



## INITIATIVES

### PGF LED PROJECT

#### UK Controlled Environment User's Group – Light Workshop 2017

Martin Howes presented a session titled: [Energy Efficiency Monitoring & Light](#) addressing how to go about measuring energy consumption in CE facilities, with an overview of the LED replacement project in the department of Plant Sciences. [A summary Guide is available here.](#)

#### Lab-X Conference Rothamsted 2016

The department was invited to present a session titled [LEDs and Plant Growth - Science, Energy & Cost Benefits](#). Senior Research Associate Dr. Matthew Davey delivered a run-down of the plant trials and experimental results of work so far. LED projects manager Martin Howes discussed the energy savings and financial cases surrounding the department's two largest LED projects, both concerning controlled environments.

#### PGF Trails Opportunity 2015

Room 7 was refitted to run LED growth lighting. Over next six months it was available for experiments to be run to assess how research may be affected by a switch to LED lighting. It was an opportunity to gather the information needed before the room went into regular operation.

#### S-Lab Conference 2015

On Monday 8th June 2015, the department's Energy Co-ordinator Martin Howes presented at the regional S-Lab conference held at Cambridge's University Centre. The presentation 'LED in Labs - Plant Growth' provided delegates with an insight into the work being undertaken at the department to develop LED lighting to replace inefficient fluorescent lighting in growth rooms at the Plant Growth Facility and in algal incubator shakers at the Downing site. [Slides can be found here.](#)



## GREEN LABS

### Green Labs Initiative Launched at Plant Sciences 2016

On Thursday 25th February, Plant Sciences hosted the first event of the Environment & Energy's [Green Labs initiative](#). This programme is tackling the environmental impact of notoriously energy-intensive scientific research labs and practices. All without compromising the research.

Attendees came from a variety of university department's to find out how the university's [Energy and Carbon Reduction Project \(ECRP\)](#) can help them to finance innovative technologies that reduce their energy and carbon consumption.

## THERMAL IMAGING SURVEY

### Living Lab Promo Video

This promotional video made by the Living Laboratory for Sustainability initiative highlights the thermal imaging project. [View the promotional video here](#).

### Living Lab Celebration Event 2016

Martin Howes, Energy Co-ordinator was invited to speak at a celebration event for the University's Living Lab Initiative, following the successful thermal imaging survey project that was run along with Living Lab and Cambridge University Environmental Consulting Society (CUECS). The department was also represented by Dr. Ed Tanner who ran a project with students auditing the waste produced by departments and discarded into council collected bins.

### Thermal Imaging Survey 2015

On the evening of Wednesday 9th March volunteers with CU Environmental Consulting Society (CUECS) conducted a thermal imaging survey of our main department building. Using a camera that picks up infra-red light we were able to see all the parts of the building that lose heat. Unsurprisingly, old windows with warped frames and single glazing showed a lot of waste. So did extract fans and external doors. We can now use this to target improvements to the building's efficiency. [Read the report here](#).

### Thermal Imaging Survey Training 2015

On Tuesday 16th February 2015, students visited the department to receive training on using thermal imaging cameras. The event was run by the department, the LivingLabs initiative of the university's Environment & Energy section, Cambridge Carbon Footprint, and the Cambridge University Environmental Consulting Society. Read about it in this article by the sustainability team: [Hot under the 'colour'!](#)



## IMPACT

### CHRISTMAS SHUTDOWN

#### Shutdown 2017

In 10 days, the shutdown saved over £1,000 worth of electricity, gas and water, the equivalent to 4 tonnes of carbon being prevented from reaching our atmosphere. That is the weight of a Hippopotamus.

The top labs for energy savings were:

	Group	% reduction in electricity usage	CO <sub>2</sub> e emissions saved in ten days
1	Carr	29%	130 kg
2	Hibberd	21%	70 kg
3	Gilligan & Cunniffe	20%	40 kg
4	Haseloff	17%	140 kg
5	Baulcombe & Henderson	16%	230 kg
6	Griffiths	15%	80 kg
7	Smith	15%	150 kg
8	Glover	14%	50 kg
9	Davies & Webb	13%	60 kg

#### Shutdown 2016

£1,000 in electricity alone was saved during the 2016 ten-day shutdown. The carbon dioxide emissions that were prevented would offset a trip for a family of four to New York.

Currently, seven labs in the department are having their electricity usage monitored. All reduced their usage by over 20% over the Christmas shutdown. The standout performer was the Physiological Ecology (Griffiths) group which reduced their emissions by 48%! The equivalent to a road trip from Cambridge to Rome and back.

### ENERGY AUDIT

#### After Hours Energy Audit 2016

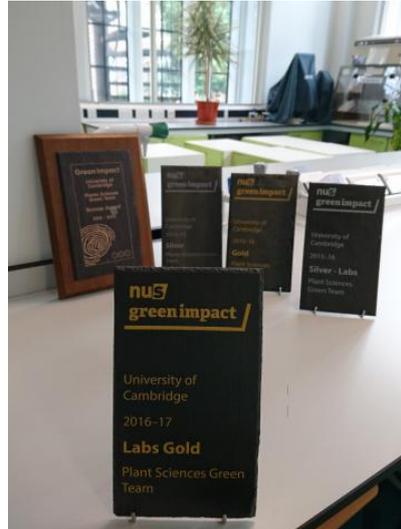
Between 21.00 – 23.00 on Tuesday 26th April 2016, Energy Co-ordinator Martin Howes conducted a walk-around energy audit of the Plant Sciences department building. [A one-page report summary can be read here.](#)

## AWARDS

The Department received or were shortlisted for the following awards for sustainability.

### Green Impact Awards

- Green Impact Gold Labs Award 2017 - received
- Green Impact Silver Labs Award 2016 - received
- Green Impact Gold Award 2016 – received
- Green Impact Silver Award 2015 - received
- Green Impact Bronze Award 2013 – received



### Green Gown Awards

- EAUC Green Gown Awards 2016 (Sustainability Professional Category) – Shortlisted
- EAUC Green Gown Awards 2015 (Research & Development Category) - Highly Commended



### S-Lab Awards

- S-Labs Awards 2016 (Laboratory Environmental Improvement Category) – Shortlisted

## SPOTLIGHT MONTHS

The Department took part in the Green Challenge 'Spotlight On' months throughout 2016 and 2017 holding events and competitions to encourage all staff and students to get involved.

### November 2017 – Spotlight on Waste

Information boards went up in the Tea Room and a beer hour were held to highlight the waste challenges for departmental activity. It provided the opportunity to update messages and raise questions on 'what goes in which bin'.

### November 2016 – Spotlight on Waste

Many department members visited the tearoom takeover with display boards, videos and even a hat made out of recyclable waste. It was a chance to ask questions on what can and can't be recycled (and why), where our waste goes and how university waste collection differs from domestic waste. Many good points were raised, and the following day the tea room's recycling bin had to be emptied three times instead of once.

### October 2016 – Spotlight on Recycling

A university wide quiz was held ([Q&As can be found here](#)). Eight groups from Plant Sciences took part. The winners were 'Team Cauliflower', consisting of Alfonso Timoneda-Monfort, Rachel Newhouse, Alice Fairnie and Jonathan Pattrick with a score of 7/8.

### August 2016 – Spotlight on Waste

An event was held with updated information and signage for staff and engagement activities, including a Recycling Quiz and waste sorting challenge.



### February 2016 – Spotlight on Energy

The department Happy Hour took on a green theme. Display boards and energy quizzes caused much discussion on the department's energy use. Plastic glasses were charged at 50p for the first time too. Many people used their department pint glasses and tankards.