

Case Study: Data Centres 1

UPS Upgrades – Data Centre

Out Performers created over \$17,000 in ESC revenue from 800 MWh in energy savings when UPS units were upgraded

Background:

Uninterruptable power supply (UPS) units are used to supply consistent power loads to IT and telco equipment. UPS units are not perfectly efficient and some electricity is lost as it runs through a UPS. However, UPS technology is improving rapidly and new UPS units have lower internal losses, providing an energy efficiency benefit when old UPS units are replaced with new.

Situation:

A large financial institution replaced the UPS units and associated switchboards at its suburban Sydney Computer Centre in order to improve efficiency, resilience and avoid forthcoming major maintenance costs on older units.

Eight of the existing units (installed in pairs for redundancy) were replaced by three new units in a more efficient configuration and with high efficiency at all loads. Existing power distribution was migrated to the new system in stages.

Energy Savings Certificates to offset project costs:

- Out Performers conducted data logging to quantify the UPS internal electrical energy losses and engineering analysis to quantify and verify the energy savings from the UPS upgrade and associated savings from reduced air conditioning load.
- Through our unique accreditation under the Energy Savings Scheme (ESS), Out Performers created \$17,630 in ESC revenue from the energy savings achieved by the UPS upgrade project.

Benefits:

- Energy saved per year: **806 MWh**
- Saving **\$96,720** in electricity costs per year
- Saving over **\$20,000** in maintenance costs per year
- CO₂ saved = 760 tonnes p.a.
- Energy Savings Certificates = **\$17,630**

Operational Benefits:

- Reduced the load on air conditioning, thus achieving further energy savings and reduced maintenance costs.
- Improved UPS redundancy.