

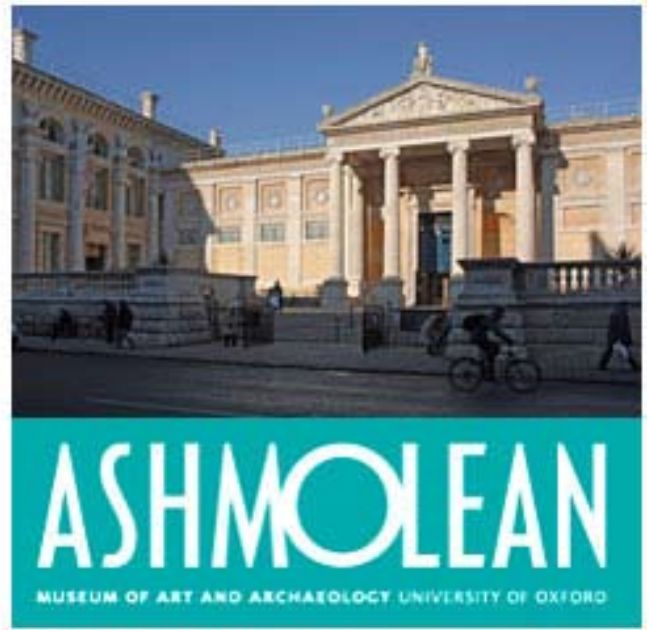
Elsave Silver & Gold solutions incorporate software developed by our technology partners at PC Power Down, and Office Electrics has exclusive access to PC Power Down technology for this purpose. PC Power Down recently supplied a solution to The Ashmolean Museum at Oxford University and the this document tells the full story

The Ashmolean

The Ashmolean Museum first opened its doors in 1683 and has since become one of the country's most significant museums, displaying important collections and producing research and publications as a department of the University of Oxford. The present Museum was created in 1845 by combining two ancient Oxford institutions: the University Art Collection and the art and archaeology collections of the original Ashmolean Museum. These collections come from across a wide range of cultures: early stringed musical instruments, objects from Minoan Crete, Worcester porcelain, Chinese Shang bronzes, Japanese ceramics, European Paintings and drawings and many other specialist collections. They provide an invaluable resource for Oxford scholars and students as well for other institutions in the UK and abroad. Consequently the Museum has very close links with the University's faculties and colleges as Museum staff undertake a great deal of University teaching and research. However, the Museum also fulfils a role of being part of the public face of the University, annually welcoming hundreds of thousands of visitors through its door.

The use of computers and other technology is very much to the fore in many University department and the Ashmolean is no different. ICT in the Museum has to meet all the expectations of staff and academic researchers as well as a gradually increasing number of public-facing ICT initiatives (e.g. in-gallery touch screens, or temporary installations such as required to help visitors vote in the recent Art Fund competition). Support is delivered to around 200 Workstations - mostly Windows but with a sprinkling of Apple Macs and Linux boxes.

All Museum staff, including Front of House Visitor Services Assistants, have access to computers. At



a minimum a user has access to e-mails and the Internet, but the majority of staff, from curators and conservators to administrators, photographers, graphic designers and fund-raisers, have an ever growing list of computer-based tasks. This expansion has happened quite markedly in the past 10 years and consequently there has been a growth in power usage due to the increasing number of PCs. This, with the increased power consumption of modern PCs, means the cost of electricity to facilitate this activity has risen dramatically along with the associated carbon dioxide (CO₂) emissions.

Higher Education Institutions (HEIs) in England are required to develop individual carbon reduction strategies, targets and associated carbon management plans. There exists compelling ethical, regulatory and financial reasons why the Ashmolean Museum, as a University department, decided to implement initiatives to reduce energy consumption. The Museum is committed to ensuring its practises are in line with the environmental policies as outlined by common goals set by Oxford University Computing Services, which in turn works with the Environmental Change Institute, e-Research Centre and the Estates Department to deliver services that support this objective. Also, the University, as a participant of the CRC Energy Efficiency Scheme (since April 2010), is required to buy carbon credits and report greenhouse gas emissions. This data is to be used to place the University in a performance league table which will be published annually. Further, from 2011, the HEFCE Carbon Management Strategy states capital allocations will be linked to carbon reduction.

Faced with the challenge of controlling costs and helping reduce the emissions of potentially harmful

greenhouse gases, the Ashmolean is seeking a range of solutions. Power management monitoring (PMM) and wake on LAN (WOL) facilities developed within the University were natural starting points to help implement the Museum's own green desktop computing initiative. This had the advantage of being integrated with University services, but did not address the issue of powering down computers or peripherals. Clearly, when in use, energy costs cannot be avoided, but computers throughout the Museum were frequently left on day and night, and over weekends. There are a variety of reasons for this, but perhaps the most common has been a lack of awareness of the costs involved.

Understanding that a single PC can waste as much as £50 a year if left on and be responsible for quarter of a tonne of CO2 emissions are messages that need to be given prominence.

Further, research has shown that world-wide ICT is responsible for 2% of CO2 emissions, about the same as the entire aviation industry. Typically, in an education establishment or public space, computers are a shared resource and as such are not the responsibility of any one individual so it is often unclear who should be switching off equipment. Of course equipment is frequently left on to allow for automatic updates, patching and backing up as well as allowing users to connect remotely to their desktops outside office hours.

PC Power Down supplied a simple easy-to-manage solution that ensures computers are switched off when not needed and are powered up and ready when required. PC Power Down scheduling software was installed on a server at the Museum with a small client application on each workstation. The scheduling software identifies all the computers on the network and puts them into groups. The administrator sets a time each day for the groups to be switched off and back on again: computers can be switched on just in advance of when they are needed so they are ready in time. PCs can be scheduled to be switched off in two different ways; using the Hibernate or Shut Down functions of Windows. When Hibernate is chosen, any open documents and applications that have been left on the computer are saved and restored when the computer is switched back on. It is often the case that people may be using their computers outside normal working hours: PC Power Down displays an alert fifteen minutes before any computer is scheduled to be switched off giving the user the opportunity to delay the power down so they can complete their work. If no one is using the computer, the alert simply expires and the computer is powered down.

As well as the daily schedule, a series of 'open windows' can be set. These allow an administrator to schedule groups of computers to be switched on out of hours to enable scheduled upgrades and patches to be applied. These can be set up as recurring or one-off events. Even if a computer has been switched off by PC Power Down, it can be switched on manually: despite the best planning, there may be occasions when someone needs to access information on their computer remotely which would be impossible if the computer were switched off. As standard, PC Power Down offers a web-based remote wake-up facility that lets an authorised user switch a computer on using a web browser.

Dr Jonathan Moffett of the Ashmolean commented "PC Power Down delivers value by providing tangible evidence of costs savings that can be factored into the overall objectives, while it also offloads 'carbon guilt' to an automated managed



platform. The administration interface is well designed with intuitive controls, and technically the small memory footprint on the server and of the client software make it very straightforward to roll out. This is backed by excellent support from PC Power Down and goes a long way in supporting our green IT initiative. "

Gary Shepherd of PC Power Down explains, "PC Power Down has been received well in Higher Education establishments such as the Ashmolean. A recent study undertaken within a British University showed the savings generated by PC Power Down covered its costs in just a few weeks: accessing the HEFCE Rolling Green Fund reduced the payback period to less than two weeks. We plan to extend the use of PC Power Down to control other devices in the Ashmolean such as network printers, photocopiers, water coolers and other ICT."