

Employee Engagement at Birmingham Airport

Presentation by:
Kirstin Kane - Head of Sustainability
Charlotte Mills – Energy Champion

18.06.2015



Agenda

- Birmingham Airport - Overview
- Airport's Vision for Sustainability
- Programme for Employee Engagement
- Energy Champions



The heart of the UK

- 7th Largest UK Airport
- 9.7m Passengers (in 2014)

88% Scheduled / 12% Charter
19% Business / 81% Leisure
87% Inter / 13% Domestic

- More than 100 Destinations
- Runway Extension
- Long haul growth – China flights

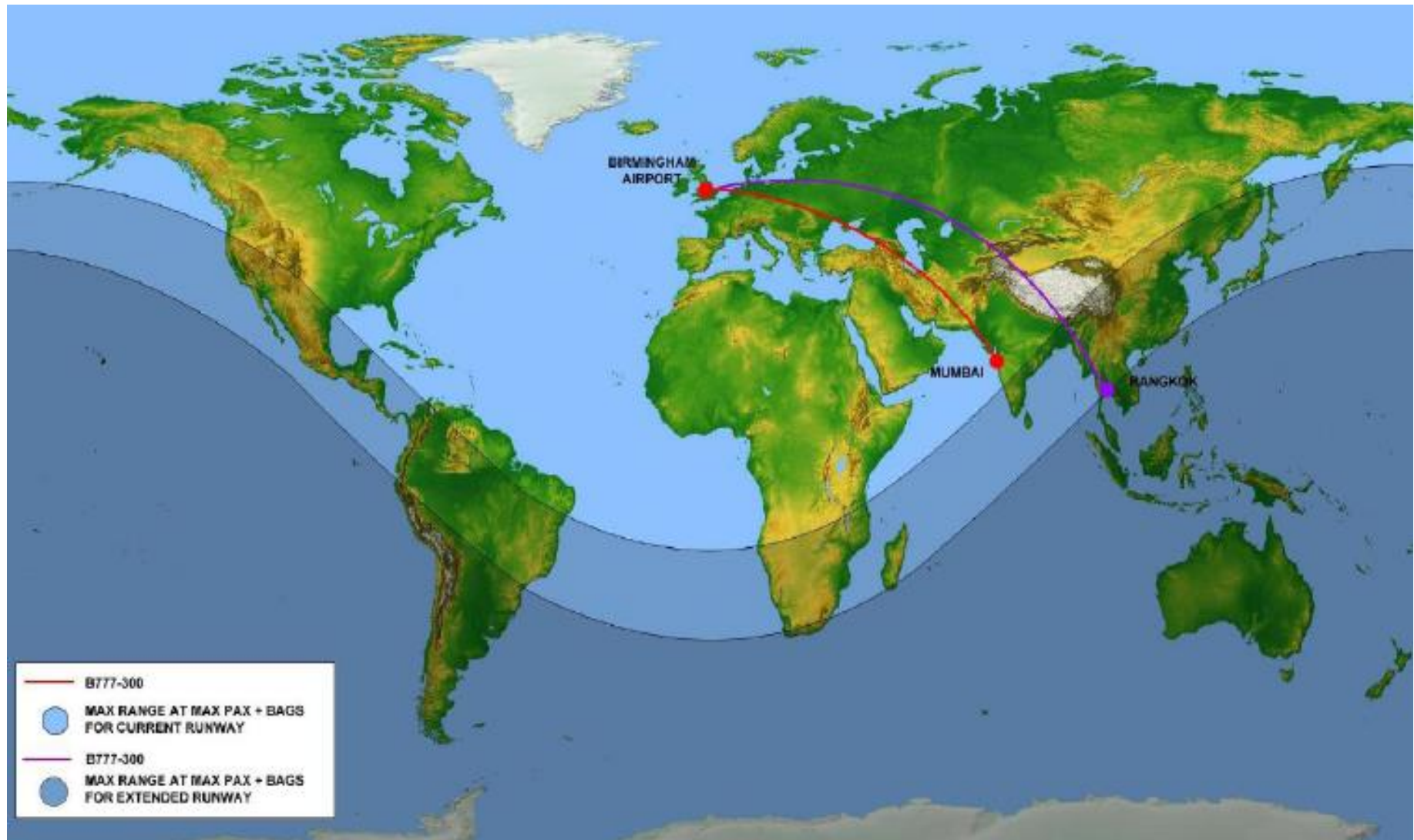
Investment – Runway Extension



Runway Extension



Runway Extension



Vision for Sustainability....

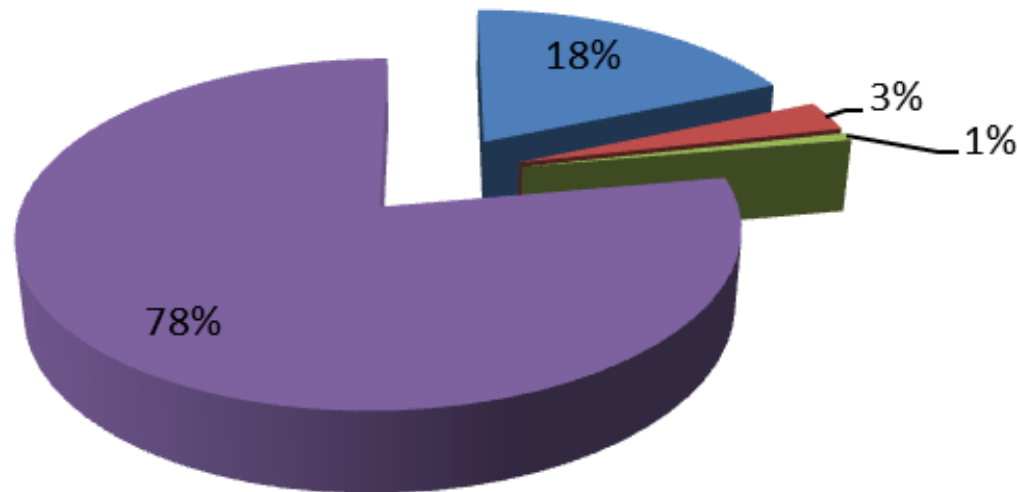
‘Bringing the direct **economic and social benefits** to the Centre of the UK, and playing our part as a **responsible and proactive citizen** whilst **minimising the impact of our operations on the environment.**’



Importance of Energy and Carbon

Scope 1 and 2 emissions

■ Gas ■ BAL Fleet Fuel ■ Refrigerants ■ Electricity



- The annual energy consumption for the site is 41.5 million kWh in electricity, 28 million kWh in Gas and 130K m3 of water

- £6 million associated cost

Carbon Management Plan

- Carbon Management Plan themes.....

Measure

‘you cannot manage what you do not measure’

Engage

Mitigate

- Engaged external consultants LCMB to support programme



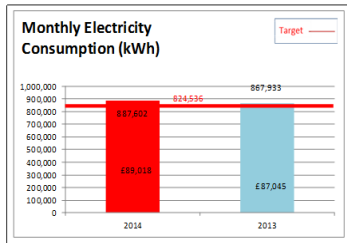
- Getting top level buy-in and support
 - Recognising energy as one of the top controllable costs
 - Energy usage and costs a regular item at board level
 - Monthly Energy & Carbon reduction meetings with Senior management and department heads
 - Setting energy saving targets and goals



Policy formulation



Strategy development

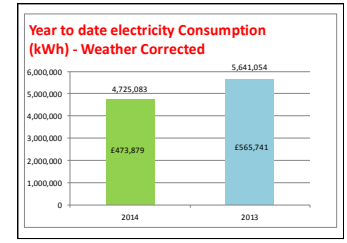
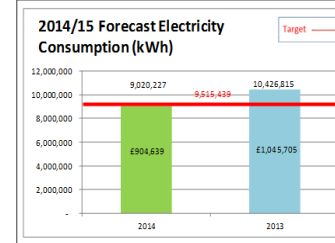
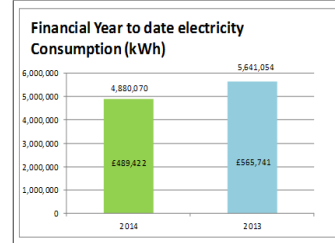


League Table of Separate Consumers +ve figure equals less consumption

Area / equipment	% of ytd	% ytd change vs prior year
1 AHU 12	2%	26%
2 HVAC panel 2	2%	7%
3 AHU - LB74	1%	16%
4 HVAC panel 4	0%	33%
5 AHU 14	1%	-14%
6 Link Chiller 2	2%	29%
7 AHU 4.5	1%	15%

Major Events/ changes:

- 1 This does not include North Terminal chillers
- 2 Weather corrected monthly usage = 843,320
- 3 Red line targets reflect actual budget



- Increased accountability for energy within each business unit
- Department heads responsible for energy use and budgets in their areas
- Monthly management energy reports provided to department heads



- Establish a clear process to submit and action ideas
- BEFORE launching campaign – lesson learnt!
- Feedback

I save energy

**Birmingham Airport
Great Energy Saving Ideas**

Name

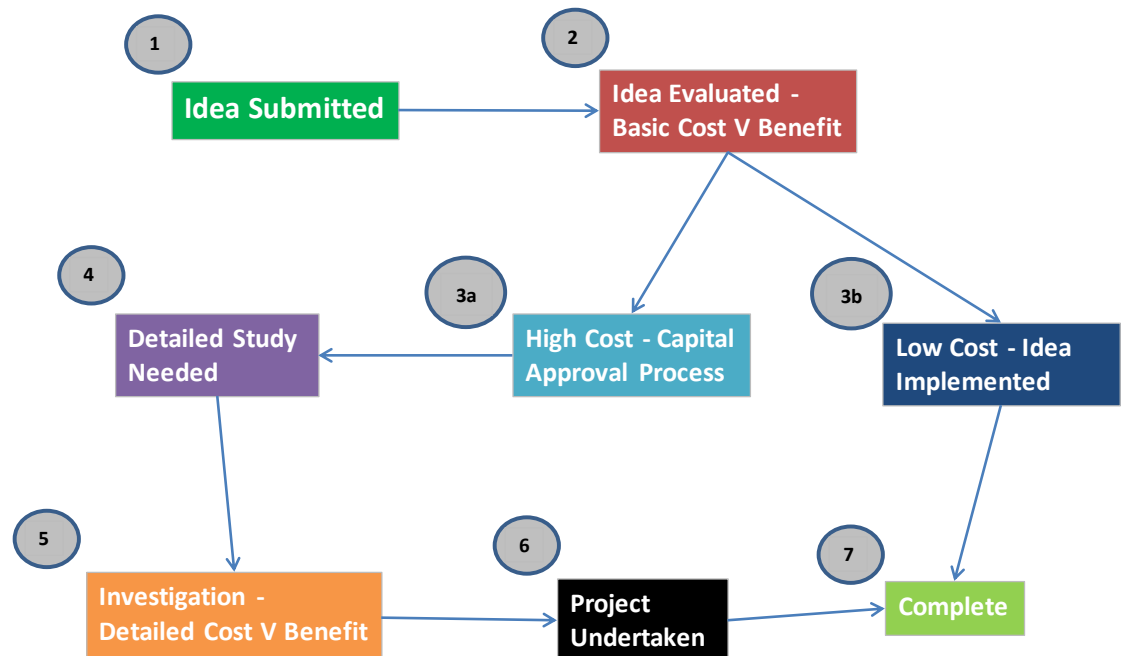
Contact Number

Area of Implementation

Specific Area

Description

Department



- Communicate widely using all available mechanisms
- AND regularly



Connect
Keeping you updated.

**Hello
world**



The Energy Champions



Energy Champion Development



I save energy

Staff
Energy
Saving
Ideas

Review

Process

Prioritisation

Investigation

Implementation

HARD TO DO EASY TO DO

HIGHLY
MOTIVATED



HIGH MOTIVATION
HARD TO DO

Investigate and develop
these

HIGH MOTIVATION
EASY TO DO

Prioritise these



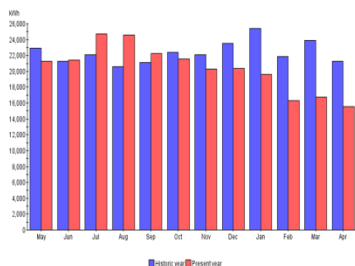
LOW
MOTIVATION

LOW IMPACT
LOW MOTIVATION

DON'T GO THERE!

LOW MOTIVATION
EASY TO DO

Justify and reposition
these



LED Advertising Boards - Terminals	
Year 1 Costs	
Option 1 - Current Advertising boards Electricity cost	€ 7,780
Option 2 - Proposed LED Advertising boards Electricity Cost	€ 3,221
Proposed Project Capital Cost	€ 12,750
Year 1 Energy Savings @ 8.53p/kWh	
% Saving	41%
Annual Energy saving - kWh	53,449
Annual Energy saving - €	€ 4,559
Long term Energy savings	
Simple Payback (Years)	2.80
Cumulative Saving After 5 Years	€ 13,596
Cumulative Saving After 10 Years	€ 43,482

Tools to succeed

Energy Brief

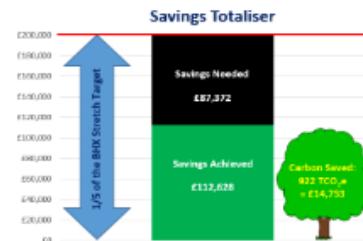
Issue 1 Autumn 2014

Focus on energy Take up the challenge

Energy costs us about £3.5M a year after tenant recharges. Our aim is to achieve at least a 5% reduction in energy costs – this will be enough power to light and heat around 138 UK homes.

So far, we're doing really well but we need your help to do more

Image of latest progress



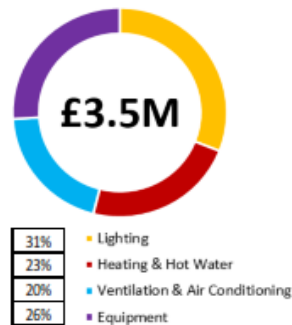
At the moment we are doing well and are 56% of the way to achieving the savings we need to reach 1/5 of the BHx target of £200K this year. However one cold winter could wipe off all these savings so we need to all work hard identifying where else energy can be saved at the airport.

DISCUSS WITH YOUR TEAM WHAT YOU COULD DO TO HELP US SAVE ENERGY

EMAIL YOUR IDEAS TO:
lsaveenergy@birminghamairport.com

Did you know

Airport Energy Usage



Facts & Figures – Focus on Offices

- Leaving lights on over-night in a small office cost about £635/year
- Turning lights off when they are not needed for 2hrs per day could save around £90/year in a small Office.
- Leaving your PC on over-night can cost around £55/year, or enough CO₂ to fill a double decker bus.



How to get involved

1. Complete our feedback questionnaire about our working environment and efforts to save energy

- Answers will provide critical input to our efforts to continuously improve, reduce our environmental impact and cut costs.
- Submitted questionnaires will enter the M&S voucher prize draw!
- Enter the draw by completing paper questionnaires in your staff rooms or by using the online survey on the Hello World – 'Energy Update' link.

2. Don't walk by – act on energy

- Look at your work area for energy savings and discuss ideas with your colleagues
- Tell us about your ideas and actions to lsaveenergy@birminghamairport.com
- The best ideas will be put forward for the 'Great People' Scheme and will be promoted around the airport.

I save energy



Tools to succeed

Energy Assessment Result

<i>Item</i>	<i>Units</i>	<i>Result</i>
Floor Area	m ²	472.459672
Annual Days Operations	Days	364
Annual Operating Hours	Hours	6916
Estimated Daily Consumption	kWh	2066
Estimated Annual Electricity Consumption	kWh	752115
Retail Unit Energy Performance	kWh/m²/Annum	1592
Estimated Annual Energy Cost	£	£112,817



Energy Assessment Result

<i>Item</i>	<i>Units</i>	<i>Result</i>
Floor Area	m ²	472.459672
Annual Days Operations	Days	364
Annual Operating Hours	Hours	6916
Estimated Daily Consumption	kWh	1479
Estimated Annual Electricity Consumption	kWh	538239
Retail Unit Energy Performance	kWh/m²/Annum	1139
Estimated Annual Energy Cost	£	£80,736

Retail Unit Energy Assessment

<i>Service Type</i>	<i>Equipment/Fitting Type</i>	<i>Rating (Watts)</i>	<i>No of items</i>	<i>Expected Daily Hours Run</i>			<i>Diversity (%)</i>	<i>Daily (kWh)</i>
				<i>Continuous</i>	<i>ON</i>	<i>OFF Hours</i>		
Ovens	6 Grid Comi Oven	10900	2	No	04:00	21:00	17	148.24
Ovens	This item deleted	0	0	No	00:00	00:00	-	0.00
Electric hob	Ribbed Griddle	7000	1	No	06:00	19:00	13	36.40
Friers	Twin Fryer	15000	3	No	06:00	19:30	14	243.00
Electric hob	Smooth Top Griddle	2700	1	No	06:00	19:00	13	14.04
Electric hob	Mirror Griddle	3000	1	No	06:00	19:00	13	15.60
Small Power	Chip Scuttle	1500	1	No	06:00	19:00	13	5.85
Small Power	Salamander Grill	7400	1	No	06:00	19:00	13	14.43
Electric hob	Induction Hob	3500	6	No	06:30	19:00	13	78.75
Small Power	Thermodyne	7000	1	No	07:00	20:00	13	27.30
Electric hob	This item deleted	0	0	No	00:00	00:00	-	0.00
Ovens	Twin Pizza Oven	9000	1	No	08:00	20:00	12	37.80
Ovens	Microwave Oven	2800	2	No	06:00	20:00	14	31.36
Ovens	Panini Grill	5600	1	No	06:00	20:30	15	24.36
Ovens	Contact (Panini) Grill	5600	1	No	06:00	20:30	15	24.36
Dishwasher	Dishwasher	7300	2	No	06:00	23:00	17	62.05
Dishwasher	Dishwasher	7000	1	No	07:00	23:30	17	23.10
Dishwasher	Glasswasher	5600	1	No	06:00	23:00	17	23.80
Small Power	Still Power	1200	1	No	06:00	22:00	16	6.72
Small Power	Dishwash area Ring Main	1794	1	No	06:00	23:30	18	4.71
Small Power	Toaster	2800	2	No	06:00	15:00	9	15.12
Small Power	Coffee Machine	6000	1	No	05:00	21:30	17	39.60
Fridge	Back Bar Fridges	1800	1	Yes			24	17.28
Small Power	Front Bar GP sockets	1800	1	No	05:00	22:30	18	4.73

The Energy Champion Experience



Objectives

Energy Saving Questionnaire

Your view. Birmingham Airport

How are you doing? How important is it?

How important is it?	How are you doing?
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10

Thank you. Birmingham Airport

YOUR VIEW ENERGY QUESTIONNAIRE & COMPETITION WIN!

Analysis of Results

Diamond House (60) - overall score 3%

Control over temperature: Work area temperature, Control over lighting, Control over equipment, Lighting, Ventilation and air freshness, Switching off, turning down energy use, Working environment in general, General efforts to save energy.

Lighting & Controls Review

Space Heating Review

SMART Metering & Reporting

IT Energy Saving Review

I save energy

Thank you. Birmingham Airport

YOUR VIEW ENERGY QUESTIONNAIRE & COMPETITION WIN!

Analysis of Results

Diamond House (60) - overall score 3%

Control over temperature: Work area temperature, Control over lighting, Control over equipment, Lighting, Ventilation and air freshness, Switching off, turning down energy use, Working environment in general, General efforts to save energy.

Lighting & Controls Review

Space Heating Review

SMART Metering & Reporting

IT Energy Saving Review

I save energy

Thank you. Birmingham Airport

YOUR VIEW ENERGY QUESTIONNAIRE & COMPETITION WIN!

Analysis of Results

Diamond House (60) - overall score 3%

Control over temperature: Work area temperature, Control over lighting, Control over equipment, Lighting, Ventilation and air freshness, Switching off, turning down energy use, Working environment in general, General efforts to save energy.

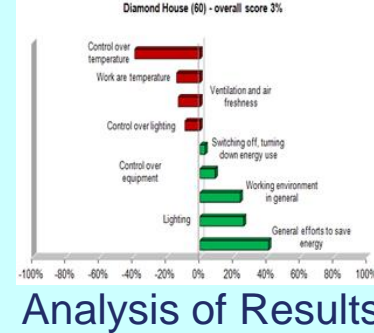
Lighting & Controls Review

Space Heating Review

SMART Metering & Reporting

IT Energy Saving Review

I save energy



Diamond House Energy Projects



Lighting & Controls Review



Space Heating Review



SMART Metering & Reporting



IT Energy Saving Review

- Raise awareness amongst colleagues
- Communicate & advise good energy saving practices to staff
- Reduce energy consumption & cost

I save energy

Energy Champion Success



Reduced consumption and cost

Inspiring innovation & creativity

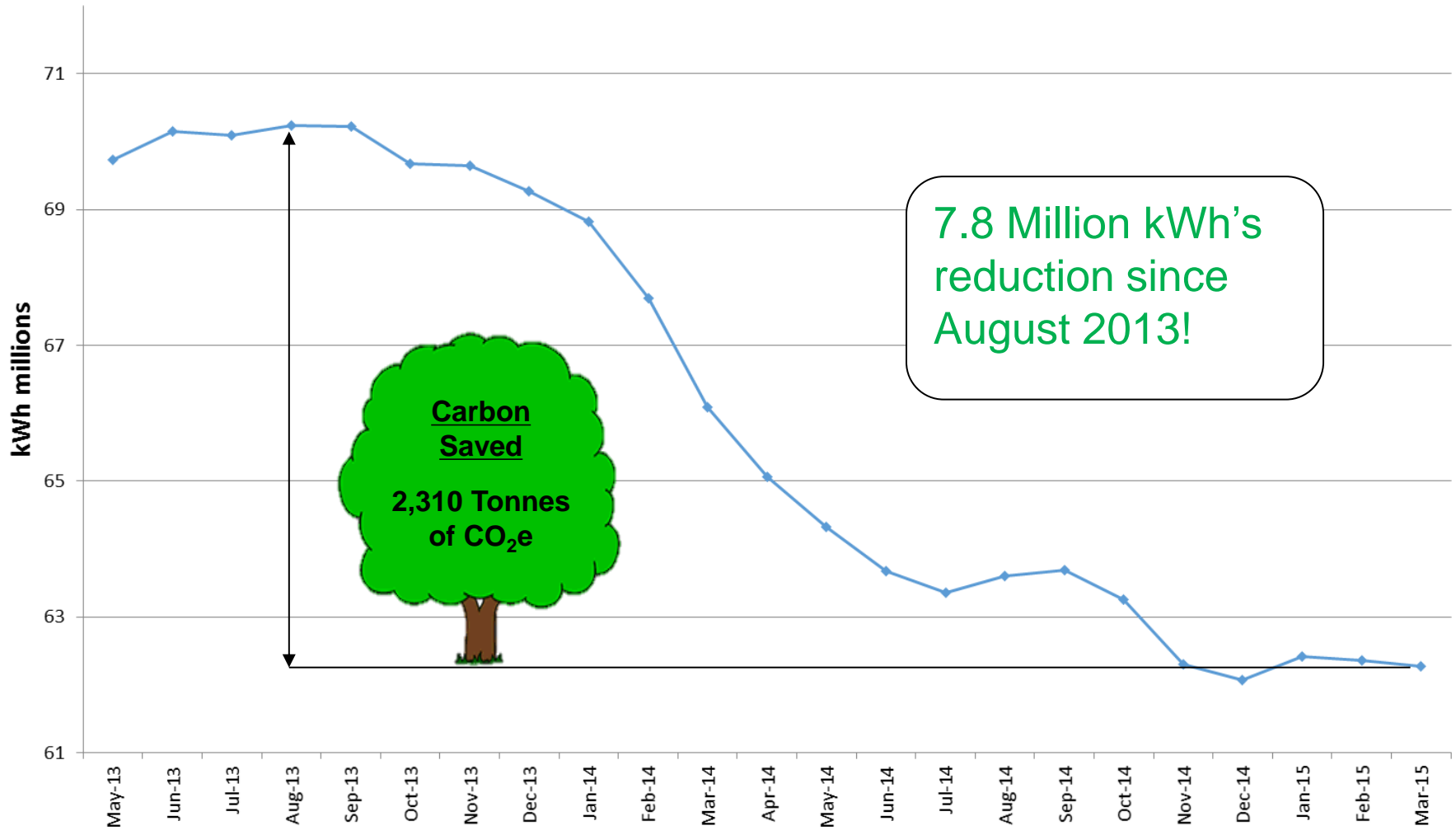
Developing a sustainable future

Personal Development

I save energy

Results

Total Airport Electricity & Gas kWh (millions) - Moving 12 Month Totals



Pro-active Carbon Management Programme

- Initiatives developed through 'Operation Pathfinder',
- Identified initiatives for potential fuel/CO2 savings
- Including potential for savings on the ground:



- Reduced Engine Taxi
- Continuous Taxi
- Use of FEGP



Also...

- Local Airspace Management to reduce CO2 emissions
- Identify airspace efficiencies

