

Organisation: Global Power Systems Manufacturer
Sector: Engineering
Requirements: Demonstrate energy reduction
Services provided: Behaviour change programme
Provider: JRP Solutions
Achievements: 8.9% savings delivered

IPMVP: ★★★★★

The Customer

Our client is a global business providing power systems for use on land, at sea and in the air. It has engines in use in 30,000 vessels and 650 airlines around the world with another 18,000 engines in use in defence aircraft of all shapes and sizes.

The organisation employ more than 39,000 people in 50 countries and have 9 large sites in the UK with an annual energy bill of £60m and a global energy spend of approximately £90m.

This case study references training and other awareness related programmes with particular focus on two sites at Bristol and Barnoldswick.

Objectives

To demonstrate via a medium to long term programme that energy training and awareness could have a significant and measurable impact on reducing energy consumption.

Services provided by JRP Solutions

The initial approach was to provide the customer with guidance on the overall strategy and a programme roadmap for how the numerous - prioritised to meet the client's needs.

An Energy Charter and Energy Policy were first established followed by a communication programme. A widespread poster and banner campaign which covered UK and other major global sites was launched.

The campaign included over fifty different posters which featured what had already been achieved; the new goals; descriptions of typical opportunities and cost savings in different technical areas (process, lighting, heating/cooling, compressed air, electrical use generally etc.); as well as 'myth or fact' posters.

The following year, the Bristol site (annual energy cost of £2m) rolled out a 6 month programme of Energy Champions training comprising ½ day sessions every 3-4 weeks. In addition to covering the specific technical areas (detailed below) from an energy perspective, the training also included the practical identification of energy savings by surveying different areas of the site during each training session.

Training modules included:

- Energy Introduction (Level 1)
- Energy supply, consumption and cost
- Compressors
- Distribution Systems
- Heating/Cooling
- Process energy use
- Lighting
- Electrical Services
- Monitoring and Targeting
- Awareness
- Training for others

This programme was designed in conjunction with the customer to provide the optimum energy saving opportunities in the subject matter most frequently identified at the customer facility.

In addition to classroom training and 'in-factory' practical opportunity identification, the course also demonstrated how to complete energy savings calculations, delivery of standard savings spreadsheets and also 1-1 training sessions for each individual. A key deliverable was a single central listing of prioritised energy saving opportunities, which the trainer tracked as part of each training session to encourage immediate delivery of low cost and no cost measures.



Results

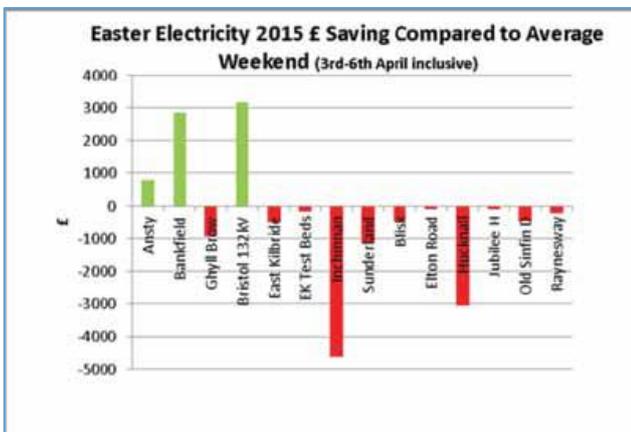
Energy savings from energy training alone is difficult to quantify but at the Bristol site it is known to be in the range of 2½-3½%. This was also the saving at Barnoldswick where a similar training programme was commenced 8 months later.

It can be seen from the Bristol site graph below that a significant reduction trend commenced quickly after the training programme started. No other energy variables or capital expenditure influenced the following 6 months consumption.

However, a longer-term evaluation proves significant additional savings from the behaviour change programme (totalling 8.9% using IPMVP) including the decision to implement systems to ISO 50001 as part of the company pilot.

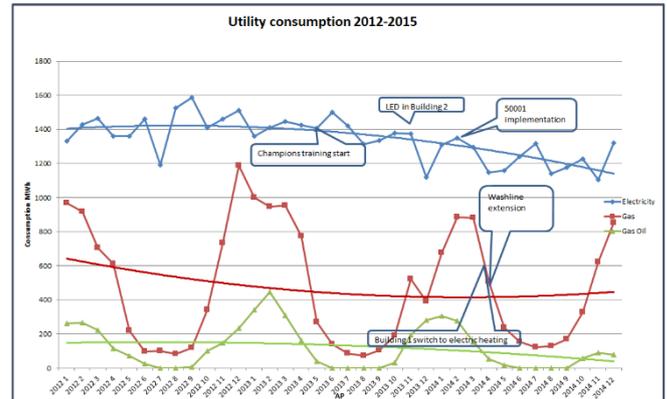
All improvements from ISO 50001 were low/no cost behavioural projects/benefits.

The savings are now embedded within the organisation which continued to reduce further in 2015. The Easter shutdown data below exemplifies the two sites where energy training has taken place.



The site has also subsequently posted a significant consumption reduction to the 2016 budget.

Summary



The significant 8.9% energy consumption reduction was measured using the principles of IPMVP, the internationally recognised verification methodology.

It is interesting that the 8.9% saving all from behavioural projects were the same as the £480k installation costs of a new factory LED lighting scheme. However, the internal and external costs of delivering the behavioural project savings were £30k with a payback of approximately 3 months.

If you would like to speak to one of our energy experts about Behaviour Change Programmes, ISO 50001, ESOS or energy training, please don't hesitate to contact us on 0800 6127 567 or email George.richards@jrpsolutions.com