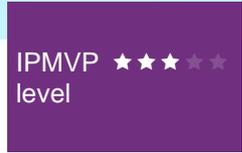


Organisation: Mitchells & Butler plc
Sector: Hospitality
Requirements: Investigate the potential of energy savings through behaviour change while maintaining guest satisfaction
Services provided: Initial R&D, M&V plan, workshops, training, behaviour change campaign and analysis.
Provider: Mitchells & Butlers plc.
Achievements: 20% energy reductions, savings of £10M



The Customer

Mitchells & Butlers plc (MAB) is one of the UK's largest operators of pubs and restaurants, with 40,000 staff members, over 1,500 sites within 17 brands, and a utilities bill of c. £70 million. Energy spend is the third largest overhead (after labour and food/drink) and represents the largest controllable cost to the business. As a result, energy use is a top priority for business continuity. The Energy, Environment & Sustainability (EES) Team was created in 2009 to guard against increasing energy prices and promote more sustainable working practices. In 2011, they sponsored a doctorate student (Dr Sam Mudie) from the University of Reading, bringing together world class research and industry to investigate "Energy Use and Reduction in Commercial Food Preparation".



Historically, energy-consuming behaviours were given little to no consideration within the sector due to high staff attrition and turnover – why put time and resources into training seasonal staff? An initial study clearly answered that question. In 2013 Dr Mudie published her investigation into operator behaviour and found that up to 71% of energy consumption could be saved through improved staff behaviours. In the case of the 4 kW salamander grill (Fig. 1), kitchen 10 consumed 49 kWh a day (£19.60), but kitchen 6 managed large reductions to 14 kWh (£5.60), just through changes

in behaviour (while delivering the same volume of food). Richard Felgate, Head of EES, quickly secured board approval to rolling out an estate wide behaviour change campaign.

Objectives

The EES team was given the task of reducing energy waste without adversely impacting the guest experience. The initial target was for a 5% reduction in energy consumption across the estate.

The campaign's aims included thorough assessments of people, practices and culture, strong communication of progress backed with data, training programmes, recruitment of energy champions, and an engaging program of interventions.

Designing a robust monitoring and verification method and disseminating results to staff were also necessary steps to ensure success; team members at all levels needed to be able to see how their teams were measuring and rewarding progress to understand the differences their actions made.

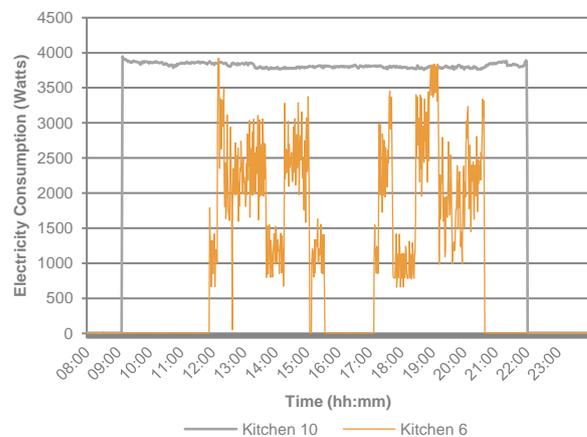


Figure 1: Salamander Electricity Use



Services Provided

The program initially embarked upon detailed assessments of the work force. Workplace cultures, attitudes and values, desired rewards, motivations, knowledge, and skills were analysed, by way of surveys and interactive workshops. At the same time, Dr Mudie fed operational data such as automated meter readings (AMR) data, kitchen size, food volumes, financial turnover, and opening hours into the new model. This formed a robust benchmarking tool used to monitor and verify energy reductions. The team then set about creating and delivering bespoke training packages, targeting staff from head chefs and front of house teams, to procurement officers and security staff. These events covered topics ranging from the big climate change picture to brand-specific energy consumption data, as well as considerable focus on how they could influence energy and carbon reduction in their job roles. Top tips for saving on energy bills at home were also discussed. Accredited “Chef skills” courses were developed (levels 1-3) in response to a key motivation illuminated in the assessment phase. Staff really valued these courses as something to put on their CVs, and their completion became an internal measure of success (i.e., targeting 70% of staff to achieve level 1 in year 1).

A series of 3-month its-a-knockout style competitions were designed with £25,000 of prizes such as days out, iPads, parties and parking permits. A range of initiatives such as most carbon saved by brand and per district, pre-trade energy reduction and overnight savings achieved were run.

Energy Champions (EC) were recruited (1-2 per district) before the competition commenced. This newly-formed group were nominated by peers (rather than conscripted). This was important, as natural leaders and influencers were able to affect more significant change with the trust of their colleagues. The ECs received further bespoke support and training which they leveraged to increase momentum throughout the competition. Fortnightly themed communications centred on a range of appliances, processes or areas of the businesses, and relevant tips were shared on social platforms. Positions within the competition league tables were sent to site staff alongside their energy data and graphs, as well as cumulative totals of carbon, energy, and financial savings.

Encouraging the concept of “social proof” was embedded into communication at every level. Personal pledges made by staff members during

initial workshops were physically recorded and mailed back to staff at the end of each competition phase.



Figure 2: The salamander grill

A key intervention was holding a simultaneous ideas competition alongside the energy reduction league, where a judging panel assessed ideas (and awarded more prizes). Timers on kitchen heat lamp gantries and non-temperature critical bottle fridges were examples of suggestions taken through to trials and, ultimately, roll outs.

Other interventions included frequently changing signage and appliance stickers and push button rewards for taking stairs, avoiding lifts and a number of other quick/on the spot savings. Security and cleaning staff were empowered to distribute chocolate rewards for observing energy saving practices (or calling out poor behaviour by way of coal and raspberries!)

Results

High levels of engagement were achieved throughout the campaign. Overall, the program saved £1M in just the first 3 months, paying back the initial investment 10-fold in that same period. The energy competition was so successful it was the highest return on investment project to date. 20% savings were achieved in some areas and metrics with overall savings over the course of the year of over £10M, gaining momentum month by month. Paying particular attention to behaviours and practices around that hungry salamander grill saved £7.3M per year on its own!

The methods used to measure savings and positions within the league tables were robust enough to overcome the usual arguments of a site being busier, larger, or open for longer. The behavioural elements, and staff impact upon these, could be communicated and understood regularly.



The energy model developed was awarded “Most valuable contribution to the art and science of building services engineering” by CIBSE. The Chartered Institute of Buildings (CIOB) also awarded paper of the year for publication of the results of the campaign (Fig. 3).

Feedback indicated that staff setting their own goals via pledge cards (and their own consciences holding themselves to account!) was an effective motivator, keeping them on track and raising their game for the next round of competition. Momentum was sustained effectively by frequently changing prompts, advice, and themes.

Even though “The Big Idea” competition aspect didn’t necessarily yield major energy saving projects, the team was committed to always providing comprehensive responses to any and all suggestions. Details regarding trials, project successes or perhaps explanations as to why an idea hadn’t been taken up, or what might happen instead were communicated throughout. The initiative received much praise and respect for the level of commitment and communication, with site staff feeding back that they felt closer to the EES team and head office as a result of this engagement.

Encouraging teams to give out “rewards and incentives” was another highly praised aspect. Team members reported enjoying the responsibility and feeling good about giving out chocolates (and perhaps some enjoyed the power to not give them and give coal instead!).

Co-benefits were revealed, developed and emphasised throughout the energy saving program, including more comfortable working environments, better consistency of products and services, increased engagement with guests and within the site and head office teams (and of course, the wider community and environmental benefits). On more than one occasion, a serious developing fault was uncovered and repaired before a major appliance outage shut the site, losing valuable trade. This was due to the heightened accessibility, awareness, and understanding of energy consumption data by site staff. Staff training goals were exceeded with double the energy champions recruited than initially expected.



Figure 3: Receiving "Paper of the Year" award from CIOB

Summary

In a sector which has suffered significantly in recent years, and will continue to do so given the rising costs of energy, a strong behaviour change campaign should not be overlooked as a way of unlocking appreciable savings on energy bills, as well as a much-needed increase in profitability. For a very modest investment, and extremely quick returns, people-power should be a top priority within this sector and elsewhere.

EnCO Matrix					
Criteria	Criteria	Energy Plan		Risks & Barriers	
		1	2	3	4
Commitment	Key staff are engaged at any level in energy management for the organisation. The management team ensure regular communication of energy issues.	There is a clear understanding of the organisation's energy and resource usage. Energy consumption is monitored and reported on a regular basis. Energy saving measures are implemented and reported on a regular basis.	There is a clear understanding of the organisation's energy and resource usage. Energy consumption is monitored and reported on a regular basis. Energy saving measures are implemented and reported on a regular basis.	There is a clear understanding of the organisation's energy and resource usage. Energy consumption is monitored and reported on a regular basis. Energy saving measures are implemented and reported on a regular basis.	There is a clear understanding of the organisation's energy and resource usage. Energy consumption is monitored and reported on a regular basis. Energy saving measures are implemented and reported on a regular basis.
Awareness	Staff are aware of the energy issues and the importance of energy saving at all levels.	The management team ensure that all staff are aware of the energy issues and the importance of energy saving at all levels.	The management team ensure that all staff are aware of the energy issues and the importance of energy saving at all levels.	The management team ensure that all staff are aware of the energy issues and the importance of energy saving at all levels.	The management team ensure that all staff are aware of the energy issues and the importance of energy saving at all levels.
Skills	Staff have the necessary skills to manage energy saving at all levels.	The management team ensure that all staff have the necessary skills to manage energy saving at all levels.	The management team ensure that all staff have the necessary skills to manage energy saving at all levels.	The management team ensure that all staff have the necessary skills to manage energy saving at all levels.	The management team ensure that all staff have the necessary skills to manage energy saving at all levels.
Responsibility	Staff are responsible for the energy saving measures at all levels.	The management team ensure that all staff are responsible for the energy saving measures at all levels.	The management team ensure that all staff are responsible for the energy saving measures at all levels.	The management team ensure that all staff are responsible for the energy saving measures at all levels.	The management team ensure that all staff are responsible for the energy saving measures at all levels.
Adaptation	The organisation is able to adapt to changes in energy prices and availability.	Changes can be made to the energy plan to adapt to changes in energy prices and availability.	Changes can be made to the energy plan to adapt to changes in energy prices and availability.	Changes can be made to the energy plan to adapt to changes in energy prices and availability.	Changes can be made to the energy plan to adapt to changes in energy prices and availability.

Figure 4: EnCO Matrix