Behaviour change in action

Gareth Ellis, Cranfield University
Andrew Smith, ZapCarbon
Esin Esat, Bedford College

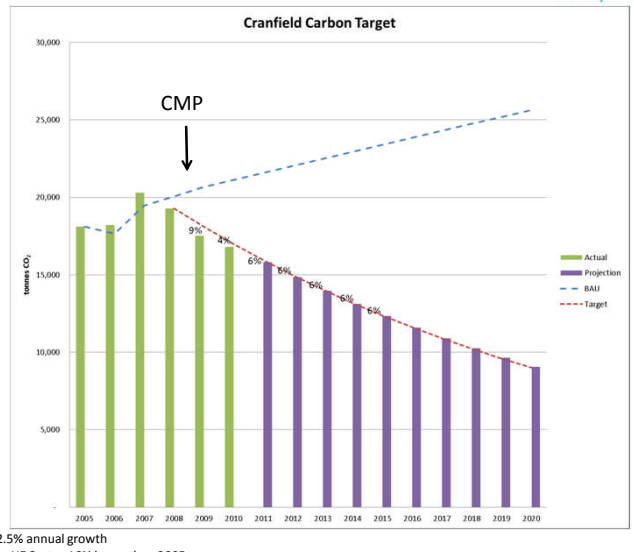
Introduction

- Cranfield University (Gareth Ellis)
  - Carbon Management Plan and importance of Behaviour Change
- ZapCarbon (Andrew Smith)
  - How to implement and measure Behaviour Change
- Bedford College (Esin Esat)
  - Driving change through the curriculum

Cranfield University Carbon Management Plan

- Cranfield University recognises that global climate change is accelerating and is committed to playing a leading role, not only in reducing our Carbon Footprint, but also in undertaking research, training and consultancy to help our partners reduce their own footprints; which we term our Carbon Brainprint. Whilst we believe that the value of these activities far outweighs their carbon cost, it is vitally important for the University to put theory into practice and to be a leader in the field.
- Cranfield University is therefore aiming to achieve a 50% reduction in CO_2e

Progress towards 2020 Target



Notes

BAU allows for 2.5% annual growth
1990 baseline for HE Sector 16% lower than 2005

Carbon Management Plan

- Behaviour change e.g. Green Teams, Carbon competition, Energy Code of Practice
- Space utilisation e.g. Silsoe closing down
- Energy efficiency e.g. Salix, five year payback projects
- Fuel switching e.g. oil to gas heating, CHP electricity
- Renewables

Widening scope to include Waste, Transport, Procurement

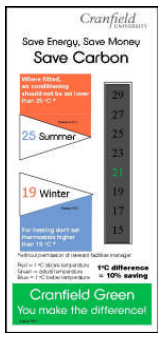
Savings will come from:	
Behaviour change	10%
Space utilisation	5%
Energy efficiency	22.5%
Fuel switching	10%
Renewables	2.5%

Behaviour Change

- Energy policy
- Energy Code of Practice
- Monitoring and Targeting
- Training
- Staff/Student Inductions
- Student Switch Off
- ISO 14001
- Green Teams
- Green Week
- Carbon Competitions

Energy Policy

- **Monitoring and targeting**
- **Energy costs**
- **Energy awareness and promotion**
- **Legislation**
- **Organisation**
- **Other policies**



- Code of Practice
  - Room temperatures
  - Doors and windows
  - Electric heaters
  - Electrical Equipment
  - Lighting
  - Buildings
  - Procurement

Metering

Replacing old meters
Adding new meters – electricity, gas, heat
Automatic reading
Elcomponents – Meter Ring

Systems Link – On line graphs and tables of monthly consumption

Behaviour Change

- Can it be imposed?
- Or do we need to win hearts and minds?

- Policy
- Code of Practice
- Training
- ISO 14001
- Green Teams
- Green Week
- Student Switch Off
- Carbon competitions

- How do we measure it?

Behaviour Change: **quantified**

Presentation to EAUC conference
March 2012

Dr. Andrew Smith, ZapCarbon

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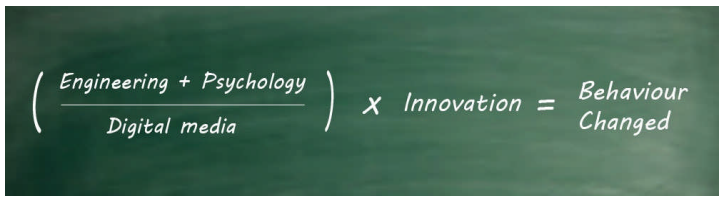
Take positive steps today



The ZapCarbon AEBC system

eauc annual conference
University of York, 27th – 29th March 2012

Set target

Awareness Raising → Engagement → Behaviour Change → Results

Constantly optimise

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The ZapCarbon AEBC system

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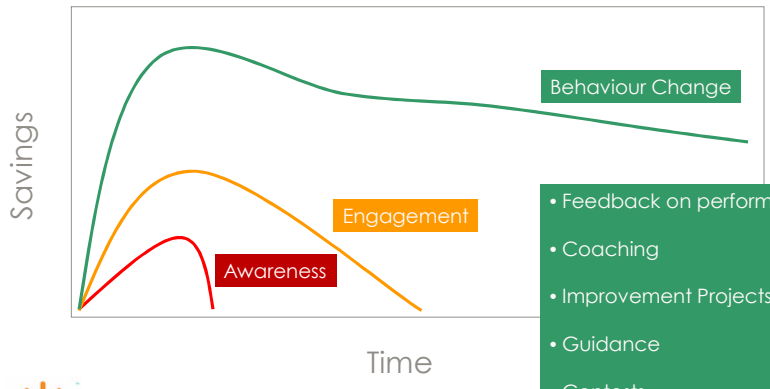

- Feedback on performance
- Coaching
- Improvement Projects
- Guidance
- Contests
- Fun !

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CASE STUDY:
Staff engagement

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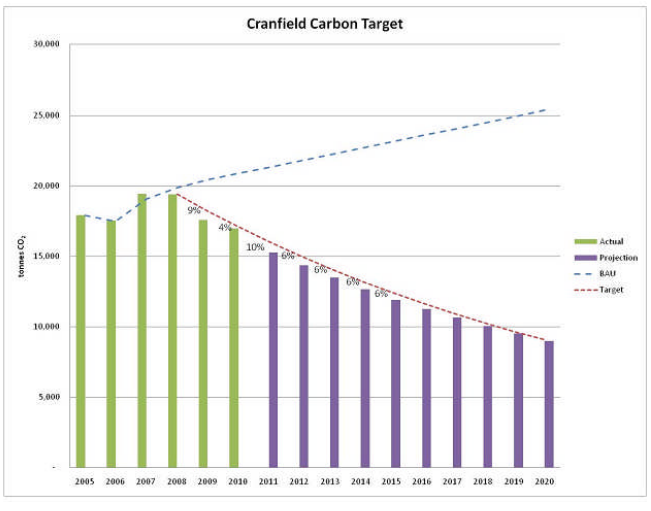
CMP target: 50% carbon reduction by 2020



eauc annual
March 2012

Cranfield UNIVERSITY

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Sustainable Cranfield 2012 - 2013

Prizegiving - Thurs 9th

Just a reminder that the Prizegiving event is being held today at 1pm in the Vincent Building.

The ViceChancellor will be awarding prizes and it promises to be a great event. Look forward to seeing you all there.

Pledge | What can I do?

Actions taken | Pledges | % over base | kg CO2 saved

Pos	Building	Category	Summer	Winter	
1	Building 39	Lab	33	15	Go to Profile page
2	Vice Chancellors Office 41	Office	18	24	Go to Profile page
3	Whittle Building 52	Other	16	33	Go to Profile page
4	Building 83	Other	15	0	Go to Profile page
5	Building 3	Office	12	3	Go to Profile page
6	Building 29	Office	10	0	Go to Profile page
7	Building 45	Office	9	0	Go to Profile page

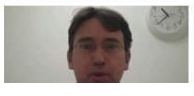
Full actions taken table ➔Full pledge table ➔Full league table ➔Full carbon profile list

Total saved 235774 kg CO_2

Carbon contest blog

More energy saving ideas generated in discussions after the award ceremony by Ceri Llewellyn
Lights, Carbon, Action ! by host
Building 3 Christmas switch off details by Derrick
SOMs Xmas shut down by Maxine
The Christmas Switch-Off in B37 by Ceri Llewellyn
More Extensive List regarding Christmas turn-OFF by ChristineK
What went OFF over Christmas by ChristineK
Christmas Switch Off by ChristineK
12 days (or 288 hours) of Xmas by host
B.37 Switch off results displayed by Ceri Llewellyn

This week's campaign



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Target: - 50% by 2020

Awareness Raising → Engagement → Behaviour Change

Cranfield carbon contest

9 month programme:

6 weeks of intense competition
6 months of passive monitoring
Another 6 weeks of intense competition

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Target: - 50% by 2020

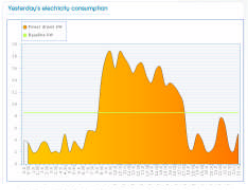
Awareness Raising → Engagement → Behaviour Change

Our Champions

Cranfield UNIVERSITY

Pledge | Suggest

This weeks savings: You have saved 9.8%



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Target: - 50% by 2020

Awareness Raising → Engagement → Behaviour Change

Actions and Suggestions

Actions taken: 41

Received Date	Champion	Action Title	Category	Timeframe	Saving Potential	Progression	Completed
22/07/2011	Carolyn Runc	Final weekend turn off	Behaviour Change	Immediate	Low	Complete	22/07/2011
13/07/2011	Carolyn Runc	Congratulations email	Behaviour Change	Immediate	Low	Complete	13/07/2011
13/07/2011	Carolyn Runc	Water heater switch off	Behaviour Change	Short	Low	Action started	
13/07/2011	Carolyn Runc	VDUs	Hardware Improvement	Medium	Medium	Submitted	
08/07/2011	Carolyn Runc	CRC Energy Efficiency Scheme	Behaviour Change	Long	Medium	Action started	
08/07/2011	Carolyn Runc	Weekend switch off	Behaviour Change	Immediate	Low	Complete	08/07/2011
07/07/2011	Carolyn Runc	Invitation to NEF speaker meeting on 21 July	Behaviour Change	Short	Low	Action started	

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Target: - 50% by 2020

Awareness Raising → Engagement → Behaviour Change

Keys to success for the programme

- Quantitative feedback displays
- Constant connectivity
- Champion development and motivation programmes

- Intense habit-changing workshops using the Carbon Contest® approach
- Champion surgeries & walkabouts

- Ongoing monitoring following contests
- Ongoing use of the Champions' actions, monitoring and feedback system
- Ongoing staff communication using the Champion Communication system

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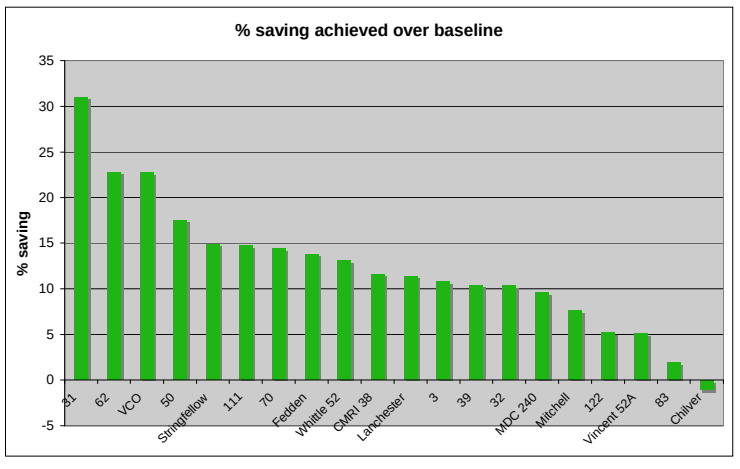
Overall savings achieved



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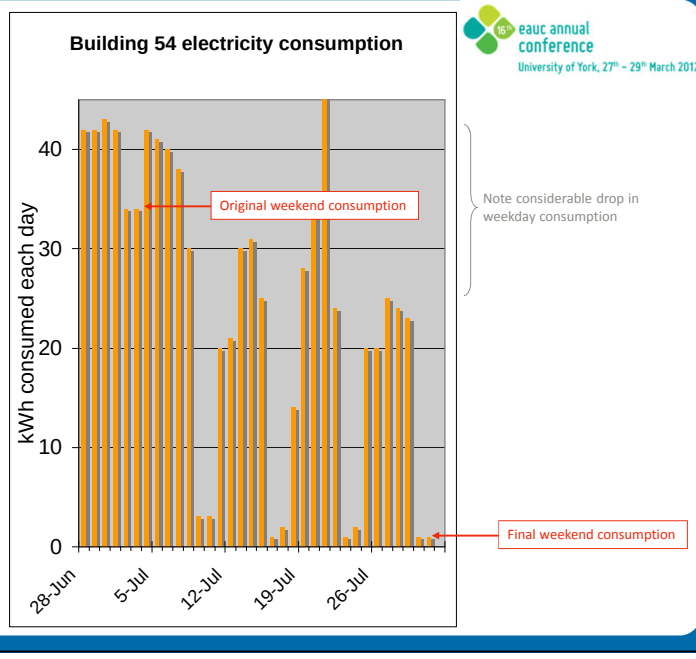

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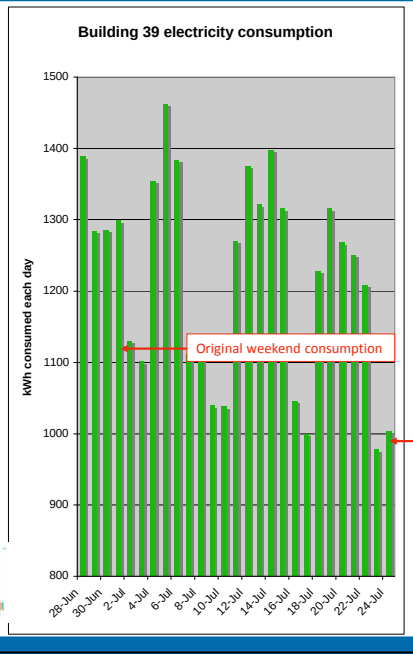

Savings:

	kWh saved / weekend	CO_2 saved / weekend	£ saved / weekend
W/e 1	153	83	26
W/e 2	185	101	31
W/e 3	249	138	42

If weekend 3 savings hold for the year, these savings from B.39 are: £2,200 and 7,200 kg CO_2 per year

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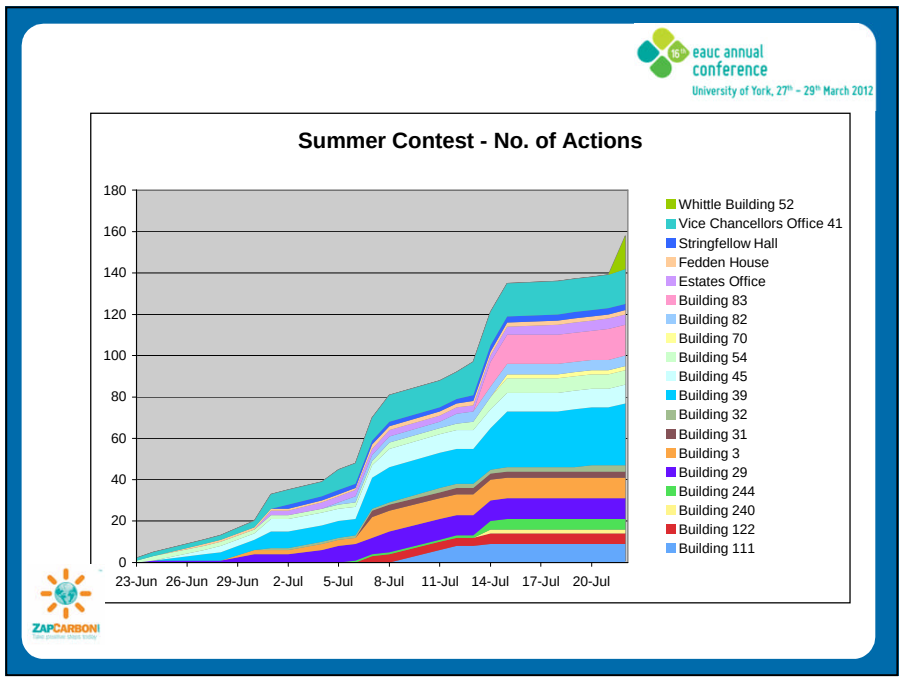

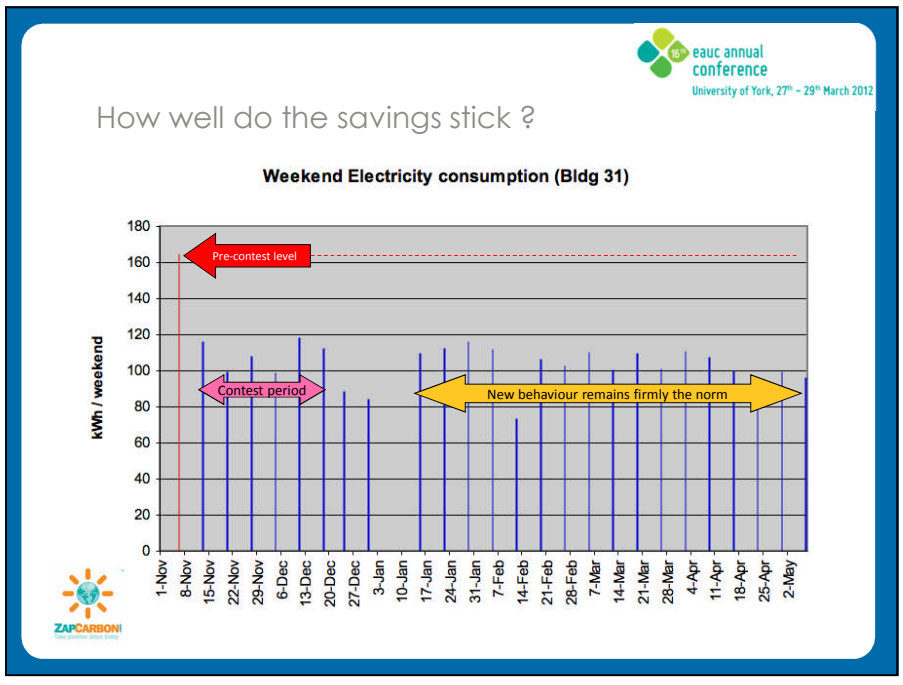

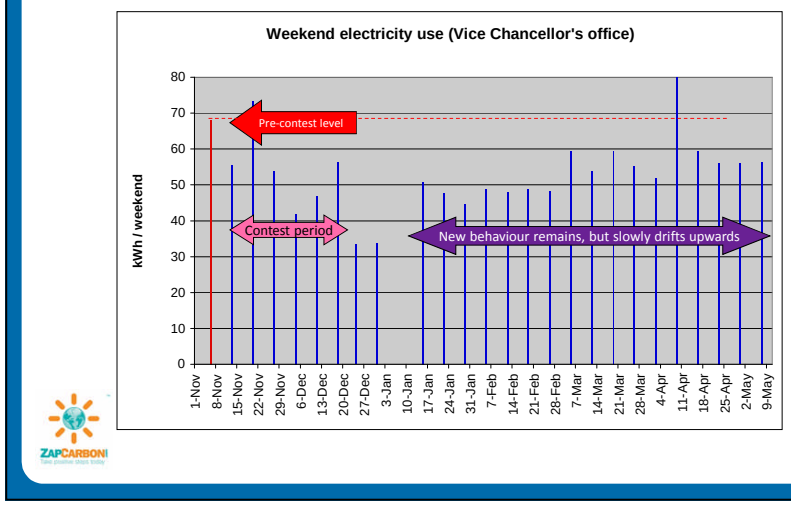

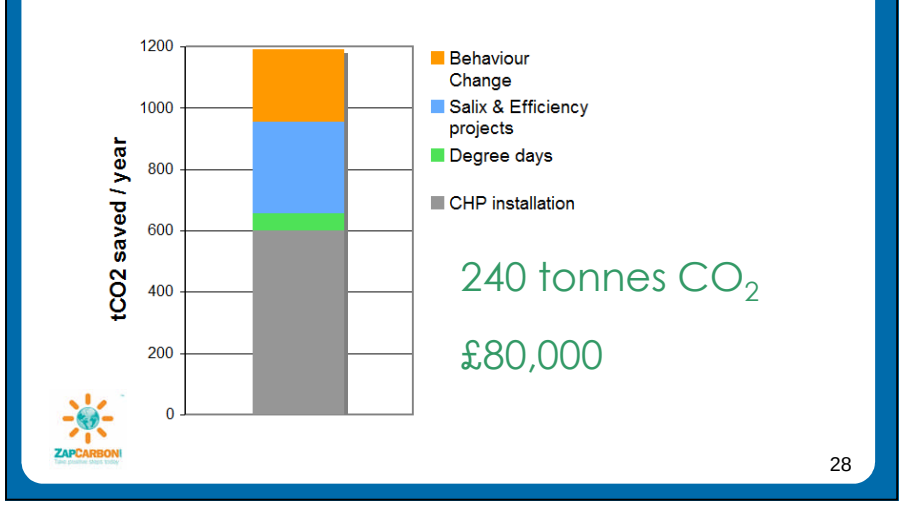

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ZAPCARBON approach

Rapid results can be achieved short-term

Lasting culture change requires a longer-term view.

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ZAPCARBON approach

In a nutshell:

It takes an integrated approach to achieve lasting Behaviour Change

The 1000 Day Culture Change programme

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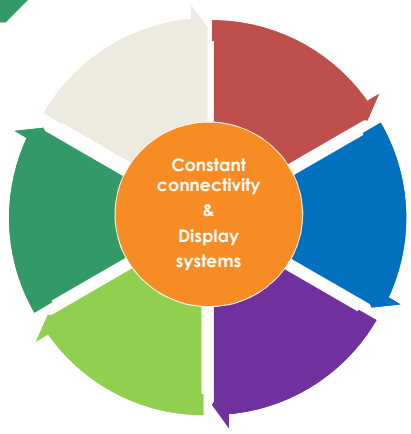
Using the AEBC System

Awareness Raising → Engagement → Behaviour Change

A modular approach with a common core



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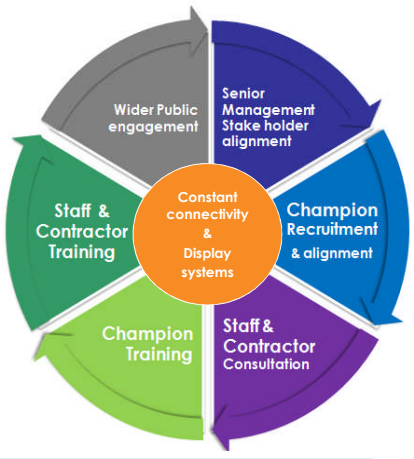
Using the AEBC System

Awareness Raising → Engagement → Behaviour Change



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Where are you ?

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University / college	Awareness	Engagement	Behaviour Change	CMP target	% from BC	Senior support ?

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1. Behaviour change is an important tool
2. It *can* be quantified and reliably implemented

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Take positive steps today

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How can / do you measure behaviour change in your organisation?

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LSIS Framework for Sustainable Development

Overarching Vision

A learning and skills sector which maximises and mainstreams environmental, economic and social sustainability

Leadership	Learning	Organisational Capacity	Partnerships

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Bedford College's Journey

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1. Leadership
2. Learning
3. Organisational Capacity / Partnerships

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Sustainability at Bedford College

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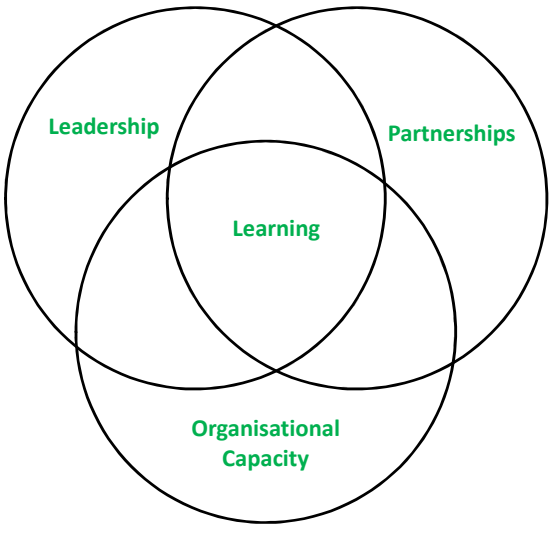

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Sustainability Leadership

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- Sustainability policy
- Sustainability team
- 6-year carbon reduction target
- SD in Self Assessment Reports and Mini Inspections
- Proactive role in embedding SD into the FE sector
- Supporting and leading local & regional partnerships
- NSA Environmental Technologies Eastern Region Hub

Learning

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Potential effects of climate change on Bedford
(ND Graphics)

Making a difference
(Level 3 Holistic Therapy)

Creating a play area/sensory garden for Peter Pan Children's Centre
(L2 & L3 Horticulture)

Free electricity from the sun
(Electrical Installation)

Electric cars & alternative energy technologies
(L1&2 Motor Vehicle)

Reducing our carbon footprint
(Business & Administration)

Research into the quality of Bedford's environment
(L3 Business Finance)

Documentary of the Brundtland Building retrofit process
(BTEC ND Media Production)

Conservation of the Rainforest
(L2 Carpentry and Joinery)

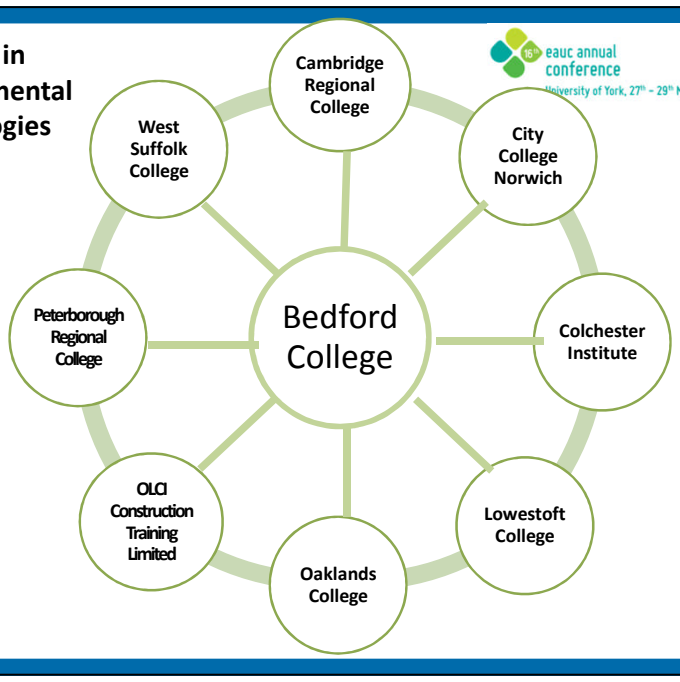
Re-fashioned clothes
(L3 & 4 Fashion & Textiles)

Ornaments from recycled materials
(Foundation Diploma in Art & Design)

Low Carbon Retro-fit of social housing stock
(FdSc Building Services & Construction)

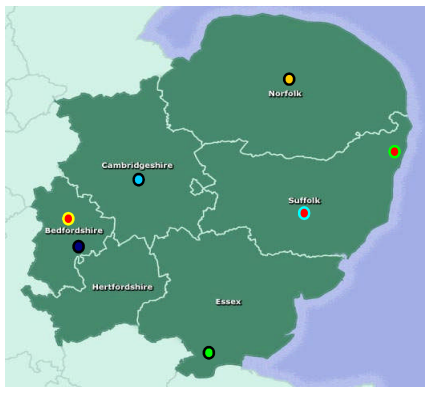
Partnerships

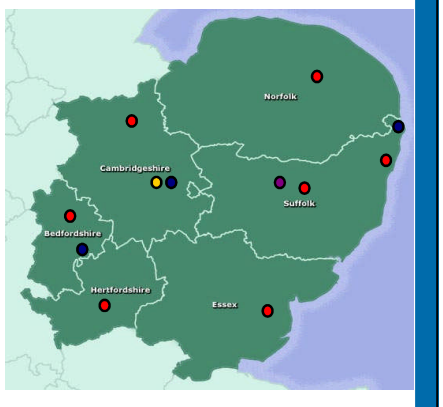
The NSA in Environmental Technologies



Sustainable Efficiency East

Skills for Sustainable Development





Brundtland Building

Brundtland Building

Brundtland Building

Organisational Capacity

Behaviour Change in Action
Sustainability Day 2012

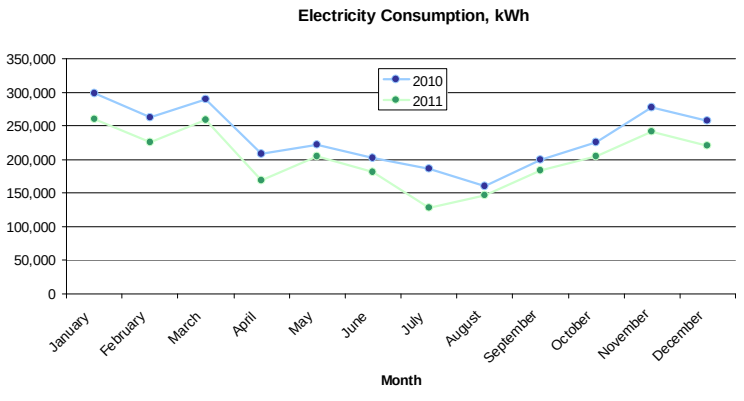
Carbon Reduction

- Salix energy efficiency grant & loans (2009, 2010, 2011)
- Carbon Trust Audit (2010)
- Carbon Trust FE Carbon Management Programme (2011)
- LSIS FE-HE Carbon Reduction Partnership (2011)
- Brundtland Building
- Awareness raising
  - Green Bedford College website
  - Greeny posters, quizzes, etc.
  - Staff and student induction
  - Sustainability tutorials
  - Embedded into the curriculum
  - Evidence sought in SAR & PAMI

Carbon Trust FECM
(FE Carbon Management Programme)

- 35% reduction in carbon emissions by September 2017 Bedford based on 2009-10 levels
- Potential cumulative savings of £1,535,328

Energy Savings 2011



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How can you drive behaviour change through teaching & learning in your organisation?

Key Messages

1. Behaviour change is important
2. It can be measured
3. It can be driven through the teaching and learning processes

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Your next steps – making the most of your EAUC Membership…

1. Resources
   - visit the dedicated carbon EAUC resource bank section
   - visit the carbon reduction section of SORTED – the online resource for sustainability in the Learning and Skills sector
2. Networks
   - join our Carbon Intensive Research Colleges and Universities Community of Practice - for Colleges and Universities that undertake carbon intensive research
   - join our Embedding Positive Attitudes and Behaviours Community of Practice - for those wanting to identify with the challenges of changing the behaviour of staff and students
   - find out more about these groups at 5pm today – see programme for details
3. Recognition - want recognition for your behaviour change initiatives – enter the 2012 Green Gown Awards behaviour change category. Entries open in summer 2012
4. Measure and improve - sign up to LiFE – www.thelifeindex.org.uk. EAUC Members receive a significant discount
   - LiFE offers a dedicated 'resource efficiency and waste' and 'staff engagement' frameworks for implementation

Membership matters at www.eauc.org.uk

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