

Case Study – Electricity and Gas Consumption Management

Brockhouse Group

Brockhouse Group has a proven record for supplying a wide range of international companies within a variety of key markets, including, mining, railways, automotive, off-highway, defence, fluid power, materials handling and general engineering industries. The company has also expanded its scope into added value processes such as machining, sub assembly, fabrication and worldwide sourcing of forged components.

The majority of energy consumption by Brockhouse is electricity with a significant amount of gas. The total kWhr of electricity consumed in 2006 was 4,521,249 kW costing approximately £315,000.

Through the Accelerate Energy Challenge, Pro Enviro benchmarked and monitored Brockhouse Group's processes and energy and resource utilisation. A number of potential areas for efficiency improvements, and thus cost reductions were identified and investigated.

The Project

An initial review of Brockhouse Group was undertaken by Pro Enviro in January 2007. This revealed a significant amount of electricity wastage, particularly in out of working hour's consumption. The following were identified as priority areas of action:

- Fixing the significant number of air leaks in operating hammers and nozzles. Operation staff were trained to notify management of any air leaks they found;
- Installing a compressor control system and ensuring proper management of operation. Previously the compressor was being run flat out. Pro Enviro evaluated three technical and financial proposals for the installation of this system;
- Monitoring of out of hours consumption to reduce waste;
- Training and capacity building of staff members to improve their energy and resource efficiency. This was achieved through the ProEnviro Learner Management System®. Previously Brockhouse Group experienced significant wasteful consumption through machines being left on and unattended;
- Regular site inspections to ensure the continuous monitoring of energy and resource consumption.

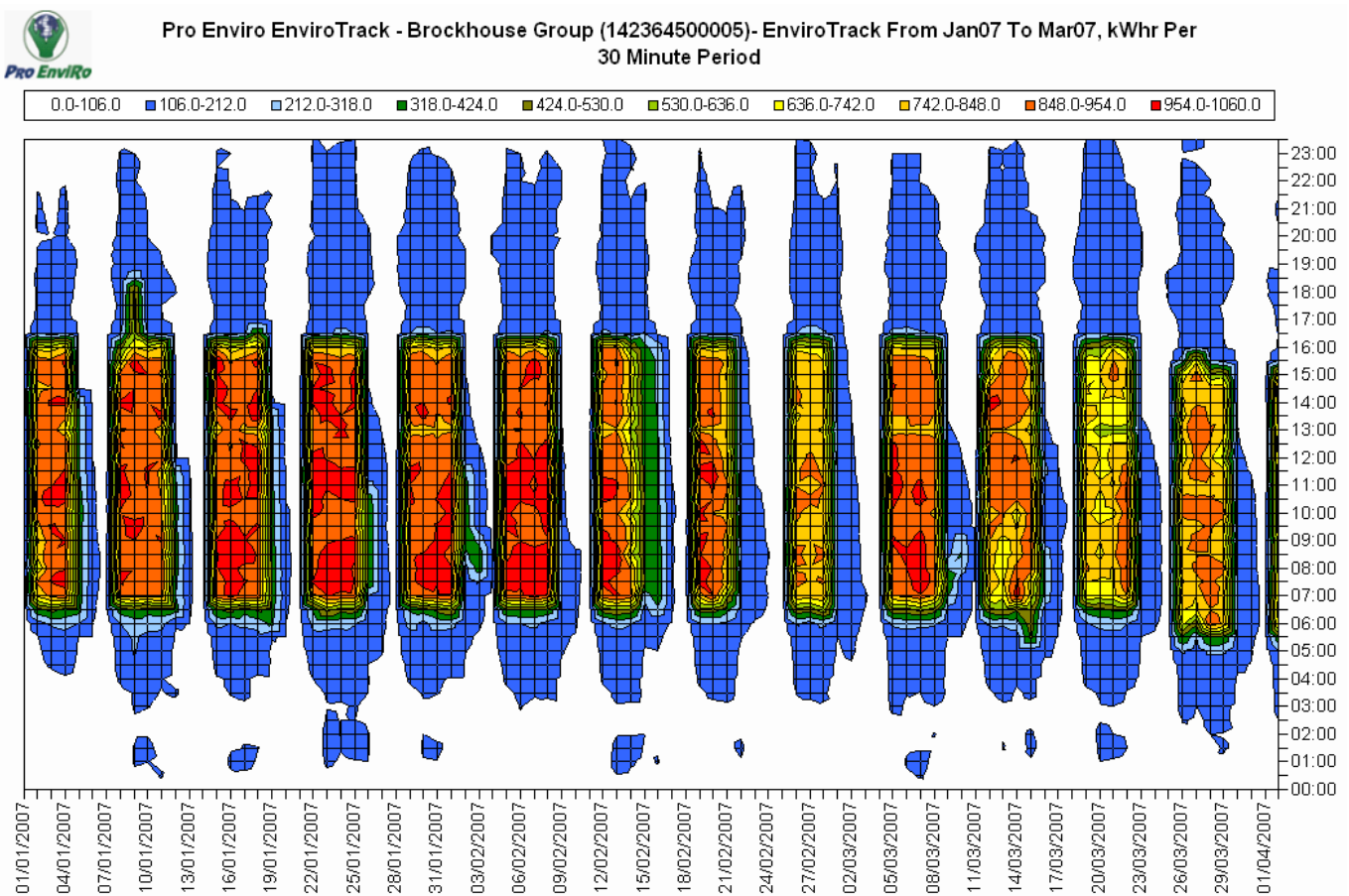
An action plan was developed for longer term projects:

- Examination of all filters, condensate systems, dryers and receivers to identify significant leaks and losses from the distribution system.
- Quarterly reporting of detailed electrical footprint in order to calculate potential savings achievable.
- Normalisation of electricity consumption against finished tonnes forged, to produce accurate and relevant figures for project payback.

- Quarterly project progress report detailing all engineering measures taken and any abnormal performance.
- Performance monitored against target figures throughout the Accelerate Energy Challenge, (January 2007 to June 2008). A final report to determine actual levels of savings against agreed target in kWhrs and cost.

The Benefits

Through the blended approach of energy monitoring, staff capacity building, equipment repair and control system installation, Pro Enviro facilitated Brockhouse Group to achieve significant reductions in electricity consumption.



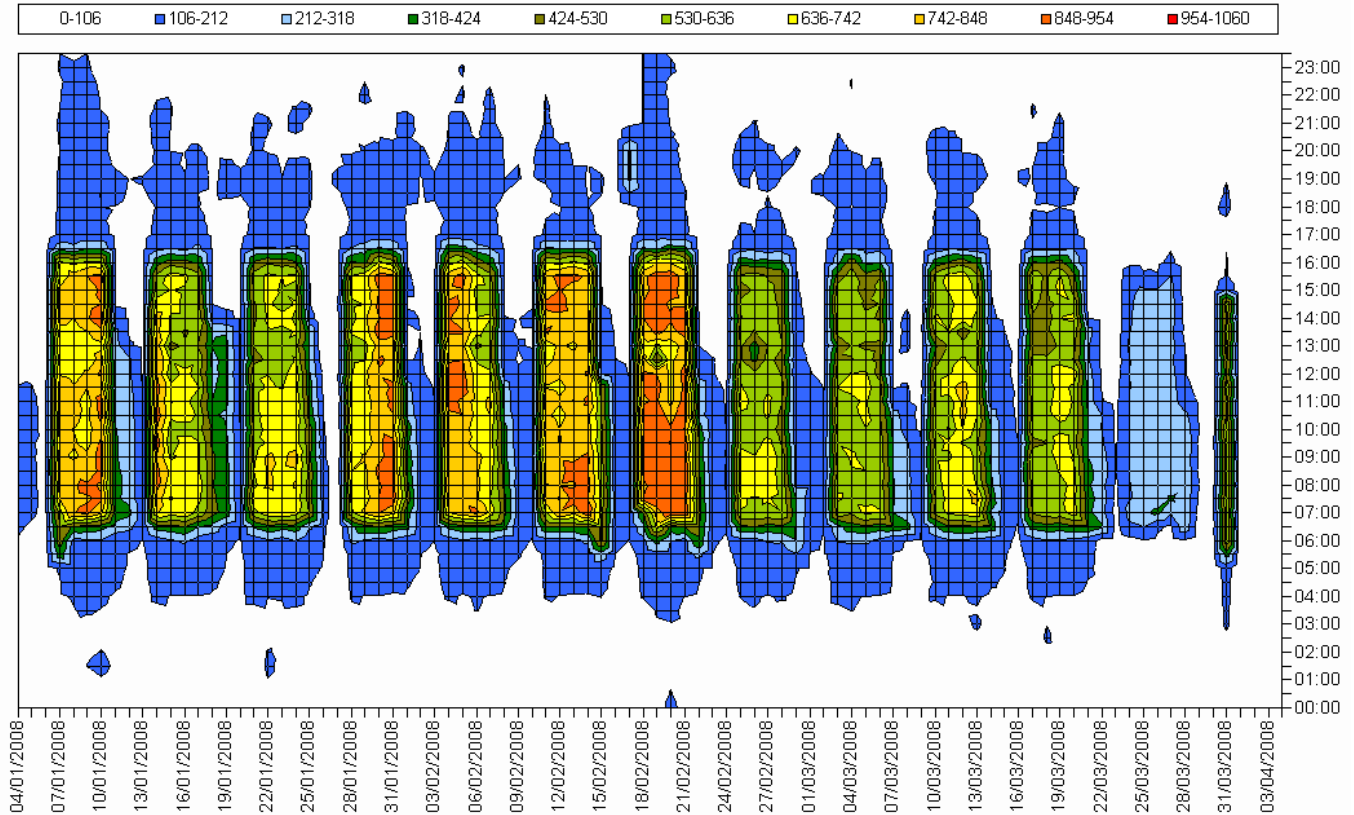
Through the Accelerate Energy Challenge, Pro Enviro monitored Brockhouse Group's electricity consumption through their EnviroTrack® system. As can be seen below, the electricity consumption pattern changed significantly between January to March 2007 and January to March 2008. In this period Brockhouse managed to save £25,000 on its annual electricity costs alone, with significant savings also made through gas consumption efficiency and resource utilisation. In total Brockhouse Group saved 300,000 kWh per annum which equates to 75 kWhr per tonne.

EnviroTracks displaying Brockhouse's changing electricity consumption pattern between January-March 2007 and 2008

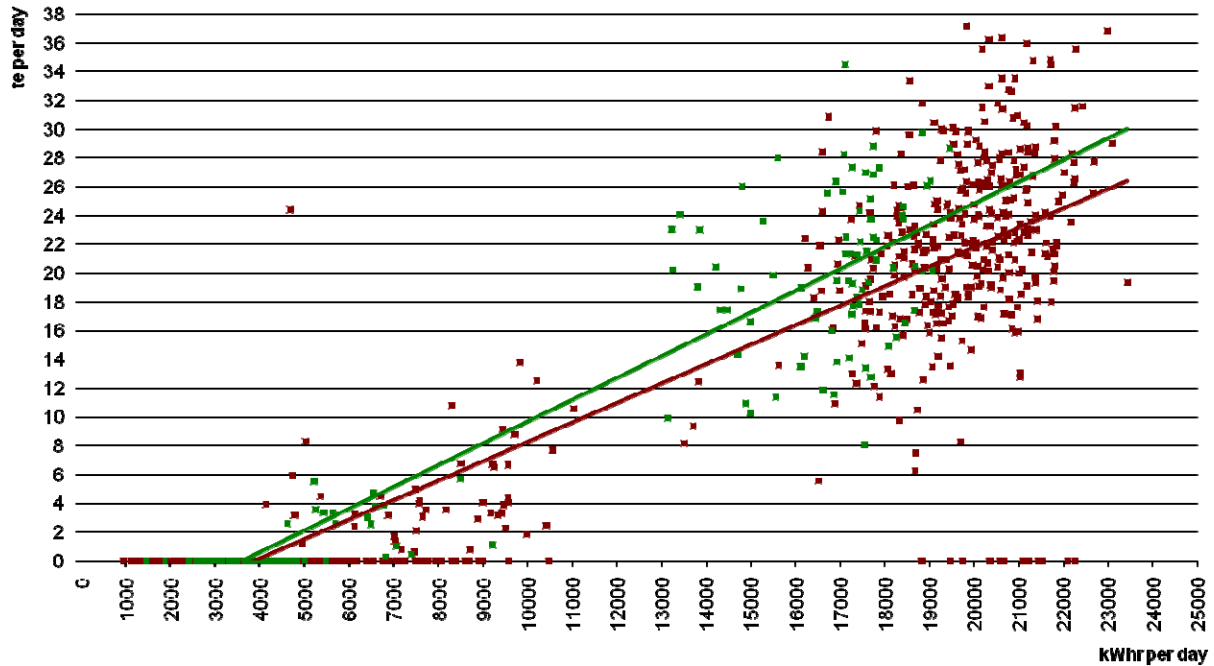
Year to Date Electricity Consumption in kWh displaying the continuing reduction in Brockhouse's electricity consumption between the year ending August 2006 and year ending March 2008



Pro Enviro EnviroTrack - Brockhouse Group (142364500005)- EnviroTrack From Jan08 To Mar08, kWhr Per 30 Minute Period



Brockhouse electricity per days vs tonnes forged per day
GREEN after leak repairs 674 kWhr per te
RED before leak repairs 749 kWhr per te
SAVING = 75 kWhr per te
IF 4000 te per annum, SAVING 300,000 = £24,000/an



Brockhouse Group is further continuously working to improve the savings by undertaking maintenance programmes on a regular basis.

Brockhouse Year To Date Electricity Consumption in kWh

