



King's College London Case Study

Green ICT

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LCMB helped King's identify and quantify real carbon and cost savings. Through measurement and analysis of actual loads in terms of both power for racks and cooling, we knew the move to an off-site data centre was smart, what we didn't know was what we would actually reduce and save. We do now and have a credible base line off which to track and measure savings.”

Nick O'Donnell MRICS MCIBSE IEng, Director of Real Estate Management King's College London

King's is one of the top 20 universities in the world (2013-4 QS international world rankings), the Sunday Times 'Best University for Graduate Employment 2012-3', the fourth oldest university in England, research-led and based in the heart of London.

King's has over 26,000 students (including more than 10,600 postgraduates) from 140 countries and over 7,000 employees.

King's provides world-class teaching and cutting-edge research and has a distinguished reputation in humanities, law, sciences, including health areas such as psychiatry, medicine, nursing, dentistry and social sciences, including international affairs. It is the largest centre for the education of healthcare professionals in Europe.

King's has influenced many of the advances that shape modern life, such as: the discovery of the structure of DNA and research that led to the development of radio, television, mobile phones and radar.

Key project objectives for Kings College London

King's College London needed to establish:

- The current performance, energy usage and property costs of their data centres and student computing rooms.
- Accurate PUE measures for their existing data centres
- A business case to identify the return on investment from relocating to a purpose built data centre.
- A comparison between existing ICT equipment and new ICT equipment in terms of whole life costs.
- Quantification of the potential reduction in CO2 emissions.



Our approach

LCMB worked across the King's organisation, working with estates and ICT departments and stakeholders to identify and map the ICT assets.

Our team measured the in-situ performance of each data centre and its IT load and calculated the Power Usage Effectiveness (PUE) being achieved. In addition, we calculated the value of the non-energy associated costs and analysed what benefits King's could achieve by freeing up the space in relocating their data centres to a central location.



LCMB provided us with an excellent comprehensive understanding of our energy consumption which has enabled us to make changes to reduce consumption. This rigorous approach is essential to make the right decisions with the right facts."

Nick Leake, Chief Information Officer, King's College London

For the student computing centres we measured and compared the energy use of a variety of desktop PC's and monitors. We measured PC's when carrying out typical activities such as booting up, running spread sheets, using e-portals etc. Idle conditions were reviewed in a variety of power save modes. We also took account of temperature conditions in the rooms hosting the PC's. This enabled us to assess and forecast the energy requirements for each type of machine. We also calculated the energy usage based on the next 5 years for available demo models of a proposed all in one model.

Through our work on student computers we provided recommendations on replacement strategies and power saving for existing PC's. We calculated and reported total CO2 emissions based on energy usage and compared the savings between the existing and proposed solutions. A summary report was developed for use at executive level, and a detailed report prepared for face-to-face meetings with the relevant departments to discuss the outcomes.

Key outcomes delivered for King's

- Identified that Kings could deliver CO2 savings of more than 2,200 tonnes over 5 years through ICT measures.
- Validated that new/proposed student computers could be up to 70% more energy efficient overall, which enabled the College to secure the investment needed to replace older and less efficient equipment.
- Established that the College could achieve a saving within the 5 year hurdle rate for the project from the capex to be invested in Green ICT.
- Visibility of the operating cost and energy performance of existing datacentres.
- Create the business case and breakeven points for relocating the datacentres off site to a central location.

Contact Us

If you want to discover how you can save energy, carbon and cost, please visit our website www.lcmb.co.uk or call 01295 722823