Case Study

Organisation:	**Heathrow Airport**
Sector:	Commercial buildings, retail concessions & leases
Requirements:	Energy reduction, from 2007 to 2020 (& beyond)
Services provided:	Energy management through people
Provider:	Discovery Mill
Achievements:	1) 15% savings delivered across airport operations 2) 24% savings achieved within retail fit-outs 3) Shared vision for business partners for the future

IPMVP ★★★★ level

Introduction

We have been working with Heathrow for over 12 years, pioneering solutions centred on energy & sustainability management through people.

We keep coming back to the airport as a case-study for us as it has been our eye-opener.

Our support has involved working in partnership with local teams using a combination of strategic, technical and behavioural joined-up thinking, with hands-on or more passive support, as required.

We have demonstrated that this is often the quickest and most cost effective way to deliver energy savings and sustainability at scale for the organisations involved.

Objectives and scope

This case-study focuses on 3 objectives:

1) To deliver energy demand reduction across operations within all airport buildings and infrastructure (2007–2010).

2) Support 46 retailers & 186 new units, within the new T2 development, to be an exemplar in sustainability practice (2012–2016).

3) To facilitate developing a shared vision & approach for energy and water efficiency for airport business partners, buildings, concessions & leases (2018–ongoing).

Heathrow is a complex site of over 1,200 hectares, with 75,000 people working at the airport, for over 80 airlines and over 80m passengers a year.

The total airport utility bill is circa £100m a year.

Delivering critical mass for the above scope requires between 1,500 to 4,000 everyday champions for better energy & sustainability management practices.

Services provided

This has involved providing a combination of different approaches with the right support, with the right people, at the right time.

For Heathrow this has included:

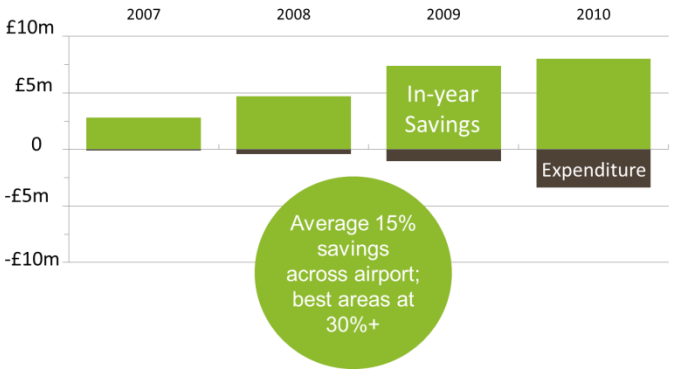
- Setting up local networks to help engage, empower and support everyday champions;
- Training and supporting energy champions to lead up energy improvements locally;
- Designing and facilitating airport campaigns and events for better awareness, training and opportunities for everyday champions;
- Setting up and managing a £4.5m capital fund to support energy ideas and actions;
- Tracking energy savings bottom up crediting results to people and teams;
- Measuring airport consumption top-down to report on performance improvements;
- Making presentations on energy, water and waste performance to airport directors;
- Support for implementation of ISO 50001;
- Sustainability design advice and support to retail and property development teams;
- Developing tools and techniques to make it easier for significant energy users to continually improve performance locally;
- Reviewing and writing airport energy & sustainability asset standards & procedures;
- Developing approaches to achieve leading edge energy and water efficiency for new infrastructure developments in operation.

Results

Initially there was no dedicated capital budget to support energy projects so we had the opportunity to try out lots of different people-based solutions.

We delivered our targets in about half the time that we thought possible. We demonstrated 15% average energy savings across all airport operations within Phase 1 (2007–2010). The best areas recorded 30%+ savings over the four years.

This included over 1000 actions recorded on our energy saving trackers: 42% of savings were from behavioural changes in operational practices, 24% from changes in maintenance practices, and 35% from changes in investment practices and technology upgrades.



For Phase 2, the teams working on the T2 retail fit-outs achieved an average of 24% unit (design) energy savings compared to T5 baselines: worth £0.5m+ savings a year. This was more than double the 10% reduction target set.

In 2016, we conducted post occupancy monitoring of energy performance for sample restaurants. We found they were consuming significantly less than the original design consumption forecasts due, in part, to approaches designed to facilitate continual improvement in operation.

We also found restaurant energy performance correlating well with number of customers and covers, which was a key design objective.

In 2019, the airport published a key document for the Heathrow Sustainability Partnership: Delivering an Energy and Water Efficient Airport. This sets out the shared vision and objectives for business partners to support a Zero Carbon future to ensure it is delivered at affordable cost whilst being positive for all the stakeholders involved.

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Summary

This is about enhancing energy performance by connecting up technology, operational management practices and behaviours. The same lessons apply to many sectors and operations.

Existing risk averse operational practices and behaviours generally lead to much higher energy consumption and costs; this seems inevitable for most organisations during some periods.

This can be made worse by rising energy prices and pressures on consumption from electrification and expanding commercial activities.

To manage this successfully, and make effective energy demand reductions, approaches need to be strategic and hands-on and delivered in partnership and collaboration with the people on the ground.

It is essential top management is on board and demonstrates its commitment through company energy policies and provides the financial and other resources needed.

We find success is always down to the people and teams involved so our focus is often on supporting them improving their skills and performance.

If you'd like to hear more, or talk to us about people based solutions, training, ISO 50001 or energy and sustainability support more generally, please contact +44 (0)1803 867079 or email JamesBrittain@thediscoverymill.co.uk

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