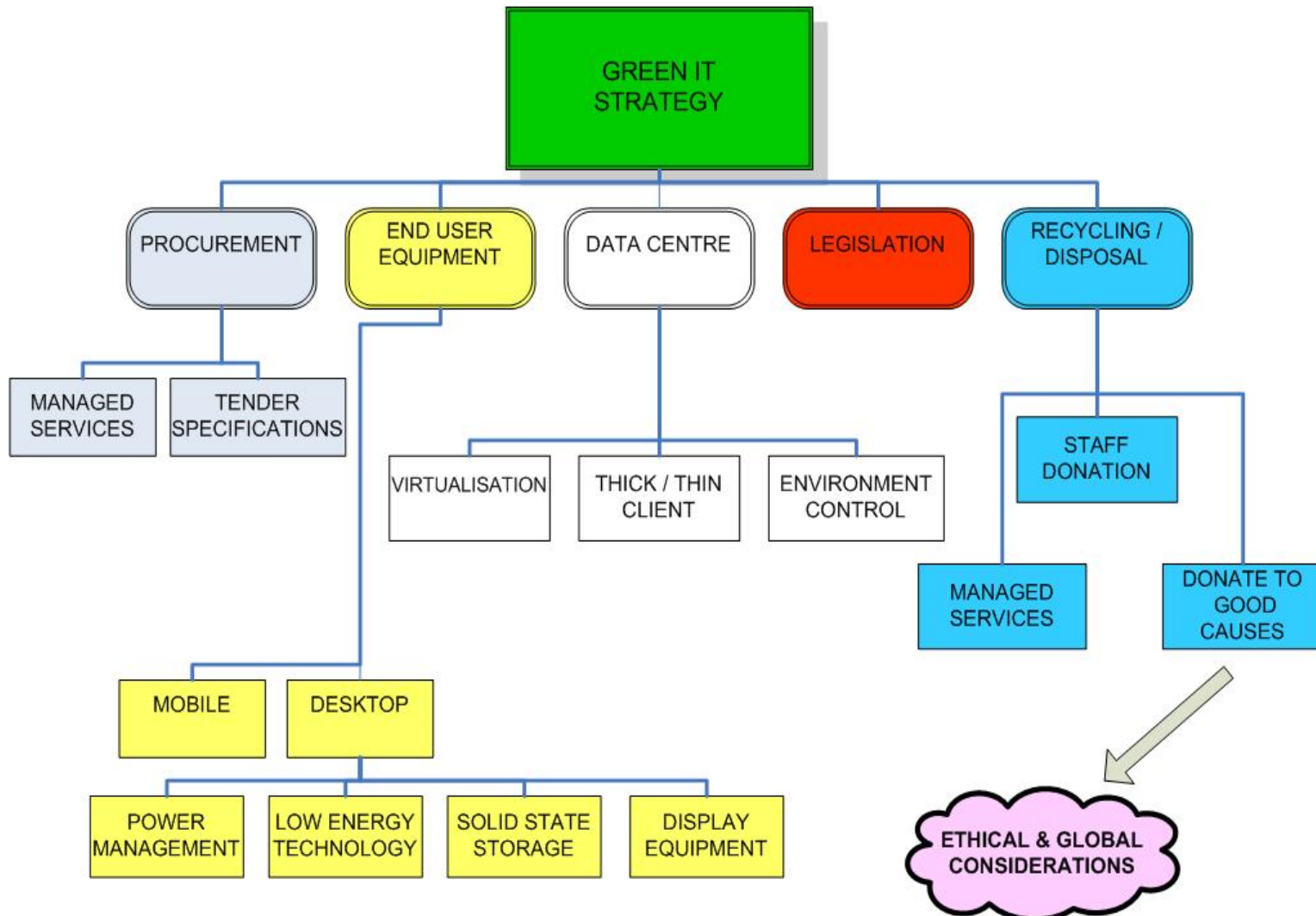
- Carbon Tax



The Green University Governance



The Green University GREEN IT STRATEGY



Creating a Green IT Strategy

- Identify Objectives
- Baseline current performance and define metrics
- Identify 'Green Champions'
- Agree key milestones and identify quick wins
- Monitor and publish results



Desktop Power Management

A Short Film



Desktop Power Management Group

The Remit

Is to consider the technical solutions available to meet the environmental objectives relating to reducing the University's power consumption.



Desktop Power Management Group

Role of DPMG

- Remote power management of desktop systems
- Agree a schema for what desktop measures are needed
- Make the University aware of power saving schema
- Educate users on desktop power saving issues
- Consider impact on Infrastructure rollouts
- Consider management of security issues
- To produce documentation
- To report to IMTS manager

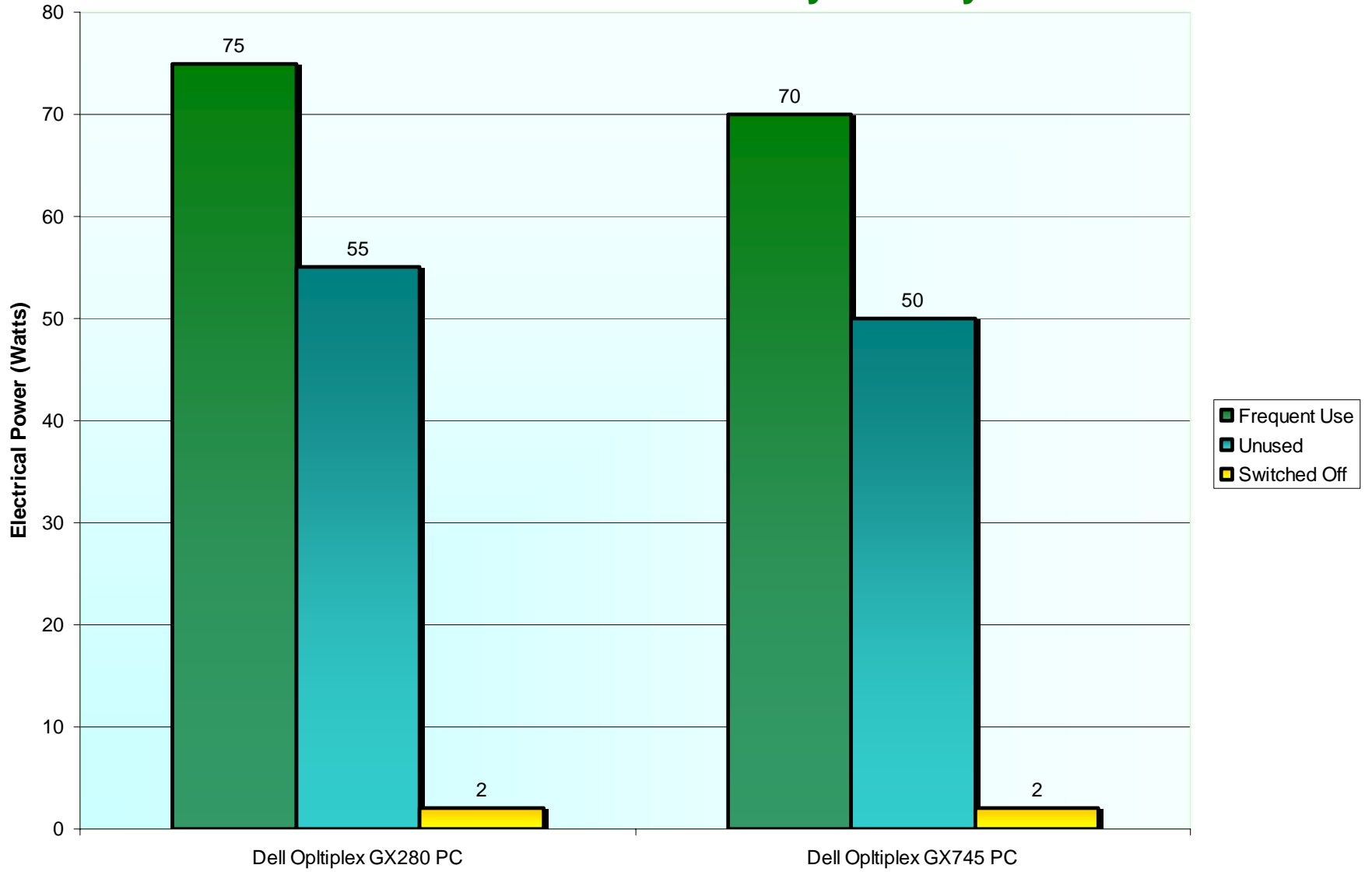


Student Workstations

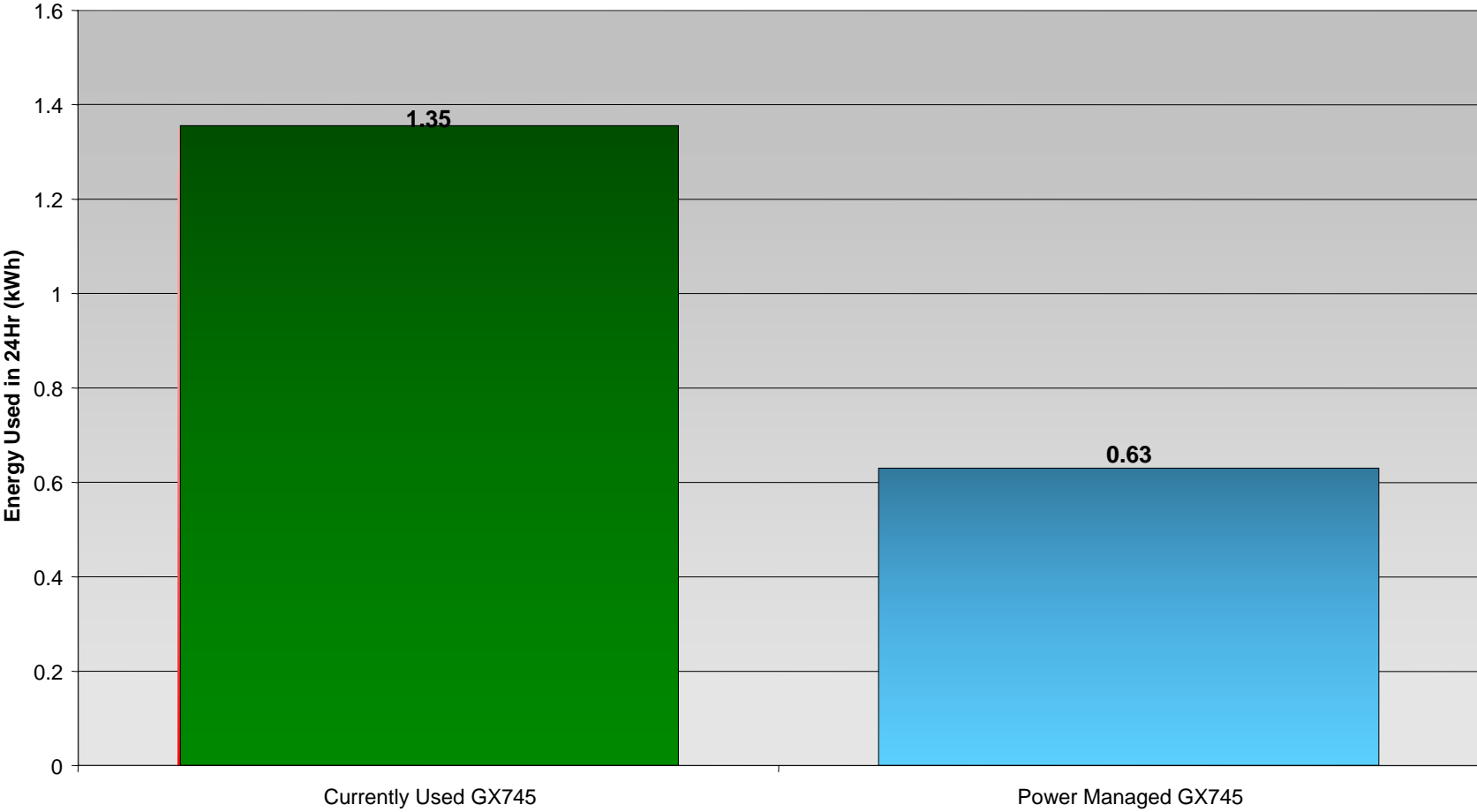
- One of the identifying factors for the potential success of this project is that Student PCs are left on 24 hours a day 365 days a year.
- This meant that a large amount of student PC equipment is on and in a state of non-use during the night.
- It was then assumed that if during regular night time periods the PCs could be powered down an electrical and environmental saving could be made.



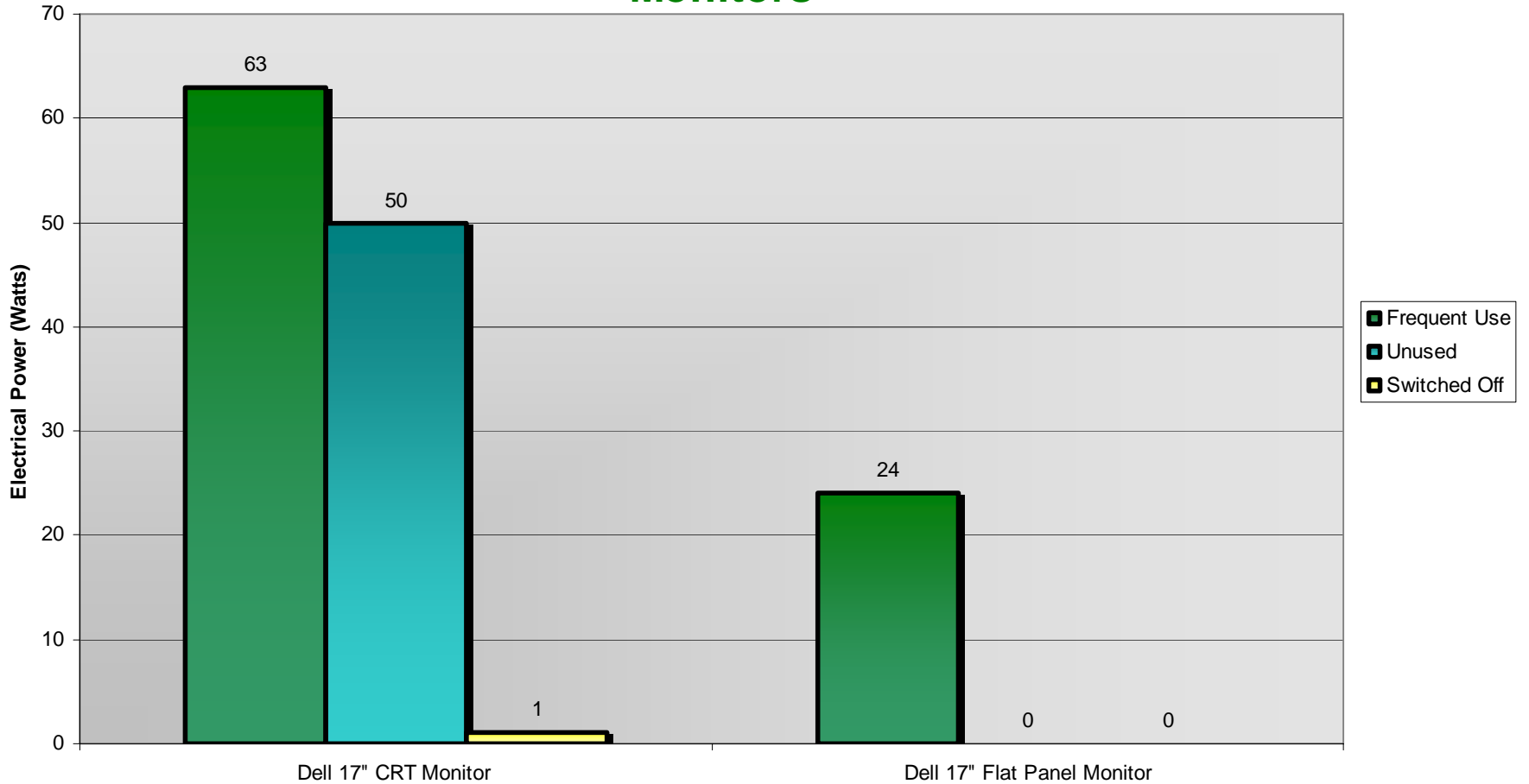
Bar Chart to show Electrical Power by used by Student PCs



Energy Used by Current and Power Managed PCs



Bar Chart to show Electrical Power used by Display Monitors



The Options

- Hibernate?
 - Excellent power reduction
 - Problem with current Student build in network environment
- Third Party/ Technologies?
 - Expensive to buy and integrate
 - Same problems with network environments
- Existing Software + Scripts locally?
 - No cost, nothing to lose!



The Risks

- Local to the PC?
 - Possibly remote control issues
 - New or re-imaged PCs may take time to pickup the settings and power off and on
 - Reliant on an up to date list of PCs based on domain locations



The Benefits

- Local to the PC?
 - Even with the network down PCs will continue to power off and on
 - Fairly easy to configure and manage
 - Little cost to implement.



The Mechanics

Tools Used

- Dell Client manager Standard (web based interface) which users Symantec – Altiris linked to a SQL Database to enable Bios changes (e.g. power on settings)
- VBScript to make sure that the PC is not in use before powering it off



Dell Client Manager

Altiris Quick Start Console - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Go Links

Address http://...

DELL™ Dell Client Manager Standard altiris

Altiris Agent Installation

Install Altiris Agent

Add Select Computers... Discover Computers

Name	Domain	OS Name	OS Version	IP Address	Action	Status
CQ14859PC	LEEDSMET	Microsoft Windows XP	5.1		Remote Install Finished	Success
CQ16312PC	LEEDSMET	Microsoft Windows XP	5.1		Remote Install Finished	Success
CQ16772PC	LEEDSMET	Microsoft Windows XP	5.1		Remote Install Finished	Success
CQ16773PC	LEEDSMET	Microsoft Windows XP	5.1		Remote Install Finished	Success
CQ16774PC	LEEDSMET	Microsoft Windows XP	5.1		Remote Install Finished	Success
CQ16776PC	LEEDSMET	Microsoft Windows XP	5.1		Remote Install Finished	Success
CQ16777PC	LEEDSMET	Microsoft Windows XP	5.1		Remote Install Finished	Success
CQ16778PC	LEEDSMET	Microsoft Windows XP	5.1		Remote Install Finished	Success
CQ17352PC	LEEDSMET	Microsoft Windows XP	5.1			No network provider accepted the given n...
CQ17696PC	LEEDSMET	Microsoft Windows XP	5.1		Remote Install Finished	Success
CQ17697PC	LEEDSMET	Microsoft Windows XP	5.1		Remote Install Finished	Success
CQ17903PC	LEEDSMET	Microsoft Windows XP	5.1		Remote Install Finished	Success
CQ17904PC	LEEDSMET	Microsoft Windows XP	5.1		Remote Install Finished	Success
CQ17911PC	LEEDSMET	Microsoft Windows XP	5.1		Remote Install Finished	Success
CQ17957PC	LEEDSMET	Microsoft Windows XP	5.1		Remote Install Finished	Success
CQ17958PC	LEEDSMET	Microsoft Windows XP	5.1		Remote Install Finished	Success
CQ17959PC	LEEDSMET	Microsoft Windows XP	5.1		Remote Install Finished	Success

Rows: 1 to 1016 of 1016
Page: 1 of 1
Rows per page: All

Install Altiris Agent Uninstall Altiris Agent Installation Settings

View installation status report

URL of download page for Win32 users
http://... Show me this page

Note to users on computers running Windows NT, Windows 2000, Windows XP or Windows Server 2003: Users must be administrators of their computers in order to install this package.

Scheduled Push to Computers
All Windows NT/2000/XP/2003/Vista Computers with no Altiris Agent installed

Enable Schedule: Custom Schedule
Every 1 hours from 09:00 for 9 hours every 1 days, starting 22 July 2008

Apply Cancel

Done Trusted sites 14:31



VBScript

Local to the PC

- The VBScript is local to each PC. Installed as part of the Ghost build Image
- Our Student PCs log off on Windows screen saver idle to Ctrl + Alt + Delete after 20 Minutes
- The VBScript on the PC looks at a time stated (e.g. 6.30 PM) to see if Explorer.exe is running, if is it waits for 10 minutes before running again. If it is not then the script shuts the machine down.



Altiris + Bios

Local to the PC

- Altiris flashes the Bios to change the power on settings allowing staggered power on times for PCs to come back on (Important in stopping power surges)
- The PC power down and on cycle is complete



Questions & Answers

