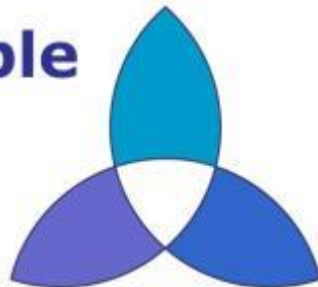


Sustainable Business Breakfast

Carbon Saving Case Studies

Horsham, 18th September 2014

**Sustainable
Business
Network**



Working in partnership with:

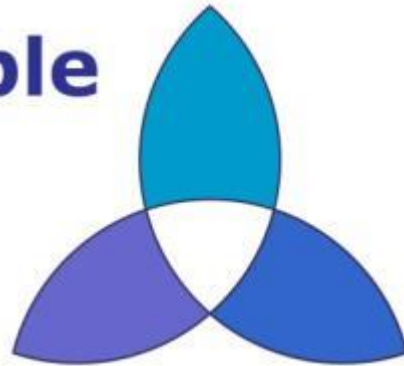
**GreenGrowth
PLATFORM**



University of Brighton

Working in partnership...

**Sustainable
Business
Network**



Green **Growth**
PLATFORM



University of Brighton

What's coming up?

08:30 Welcome

Rowan Wallis, Sustainable Business Partnership CIC

08:35 Carbon Management

Stuart Davies & James Dorrell, Bloom

08:50 Best Practice Case Study

Dean Shackel, Sony DADC

09:05 Best Practice Case Study

Diane Stenning, the Old Tollgate Hotel & Restaurant

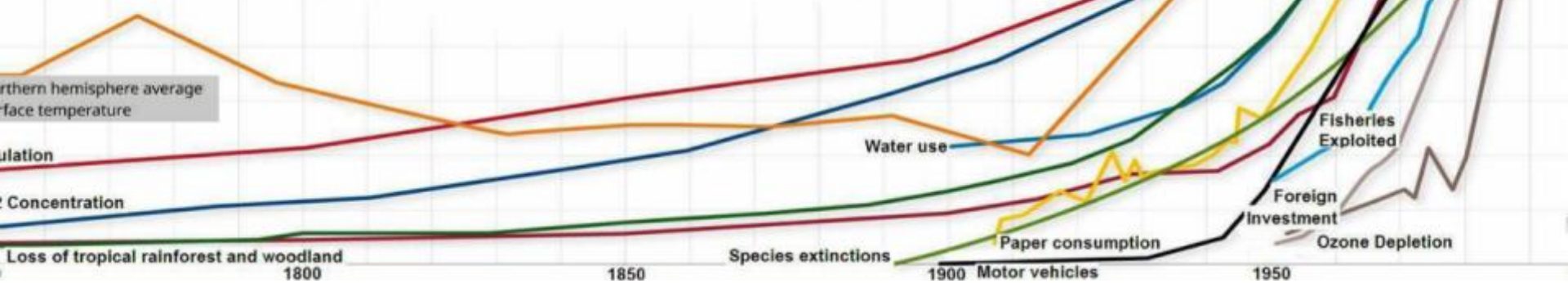
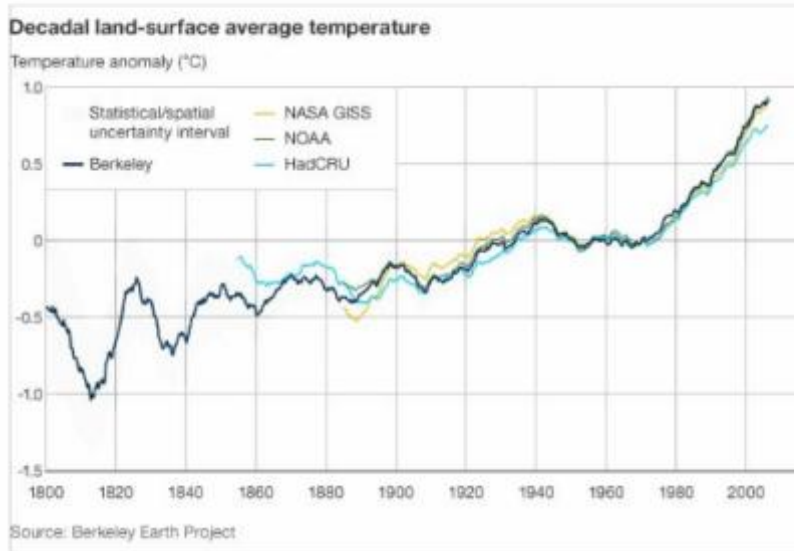
09:20 Round-the-Tables

09:30 Networking & Refreshments

Sustainable Business Breakfast

**Carbon Saving
Case Studies**

Why Are We Here?



Our philosophy:

21st century reporting capability is required to tackle 21st century problems



Eco Design Lab & Carbon
Performance Hub

www.ecodesignbloom.com

With our design
delivery
partners

Made/
Noise





Carbon Footprinting



Regulatory



Diagnostic Profiling



Environmental Management Systems

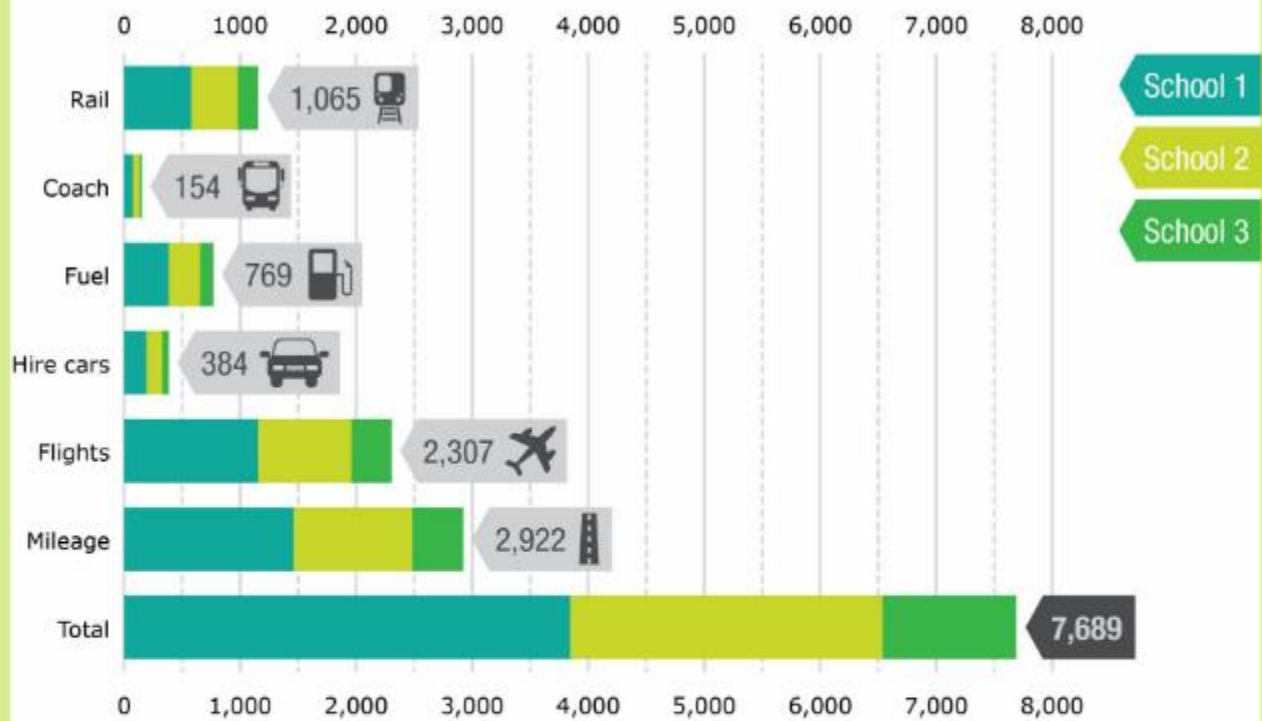




Carbon Footprinting

TOTAL CO₂ EMITTED : TRAVEL BREAKDOWN

(Tonnes)

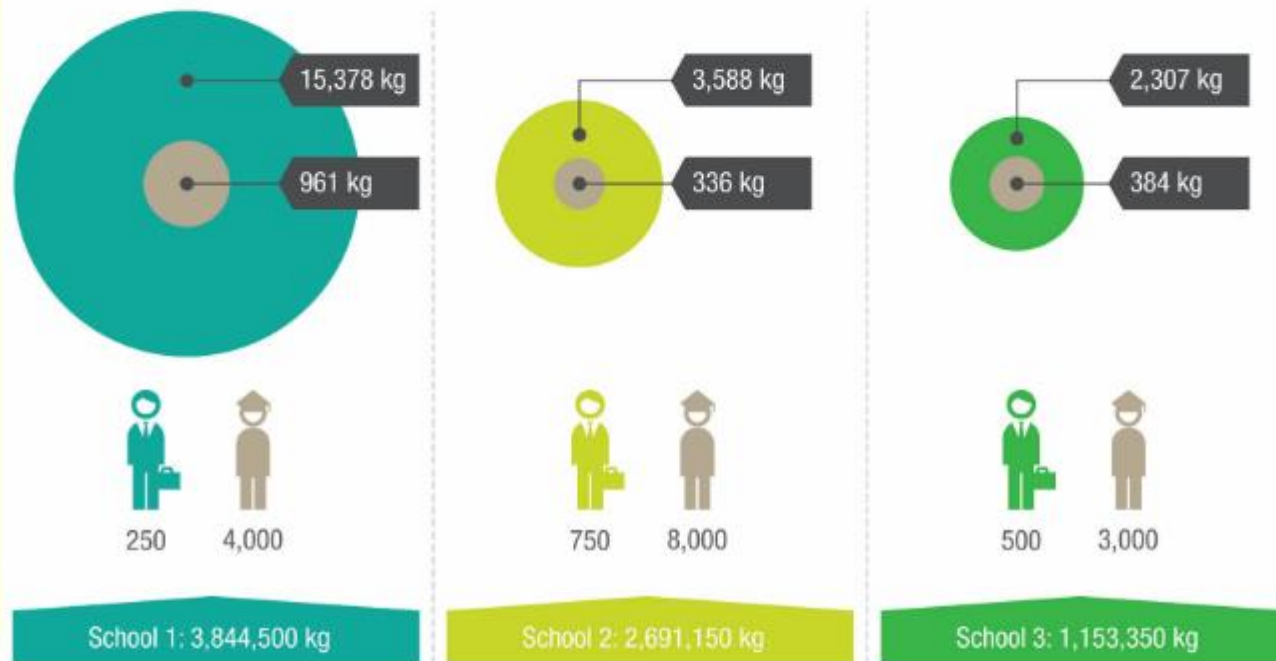


Reporting Period: Aug 13 - Aug 14

Regulatory

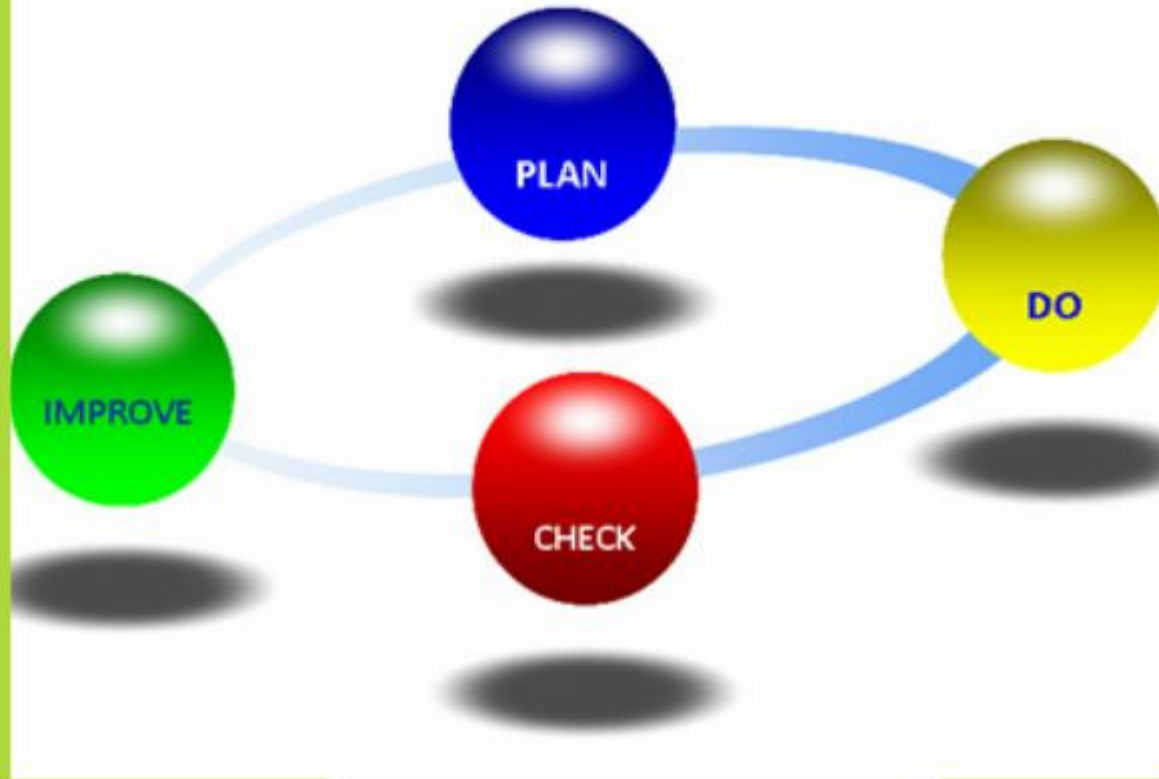
PER CAPITA METRICS

(CO₂ total & CO₂ breakdown per staff and students)



Reporting Period: Aug 13 - Aug 14

Diagnostic Profiling



Environmental Management Systems



- Formal, structured and certificated approach.
- Demonstrate to stakeholders you are taking action.
- Necessary for some supply chains: barrier to market entry.

How to do it?

1

Identify your
motivation

2

Lead from
the top



3

Setup

Identify data requirements

Set targets & objectives

Allocate resources

4

It's everybody's responsibility

assign
champions

training
internal comms

5

Monitor & report

identify risks & opportunities

track improvements

Keep up the comms!!!

shout about it!



Celebrate
successes

Plug Into Now

Sustainability IS the New Normal



Swedish funds must disclose portfolio's climate impact



EGRET

tCO2e/\$m investment profiling



Mandatory carbon reporting for listed companies

Swedish funds must disclose portfolio's climate impact



EGRET Capital
Partners

tCO₂e/\$m investment profiling



London
Stock Exchange

**Mandatory carbon reporting for
listed companies**

Sustainability Indicators

Commodity prices \uparrow by 147% since 2000



33 commodities lost 70% of their value over the course of the 20th century, but in the last 10 years their prices have, on average, tripled

This is a paradigm shift



Water use

Welcome to the 3rd industrial revolution!

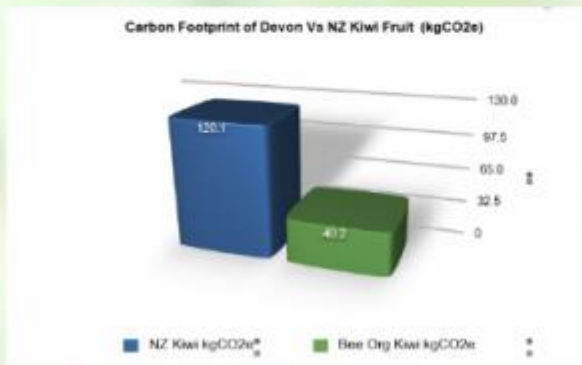
Paper consumption

Foreign

Ozone

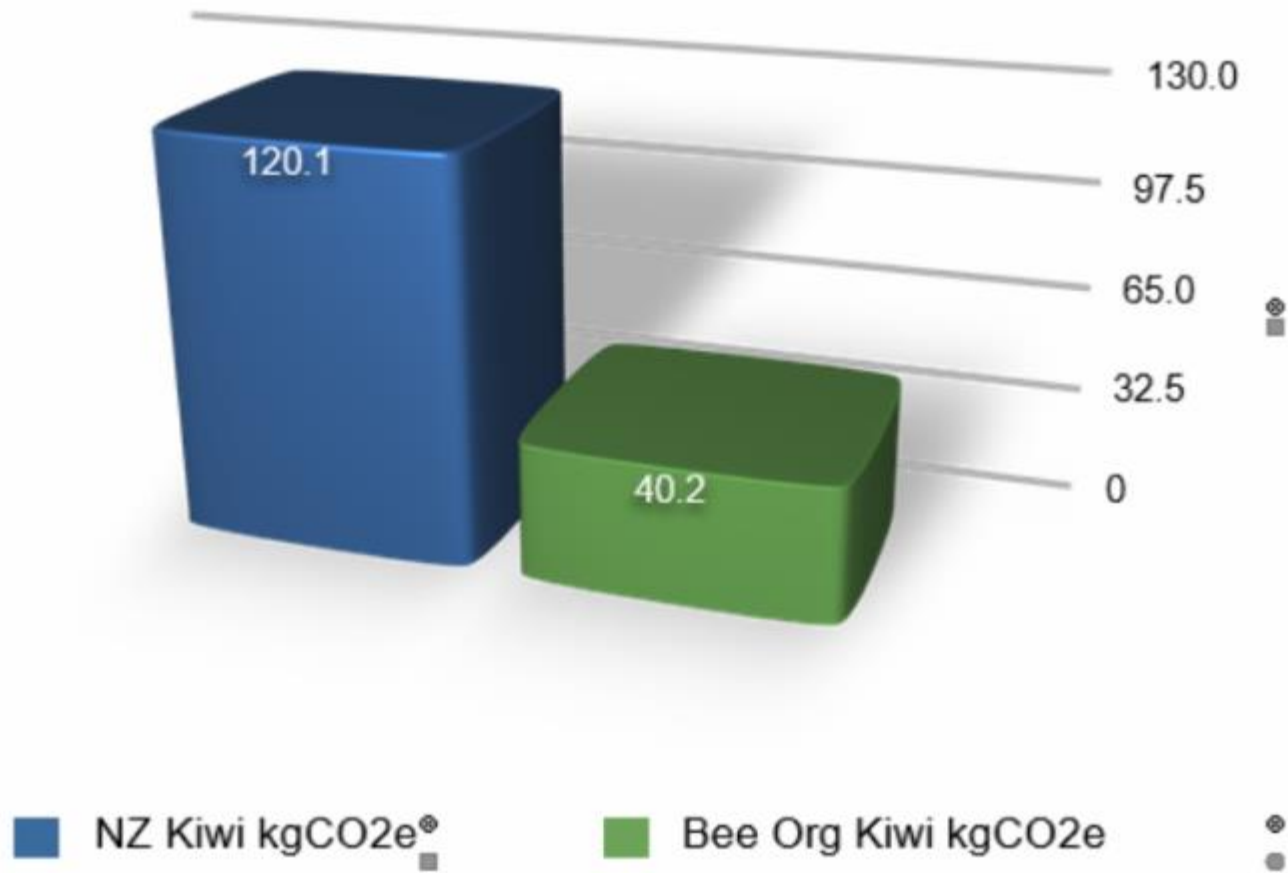


- Based in Devon
- Started production in 2012
- Carbon footprint of operations in January 2013 with Bloom
- Identification of low carbon opportunity



Supply established to SW businesses due to unique local, low carbon offer.

Carbon Footprint of Devon Vs NZ Kiwi Fruit (kgCO2e)



Supply established to SW businesses due to unique local, low carbon offer.

Project: benchmark RM with High Street

MISSION • SHOP • BLOG • COMMUNITY LINKS • SIGN UP • CONTACT

FREE SHIPPING TO ANYWHERE IN THE WORLD!

one-piece

The Lava One Piece

Limited Edition One-piece

- Limited Edition Lava print
- 80% nylon/polyamide 20% elastane
- Fully Lined, NOT reversible
- Halter neck with adjustable straps, black disc neck trim
- Warm hand wash and drip dry

SIZE: £60/US\$96/€55

QUANTITY: [view the size guide](#)

[add to basket](#)

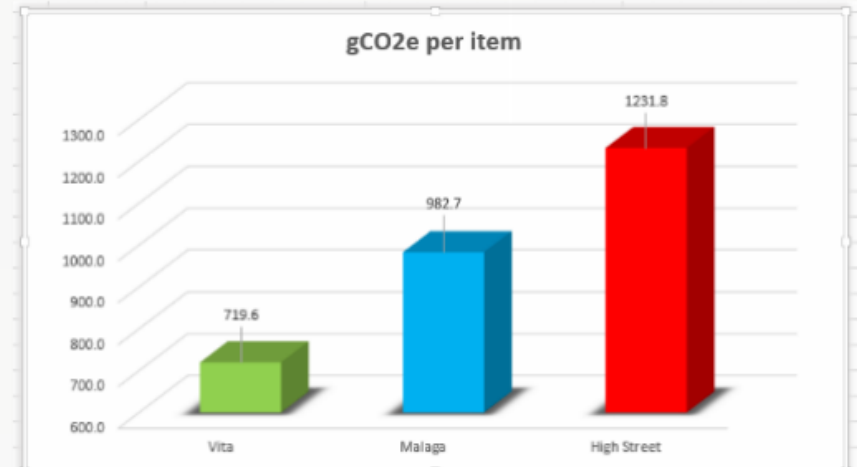
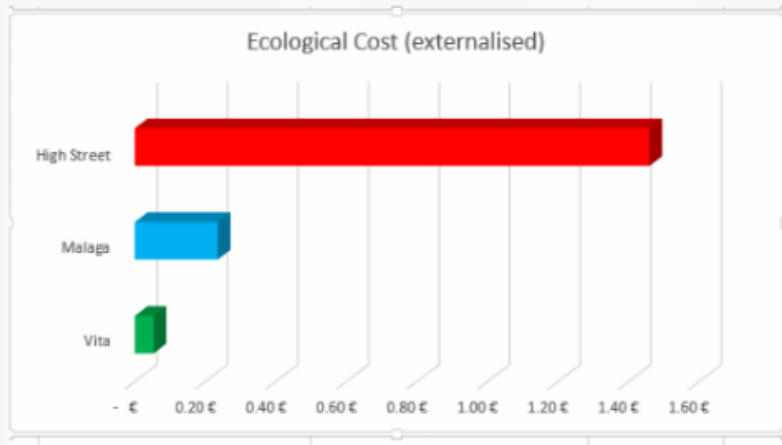
[back to shop](#)

© 2011 H&M



- * Establish boundaries: cradle to supply gate UK
- * Map supply chain for RM
- * Assumptions for typical China manufactured High Street alternative
- * Collect data and material source assumptions
- * Academic papers and public databases of activities
- * GHG footprint

“People don’t buy what you do, they buy why you do it”



- product with recycled content is 50% lower footprint than high st product and costs x1.45 less pollution per product.
- added benefit of cleaning the oceans



Sharing a passion for Healthy Seas and sustainable products

The Healthy Seas initiative is the brainchild of three organizations that have embarked together on a beautiful journey to save our environment. It's a journey from waste to wear. We recover abandoned fishing nets that pollute our seas and coasts and regenerate the nylon into high-quality yarn which is turned into brand new sustainable textiles.

Engagement, **motivation** & internal innovation



Staff recruitment and retention



Resource Efficiency: Office Based Company

Energy Saving and Energy Production Measures	Estimated Saving /Income p.a.	Estimated Cost	Payback (Yrs)	Return on Investment
Computer Power Management	£509	£295	7 months	172%
Digital Timer Switches	£537	£994	1.9 years	53%
Evaporative Cooling System- Building 1	£4,914	£9,992	2 years	49%
Energy Efficient Hand Dryers	£2,400 for 10	£500 per unit, £5,550 for 10	2.3 years	43%
Intelligent Boiler Load Optimisation	£1,338	£3,250	2.4 years	41%
Voltage Optimisation- Building 1	£3,747	£17,422	4.6 years	22%
Destratification Fans	£424	£2,055	4.8 years	21%
LED Lighting Upgrades	£13,042	£65,235	5 years	20%
Voltage Optimisation- Building 2	£1,290	£7,708	6 years	17%
3.9 kWp PV Panels	£1,045	£13,000	12.4 years	8%
total	£29,246	£125,501	4.3 years	23%

Staff recruitment and retention



of graduates cite
vision and values
as an important factor
when looking at
potential universities

Sky Future Leaders Study



Resource Efficiency: Office Based Company

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3.9 kWp PV Panels	£1,045	£13,000	12.4 years	8%
Totals	£29,246	£125,501	4.3 years	23%

- Not using the lift: £650 per annum and calories burnt
- Turning lights off £950 per annum
- Dealing with heating issues (i.e. not opening the window in winter when hot: £2,754 per annum
- Plus: ideas ideas ideas!

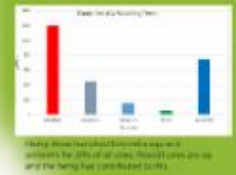
white leaf boutique



Motivation:

- Meet customer demand for uniqueness
- Have a new material to work with to create different designs
- Exploit the "value gap"
- While 40% of consumers say they are willing to purchase green products, only 4% of consumers actually do when given the choice. This is the value gap that few brands exploit."

- Material investigation
- Sample sourcing
- Carbon Footprint
- Customer research
- Hemp/Silk blend selected



Hemp dress launched 6 months ago and accounts for 20% of all sales. Overall sales are up and the hemp has contributed to this.



Hemp dress launched 6 months ago and accounts for 20% of all sales. Overall sales are up and the hemp has contributed to this.

e: contact@bloominc.co.uk



"If you really think the environment is less important than the economy try holding your breath while you count your money."

-Dr. Guy McPherson

<http://www.ecoesignbloom.com>

Support #ZeroWasteBrighton

Sustainable Business Breakfast

**Carbon Saving
Case Studies**

Sony DADC UK Southwater

Creativity, capacity, capability

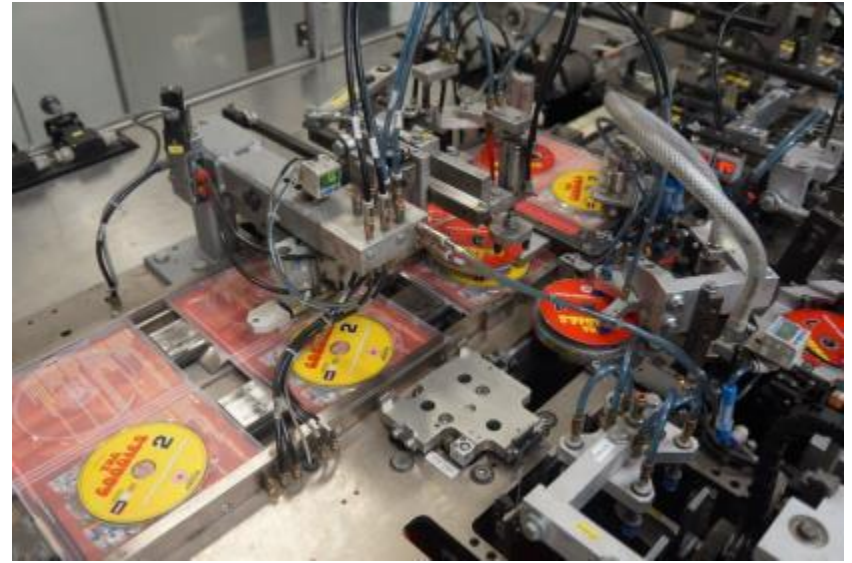


September 2014

Facilities Manager Dean Shackel

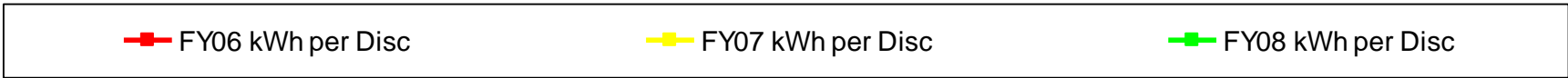
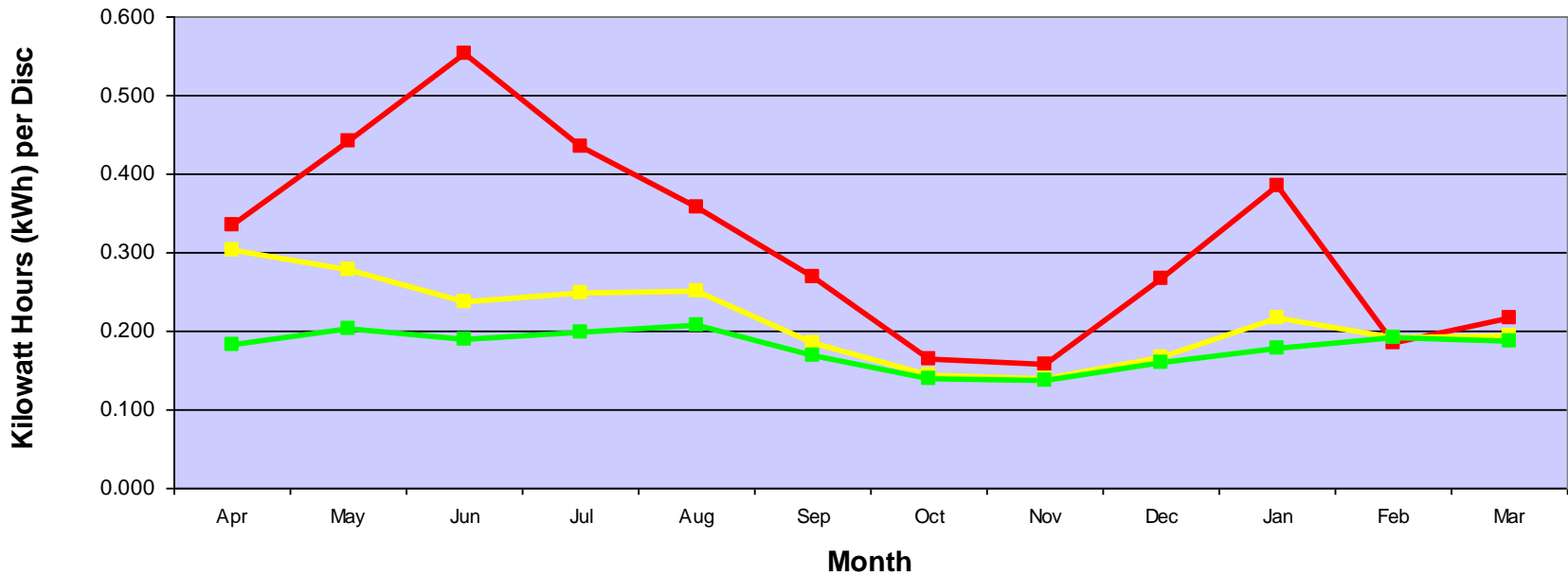
Energy Reduction at Southwater

Sony DADC UK Southwater





DADC UK Electrical Energy (kWh) per Disc: FY06 - FY10



Measures Considered

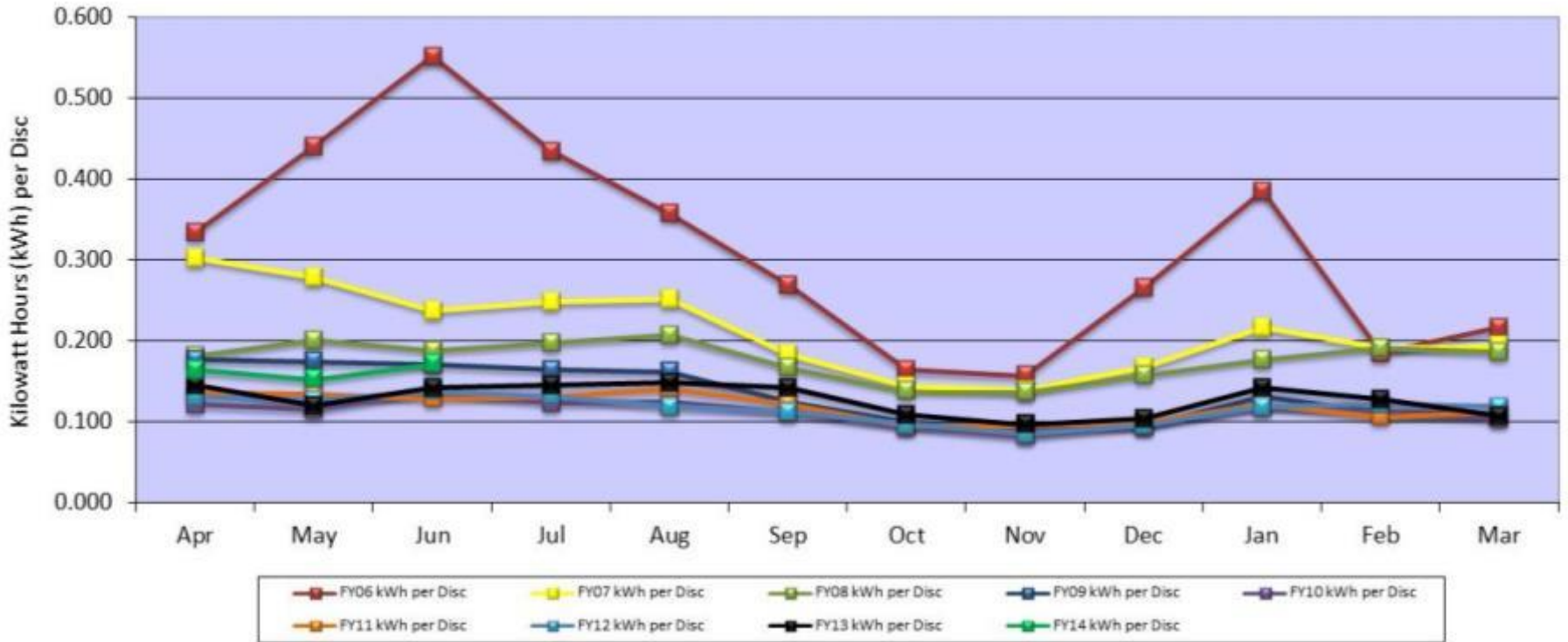


- More efficient compressed air system
Estimated savings of 700,000 kWh
- Central vacuum system - Estimated savings of 290,000 kWh
- Lighting upgrade - Estimated savings of 400,000 kWh
- Implement a BMS – No direct savings, but the tool to enable measurement & monitoring
- AHU control upgrade - Estimated savings of 108,000 kWh (2014 on)
- Dry cooler supplement for process cooling
Estimated savings of 920,000 kWh
- Chilled water distribution modification - Estimated savings of 168,000 kWh
- Heat recovery utilisation – Actual savings of 142,000 kWh in Gas usage

Energy Consumption per Disc

Lowest kWh/CO2 per disc ever was achieved in November 2010!

DADC UK Electrical Energy (kWh) per Disc: FY06 - FY14



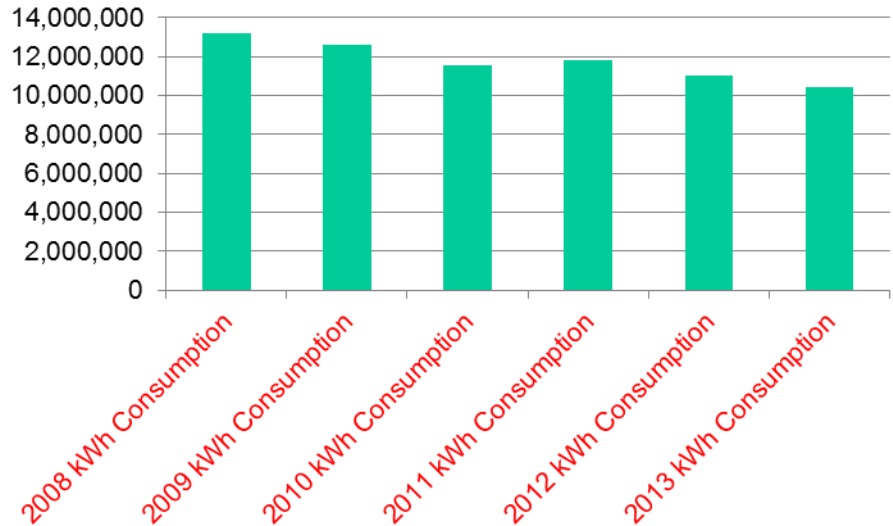
Production Volumes and Energy Consumption 2008 - 2013

2008 Manufactured volume	2009 Manufactured volume	2010 Manufactured volume	2011 Manufactured volume	2012 Manufactured volume	2013 Manufactured volume
73,745,000	89,648,891	104,713,674	101,469,357	99,515,006	85,383,969

16% increase in production

2008 kWh Consumption	2009 kWh Consumption	2010 kWh Consumption	2011 kWh Consumption	2012 kWh Consumption	2013 kWh Consumption
13,204,087	12,577,089	11,543,076	11,830,350	11,030,469	10,443,658

21% Reduction in energy



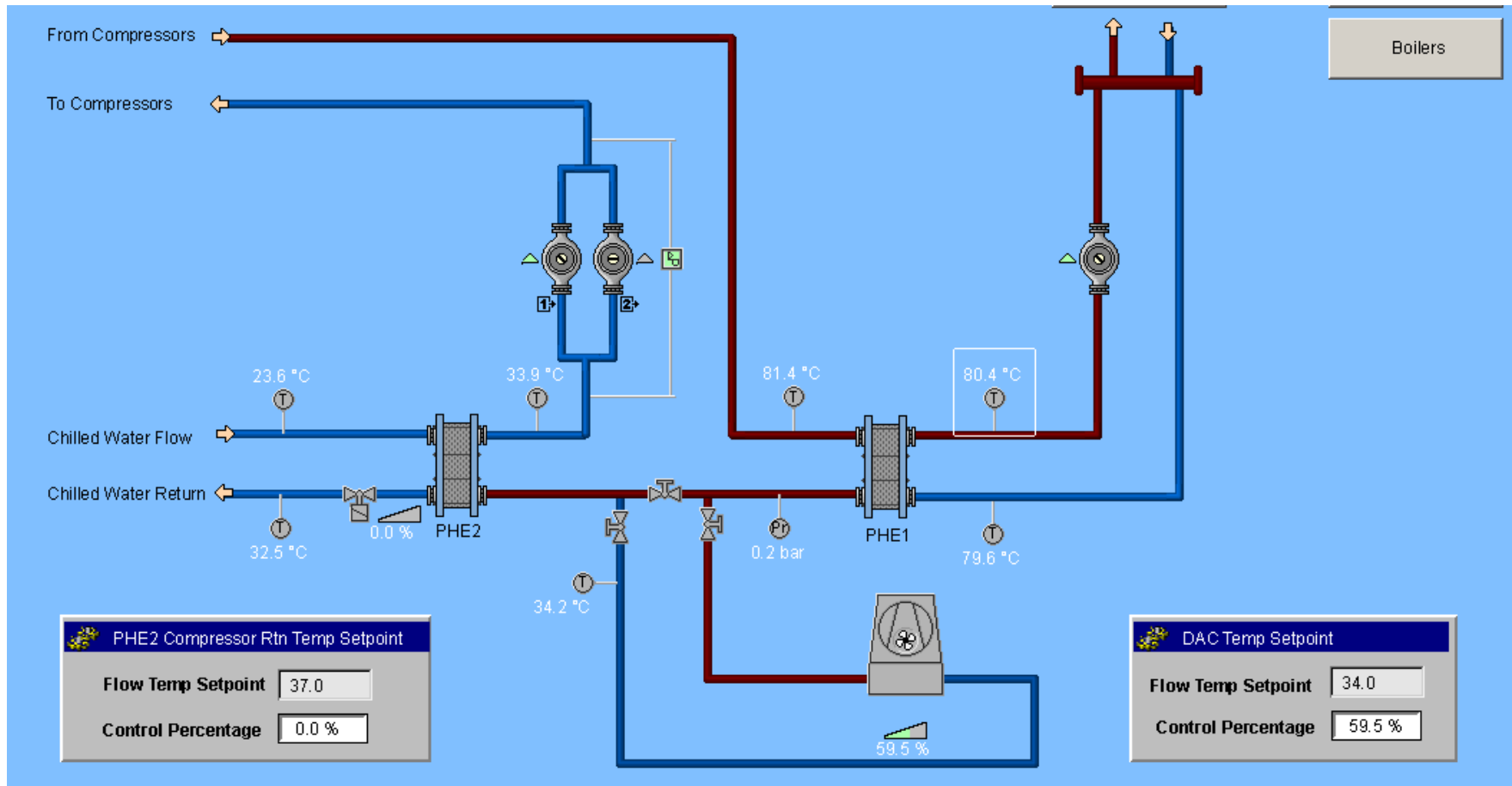
LED Lighting in Production areas (strip lights)



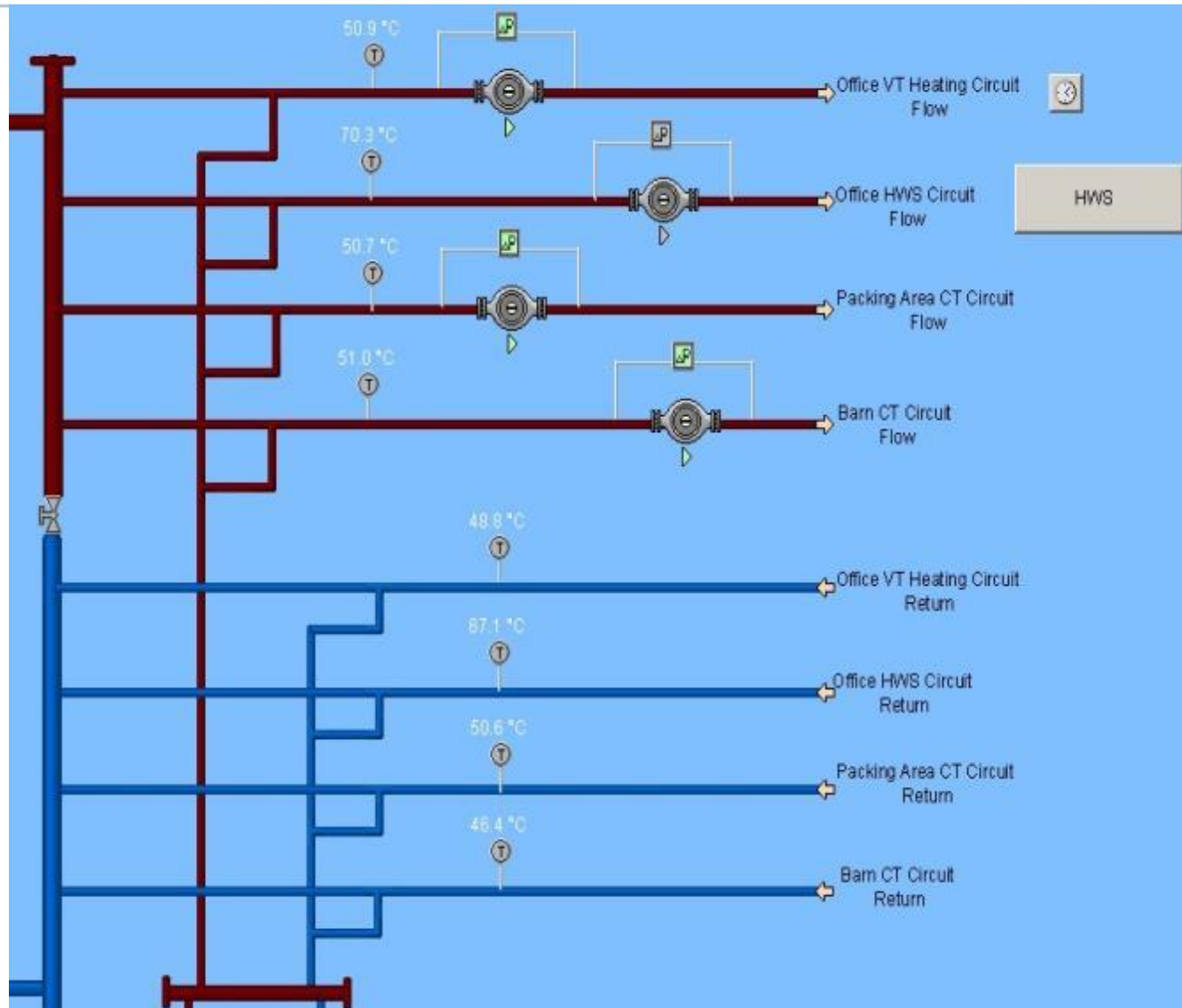
LED Lighting in Offices & Meeting Rooms



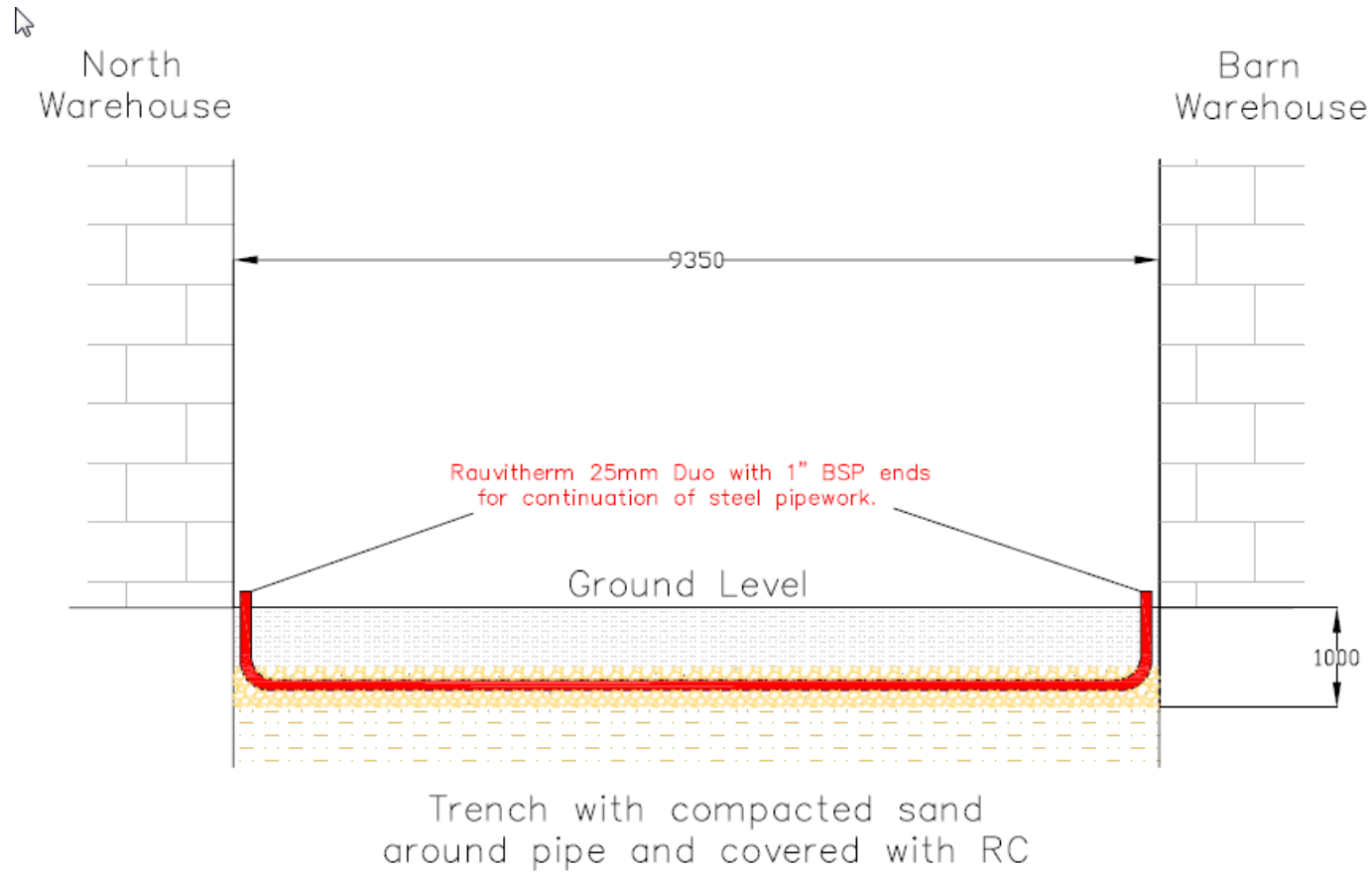
BMS Controlling our Heat Recovery System



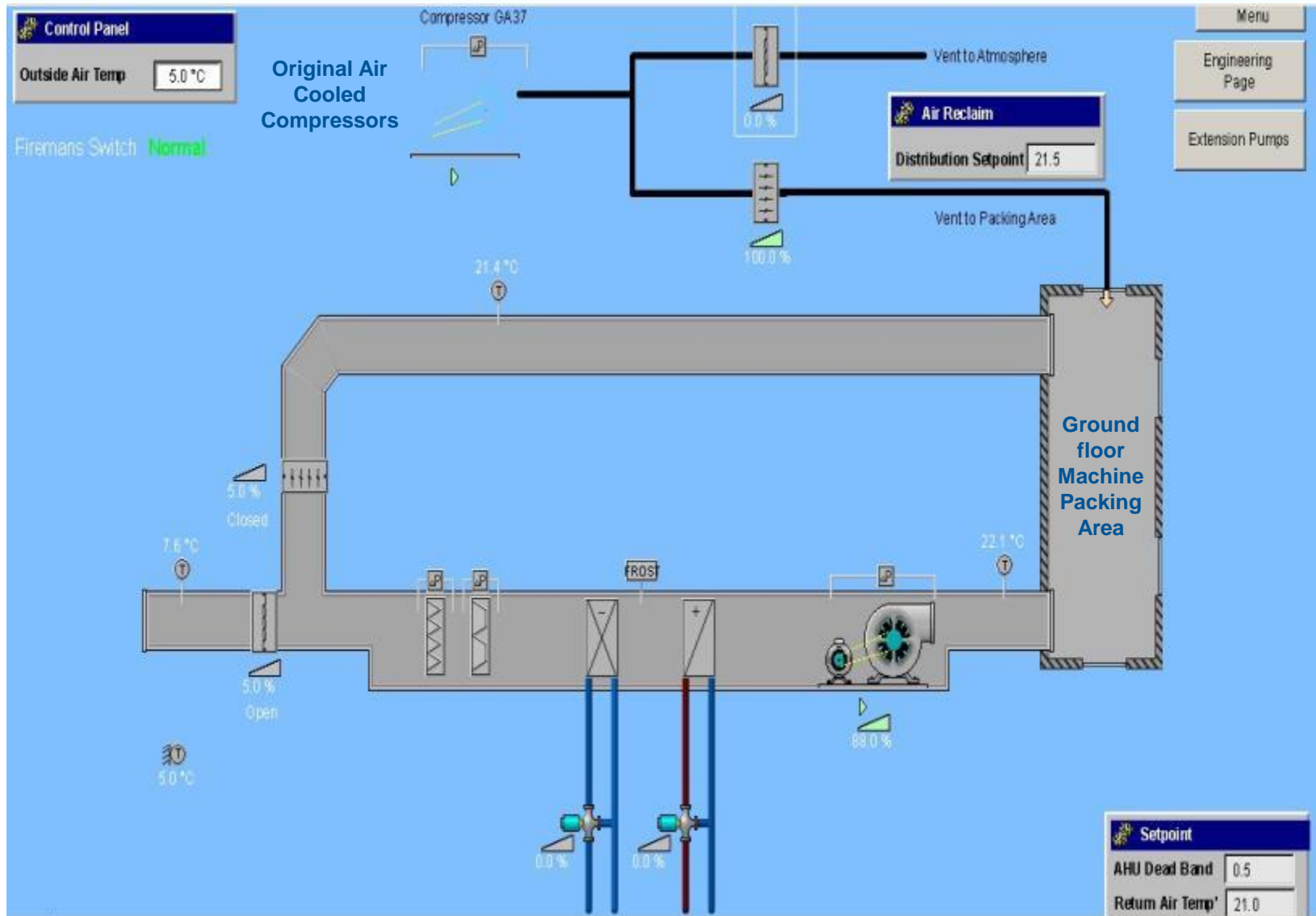
BMS: Utilising the Energy



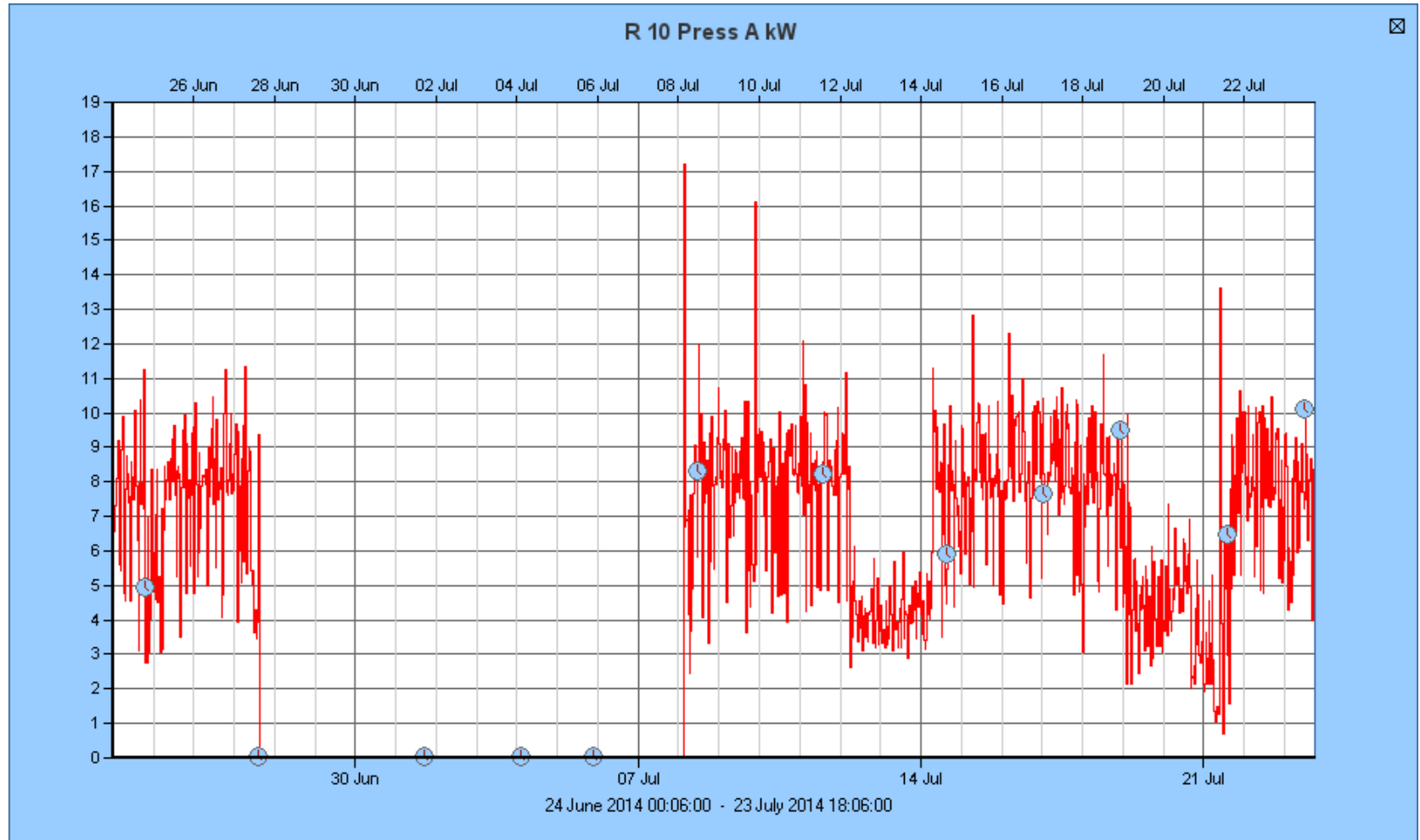
Extension of heat recovery distribution



BMS: Warm Air Reclaim & Supplementation

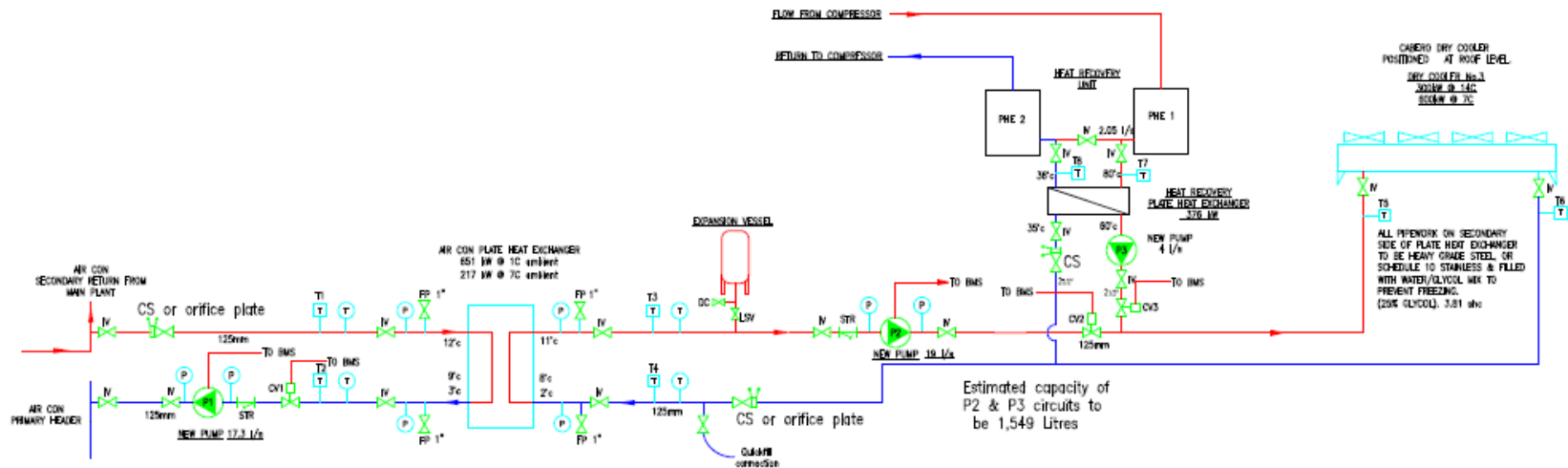


BMS: Trend Analysis from specific metering points



Projects for 2014

- Original Air con DAC project would have required a major installation on our roof with associated mechanical infrastructure.



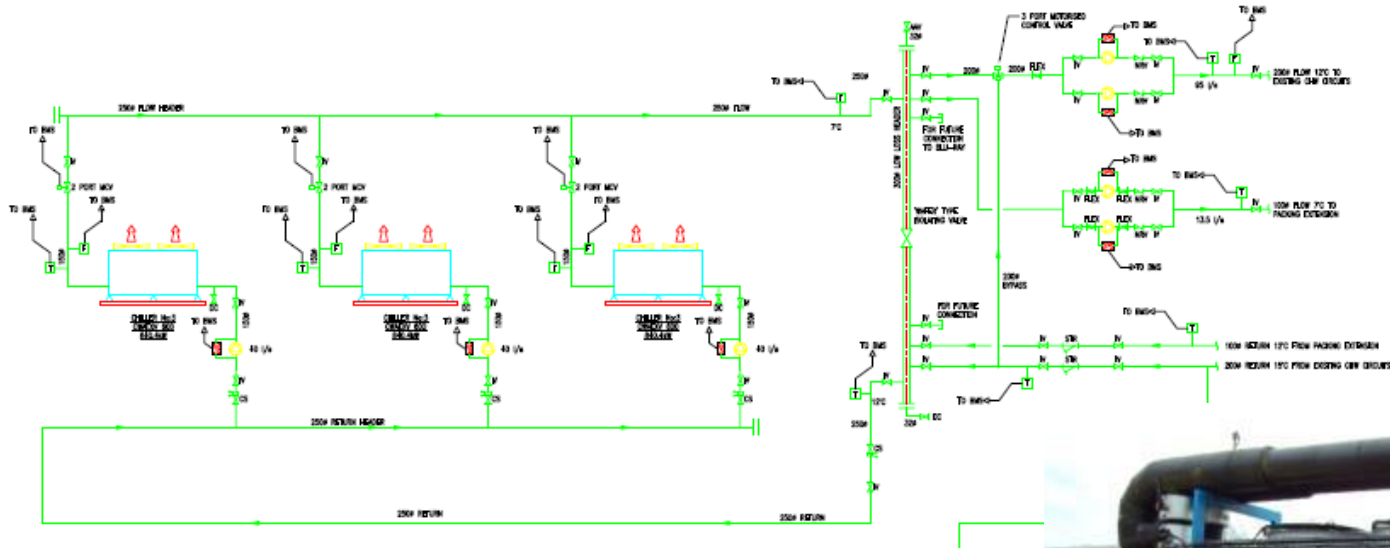
Controls criteria

- 1 Ambient air switch set point (user adjustable, 8°C ambient typically)
- 2 User adjustable set points for both circuits.
- 3 0 - 10 Volt signal to DAC fans
- 4 Enablement of air con circuit to have a user adjustable time delay for P1 circuit to allow heat dissipation from P2 circuit after heat recovery cooling circuit is disabled.

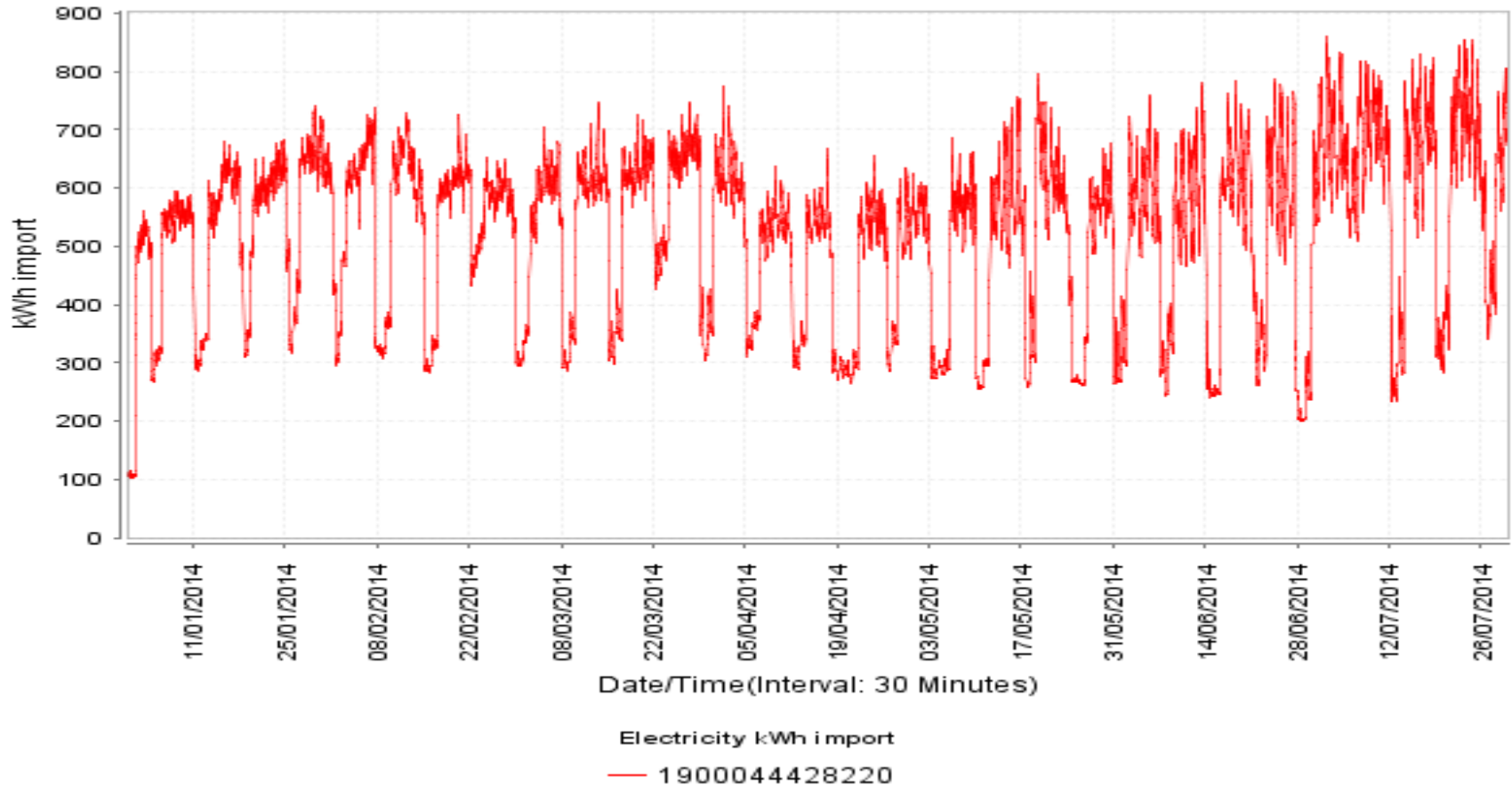
- It always a good exercise to re-evaluate projects, as in this case, the cost was reduced to 25% of the original plan.

Air con chiller 1 replacement with DAC

- New project replaced an existing chiller unit and utilised the existing infrastructure to drastically reduce the installation cost.



HH meter for whole site (Weekend energy saving initiatives)



Time-clock utilisation of AHU motors & DAC use when appropriate

Energy Saving Measures Summary

- Modifications to the compressed air system
- Modifications to the vacuum system
- Modifications to the dry cooler water chilling system
- Improvements to the chilled water distribution
- Upgrading the lighting, including motion sensors and lux
- Installing a building management system (BMS)
- Upgrading the Air Handler Unit Control
- Utilised heat recovery from air compressors
- New efficient boiler installed for office heating
- DAC utilisation for AC systems & Compressor cooling in summer

Thank you

dean.shackel@sonydadc.com

01403 739874

Sustainable Business Breakfast

**Carbon Saving
Case Studies**

BEST WESTERN THE OLD TOLLGATE & RESTAURANT

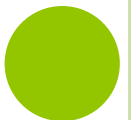


Maggie Parsons, Director/General Manager
Di Stenning, Chairperson of the Environmental Committee

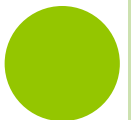


HOW TO BE GREEN

- Reduce Electricity/Gas
- Reduce Water usage
- Staff & Guests
- Reduce Waste
- Reuse/Recycle
- Reduce Transport miles









GREEN TOURISM GOLD PLAQUE



ENERGY REPORT

MONTHLY ENERGY REPORTS – MAY 2014

<p>Energy Consumption</p> <p><u>Gas</u> – (npower S/Croft not included as negligible)</p> <p><u>2014</u> 23751 KWh = 766 per day</p> <p><u>2013</u> 33053 KWh = 1066 per day</p> <p>May 2014 CARBON FOOTPRINT 4371 kgCO₂e</p> 	<p>Restaurant covers</p> <table border="1"> <thead> <tr> <th></th> <th>2014</th> <th>2013</th> </tr> </thead> <tbody> <tr> <td>May</td> <td>5228</td> <td>5698</td> </tr> </tbody> </table> <p>Breakfasts :</p> <table border="1"> <thead> <tr> <th></th> <th>2014</th> <th>2013</th> </tr> </thead> <tbody> <tr> <td>May</td> <td>1707</td> <td>1638</td> </tr> </tbody> </table> 		2014	2013	May	5228	5698		2014	2013	May	1707	1638	<p>Hotel Statistics</p> <table border="1"> <thead> <tr> <th></th> <th>2014</th> <th>2013</th> </tr> </thead> <tbody> <tr> <td>Bedrooms Sold</td> <td>1074</td> <td>1066</td> </tr> <tr> <td>Bedroom Sleepers</td> <td>1709</td> <td>1670</td> </tr> </tbody> </table> 		2014	2013	Bedrooms Sold	1074	1066	Bedroom Sleepers	1709	1670
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<p>Electricity</p> <p><u>2014</u> 38665 KWh = 1247 per day</p> <p><u>2013</u> 39144 KWh = 1262 per day</p> <p>MAY 2014 CARBON FOOTPRINT 17732 kgCO₂e</p> 	<p>Overall Analysis</p> <ul style="list-style-type: none"> ➤ Hotel Statistics: Rooms sold increased by 8 compared with May 13 and sleepers increased by 39 ➤ Gas: 9302 less KWh used in May '14 compared with May '13 ➤ Electricity: 479 less KWh used in May 2014 than in May 2013 ➤ Weather: Overall, higher than average temps with mid-month up to 7 degrees warmer than average, but with a dip in temps at the end 	<p>Initiatives 2014</p>   <ul style="list-style-type: none"> • We were invited to apply for "Green Team", "Champion" and "Small Hoteliers" categories of the Considerate Hoteliers 2014 awards, Di Stenning was nominated as our champion. • Tesla Engineering visited again on 4th and 5th and once again used our two electric car charging points. 																					
<p>Water</p> <p>2014 585 m³ = 19 m³ per day</p> <p>2013 515 m³ = 17 m³ per day</p> <p>CARBON FOOTPRINT</p> <p>Our energy Carbon Footprint for May 2014 is 20753 kgCO₂e (22103 kgCO₂e less 1350 kgCO₂e saving on food recycling)</p> <p>Carbon Footprint per guest for May 2014</p> <p>2.99 kgCO₂e (sleepers plus diners)</p> <p>(May 2013 3.73 kgCO₂e)</p>																							

FOOD WASTE BINS



ELECTRIC VEHICLE CHARGING STATION



WE ARE A GREEN HOTEL



The Old Tollgate
Hotel & Restaurant
★★★

We are a green hotel

We are proud to have achieved the
Green Tourism Gold Award.

In order for us to
protect the environment,
please switch off
the television, lights,
towel rail and heaters
when not in use.
Thank you for your
co-operation.

For more information, please see
our Green Noticeboard & Tourist
Information board located in Reception.





THANK YOU

Any Questions?

Round-the-Tables

Business intros...

GreenGrowth PLATFORM



University of Brighton

Unlocking business potential

GreenGrowth
PLATFORM



University of Brighton

4 SERVICE AREAS

1-2-1 BUSINESS SUPPORT

**BUSINESS EVENTS AND
OPPORTUNITIES**

**INNOVATION, RESEARCH AND
DEVELOPMENT**

SKILLS AND TRAINING

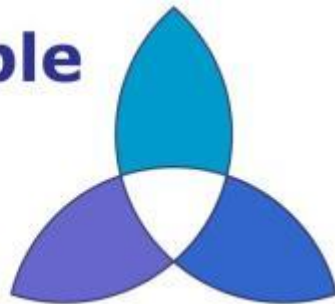
www.greengrowthplatform.co.uk

Join us again...

Hastings, 18th November
Solar PV

www.sustainablebusiness.org.uk

**Sustainable
Business
Network**



Working in partnership with:

Green**Growth**
PLATFORM



University of Brighton