

Ketley Bricks - Make great savings through environmental management



Key facts

Name: Ketley Bricks	Location: West Midlands
Sector: Manufacture of construction products	Year of ISO 14001 certification: 2009
Number of employees: 66	Period to implement EMS: less than 12 months
Turnover: £4.2m	

Key successes

- Annual energy savings of over 10 million kWh (over 2 million kWh per £m turnover)
- Reduced annual waste by two-thirds over 2 years¹
- Annual operational cost savings of over £25,000²
- Better legal compliance and improved relationships with stakeholders
- Substantial cultural change

All fired up:

Ketley Bricks (Ketley) is a manufacturer of natural clay building products including clay pavers and engineering bricks and has been in business in Staffordshire for over 100 years.

Ketley Bricks (Ketley) was coming under pressure from influential stakeholders to improve its environmental performance and customers were asking to see a certified environmental management system (EMS) as evidence of the company's commitment to environmental issues. Ketley knew something had to be done and wanted to improve its environmental performance.

Ketley took the opportunity to implement an EMS using consultancy support. Formalising the company's approach to environmental management helped with legal compliance and obtaining an environmental permit.

Overcoming teething problems:

Ketley found that the EMS required big step changes which created some resistance from employees during the initial implementation stages. Regular communications with the company's staff explaining what the EMS would mean and how it would affect working practices helped win employees over. Once Ketley's staff understood the implications of the EMS, they became much more supportive and engaged in the process.

Reducing waste brick by brick:

Waste is a significant environmental aspect of brick making operations and an area that Ketley really wanted to tackle through its EMS. Ketley initially investigated where waste

was being produced throughout its operations. It found that over 2,400 tonnes of fired brick had to be thrown away each year as quality standards were not being met. By then improving the controls on its kilns, the number of defective bricks was substantially reduced and consequently fewer bricks were sent to landfill.



Packaging of raw materials also made up a large proportion of the company's waste. Ketley's waste management programme was further embedded into its processes by introducing a waste segregation and recycling system for paper, cardboard and plastics. Over 2 years, Ketley achieved an annual reduction of 66%¹ in the amount of waste sent to landfill. Much of the waste which used to go to landfill is now recycled as core material on a free of charge basis.

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Energy consumption reduced by 19%³:

Brick production uses large amounts of energy, particularly natural gas in kiln and drying operations. Ketley initiated energy saving projects to tackle its high energy consumption as part of its EMS. Site energy consumption is now closely monitored and analysed, and the promotion of energy awareness amongst staff has improved energy efficiency. Alongside these cultural changes, the waste heat recovery system from the kilns is now used as the primary source of heat to dry the bricks more effectively and efficiently. The installation of voltage optimisation equipment has also helped to reduce overall site energy demand. Collectively these energy saving initiatives, which are solely attributed to the EMS implementation, have saved over 10 million kWh (over 2 million kWh per £m turnover).

Improved legal compliance:

A significant benefit to Ketley has been improved legal compliance; which has also led to the avoidance of potential oil spills.

Ketley has demonstrated an improved standard of environmental management to its regulating bodies by implementing a formal, certified EMS. This has resulted in lower compliance fees, reduced insurance premiums and less auditing by its main regulator: the Local Authority.

Ketley Bricks - a friendlier neighbour:

Operating a heavy industrial factory in a densely populated area, Ketley has a number of concerned local groups that are interested in its operations. By improving environmental



performance, Ketley has developed better relationships with local residential groups and other interested parties, and now promotes itself as a responsible neighbour.

Continual improvement:

Ketley is not standing still with its environmental improvements. It is planning to upgrade the lighting infrastructure in the factory to take more advantage of existing natural light and reduce the amount of time that lights are used. This will help to further reduce electricity consumption.

There is also substantial capital expenditure planned to upgrade the motors on the site's electrical equipment. This will help the site to fall in line with new legislation and best practice, and should provide an attractive 13-month payback on the investment. Further improvements to the kiln control systems are also scheduled to produce even higher gas savings and reductions in waste.



Voltage optimisation equipment

¹ Waste to landfill reduced from 96 tonnes in 2008 to 32 tonnes in 2010. Saving is 67%, or 66% if normalised by turnover.

² Normalised cost saving = £25,327 (average annual saving). Unadjusted cost saving = £141,307 (average annual saving).

³ Energy saving normalised by turnover. Unadjusted saving = 21%